Education Matters

GOVERNMENT, MARKETS AND NEW ZEALAND SCHOOLS

Mark Harrison

www.educationforum.org.nz

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First published in February 2004 by the Education Forum,
PO Box 10–539, The Terrace, Wellington
www.educationforum.org.nz

ISBN 0–9582133–6–4

Harrison, Mark (Mark Douglas), 1961-
Education matters : government, markets and New Zealand schools / Mark Harrison.
Includes bibliographical references and index.
ISBN 0-9582133-6-4
1. Education and state—New Zealand. 2. Education—Economic aspects—New Zealand. I. Title.
379.93—dc 22

Design and production by *Daphne Brasell Associates Ltd, Wellington*
Indexing by *Elaine Hall, Wellington*
Cover design by *Richard Gyde, Creative Services, Wellington*
Printed and bound by *Astra Print Ltd, Wellington*

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LIST OF ABBREVIATIONS

ACT	American College Test
AFQT	Armed Forces Qualifying Test
EFTS	Equivalent full-time student (also the name of the main tertiary funding system)
ERO	Education Review Office
GST	Goods and services tax
IEA	International Association for the Evaluation of Educational Achievement
NEAP	National Assessment of Educational Progress
NCEA	National Certificate of Educational Achievement
NLSY	National Longitudinal Survey of Youth
NQF	National Qualifications Framework
NZEI	New Zealand Educational Institute (the union for primary and early childhood teachers and support staff)
NZQA	New Zealand Qualifications Authority
OECD	Organisation for Economic Co-operation and Development.
ORRS	Ongoing and Reviewable Resourcing Scheme
PISA	Programme for International Student Assessment
PPTA	Post Primary Teachers' Association (the union for secondary school teachers)
PTE	Private Training Establishment
SAT	Scholastic Aptitude Test
SES	Socio-economic status
STAR	Student/Teacher Achievement Ratio (Tennessee)
TEI	(Public) Tertiary Education Institution
TFEA	Targeted Funding for Educational Achievement
TIE	Targeted Individual Entitlements
TIMSS	Third International Mathematics and Science Study
TRB	Teacher Registration Board

ACKNOWLEDGEMENTS

Many people in the New Zealand education sector generously gave me their time to explain and discuss the New Zealand education system, and share their insights. They include: Judith Aitken, Carl Bakker, Peter Bushnell, Ron Crawford, Roger Dale, Howard Fancy, Cedric Hall, Jan Kerr, Max Kerr, Brother Pat Lynch, Peter Mersi, Harvey McQueen, Pauline Nesdale, Ray Newport, Nick Pole, the late Phil Raffils, Simon Smelt, Hans Wagemaker and Cathy Wylie.

They were invariably polite, helpful and enthusiastic (that is, typical Kiwis). The system fails, not the people within it. Social organisation cannot rely on dedicated individuals performing in the face of obstacles, but should provide systematic incentives to direct people's skills, energy and goodwill to their best use.

I am grateful to the people who read all or part of various drafts of the book (no small task) and made valuable comments: Martin Connelly, Greg Dwyer, Siobhan Gorman, Jenny Heine, Leanne Holmes, Michael James and Sid Shanks.

I would especially like to thank the people at the Education Forum for their support, encouragement, comments and, above all, patience: Roger Kerr, Norman LaRocque and, particularly, Michael Irwin, who contributed both directly and indirectly to chapter 3.

Lastly, apologies to my family, Leanne, Rosie and Eliza, for spending too much time working on this book and thanks for their forbearance. My daughters have taught me that parental choice really means family choice – children have quite a say from a young age.

No-one I have listed would agree with all of this book. Many would not agree with any of it.

1
INTRODUCTION

MARKETS OR CENTRAL PROVISION?

In the period post World War II a wave of nationalisation swept the globe. In market economies, the state owned mines, forests, factories, post offices, telephone companies, gas and electricity providers, banks and insurance companies – as well as schools and hospitals. In New Zealand, the government owned hotels. In Australia, it owned fish-and-chip shops, butchers and pubs; in Argentina, a circus; in the United States, liquor stores, zoos and golf courses; and in Mexico, a nightclub.

This nationalisation has, in the last two decades, been subject to a dramatic reversal from privatisation, deregulation and the collapse of communism.

The boundary between the state and the market shifted. Today, governments rely less on state ownership, provision and heavy regulation and more on competition within the market place to provide what society wants and to discipline producers. In many industries, governments have moved toward being the referee rather than the main player.[1]

There were two causes for the shift. First, was recognition of the intractable problems of nationalised industries – a widespread belief in New Zealand and other countries was that "public sector bodies were poorly managed, lacked clear objectives and had been captured by their workforces".[2] Second, evidence and analysis accumulated to show the problems with central planning, the costs of government ownership and the opportunities for achieving social goals through government regulation of, and contracts with, private providers.[3]

Governments of all political persuasions across the globe sold state-owned assets to the private sector and deregulated. One county in Communist China even privatised its schools and hospitals.[4]

In New Zealand, there was a broad effort to make government institutions perform more effectively. Private sector governance, financial and management

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1 Yergin and Stanislaw (1998) pp 13, 373.
2 Cave, Dodsworth, and Thompson (1992) p 79.
3 See Shleifer (1998) for an account of the changes in economic thinking about what kinds of goods and services should be provided by the government.
4 *The Economist* (2002a) p 14.

models were applied. State-owned firms were corporatised and operated on a more business-like basis. Many were privatised and political control was reduced. Within government departments, policy advice and service delivery were separated, funder and provider responsibilities split and accounting practices revamped.

As part of this trend, a number of reforms were made in the late 1980s and 1990s that transformed how the government ran its schools.

In 1987, the Lange Labour government started the reforms when it created the Taskforce to Review Education Administration headed by Brian Picot (the Picot Taskforce) to examine the administration of education in New Zealand. Less than a year after its inception, the Picot Taskforce reported that it found a number of "serious weaknesses" in the existing arrangements: decision making was over-centralised and favoured producer interests; schools did not respond to parental desires; and the education system was poorly managed.[5]

The Picot Taskforce's solution was to decentralise governance and management of the education system. The school would be the 'basic unit of education administration' it would set its own objectives and determine how resources were to be used within overall objectives set by the state.[6]

Under the Picot Taskforce reforms, a board of trustees, dominated by elected, volunteer parent members, would govern each school and hire staff. In consultation with the principal, staff and community, the board would draw up a school charter that would to define the purposes of the institution and the intended outcomes for students. The charter would serve as a contract between the community, the institution and the state. The board would be accountable to a national review and audit agency for the use of funds and meeting the charter.

Each school would receive a formula-based bulk grant from which the board would purchase services and pay staff (so-called bulk-funding). The Department of Education was to be replaced by a ministry with policy, property management and operations units.

The Picot Taskforce supported increased parental choice between government schools and argued that zoning should not be used to maintain enrolments in declining schools.

The subsequent government White Paper, *Tomorrow's Schools*, accepted most of these recommendations. The Education Act 1989 implemented them.[7]

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5 See Taskforce to Review Education Administration (1988) pp 22–37.

6 Taskforce to Review Education Administration (1988) p xi. The recommendations are set out on pp 41–78.

7 Smelt (1998) pp 5, 7.

Although parents were given an increased choice between government schools, and schools were given more autonomy, the reforms did not introduce a market system or fix the problems with New Zealand's schools. That they were labelled as the introduction of market competition illustrates simply that many in the education sector have no idea what a market involves.

Not as much power was decentralised as the Picot Taskforce recommended, and observers from all perspectives agree that the state kept, or quickly reasserted, much central control over individual schools and the education system.[8] For example, during the 1990s the Ministry of Education (the Ministry) revised the curriculum for the first 10 years of schooling, introducing a contentious policy that assumed all curricula could be defined in terms of outcomes.

Some reforms have been rolled back: the Clarke Labour government abolished bulk-funding of teacher salaries (only ever introduced on a voluntary basis and for a minority of schools) and restricted parental choice of schools.

It is not clear that the Tomorrow's Schools reforms were ever intended to move towards a market system. Prime Minister Lange took the education portfolio in order to impede privatisation of schooling. He claimed "a compelling reason to devolve the management of schools to lay boards of trustees was that it would create a powerful grass-roots lobby of 17,000 advocates for public education".[9] The removal of zoning to provide parents with choice between public schools may be a strategy to avoid alternatives that include private schools.

A market arrangement uses competition, choice, the price mechanism and the profit motive to provide incentives and co-ordinate behaviour. It requires freedom of entry into, and exit from, the provision of education services, the same rules for all competitors, and consumers must be able to choose between competing autonomous suppliers. There must be no artificial barriers against producers entering and offering different types of schooling arrangements.

In a market system new schools can emerge in response to what parents and students want and those schools that fail to attract support go out of business or are taken over.[10] Producers are accountable to consumers when they must perform to survive. By contrast, poorly performing government schools can carry on, and students are forced to attend them.

Despite the worldwide trend away from central planning and government owning the means of production, the education sector in New Zealand remains predominantly government owned, funded and controlled, and the serious weaknesses identified by the Picot Taskforce persist.

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8 See Smelt (1998); Fiske and Ladd (2000); Smithfield Project (1998a) Report Eight, p 7.
9 Fiske and Ladd (2000a) p 56. This point is made in Fancy (2000) p 16.
10 See Chubb and Moe (1992) p.9.

WHAT'S WRONG WITH NEW ZEALAND'S SCHOOLS?

The government's monopoly over schooling

It is compulsory for children from six to 16 to attend school. If parents choose a school that is not closely controlled by the government, there is a significant financial penalty. Parents must pay most of the costs of private schooling through fees, on top of the taxes they pay to finance government schools.

In July 2003, of the 761,755 students attending New Zealand schools 85.7 percent attended state schools, a further 10.5 percent attended state integrated schools and 3.8 percent attended private schools.[11] For state and integrated schools, the government provides over 90 percent of the funding and the Ministry regulates the curriculum, governance arrangements, fees, student enrolment and expulsion decisions, the length of the school day and year, and approves schools' charters (and dictates a substantial portion of their content), negotiates the collective contracts with teacher unions and pays teachers through a central payroll. For state schools, the Ministry provides and allocates capital funding, owns school buildings and land, manages major maintenance, and controls school entry, exit and expansion. It funds, provides and regulates teacher training. The Ministry also determines the number, location and capacity of schools for virtually every New Zealand child.

The New Zealand Teachers Council licenses teachers, thereby restricting whom all schools can hire. It regulates teacher education, entry standards and practice. The Education Review Office (ERO) polices whether state and integrated schools meet government curriculum and operational requirements, such as governance and financial procedures and also reviews the peformance of private schools. The New Zealand Qualifications Authority (NZQA) administers qualifications and oversees the examination system.

Although monopoly means literally single seller, in practice, it is a matter of degree. Anti-trust agencies often reject mergers even when the merger would not create a single seller. A US judge declared Microsoft to be a monopoly because its operating system supports 95 percent of computers that use Intel's processors and clones. The judge found that Microsoft stifled innovation by giving away its internet browser for free.[12] What would he make of New Zealand schools? Microsoft cannot make it compulsory to buy software or force people to pay taxes to finance its product whether they use computers or not. Indeed, Microsoft faces much more competition than government schools because consumers can buy Apple computers, or computer systems that rely on the Linux computer

[11] Ministry of Education (2003c) table 1.

language. Microsoft does not have the power to regulate what its competitors produce, decide which competitors consumers are permitted to buy from, or train and approve all software engineers.

Weak incentives to innovate are inherent in government ownership. Those who possess the information and make the decisions necessary for desirable innovations do not receive the resulting income flows, so have little incentive to reduce costs and innovate. As a result, spending on new technology is low. When useful research is produced, those at the school level seldom use it. Political incentives affect the type of research and development that is funded and what innovations are adopted.

When changes are made, there is no market test to determine what innovations are worth keeping. Instead, decision makers impose large-scale changes on all and bear little cost for being wrong (but a large cost for admitting they were wrong), seldom evaluate their experiments and have little incentive to change when mistakes are made.

Decisions about educational matters, including expenditure, the number of schools, teacher pay and conditions, the curriculum and assessment, are imposed on all parents who send their children to government schools. The result is a lack of diversity: 'one size fits all'.

Decisions are made, and the competing interests of different parties resolved, through the political process. It does not automatically result in policies that bring social benefits. For example, those in power may wish to extend their political power or redistribute income towards their supporters. Political control of schools may be used to benefit politically powerful special-interest groups rather than please consumers, promote the public interest or help the disadvantaged. Parents are but one part of the constituency of public education, and there is no guarantee they will win control.

Parents only get to give their verdict on central decisions in infrequent elections, in which they vote, along with non-parents, on a bundle of issues. Particular educational issues are unlikely to be judged directly. Individual voters have little incentive to consider different policies carefully because their vote is unlikely to be decisive.

Issues are resolved on the basis of political clout, not consumers' choices. Political markets are imperfect, and the way they work favours organised producer interests, such as teachers, academics and bureaucrats, over those of consumers and taxpayers. Producer groups rely on government protection and regulation, rather than better service at a lower cost, to protect and promote their interests.

[12] See *The Economist* (1999a).

Another problem in a centralised and politicised education system is the costs of conflict, because it becomes a battleground for competing interests and philosophies. With the direction of the whole system up for grabs, political authority is valuable. Resources are spent in political battles by people either to impose their views on other people, benefit themselves at the expense of others, or to prevent others from doing so to them. Far from promoting social harmony, government control over the curriculum often politicises educational issues and fosters confrontation.

Not all New Zealand schools, or the dedicated people who work in them, are failing. In fact, it does not really matter whether the schools are failures or not – the issue is whether current arrangements can be improved.

The current education system is inefficient

The fundamental problem with public ownership is that those who control government owned schools (politicians and bureaucrats) do not have rights to the residual income flows. They do not have strong incentives to make efficient decisions and, instead, pursue political, ideological and personal objectives. The political process does not necessarily protect taxpayers' interests.

The Ministry of Education provides and allocates capital directly to schools. Those who decide the amount and allocation of this capital are often ignorant of important information and suffer little penalty for incorrect decisions. They give little weight to consumers' demands and local needs.

There are no price signals to ration capital to its most valuable uses or to encourage efficient decisions about its use. Capital is rationed through a politicised and bureaucratic process that encourages schools to ask for as much as possible and hold on to what they have. It creates incentives for lobbying, which wastes resources because schools put time and effort into competition over limited funds.

The result of centralised capital allocation is inefficient use of school property and little supply side flexibility. Each school is tied to one site, and each site to one school. There are limited incentives or opportunities for successful schools to expand. There may be excessive amounts of capital in some uses, but those at the school level cannot divert it to higher priorities. School managers have little incentive to pursue commercial activities that utilise capital and reduce its cost.

Education in government schools is offered as a subsidy in-kind to parents. The education the government provides, however, is not what parents would

have bought had they spent the money. A subsidy in-kind displaces private education expenditure and may reduce total education spending. From the parents' point of view, incorrect decisions and cost inefficiencies mean much expenditure on education is wasted and, when compared with no intervention, may decrease the quality of education received by many children.

A system becomes more efficient if it produces increased benefits from the same cost, the same benefits at reduced cost, or increases costs, but also increases benefits by a greater amount. Efficiency requires the right type of output to be produced, in the right amount, at minimum social cost. The 'right type of output' means producing a range of services of a quality that matches the needs of students, parents and society in general. At 'minimum cost' means getting value for money, using the most productive techniques and least cost combinations of inputs in order to achieve the most output; it does not mean producing the lowest quality services, or at least cost to government. An increase in cost efficiency means reducing the cost of producing a given level of service, not cutting the service itself, and, it makes available resources that would have otherwise gone to waste – which are then available to increase service levels. Efficiency also requires appropriate incentives for providers to innovate in order to increase benefits or decrease costs.

Under the current education system arrangements, there are few incentives for schools to produce increased quality, to minimise costs, to improve productivity or to innovate. As a result, the government may provide services to consumers that are valued at less than their cost of production and fail to produce services that consumers actually want. The needs of some groups, such as the disadvantaged, are neglected.

The lack of diversity in the system is particularly costly because educational demands reflect deeply held cultural and religious beliefs. Parents value educational packages to varying degrees and have diverse opinions about the determinants of educational quality. They disagree about the purpose of education and how best to achieve it. The wide range of abilities and needs of children mean that different types of education are suited to different students. There is simply no one best education for everyone.

The ERO audits all New Zealand schools and reports its findings publicly. It concludes that 20–25 percent of government schools have performance problems, and about 10 percent appear to have persistent problems.[13] The ERO identifies problems with educational policy, school processes and internal school management that cannot be blamed on non-educational changes in society or the family backgrounds of students.

Evidence from the United States shows that private schools are more efficient than public schools. The evidence comes from a variety of sources, including private–public school comparisons and randomised voucher experiments, and is also consistent with the broad empirical literature comparing private and public firms in other industries.

Despite lower spending per student at private schools than public schools, private school students have higher levels of achievement and attainment than students with the same characteristics attending public schools, and, the advantage is greatest for minority and lower socio-economic status (SES) students.

The private school advantage comes from superior policies, school organisation and different educational practice, not from selection of students or peer effects. It is not just limited to Catholic schools.

Evidence suggests that private schools produce more social benefits such as social cohesion than government schools. They do a better job teaching students to be tolerant and law-abiding.

Another form of inefficiency stems from the way that the government raises money to spend on education: taxes. When the government raises $1 million in taxes, those who bear the taxes have $1 million less to spend.

In fact, the taxes impose a cost on taxpayers greater than the amount of revenue raised. Taxes change behaviour and distort decisions. The result is what economists call a deadweight loss or excess burden. The excess burden from a tax is the difference between how much it makes individuals worse off and the amount collected. It is plausible that the excess burden imposed from raising an extra dollar of tax revenue is 30–50 cents. In addition, the government incurs administration costs when it assesses and collects taxes and taxpayers incur compliance costs. It is costly to cycle the bulk of education expenditure through the government. The cost of taxation means that $1.00 in education subsidies costs taxpayers at least $1.30.

The current education system is inequitable

The supporters of increased government intervention in education believe it is worth tolerating inefficiency in order to promote equality and help low-income families. Yet, despite massive government intervention in education, the results have been disappointing.

Even the defenders of public education sometimes explicitly draw attention to the inequities of public schools in calls for more funding. For example, they point to:

[13] Education Review Office (1999a).

- vast inequalities within the education system;
- that students who are disadvantaged often attend the worst government schools; and
- that many students leave the schooling system poorly educated, lacking skills and unprepared for future life.[14]

The unsatisfactory performance of the government school system affects those from impoverished backgrounds the most. A student who does not learn academic skills in the home environment is more reliant on learning them in school. There is evidence that good schools have strong positive effects, and bad schools strong negative ones, on students who are disadvantaged.[15]

Low-income students have the fewest alternatives. Those with parents rich enough to live where they want have some choice, and the rich can also afford to pay for private schools, which increases the competitive pressure on government schools in areas where families are well off.

The ERO identifies dealing with vulnerable students as New Zealand's major educational failure and makes it clear that the poor functioning of schools contributes to the problem.[16] The recent curriculum and assessment changes are likely to be particularly damaging to those students from low-income backgrounds, thereby making matters worse.

The current education system is not good at fixing or closing bad schools, and they endure, despite decades of efforts to improve them. It restricts competition, which protects poorly performing schools and reduces the pressure to change them. The system tolerates failure, harming those in failing schools – usually the disadvantaged.

The importance of family background in influencing student performance has been twisted by some New Zealand education academics into a reason for excusing poor performance by some schools because the students attending them are from disadvantaged backgrounds or members of a minority group.[17] Not only are parents blamed for their children not learning, the system forces them to send their children to schools they find unacceptable.

The current system dispatches students to government schools despite evidence that private schools are more likely to keep at-risk students in school and engaged. Private schools achieve greater equality in educational outcomes between rich and poor.

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14 For example, Ministry of Education (1999d) pp 1, 7–8.
15 Hirsch (1996) p 45.
16 Education Review Office (1999b).
17 See, for example, Smithfield Project (1998) Report Six, pp 75–79. See also Fiske and Ladd (2000a) pp 224–236, 306.

Compulsory schooling crowds out the provision of education by non-school alternatives that may be more suitable for at-risk students. Those students forced to stay at school may be disruptive and be a disproportionate burden on teachers and administrators. There is little evidence to show that being forced to attend government schools to the age of 16 has benefits for at-risk students, especially when compared with the alternatives.

The system provides limited information

A major problem with the New Zealand education system is a lack of information. National data on student achievement are not systematically collected or released. There are no mandatory national tests. External examinations for senior secondary students have been downgraded. There are no price signals to convey information to consumers about the costs of their demands and to tell education suppliers how parents value different aspects of educational quality.

Without test data, it is impossible to compare student performance across time or between schools. It is infeasible to determine whether schools are teaching basic skills, identify where the problems lie, where to focus reform efforts and whether changes actually improve matters. This failure to test is, itself, a sign of poor performance.

The absence of price signals means there is little feedback on whether changes such as smaller class sizes, improve matters.

The demand for information in the education system comes from many sources. Parents, students, employers and educators want to be informed about student ability and achievement. School managers need information to be able to monitor teacher and school effectiveness, make decisions and evaluate programmes. Voters and politicians require results to help determine school policy and judge whether it meets their objectives. Parents and students demand data that will enable them to compare schools. Poor information provision means these demands are not satisfied.

The lack of information reduces accountability and limits the ability of schools to improve their education services. It reduces incentives for both schools and students to maintain academic standards and for teacher training colleges to produce highly skilled teachers. Teachers who successfully promote academic experience are not publicly acclaimed. Instead, their performance is kept hidden from the public, which reduces the status and morale of good teachers.

Curriculum and assessment services are provided in-kind to schools and do not have to meet a market test. They have been imposed by the state and do not

reflect broad community values. Instead, ideological objectives and the interests of pressure groups have been pursued. For example, the NZQA has strongly promoted qualifications and assessment based on unit standards, but it receives little feedback on the value to consumers compared with costs, or on producer compliance costs, and has little incentive to pay attention to either.

The central bureaucracy, responsible to the Minister of Education, that runs the schooling monopoly finds it difficult to promote consumer satisfaction or respond to diverse needs. It has little incentive or information to make efficient decisions. Any education system runs up against the information problem: to match wants and resources efficiently requires vast amounts of information that is dispersed among many market participants and is impossible for a central body to obtain.

The system does not encourage good teaching

The most important requirement for effective schooling is good teaching. Yet New Zealand suffers from low teacher morale, difficulty in attracting, training and keeping good teachers, a decline in the quality of entrants into the profession, persistent shortages in particular fields and regions, and a lack of a professional culture. Teacher shortages adversely affect low-SES schools the most.

The problems arise because of the way the government compensates and trains teachers.

The lack of school autonomy makes it difficult to identify and reward good teachers, and, teaching performance is difficult to measure from outside the school. Variables used by central bureaucracies to determine teacher pay are not related to good teaching. There is no significant correlation between teacher qualifications, teacher experience (after the first few years) and student learning.

Union activity compresses salary differentials, so wages received depend mainly on qualifications and time served and do not vary enough with performance. As a result, government schools pay teachers in high demand too little, and those in low demand too much. There are few rewards for good performance and a lack of sanctions for poor performance. Teachers who excel at their jobs or teach hard-to-staff subjects and tasks are paid the same as if they were mediocre or could be replaced easily, which damages their morale.

A consequence of centralised provision is that teacher conditions are dependent on the vagaries of the political process. Winning a pay rise depends on the success of political and industrial campaigns rather than satisfying customers – and often means battling against an unsympathetic government and competing public sector priorities, damaging teacher morale.

The able are the most likely to prefer occupations where pay is more closely related to productivity. Talented people who join the teaching profession are more likely to leave when they realise superior performance brings no reward.

There is more to job satisfaction than money, and a number of factors can reduce the attractiveness of teaching. These factors include poor training, a lack of support and training at the school level, and an unsatisfactory work environment. Increasing bureaucratic demands may also drive out talented teachers.

THE VIEW FROM THE GOVERNMENT EDUCATION LOBBY

One of the biggest obstacles to moving away from a centralised system is the government education lobby. It is the group of education bureaucrats, teacher union officials, education academics, politicians and university administrators who dominate media treatment of education issues.

Many have a large personal stake in current arrangements. They represent groups that are taxpayer funded and they use the political process to get more taxpayer funding. Their policy recommendations are invariably for more government spending on government education. For the example, the New Zealand Educational Institute (NZEI), the union for primary and early childhood teachers and support staff, have as their first 'key issue' in education: "Our public education system needs adequate funding to ensure the best teaching and learning opportunities for all children. What's needed: Increased operations grant; An end to 'poor' schools; Resources to meet the needs of all students".[18] The government education lobby does not include the teachers, board members and administrators working at the school level, and there is a real conflict between the interests and views of individual educators and those who represent them.

The government monopoly provides a powerful reason for teachers to demand a union. The union represents teachers in the political process, and union officials have a vested interest in maintaining a centralised system because it provides them with a greater role and more power than would a non-centralised system.

The evidence from the United States is that the growth in unionisation and centralisation was responsible for the sharp decline in student academic performance in the 1970s and 1980s – mainly through the effects on government policies. Teachers' unions increase school inputs but reduce productivity

[18] See Ministry of Education (1999e) p 31.

sufficiently enough to have a negative overall effect on student performance. Over the 1990s, the central bureaucracy in New Zealand introduced many of the same policies now being blamed for the decline in educational standards in the United States.

Most members of the government education lobby are satisfied with centralised decision-making. Indeed, many consider that a government owned school system is the best way to organise schooling.[19] They doubt whether parents are able to choose their children's education. They believe ignorant parents would make poor choices, which would harm their children and lower academic standards, and that racist and snobbish parents would create social division.[20]

In contrast with their scepticism about the competence and motivations of parents, the educationalists have a touching faith in the benefits of collective and elite decision making. They assume that the alternative to a market system is a political process that works perfectly, with an education system that is run by benevolent, all-knowing experts. Government intervention is assumed to result from altruistic efforts by the legislature to promote the public good. Any shortcomings are usually put down to a lack of resources or blamed on any market incentives that remain.

To educationalists, the market, efficiency and competition are evils to be avoided. A teacher union leader described flexibility and choice as the 'F' and 'C' words of the 1990s.[21] In a report commissioned by the Ministry of Education, some New Zealand education academics claim that market policies not only disadvantage the poor and minority groups (despite their evidence saying otherwise) and help the privileged, but that is the deliberate objective of those who support the policies.[22]

The market critics claim that the Tomorrow's Schools reforms illustrated the limits of the market approach – 'they introduced a market and it failed'. The critics assert that the schools did the choosing and they discriminated against low SES and minority students, that minority and poor students were the least likely to exercise choice and were made worse off. The conventional wisdom in the New Zealand education lobby is that Tomorrow's Schools segregated New Zealand's schools and dramatically increased inequality.

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19 See, Olssen "The 'MacDonaldisation' [sic] of Education", *New Zealand Education Review*, 29 October 1999, p 8.

20 See Smithfield Project (1998) Report Seven, p 2, Smithfield Project (1997) Ethnicity Article, pp 99, 103.

21 NZEI president Ward quoted in *New Zealand Education Review*, 24 September 1999, p 4.

22 See Smithfield Project (1995) Report Three, p 1 and (1994) Report One, pp 13, 19. Others claim that the Tomorrow's Schools reforms and dezoning involved, the deliberate creation of relative failures and were set up to create unsuccessful schools and loser students, Fiske and Ladd (2000a) pp 10, 307.

Market critics claim that:

- education is too complex for markets to work;
- markets will destroy employment conditions for teachers;
- there is 'no evidence' for market policies and that they are advocated simply on the basis of ideology and unrealistic theory;
- markets have been shown not to work in education;
- the market would only provide for the highest performing students;
- a market would make schools too commercial;
- the need to make profits would raise costs;
- private schools are not accountable;
- an education market will not work because there will be too little entry;
- private schools would be less likely than government schools to teach values with social benefits;
- markets are about creating winners and losers;
- markets mean consumers order producers about;
- parental choice would reduce academic standards;
- markets would help only the rich and harm the poor;
- markets destroy co-operation within schools;
- markets 'commodify' education, create conflict and reduce social capital;
- markets increase segregation and reduce social cohesion; and
- the way to solve New Zealand's educational problems is for the government to spend more on government schools.

MORE EXPENDITURE?

The calls for government expenditure (usually in the interests of those calling for it) do not involve a reasoned argument that a particular programme or expenditure has benefits that exceed costs. Instead, the focus is on total spending rather than marginal returns. Education lobbyists argue that total spending is too low, and so more should be spent. No evidence that past spending has been productive is presented, and the costs of the taxes required to finance the spending are not mentioned. How to reform current spending to achieve objectives better is not considered.

Evidence suggests that, given the way government schools are currently organised and run, there is a low return on extra spending. The evidence comes from a variety of sources, including studies on the effects of measured school

inputs on academic outcomes, time series data, international comparisons, private–public comparisons and studies of the effect of school resources on earnings.

Extra resources could fail to improve performance in government schools because inefficient practices waste them, they are used in ways that do little to improve educational outcomes, or they are offset by other changes. For example, additional funding may be spent on extra bureaucracy, increased pay for ineffective teachers, or used to finance adverse curriculum and assessment changes. The lack of a relationship between inputs and outcomes is a sign that the current education system does not work well and needs reform.

The preoccupation of the government education lobby with total expenditure is too narrow. The quality of education is determined by more than expenditure, and depends on:

- teacher quality;
- parental involvement;
- curriculum content;
- school ethos;
- instructional methods;
- classroom procedure; and
- school organisation.

Ultimately, education depends on the capabilities of, and incentives for, those who teach and administer.

A good education system must foster these other determinants of educational quality and get value for money spent. Even if it is true that the government spends too little on education, it does not mean that all additional expenditure is justified. The relevant issue is whether the benefits of the additional expenditure exceed the costs.

We need a system that allocates spending to its most valuable uses. Even if we were to spend more on education:

- How do we decide between spending more on primary, secondary or tertiary education?
- If on tertiary, should we have more students, or more spent per student?
- At the compulsory schooling level, do we spend more on teachers, equipment, school grounds, buildings or administrators?

If we decide to spend a certain additional amount on teachers do we spend it to:

- hire extra teachers?
- increase pay?
- train new teachers?
- train existing teachers?

Trade-offs are inevitable. Who makes the decisions and how are the results evaluated? Good intentions and trendy ideas are not sufficient. If spending is not systematically evaluated, then unsatisfactory performance can persist and resources are wasted.

BENEFITS OF A NEW MARKET EDUCATION SYSTEM

The government should introduce market competition into education

The problems with New Zealand schooling arise because it is a centralised and politicised monopoly. The solution is to decentralise, privatise and introduce competition. The key to improving the education system is to move away from government provision and producer monopoly power to a decentralised competitive market that allows families to choose between different types of schools run by competing autonomous providers.

Choice and competition provide the best setting to unleash human efforts to resolve problems. Competition encourages the ultimate determinants of student performance, such as good teaching and parental involvement.

To achieve social objectives, the government should not provide education but should finance and regulate in a market system and harness market forces to the benefit of society. The improved transparency of explicit regulation and subsidies over provision makes it easier to judge policies and reduces the chance of poor public policy to achieve political objectives.

Competition can, and does, work in education

Competition is a powerful tool that can be used to benefit consumers, raise productivity and help the poor. It is likely that introducing market competition would increase educational quality and reduce costs.

Superiority of markets over government is not abstract theory. It is an empirical phenomenon. Government ownership has been shown to be less efficient than private ownership. Deregulation and privatisation have been proved to be a success in other industries.

Observation of, and studies on, schools subject to market incentives (private schools, the for-profit sector and charter schools) in the United States demonstrate

how the market provides for diverse preferences, stimulates innovation and has a strong customer focus – often catering for needs neglected by the public system.

Even the limited competition sometimes permitted between government schools and between a fringe private sector and a dominant state system, improves school performance. Increased choice allows students to move into superior private schools and improves public schools for the children that remain behind.

It is not clear how much competitive pressure government schools can put on each other. If the inefficiency is at a system level, or is common to all government schools, competition between them will not solve it. The competition from private schools is curbed because government schools receive much larger subsidies and the public sector can impose regulatory burdens on its competitors.

Freedom of entry, and the same rules for private and government schools, would reduce the monopoly power of government schools and provide more choice for consumers. A large private sector would provide increased competition for public schools and a source of diversity in educational opportunities. Consumers would benefit, as they do from market competition elsewhere in the economy. Further, their gains need not be at the expense of producers, who may gain from the increased incentives to innovate and seek new markets.

A market system will benefit the poor

The poor have the fewest alternatives and the greatest need for more choice. They gain the most in switching from public to private schools. Some current schools are successfully helping those from disadvantaged backgrounds. In a market system, these successful schools would expand and be imitated rather than ignored.

Rather than expecting at-risk students to thrive in schools designed for typical students, or for all schools to reorganise to cater for small minorities, what is needed is more diversity and specialisation.

A market system would extend to all the kind of choices the rich take for granted, which will benefit the poor. Increased autonomy encourages the development of successful schools that all children can attend, increasing the educational opportunities of the poor. Resources will be more useful to poor parents if schools are directly accountable to them.

A system where schools compete for students and have an increased incentive to provide what parents want, and parents and students have increased opportunities and incentives to succeed, can lift the standards of all schools, and help all students.

Lessons from Tomorrow's Schools

Market critics claim the Tomorrow's Schools reforms demonstrate that markets harm the poor. In fact, the exact opposite is true. The evidence is that the reforms benefited the poor.

The Tomorrow's Schools reforms gave parents increased choice and state schools gained more autonomy. Dezoning allowed students to attend any state school that would admit them. The critics' own evidence is that low SES and minority students made the greatest use of the extra choice. These groups gained the most from dezoning because they were the most adversely affected by the use of zoning to maintain enrolments in declining schools. Many parents had been forced to send their children to bad schools.

Under the reforms, the worst schools grew smaller. What matters is the effect on the well-being of students, not whether particular institutions lose them. Claims that those left behind in poorly performing schools are worse off are wholly unsubstantiated. The fact is that bad schools existed long before dezoning. Their deficiencies were exposed by parental choice. It is doubtful whether the students attending failing low-SES schools would have fared any better had the old centralised system continued.

Extra choice allowed more appropriate matching between schools and students. It enabled schools to get the critical mass of students required to support programmes for minorities that may not have been possible with zoning. Moreover, the improved freedom given under the reforms allowed some dynamic principals to turn around failing schools.

The net effect of the movement of low-SES students to other schools was to decrease segregation. Schools became less segregated by SES, and dezoning encouraged less residential segregation, promoting social mixing inside and outside schools.

Although some oppose the market because they claim it results in segregation and allows the rich to buy better education for their children, zoning has a worse effect. Zoning means schools simply reflect their local neighbourhood and so are segregated. Entry into a good school depends on being able to afford to live in its zone.

The result is 'selection by mortgage'. There will be increased demand for housing, and property prices and rents within the zones of popular schools will rise, relative to other areas. Entry into good schools is still rationed by the ability to pay, but by high house prices rather than school fees, and this results in increased segregation. Poor families will find it more difficult to attend

good schools. In a market system a poor family with a high priority on education only has to pay the fees that good schools will charge. In a zoning system, parents have to pay to live in a good school's catchment area. Not only do they have to pay the premium for a good school they also have to pay the premium that exists between residential areas for non-school factors. Choice is limited to the rich in a zoning system.

Selection by mortgage has the disadvantage that there is no direct reward to the school for good performance. Instead, the benefits go to landowners in the relevant zone. There are the adverse equity effects from segregation without the advantages of direct price signals to provide incentives and convey information to suppliers. Further, the cost of moving restricts parents' choices.

Markets promote efficiency

The market combines the freedom of individuals to pursue their own objectives, with the extensive co-operation and collaboration needed within an economic system.

Competition and choice, freedom of entry, the price mechanism and the profit motive act to provide incentives and co-ordinate behaviour so as to use available resources for their most valuable purposes, as judged by consumer willingness to pay. The market provides what consumers want in an efficient manner, promotes freedom and checks the power of the state, allows for diversity and encourages suppliers to develop and adopt innovations that are valued by consumers.

The market harnesses self-interest and co-ordinates widespread knowledge to deliver better services at a lower cost than government provision. Decentralised decision making makes sense because individuals have the strongest incentive and best information to further their own interests.

Those at the school level are in the best position to judge their own resources and needs. Parents know their child best, care the most and bear the cost of bad decisions. They have much information that the central authorities do not. Many important aspects of schools (such as, the general school atmosphere, the nature of its discipline, the quality of its teaching) can only be judged at the school level. Parents can continually monitor and receive feedback on the effect of a particular school or type of schooling on their child. It is not self-evident that occasional monitoring by experts can do better.

The market allows autonomous decision making by suppliers and maintains accountability. Professionals decide how education is to be provided, but parental choice means that schools are directly accountable to parents, rather

than indirectly through the political process. Parents can choose a school with an ethos they sympathise with. Schools cannot take children and money for granted. If enough dissatisfied parents leave, the school will need to change, close down or be taken over.

There need not be much exit in practice. A decentralised system allows the school community to make decisions and solve problems. Schools and parents can negotiate their common interests far more effectively than they can by relying on a decision imposed by a central bureaucracy. In the great majority of cases, most discontent can be ironed out at the local level without the need for parents to switch schools. Usually, one issue is not all-important, and trade offs and compromises have to be made. The right of parents to choose schools and for schools to reject pupils gives both parents and those running the schools the correct incentives to maximise the mutual benefits from matching of schools and students.

A small minority of parents may not be capable of furthering their children's interests, but the government should only intervene when it is more likely to advance the interests of the children than their parents.

In a market system, schools are under pressure to improve quality, reduce costs and adopt improvements – or lose market share to competitors.

Only a market test can provide credible information on how parents value different aspects of educational quality, the relative importance they place on different educational objectives and the best way to fulfil those objectives.

A further benefit of a market system is that when parents choose, they become more involved in their children's schooling and that makes children perform better. Seeking out a suitable school engages parents. Paying fees encourages parents to monitor schools more closely. People pay for what they value and value what they pay for.

The characteristics of education strengthen the case for the market

The reasons why government provision and central planning failed in other parts of the economy also apply to the education sector. In fact, many features of education strengthen the case for the market, rather than government, to provide it.

- Decentralised information is important. Opinions differ on what is considered a 'good education' and how to achieve it. People have the best information on their own preferences and circumstances.
- Autonomy is crucial in order to encourage good teaching, and government-owned schools can never be fully autonomous.

- The market permits diversity – and will provide it if preferences are diverse and the benefits exceed the costs.
- Schooling is potentially a competitive industry. The main controversy over privatisation and deregulation in other industries has been the consequences of private ownership and competition in natural monopoly industries. Yet privatisation has occurred in infrastructure industries, where monopoly problems loom large, and not in education, where they do not.
- It is difficult to measure objectively educational outcomes and many educational inputs. There is much about how education works that the experts know little about, much less control. It is even more difficult to measure school quality – because that not only involves measuring educational outputs but disentangling the effect of the school from other educational inputs.

Why teachers should support the market

Good teachers have a lot to gain from a market system because it would create competition for teaching services and rewards for good teaching. Competition between employers would determine appropriate levels of pay and ensure that excellent teachers, and those in scarce specialities, can negotiate attractive compensation packages. Teachers would be transformed into true professionals, rewarded on the basis of their skills and performance. A market arrangement would allow teachers to choose between different central management techniques and arrangements – a choice they do not currently have.

The effectiveness of different compensation arrangements, teacher hiring practices, training methods and institutional arrangements would be decided by open competition.

Wages are likely to be more closely related to performance. The prerequisites are in place – performance of teachers varies widely and good performance can be measured at the school level (for example, by the principal). The result is likely to be increased salary ranges and rewards for good teaching – which will encourage more skilled teachers to join and stay in the profession.

A number of US studies find that competition between schools improves teacher quality and increases teacher salaries. When schools compete, they perform better and cut costs. It seems competition encourages schools to spend more productively to employ better teachers. Although unions may successfully promote teacher interests in a monopolised and politicised system, it is not

clear that teachers as a whole are better off than they would be in a competitive market. Some groups of teachers are definitely made worse off by the policies adopted under union pressure.

The evidence shows that market incentives result in an improved working environment for teachers. Studies of US private schools reveal the effects of managerial autonomy, combined with market accountability, in a competitive environment. Private schools have better teachers than public schools because they have policies and an environment that attract good teachers and encourage good teaching. They draw on a larger talent pool by hiring teachers with high ability and strong subject knowledge but without teacher qualifications. Continued employment depends on classroom performance – they dismiss bad teachers.

Working conditions are just as, or more, important to teachers as pay – many private schools in the United States attract skilled teachers despite paying less. Teachers in private schools are more likely to express greater job satisfaction and strong, positive attitudes about their schools.

These findings are consistent with the evidence that private schools perform better than public schools, at lower cost, and that private school advantage is a result of superior policies, environment and educational practice within the school.

THE APPROACH TAKEN IN THIS BOOK

In this book, issues are analysed using economics. Economic analysis does not mean that the vocational ends of education are considered all-important or should be given priority. Indeed I conclude that much of the movement towards vocational training in schools is misguided and an example of the problems with central provision. Central control often leads to a focus on narrow materialistic aims – these are more easily measured from above and are important to governments. In a market system, parental preferences will determine what schools do, and will include non-vocational goals. Experience suggests that, for some parents at least, religious matters will be paramount. It is a misunderstanding of economics to talk about non-economic objectives. All objectives are non-economic. Economics is about choosing between them.

Economics tells us that resources are scarce and trade-offs are inevitable. More of one output means less of something else. There needs to be a process for making decisions about these trade-offs. Assertions that education is 'important', a 'right' or 'special' do not help make public policy choices, such as what type of education to subsidise and by how much.[23] Food and housing are important, but is difficult to see that either should be heavily subsidised for all, much less provided mainly by the government.

To claim a right to something (as opposed to a right from government interference) is to impose on others the obligation to provide it for you, without compensation. For society as a whole, nothing is a right; everything needs to be produced by human effort.[24]

Moreover, all producers think they are special. Choices must be made between spending on education and on other important, 'special rights', such as health, housing, food and justice. Epstein points out "It turns out there is nothing special about anything. A few central principles, consistently applied will tell you the appropriate scope for individual choice on the one hand and for government action on the other".[25] Hanushek comments, "Some have argued that schools are too important to be subject to economic rigour. We argue that, on the contrary, they are too important not to be".[26] Indeed, if education is so important, expenditure on it should be subject to thorough scrutiny to ensure we get the most out of resources devoted.

The essence of the economic way of thinking is that people respond to incentives.[27] The power of incentives means there is a need for rewards and sanctions – for accountability. The incentives provided by different social arrangements and the outcomes that result are examined in this book. Who makes the decisions, what information do they possess and what incentives and accountability structures do they face?[28] In particular, the market and political process are compared.

The economic approach weighs up carefully the costs and benefits of policies. It considers all the effects of policies on all people in society, not just the immediate or direct effects and not just the consequences for one group.[29] For example, when a proposal is made to spend more, the effects of the taxes required to pay for the spending must be considered along with an appraisal of the benefits to be gained from that spending.

There are at least two possible sources of disagreement about policy issues. One is on the ends of policy. Another is on the appropriate means to achieve those ends and the consequences of particular policies.

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23 See for example, Boston (1990).

24 Sowell (1995) p 100.

25 Epstein (1995) p 43.

26 Hanushek (1994) p xvii.

27 For a reference that emphasises this definition of economics and uses it in many insightful and entertaining applications, the reader is referred to Landsburg (1993).

28 See Sowell (1980), (1987) and (1995) who applies this approach to many different policy issues. My thinking has been extremely influenced by his writings.

29 For a reference that emphasises this definition of economics and uses it to demolish many economic fallacies, the reader is referred to Hazlitt (1979).

Economic analysis can contribute to resolving disagreement about means. For example, do particular policies achieve an objective? Are they the best way to achieve an objective? Some goals, such as alleviating poverty, command widespread agreement. The debate is over the best way to achieve it – and that involves weighing up the costs and benefits of different approaches.

Further, agreement on these practical issues makes ideological issues easier to resolve, because the implications of different values are more clearly understood. For example, education is a key determinant of the distribution of income and economic opportunity. Disagreements about education policy often involve sharp differences in opinion over the desirability and feasibility of the government promoting equality, and the effect of government education policies on equality.

Agreement on how much, or even whether, government policies have increased equality, and at what cost, would help resolve these differences. Although, at the end of the day, people may still judge trade-offs differently, much disagreement comes from the varied perceptions of the trade-offs involved.

This book presents a comprehensive analysis of the role of government in the education system. Should the state own schools and provide education? How should it finance and regulate it? The issue is not whether an unfettered market system is better than a centralised government system, but what is the best way to organise education, the appropriate degree of government intervention and the preserve of private decision making.

Any education system must address crucial issues, which include how to:

- compensate and train teachers;
- evaluate students;
- provide information;
- determine the curriculum;
- give incentives to innovate;
- provide property efficiently;
- cater for the poor;
- protect children;
- give out subsidies; and
- whether schooling should be compulsory.

This book is about setting up the best education system, not about imposing a particular educational philosophy or dictating how schools should educate students. That is best left to the professionals. It is certainly not argued that economists should replace the current set of experts in order to run the current

education system better. The emphasis is on the incentives that come from the current system rather than on the training and dispositions of those in charge.

Specific matters such as how schools are run, class size, teacher training, teacher salaries, homework levels, assessment and the curriculum, are second order issues. The first order issue is whether these things are best resolved through the choices of parents in a market setting or through government decisions in the political process.

2
THE PROPER ROLE FOR GOVERNMENT: PUBLIC UNDERTAKINGS

Education raises controversial social issues about the rights and obligations of the family, child and state. Reasonable people, with different value judgements, can disagree about social goals. There is even disagreement about the relevance of diversity in goals and beliefs. For example, should the diversity in cultures, religions and attitudes in an immigrant country like New Zealand be respected? Or does that make the inculcation of common values more important? People disagree about what will make a more stable, cohesive society.

Even if people agree on what broad social goals are desirable, often these goals conflict. People may value the inevitable trade-offs differently. Even people who agree on what government should be doing may disagree on what government can actually do, and the effects of various government policies.

Disagreements about social goals loom large in the education debate. One reason why education matters are so controversial is that education itself helps shape the very values over which there is so much political conflict.

Good policy will identify objectives, target intervention at achieving them and evaluate the costs and benefits that result. It is important to specify the goals of government intervention in order to determine how best to achieve them. This chapter examines different policy objectives to gain insights on what they imply, the trade-offs between them and presents evidence on their importance.

Three basic criteria help judge government policies to improve the school system: do they promote equity, make the system more efficient and allow for individual liberty. Because education is a key determinant of earnings and a vehicle of social mobility, many people see it as a crucial way to help the disadvantaged and improve the distribution of income. Vast sums of money are spent on schooling, and efficiency improvements can yield large potential benefits. The respective roles and responsibilities of the state, family and child involve fundamental matters of liberty.

In New Zealand, and many other countries, government intervention in education is the norm. Governments fund, regulate and provide schooling. What is the case for government to intervene?

Economists have a well understood and deeply studied set of reasons for government intervention, so-called market failures. Claims by education academics that economists assume markets are perfect or do not understand that they can go wrong reveal an ignorance of economics.[1] To understand why the education market fails is a first step in figuring out how to improve the situation and the appropriate role of government. We need to identify the problems and their causes. We need to know why the market fails to solve the problems.

Two potential roles for the government to intervene in education are to correct market failure and promote equity. A well functioning market will produce an efficient outcome. The government may still intervene to redistribute income. If the market does not work well, the government may increase net social benefit by interventions targeted at overcoming the impediments to efficiency.

A number of specific rationales for intervention is set out – to alleviate poverty, to promote equality, to deal with externalities (costs and benefits that accrue to others and are not taken into account by the person undertaking the education), to ensure equality of opportunity, to protect children and to control fiscal risk. The appropriate intervention depends on which rationale is considered most valid or significant.

BASIC CRITERIA FOR JUDGING POLICY

Equity

Equity is about what is fair, and so is inevitably subjective. People will have different notions of equity and its importance. One interpretation of the equity goal is that the government has a role to alleviate poverty. A more controversial interpretation is the assertion that society 'should' have the goal of creating equality of outcome, and government should implement it, even if that overrides individual aims. Assertions about the goals of society do not explain how they are determined and translated into government action, and beg the question of what is the appropriate role of government.

If, instead, government is a mechanism to help individuals achieve their goals successfully, the role for government in redistributing income can be derived from the preferences of individuals in society. For example, assume everyone in society wants to see poverty alleviated. People could donate money to alleviate poverty according to their own values. What is the case for government intervention? If one person alleviates a family's poverty, then

[1] See for example, Smithfield Project (1994) Report One, p 7.

everyone who cares about the poverty of that family benefits. If the donors do not take account of these benefits to other people, then there may be too little giving – and not enough poverty alleviation – in the private market. On the other hand, the private market may work well if donors also care about other potential donors and the act of giving.

It is possible for everyone to be better off if the government forces extra giving to those in poverty. Although individuals lose by being forced to give more than they want, they benefit from the increased poverty alleviation from other people. Alternatively, if people cared about equality, the market may produce too little and there would be a role for government to redistribute to increase it.

Some argue that, judging by people's charitable giving, redistributions within their family and gambling behaviour, most seem to care about alleviating poverty rather than equality.[2]

- Genuine deprivation – an inability to afford the necessities of life – is what motivates most charity. Further, the altruism we observe is more closely linked to the basic needs of individuals than to their incomes. Most people genuinely believe it is good for the sick to be healed, the homeless sheltered and so on.
- Families step in to help fellow members meet basic needs, but seldom redistribute to equalise income (for example, bequests are usually divided equally rather than to offset income differences between children).[3]
- The fact that a large proportion of the public participates willingly in lotteries suggests that many people do not value equality. Lotteries increase inequality – many people purchase tickets and make themselves poorer in order to make a few winners rich.

A rise in inequality is not necessarily bad. It is difficult to say that a change that makes the rich better off and no-one worse off is a bad thing – although it may increase inequality. Some argue that relative status is important to most people and so if the rich are better off, others are worse off.[4] Concern over relative status can stem from envy and resentment. An individual with this outlook has been described as a 'spiteful egalitarian'.[5] The idea that a dollar to a rich person is worth less than a dollar to a poor person underlies the equality objective. Although consensus on the exact values of each is unlikely, spiteful egalitarianism requires a dollar to a rich person to have a negative value. Even

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2 See Harberger (1984).
3 For references on the evidence supporting this proposition, see Landsburg (1997) pp 223–224.
4 For example, Krugman (1999).
5 Feldstein (1999).

those who believe it is good to increase equality by transferring income from the rich to the poor, would mostly reject this approach and agree that it is not an improvement simply to make the rich worse off.

More realistically, when some people become richer the poor also become better off. In general, people earn wealth by satisfying the needs of others rather than at others' expense. If the rich increase their wealth through trade and innovation that improves the general standard of living, most people would consider it a good thing, even if inequality increases.

Practical problems with the equality objective include 'equality of what?' If we were to limit ourselves to measurable income, and ignore differences in leisure, is annual or lifetime income relevant? What unit: the individual or the household? How should the different sizes of households be accounted for? Do we only pursue equality within national boundaries, or do we worry about poor people in other parts of the world?

Inequality of income is inevitable. If all incomes were equalised at some point, trade and production will lead to an unequal distribution at a later point. If someone produces something that is valued by others and sells it to them, the producer's income will increase and inequality will rise even though no-one's income has fallen. The equality objective requires continual redistribution and undermines the incentive to supply what consumers want. People will put in less effort to produce what others value if their income is periodically redistributed to others, more so if they automatically receive a share of what others produce.

Complete enforced equality would destroy the incentive to produce what is demanded. If equality is considered a good thing, the real issue is how much should we increase it by. That amount will be influenced by the cost of redistribution, which depends on whether high income is mainly a result of luck or effort, and how effort responds to the redistribution. It is possible to believe more equality is good, yet be against more redistribution.

Apart from practical constraints on redistribution, many object to the consequentialist moral theory that underlies the equality objective – that judges society purely by results, and justifies seizing A's property and giving it to B (so long as it is not too costly). Fairness may be concerned with means, and many do not accept that the end of equality justifies means that infringe liberty. Instead they argue equity is about choosing the appropriate rules to govern how society operates. Some consider an outcome equitable so long as wealth was acquired through voluntary transactions with the same rules and standards applied to all.

The political process must resolve differences in objectives and decide appropriate policies. People express their preferences for government policy

through their votes at election time and support at other times. The policies that result need not be socially desirable, or even make a majority of voters better off, especially if coalitions form to use the political process to gain at the expense of others. The policies introduced need not increase total giving or give in the same way individuals would have chosen. Nor will they necessarily help those in poverty.

Efficiency

Economics places an emphasis on efficiency. Although the goal of efficiency is often twisted into something unpleasant, it merely means that:

> … educators should measure both the costs and benefits of various approaches to education – and choose the approach that maximises the excess of benefits over costs in their particular circumstances. Today, by contrast, the benefits of new plans are often assumed rather than systematically measured, and little effort is made to compare the potential net benefits of programs competing for limited resources.[6]

The efficiency criterion uses cost-benefit analysis to work out what changes are desirable when everyone's interests are taken into account.[7] It looks at the effects of a change on all those affected (including third parties) and adds up all the costs and benefits. If the total benefits exceed the total costs, we say there is an efficiency gain. If the costs exceed the benefits the policy reduces efficiency.

Efficiency is defined in terms of the well-being of people and uses an individual's own evaluation of how much something is worth to them. The justification is not that people always know what is best for themselves, but that they are more certain to seek their own interests than are others. The effect of a policy on the welfare of different people is measured and compared on a consistent basis by their willingness to pay for the policy expressed in dollar amounts (as a convenient measuring tool). An individual's willingness to pay for a change can often be deduced from observed market behaviour. For each individual the amounts could be positive or negative (depending on whether the change makes them better or worse off). The amounts are summed to get a dollar value of the effect of the change. If the sum is positive, the gainers gain more than the losers lose and the policy increases efficiency.

Nothing in the efficiency methodology precludes any type of benefit from the framework. The relevant benefits are not limited to being vocational or pecuniary, or narrow measures of test scores, but are all the social benefits flowing from education – including cultural and other non-market gains.

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6 Hanushek (1994) p xvi.

7 This explanation of efficiency is based on Friedman (1989) pp 183–200 and Landsburg (1993) pp 60–72. Both are excellent expositions written for non-economists.

Sometimes non-monetary benefits are difficult to identify and evaluate, but they should not be ignored. Indeed, a point in favour of markets is that the people to whom these benefits are important can express their value for them and ensure they are supplied, whereas a centralised system may ignore benefits that are difficult for a central office to measure.

The main disadvantage of the efficiency criterion is that dollar gains to different individuals count equally, so it ignores the distributional effects of a policy. A $100 gain to a millionaire counts as much as a $100 gain to a poor war widow. Yet how different groups are affected by a policy may be relevant.

Efficiency may conflict with equity. For example, a policy that redistributed income from the rich to the poor (such as a welfare programme) may reduce efficiency by reducing work incentives for both the rich and poor. Yet it may be desirable: the policy may alleviate poverty. Efficiency is still relevant. If you want to benefit a group, you want to do so by as much as possible for a given cost. Also, to judge equity and poverty alleviation effects, we need to work out who gains and by how much – so we need to work out costs and benefits for different groups.

On the other hand, there is no conflict between equity and efficiency for many education reforms. Much current education policy is most damaging to the disadvantaged and is both inequitable and inefficient.

Policies have efficiency effects and redistribute income (resulting in gainers and losers). Efficiency lets economists separate resource allocation effects from distributional or equity effects in the analysis of any given problem. It does not mean that distributional concerns are unimportant, but there is no consensus about the weight that should be attached to the welfare of different groups. Further, the distributional effects of a policy are often complex and difficult to establish.

Efficiency is not the only thing that matters but it is important and does matter. Certainly, no-one has come up with a better criterion that can be figured out using economics.

It is valuable to undertake the rigorous and systematic analysis the efficiency criterion demands, even if it is difficult to estimate some costs and benefits with precision. Often judgement must be used, but it is useful to put those judgements and assumptions within a rigorous framework to make them clear and to compare alternatives.

Although those in the government education lobby are critical of efficiency, it in fact provides the most convincing rationale for many policies they favour – such as subsidies to post-compulsory schooling. Efficiency provides the underlying rationale for equality of opportunity, because policies that equalise

opportunities may increase inequality and are poorly targeted ways to alleviate poverty.

Liberty

Liberty, or individual freedom, is an end that is important to many people. Liberty is freedom from coercion. Economic liberty is the right to the fruits of one's own activity, to own private property and to engage in voluntary transactions with others. Political, civil and economic liberties are closely tied together: economic freedom is an essential prerequisite for political freedom. It reduces the area over which political power is exercised and disperses power. It gives individuals control over a portion of the means of production that allows them to live their lives independently of, and even in opposition to, the political authority.

Equality of outcome must conflict with liberty. When individuals spend their income as they wish, the outcome must be inequality. For example, people prefer to buy from the producer who gives the best value for money – that producer will gain more than other producers. If the government forces equality, it must restrict people's freedom to spend their income as they chose.

The equality objective provides an excuse for unlimited government intervention. It provides a case for government to intervene to redistribute between any two groups with different incomes – so intervention in any market to redistribute between buyers and sellers is justified. Once the objective of reducing inequality is accepted, there is no logical stopping point because there will never be complete equality. The only constraint is the increasing efficiency cost of more and more equality. Whether increased equality is desirable depends on personal judgements and values. Who is to make these decisions?

Further, if the consequences of decisions made by individuals are borne by others, they will want to control the decision and limit the rights of the individual. The pursuit of equality must ultimately conflict with the role of the family and its right to make decisions, because different parental decisions about how many children to have and the resources to devote to each will create inequality. Some argue that giving the government power to achieve equality runs the risk of totalitarianism, and the end result will not be equality, with the rulers having greater power and living standards than the ruled.[8] To create equality requires a concentration of power in the hands of political leaders, who can then use it for their own purposes. In a market system, the choices of consumers determine what is produced, and those who satisfy consumer

[8] Friedman and Friedman (1979) p 167.

preferences are rewarded. If the government redistributes, politicians determine who is to have their wealth confiscated and who is to receive the proceeds – and everyone is beholden to the politicians, who determine what everybody else deserves.

Education affects other important liberties directly, such as the right of parents to determine how their children are raised, and freedom of thought and inquiry.

The rest of this chapter examines specific rationales for government intervention in education in order to determine the appropriate role for government and the likely consequences of government actions. The scope for the government to improve matters is set out and empirical evidence brought to bear on whether the problems with the market are important. What are the likely benefits from intervention?

EQUALITY AND THE ALLEVIATION OF POVERTY: THE ROLE OF EDUCATION

Much economic research has focused on the effect of schooling on earnings. Increasing students' earnings and matching people to jobs are not the only functions of education, or even the most important ones, but they do matter to many people. Parents care a great deal about the effect of a school on their children's employment prospects. A function of schooling is to prepare students for life, including achieving gainful employment.

The effect of schooling on earnings is also important for public policy reasons. If it is believed that the government should help the poor and reduce inequality, then it is vital to understand how earnings are determined. It is inconsistent to argue that the government should intervene in education for equity reasons, but then to resist scrutiny of the economic returns to education.

There are many ways to alleviate poverty. The most important is to adopt superior institutions and policies to raise general economic performance. Given the level of national income in New Zealand, poverty may be reduced by redistributive policies such as cash transfers, education and training transfers, wage subsidies or by cutting regressive taxes. Which is the best is an empirical issue. For example, cash transfers adversely affect the recipient's incentive to work. Direct wage subsidies may backfire if they cause employers to stigmatise recipients.[9]

Individuals from low-income families and minority groups seem to be disadvantaged mainly in the skills they acquire. The permanently poor have fewer and less valuable skills than others. For example, age, education and

[9] Evidence this can happen is cited in Glennerster (1991).

literacy explain the significant income gap between Maori and non-Maori, and ethnicity explains only a small amount of variance in incomes.[10] An attractive policy to help eliminate poverty is to increase the incomes of the poor through education and training, and investment in these programmes has dramatically increased. Government spending on education and training programmes has risen by just under $2.5 billion, or 50 percent, over the past six years.[11] There have been large increases in average years of schooling and levels of attainment and participation in government training programmes. The success of these programmes will depend on how education and training affect earnings.

Opinions differ on whether the government intervention can alleviate poverty. At one extreme, it has been argued by Murray and Herrnstein that general intellectual ability determines performance in society and little can be done to raise the intelligence of those with low cognitive ability – certainly not by government policies.[12]

The empirical evidence on the relationship between schooling and earnings is examined in this chapter in order to establish the effect that government interventions in education can have on the alleviation of poverty and inequality. It is difficult to determine how much schooling increases earnings, the way it does so and the likely returns to increased levels of schooling. A variety of data sources, such as sibling studies, natural experiments and test score studies are used to give insights into these issues and to disentangle the effect of factors the government can influence from family background effects.

Earning and learning: the relationship between schooling and earnings

The human capital approach

The human capital view is that education is an investment. Much educational activity involves bearing current costs in return for future benefits. When individuals acquire education they invest in themselves, or create human capital – an asset that yields benefits over a long period of time. These future benefits are significant and influence whether the education is undertaken. The stock of human capital is the value of skills and productive knowledge embodied in people. It is a large and increasing portion of society's wealth.[13]

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10 Green (2001) p 43.

11 The Treasury (2003) table A.1, p 25.

12 See Murray and Herrnstein (1994) pp 389–416, 527, 550, 555.

13 Human capital comprises 70 percent of total capital in the United States according to Becker (2002) p 3.

The effect of human capital investment on earnings

There is a strong relationship between earnings and crude measures of human capital investment. The most commonly run regression in economics is of earnings on variables that affect earnings. Generally, years of schooling is the only measure of education that is available together with earnings data. The effect of schooling on earnings is estimated from regression analysis or from age-earnings profiles. Both often use cross-section data (see Box 1: Estimating age-earnings profiles). Numerous studies have found that observable variables, such as years of schooling, age and sex, generally explain 20–30 percent of the variance in earnings.[14]

Box 1: Estimating age-earnings profiles

A practical reason for examining the effect of schooling on earnings is that it is a measurable outcome of schooling. That said, as with other educational research, the studies are plagued by measurement problems and a lack of data. Schooling appears to affect earnings over a student's entire life. Indeed, the gap between earnings for more and less educated people increases with age.

The earnings of individuals vary greatly, but the pattern is not random. Over an individual's lifetime, earnings tend to rise rapidly for the first 10 years in the labour force, then taper off, and may even gradually decline near retirement. Those with higher levels of education tend to earn more than those with lower levels and the same number of years of labour market experience.

Earnings vary widely amongst people with the same level of schooling. The empirical work is about population averages, which can be accurately estimated, but there are many exceptions. Some people with low levels of schooling earn a lot; some people with high levels earn little.

When a group of students leave school, it would take 40 years to collect data on their lifetime earnings, and, at the end of it, we would have data on the effect of schooling 40 years previously. In most cases, average age-earnings profiles for different schooling levels are estimated from cross-section data sets that cover earnings for a population at a point in time (as in a census). Some studies have followed a group of individuals through life – and the age-earnings profiles that result are similar to the cross-section ones.

Estimates of age-earnings profiles from cross-section data make some heroic assumptions. For example, the earnings stream for a graduate is estimated from what current graduates of different ages earn. However, the different cohorts have lived through different events (such as recessions that may affect work

[14] See Rosen (1987), Willis (1986), Siebert (1985) and Shultz (1988) for surveys.

histories) and may have received different quality educations. Wages, and the returns to skill, may change over the next 40 years. Although wages can be adjusted for expected growth, the adjustment involves largely guesswork.

Cross-section data will reflect the state of the business cycle when it is taken, which will affect the measured return from education. For example, a recession has different effects on the wages and unemployment rates of different skill groups.

Why do earnings increase with age, especially early in a person's work career? An attractive interpretation is that it reflects increased productivity from on-the-job training. Investment in human capital does not cease after formal schooling has ended. On-the-job training is used here in a broad sense, and is not limited to formal training programmes. It refers to all skills obtained in the working environment, and includes informal instruction, learning by doing and even job shopping to improve the match between an employee's skills and the employer's requirements. Specific skills are learned in work situations, which improve productivity and lead to pay rises and promotions.

The rate of growth of earnings with job experience is often a reliable guide to the amount of human capital invested in workers and confirms that on-the-job training is an important source of skills. The indirect measures are validated by studies with direct measures of on-the-job training (for example, when employees were asked how much training they had received).[15]

The bottom line is that human capital variables are strongly correlated with earnings, although a lot is left unexplained. Even simple measures of human capital investment, such as years of schooling and potential labour market experience (years since leaving school), which do not measure the quality of the education and training received or how effective they were, explain 20–30 percent of the variance in earnings. For example, using New Zealand census data, Maani (1997) and (1999) finds that educational qualifications and age explain 20–26 percent of the variance in men's income, but for women, only 3–10 percent. It is expected that human capital variables will explain less of the variance in income than in earnings, because income may come from non-labour sources. Years since leaving school is a proxy for actual labour market experience. This is a good approximation for men, who tend to be continuously in the labour force, less so for women (two women of the same age and schooling may have spent very different amounts of time in the labour market), which is why it explains less of the variance in female earnings.

[15] See Mincer (1989).

Incomes and outcomes: rates of return to schooling

Educational costs and benefits

Private costs and benefits accrue to the person who receives the education and are the main motivation for the decision whether or not to undertake it. External costs and benefits are borne and received by others, which the person undertaking the education does not bear or cannot capture and so may not take into account. The social benefit is the private benefit plus the external benefit.

The future benefits produced by education can be pecuniary or non pecuniary. The pecuniary benefits are increased earnings. Economics is not just concerned with pecuniary benefits, although they have been the focus of empirical work because they are more easily measured and quantified. An emphasis on money returns does not assume that only pecuniary returns matter, nor does it preclude the private and social importance of non-pecuniary returns. Nothing in the methodology for estimating the return to schooling prevents non-pecuniary benefits being brought into the framework. In practice, non-pecuniary benefits are excluded because of measurement difficulties. As we will see, it is difficult enough to measure the pecuniary benefits. Non-pecuniary benefits are even more controversial.

Direct costs are the money outlays on tuition, books and so on. Living costs are not included, because they have to borne whether or not the student undertakes education. If living costs were higher while at school than if employed, that extra amount should then be added to costs.

Human capital is embodied in the person, so people must invest some of their own time in order to acquire it. The cost of the student's time – forgone earnings (reflecting output lost while the student undertakes education) and the value of lost leisure hours – is the indirect cost of investment. Once compulsory schooling is finished, the indirect cost is by far the biggest part of the private cost.

Different rates of return

Once economists recognised education as a type of investment, they applied all the tools of capital theory that were developed to examine other investments. A natural question to ask is: how much do earnings rise with years of schooling? A convenient summary statistic is the internal rate of return on an investment. The internal rate of return is a measure of the benefits compared with the costs of a project and is expressed as an annual percentage yield. For example, if a project has a 10 percent rate of return, $1,000 invested will yield a benefit equivalent to $100 per year (forever).

A number of returns are of interest. We may be interested in explaining how income is determined. What return did people actually receive from their education? That helps explain how schooling differences contribute to the distribution of income that is observed.

Alternatively, we may be interested in predicting how changes will affect income. What would be the return if someone undertook extra schooling? That is useful for policy, in that it predicts the benefit that would accrue to students if they were encouraged to undertake more schooling.

The rate of return to education can be estimated from either the private or the social point of view. The private return compares private costs and benefits and influences the demand for education. For example, a subsidy reduces private costs, increases the private rate of return and leads the individual to undertake more education.

The private return can also be used to assess the equity or poverty alleviation effects of education policies. To get the maximum increase in income of the people we want to help, the money should be spent where the private rate of return is highest.

The social rate of return summarises the costs and benefits of the educational investment from the point of view of society. For example, it includes the full resource cost of education, not only the portion that is paid by the student.

What are the estimated returns to schooling?

The estimated rates of return to schooling are high, and statistically and economically significant, providing evidence that the investment view of education is correct and that education policy has the potential to help the poor. Some interesting patterns emerge from the international data:

- The returns fall as years of schooling increase.
- The highest returns of all are to basic schooling.
- Vocational programmes often have a lower pecuniary rate of return than academic programmes.[16]

Although it differs by level of education and is sensitive to assumptions made, the measured private real return to an extra year of schooling is usually around 10 percent. That is, an extra year of schooling will raise earnings by 10 percent. The real return is the part of the return above the rate of inflation. Maani has estimated the rate of return to schooling in New Zealand using census data.

[16] See Psacharopoulos (1981) and (1985), for a summary of international studies.

She finds:

- The private after-tax real rates of return to be around 9–16 percent per year for males for most educational qualifications (although only 5 percent for post-graduate), and about 7–10 percent for females (although Maani measures a 37 percent return to completing School Certificate).
- The returns generally fall with the level of schooling.
- The measured social rates of return to the various schooling levels are about 2 percentage points less than the private return.
- The social and private rates of return increased steadily from 1981 to 1996.[17] One exception: the private return to a Bachelor's degree fell slightly from 1991–96 and was stable for New Zealanders who were not immigrants over that period. This was probably caused by the increase in the number of university graduates and the impact of increased fees.[18]

How does the measured rate of return compare with the rates of return that we are interested in? Measured rates of return are subject to a number of biases.

Biases and problems with measuring the rate of return

Many judgements and assumptions must be made in any empirical work, and they affect the estimated returns. The omission of non-pecuniary benefits means that the measured returns to schooling understate the true return. The amount of schooling received is often poorly measured, which biases downwards the estimated rate of return. Years of schooling is, in turn, a poor measure of education, so the return to schooling understates the true return to human capital acquired.

It is difficult to disentangle the effect of education from other factors that affect earnings, such as ability, motivation, family background, community environment and on-the-job training. Each of these factors is correlated with both education and earnings and with each other. Further, each is measured poorly, or not measured at all.

For example, take family background. The family helps determine ability (through home environment, genetic endowments and purchased inputs), financing opportunities and may directly affect earnings through nepotism and the right connections. The family also shapes attitudes, effort, educational aspirations and support. It helps determine religious, community and cultural influences. All these factors can affect both educational attainment and earnings.

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[17] Measured returns to females are more variable and less reliable than to men because female work patterns are less stable.

[18] See Maani (1997) and (1999). See also pp 62–65, in Maani (1999) for summary tables.

Moreover, family influences are usually poorly measured – often by family income, parental education and sometimes wealth and family size. These measures are only proxies for more fundamental characteristics that determine a family's influence.

One method of trying to unscramble the influence of schooling and family background on earnings, and determine how family background works and the potential role for government, is to use sibling studies – especially those on twins. Large differences in earnings between identical twins imply a limited scope for government policies to reduce inequality. It seems that post-school factors, such as on-the-job training, play an important role in determining earnings. United States data on twins born between 1917–27 suggest the direct effect of family background on earnings is small and the effect of family background on schooling differences explained about one-quarter of earnings differences – and a portion of this comes from the effect of family on ability.[19]

A major problem with rate of return estimates is omitted variable bias, where both education and earnings are correlated with a variable that is not measured. Individuals choose how much schooling and other investments they undertake, and how much and how hard they work. Unobservable characteristics that affect these decisions differ between individuals. As a result, the estimated rate of return to education will be biased.

The classic example is ability bias. Those with high levels of schooling are not a random sample from the population, but are a select group – they tend to be smart. If able people acquire additional schooling and are more productive at a given level of schooling, then higher earnings for the more educated will reflect higher ability, as well as the effect of schooling. If ability is not measured, the higher earnings of the more educated are attributed to education, but are partly caused by superior ability.

For example, consider how the rate of return to attending university is measured. What those who attend university would have earned if they did not go to university is not directly observed. Instead, it is estimated from what high-school graduates receive. If university graduates are more able, and would have earned more than high-school graduates, had they not gone to university, then the forgone earnings cost for graduates is underestimated. The actual return the university graduates received is overestimated. At the same time, the wages high-school leavers would have received, had they gone on to university, is estimated by what those with degrees receive. If high-school leavers have lower

[19] See Siebert (1985) pp 51–53.

ability than university graduates, that is an overestimate, and the estimated rate of return to university graduates overestimates the return high-school leavers would receive from attending university.

How important is ability bias in practice? There have been numerous studies of the marginal effects of ability on earnings.[20] The inclusion of ability measures reduces the rate of return to schooling by 30 percent at the most, and often substantially less. But do they measure the relevant ability? Measures of ability like intelligence quotient (IQ) tests are used because they are available, rather than because they are ideal, and should probably be considered a minimum estimate of the effects of ability. The IQ tests are designed to predict success at school, not in the workplace. At best, they are an imperfect measure of academic ability and are only one influence on earnings. Valuable workplace abilities, such as interpersonal skills, work habits, motivation, resourcefulness, ambition and energy, are difficult to measure in a test.

Economists have come up with some clever ways to isolate the pure effect of schooling and to control for ability – so-called natural experiments (see Box 2: Natural experiments). The natural experiments suggest that ability bias is not important and that the true private return to schooling is high and accurately measured by the standard estimates, although ambiguities remain. They are evidence that government education policy can have a significant effect on earnings. The estimates are, however, subject to the signalling critique.

Box 2: Natural experiments

Natural experiments to isolate the pure effect of schooling from ability, and other omitted variables, include twin studies and compulsory schooling laws.

The twin studies compare the earnings of pairs of identical twins, reared together, who have different levels of schooling. Because identical twins have the same genetic make-up and family environment, it is claimed that the estimated rate of return to schooling will be free from ability bias.

Unfortunately, the empirical work is not conclusive. Early twins studies found that the rate of return to schooling measured in this way was quite low, implying ability bias is high. (See Miller *et al* 1995 and Behrman and Taubman 1987 for surveys.) For example, in one study, the measured return for all twins was 8 percent and the return comparing pairs of identical twins was only 2.7 percent (Behrman *et al* 1980). These findings were criticised because errors in measuring the schooling variable, which bias estimates downwards, were likely to be particularly important for identical twins, because their schooling did not vary

[20] See Freeman (1986), Rosen (1987), Willis (1986) and Shultz (1988) for surveys.

much. (See Griliches 1979 or Siebert 1985, pp 34–35). Later estimates correct for measurement error and find little evidence that ability bias is significant (Ashenfelter and Krueger 1994, Ashenfelter and Rouse 1997, Miller *et al* 1995 and Rouse 1999). An exception is Behrman *et al* (1994) who correct for measurement error and still find the ordinary rate of return estimates to be double those found from comparing identical twins. Behrman and Rosenzweig (1999) also find that ordinary rate of return estimates contain significant ability bias.

Even rates of return to schooling estimated from comparing identical twins may contain ability bias (see Bound and Solon 1998 and Neumark 1999). Even genetically identical twins may have different innate abilities when born. They often have different birth weights, which indicates different levels of nutrition in the womb and may result in different intellectual and physical capabilities. Behrman *et al* (1994) find the average value of the difference in birth weights between identical twins in their data set is 10.5 ounces and that the difference in birth weights is significantly positively correlated with differences in their schooling attainment and earnings. Further, identical twins may face different non-family and family environmental influences that affect ability.

Another natural experiment takes advantage of the fact that compulsory schooling laws specify a minimum school leaving age. The age at which a student starts school may depend on season of birth. For example, in the United States, students start school in September of the calendar year in which they turn six. Those born in the last quarter of the year start school at age five, others at age six. For children who leave at the end of compulsory schooling, those born in the last quarter of the year will have more schooling. For example, a child born on 31 December will have one more year of schooling than a child born the next day on 1 January when they reach the school leaving age. Angrist and Krueger (1991) find that the rate of return to the extra schooling forced on boys born later in the year was around 7.5 percent. If ability is independent of quarter of birth, this estimate should be free of ability bias, yet it is about the same as the increase for boys who attended the extra year voluntarily.

Mayer and Knutson (1999) also find that children who enrol in first grade at a young age earn more in the labour market than those who enrol at a later age, but it does not only come about because compulsory schooling laws require them to stay in school longer than those who enrol when older. The authors find that those born in the last quarter earn more than others, even when we compare those with the same amount of schooling. The reason is that those children exposed to early schooling learn more in school. This undermines Angrist and Krueger's claim to have measured the return to an additional year of schooling at the end of compulsory schooling. Mayer and Knutson estimate that in their data set, half the extra return comes from increased learning from early starting. Their study is about the effects of starting school at age five rather than six. It

does not mean that lowering the school starting age from five to four will increase learning.

A recent survey of natural experiments (including some studies that use variations in education that are less plausibly due to exogenous natural experiments than the ones considered here) argues that the fact that a diverse set of natural experiments, each with possible biases of different magnitudes and signs, points in the same direction is reassuring. The authors conclude that the effect of measurement error appears to offset any effect of ability bias on standard rate of return estimates (Krueger and Lindahl 2001, pp 1105–1106).

Education and productivity: socialisation and signalling aspects of education

How does education increase productivity?

It is generally accepted that workers' earnings depend on their productivity and that schooling and earnings are positively correlated. Therefore, the more educated are more productive.

How education increases productivity is controversial. The traditional view is that it increases productivity by enhancing cognitive skills and imparting knowledge. Employers pay educated people more because they possess better skills or know more than those who are not educated.

A different view is that effective performance in most jobs depends on productive personality traits and social adaptability rather than directly useable cognitive skills.[21]

- For school leavers these traits may include diligence, punctuality, concentration, responsibility, honesty, reliability, perseverance, manners, the ability to work with others and be nice to customers.
- For university graduates, these traits may include self-reliance, achievement drive, versatility, initiative, leadership and effective work habits.

Employers may care more about how people behave than what they know, which is why the job interview is so important.

If so, education may increase productivity by changing personality traits and inculcating productive habits, attitudes and values – through a process of socialisation. This explains why many educational qualifications appear unrelated to the type of work students take up.

Education performs both cognitive and socialisation roles, and they are related. For example, work habits acquired in mastering cognitive material may

[21] Blaug (1985) is an excellent survey of the case for, and implications of, this view.

help socialise students. Most employers demand some combination of personality traits and cognitive skills. Indeed, it is not clear into which category some productive attributes belong: such as general communication skills and the ability to learn. The extent to which education increases productivity through socialisation or directly teaching useful skills will differ by occupation. Clearly, a great deal of knowledge is needed to be a doctor, but bedside manner is still important.

From the individual's point of view, it does not matter how education increases productivity – whether by teaching cognitive skills, by socialisation or some combination. In both cases education increases productivity and wages and is an investment.

Does education increase productivity? The signalling argument

The socialisation view of schooling, which recognises the importance of non-cognitive personality traits, implies that schooling may not be the only source of productive skills. For example, much socialisation takes place within the family – after all, children spend more time with their family than at school. A student who attends school for six hours a day, 190 days a year still spends 87 percent of the year elsewhere.[22]

Certification is a prime function of upper secondary and higher education. Students are sorted by ability and labelled with educational credentials. Employers use the information generated to select employees and assign them to appropriate tasks.

It could be that the role of education is to identify and certify productive personality traits rather than develop them.[23] That is, education may operate as an informational or signalling device – education credentials may signal productive traits, such as motivation, social adaptability, stability, perseverance and learning ability, that are innate or acquired elsewhere.

If it is costly to find out the talents of individual workers, education has a screening role. Educational credentials will be used as a hiring screen if they are a good predictor of job performance (people with good credentials just work out better). It does not matter to the employer whether more schooling causes workers to become more productive or is merely correlated with productive traits without improving them. For example, firms may prefer employees who

[22] The idea for this calculation is from Finn (1994).

[23] See Weiss (1995) for a survey. The earliest expression of this view that I could find is Sowell (1966).

are less likely to quit or be absent and who are better learners but cannot directly observe these characteristics. If educational credentials are correlated with these traits, firms may use education credentials to determine whom to hire and to whom to allocate to on-the-job training.[24]

For example, educated workers may have lower absenteeism because they are healthier. Education is correlated with health status without necessarily improving it. Correlation is not causation. If health and education are correlated it could be that:

- more education improves health (for example, by improving knowledge of disease);
- better health leads to more education (for example, because you expect a longer life to reap the benefits, or the costs of study are lower if you are healthy);
- some third factor could cause both (for example, people who are future oriented may invest more in their education and health); or
- it could be a coincidence.

The signalling critique does not affect the human capital view of education – that education is a private investment that involves current costs for future benefits. All that is required is for individuals to be motivated to acquire education now in order to increase their future earnings. It is irrelevant whether it does so through learning or signalling.

The signalling critique may, however, have devastating implications for public policy. Schooling has much social value if it raises productivity. It may have little social value if it merely signals hard-to-measure abilities that are innate or acquired elsewhere, without improving those abilities. That is, the private return may be high, and the social return low or even negative. As a result, there may be too much education. For example, if more education identifies people as having high ability and raises their wages, people who did not acquire the education are identified as having low ability and have their wages reduced. When people undertake more education, the increase in their wages exceeds the effect of the education on their productivity.

On the other hand, when education acts as a signal it provides information about worker abilities that may improve the match between workers and their jobs and have social value. It may be valuable for employers to sort people and assign workers to jobs where they are likely to be most productive – to put the

[24] Weiss (1998) used direct data on worker output, turnover and absentee rates and found the major effect of a high-school education on worker productivity was in reducing turnover and absentee rates. This study is cited in Hamermesh and Rees (1993).

right person in the right job and select the right people to receive training. Education may also inform individuals about their own ability.

If education acts as a signal, whether there is too much education depends on the value of the information produced and whether there are cheaper means of producing it. A policy to expand education attainment will not increase productivity or provide any new information, so will be wasteful. Worse, it may create confusion about the meaning of educational signals. All that will result is 'credential inflation', decreasing the significance of educational qualifications, with little benefit to society.

How important is signalling?

In practice, education has both productivity improving and signalling aspects. Education involves learning, but is also correlated with productivity differences not acquired at school and which firms cannot directly observe. The issue is what is the relative importance of the two functions. Does education mainly develop or identify abilities? The mix may vary with the level and type of education. For example, no-one doubts that learning basic literacy and numeracy skills at the primary and lower secondary school level increases productivity. Nevertheless, even primary school achievement may signal valuable traits like perseverance and determination.

The extent to which education signals or improves productivity is difficult to determine by empirical tests. The relevant ability that education signals cannot be objectively measured, otherwise there would be no need for the employer to use education as a signal. Whether or not education increases it cannot be tested. For example, IQ tests cannot measure the ability that education signals – otherwise the firms would administer IQ tests rather than rely on an expensive education signal.

Another problem is that it will be difficult to disentangle the effects of on-the-job training. It could be that the educated receive more on-the-job training because education signals innate ability and stability. The on-the-job training may increase productivity. The more educated may then be more productive, although education does not directly increase productivity.

The empirical tests are inconclusive. Most observed data can be explained by each theory. There are findings for and against signalling theory, but all are open to objections. For example, some compare the schooling-earnings relationship for the self-employed (who have less need to acquire a signal) and others. The studies provide support for the existence of some signalling, but there are problems of bias in the measurement of the earnings of the self-employed and of self-selection.

The existence of some signalling means that the difference between the earnings of the educated and less educated will overstate the benefits of an educational expansion.

Test scores, schooling and earnings

Longitudinal data sets that follow a cohort throughout life have been used to examine the relationship between family background, test scores, earnings and schooling. Often, the cohort was given a battery of tests of cognitive skills while at school. These studies provide further insight into how schooling works. They provide evidence that schooling does directly improve productivity.

The value of a particular test score depends on how well it predicts outcomes in society relative to alternatives. Predictive validity is an empirical question, not a question of plausibility or of demonstrated causation.[25] For example, claims in the United States that standard cognitive skills tests are biased against blacks are false. If anything, the opposite is true, because the tests often over-predict the subsequent performance of low scoring minorities.[26] How well do cognitive test scores predict important outcomes?

Test scores and socio-economic outcomes

The National Longitudinal Survey of Youth (NLSY) in the United States gave a group of students the ten-test Armed Services Vocational Aptitude Battery, which tests general cognitive skills and knowledge of specific topics. The test score used by researchers is the Armed Forces Qualifying Test (AFQT), which is the sum of the raw scores on four of the tests of general cognitive skills: the word knowledge, paragraph comprehension, arithmetic reasoning and mathematical knowledge tests.[27]

The AFQT was developed to predict job performance in the army, which it does quite well. The AFQT scores are correlated with a host of different measures of economic and social success. Murray and Herrnstein (1994) also find that once AFQT scores are controlled for, ethnic differences in socio-economic outcomes, such as participation in higher education, high-school graduation, occupations, wages and poverty rates diminish greatly (and even disappear).[28] People with low AFQT scores are:

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25 Sowell (1994) p 178.

26 Heckman (1995), Murray and Herrnstein (1994) and Sowell (1994) pp 173–174.

27 See Murray and Herrnstein, R (1994) Appendix 2; Winship and Korenman (1999).

28 Cameron and Heckman (1999) also find that AFQT scores are correlated with the probability of enrolling in college.

- more likely to be unemployed, out of the labour force or injured;
- less likely to be married;
- more likely to be divorced, to have an illegitimate child, to be welfare dependent;
- more likely to have a low birth weight baby, to have children living in poverty, children with behavioural problems and children with poor social and motor development;
- are more likely to engage in criminal behaviour;
- less likely to vote; and
- less likely to have middle-class values.

People with these social problems are likely to have low cognitive ability – for the whole sample and for whites only. The AFQT score explains more than a measure of family SES (parents' schooling and household head's occupation).[29]

Winship and Korenman (1999) compare siblings to remove the effects of family background. Differences in AFQT score among children from the same family are associated with differences in a host of measures of economic and social success. The better family background controls make little difference to the effect of the AFQT score.

Murray (1995) also compares siblings who have grown up in the same house. Using AFQT scores, he compares normal siblings (the middle 50 percent) with a sibling who falls outside that range. Siblings in different IQ ranges have different patterns of educational attainment, occupations, labour force attachment and annual earnings – all increasing with IQ. Clearly, cognitive scores are important independent of family background.

Test scores and earnings

Test scores pick up attributes that do matter in the workforce. Many researchers have found that higher scores on tests of cognitive skills translate into significant earnings advantages – for those who undertake post-secondary education and for school leavers.[30]

- Neal and Johnson (1995) show that AFQT test scores, as a teenager, explain all of the black–white wage gap for young women and much of the gap for

[29] See Murray and Herrnstein (1994) chapters 5–12 and 16.

[30] For school leavers, see Shultz (1998) p 590 and the studies surveyed in Hanushek (1996a) pp 60–61. For post-secondary bound, see Bishop (1991), Welch (1999), Weiss (1995) and Rosen (1987) p 51.

young men in the United States. Test scores explain about the same amount of variance in earnings as schooling, but more of the black–white earnings gap. The authors find that a one standard deviation increase in test scores (about the difference between average black and white test scores in the United States) is associated with about 20 percent higher earnings 11 years later.[31]

- Winship and Korenman (1999) also find that AFQT scores are related to earnings. Their preferred estimate is a one standard deviation increase in AFQT score increases earnings by 17 percent (and, an extra year of schooling increases earnings by 8 percent). The authors cite previous research that a one standard deviation in cognitive skills increases earnings from 3 to 27 percent.
- Bishop (1989) finds adult test scores have a large effect on earnings even when years of schooling are included in the earnings regression.
- Currie and Thomas (1999) find that, in Britain, test scores measured as early as age seven have significant effects on future educational and labour market outcomes. For example, males and females in the lowest quartile of the reading test score distribution have average wages 20 percent lower at age 33 than those who scored in the highest quartile.
- Another US test battery, used in much empirical work, are the standardised tests in reading, comprehension, science, mathematics, civics, writing and vocabulary that were administered to the High School and Beyond cohort. It was a one-hour test battery intended to measure high-school achievement, aptitude and basic skills. It was taken by the cohort in 1980 and retaken at the end of its senior year in 1982.[32] Data on earnings and college achievement were collected on the cohort in 1992, when members were 28–29 years old. Jencks and Phillips (1999) found that an increase in mathematics scores was associated with higher earnings. Extra schooling increased test scores, which increased wages, although test scores only explain a small portion of the variance in wages (about 7 percent). Further, this study shows that learning late in high-school (between years 10 and 12) pays off. Jencks and Phillips also suggest that a one standard deviation increase in test scores raises earnings by 20 percent.

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[31] A standard deviation is a measure of differences in a variable across a population that takes account of average and variability. If test scores were normally distributed, the average score would be at the fiftieth percentile. Someone who is one standard deviation above the average would be at the eighty-fourth percentile.

[32] Chubb and Moe (1990) p 71.

- Researchers have found that other tests also are correlated with important outcomes. For example, a country's performance in international tests of cognitive skills in mathematics and science has a strong and robust influence on growth. One standard deviation in measured cognitive skills translates into a 1 percent difference in average annual real growth rates, an effect much stronger than from changes in average years of schooling. The strong relationship with growth does not appear to be the result of growth causing higher test scores through more school resources; nor does it appear to be driven by high test performance simply being correlated with the East Asian countries that achieved growth for other reasons.[33] Further, home-country quality differences are directly related to US earnings of immigrants educated in their own country.[34]

Test scores have become increasingly related to income for all students in recent years. Murnane *et al* (1995) find that basic mathematics skills (taught before grade eight) played a larger role in wage determination for high-school leavers in 1980 than in 1972 in the United States. The effects of cognitive skills on wages increase with age. The increased effect of test scores does not appear to be caused by a rise in the return to ability.[35] Large returns to cognitive skills are present even for high-school dropouts.[36]

Although higher AFQT scores increase earnings, their explanatory power is poor. The AFQT score alone explains only 10–12 percent of the variance in the wages of white males, and as little as 7 percent of the variance in hourly wages. When a standardised test score is added to a wage equation, often there is only a small increase in its explanatory power.[37] Education and job experience account for a substantial component of the variance in log wages, even after test scores are introduced into wage equations. Winship and Korenman (1999) find that an extra year of schooling among individuals with the same AFQT score increases income by 6.2 percent.[38] Also, the factors that are important for explaining test scores are not always the important factors for predicting wages. There is considerable room for factors other than measured cognitive ability, such as non-cognitive ability or cognitive skills not measured by tests, to explain wages and other social outcomes.[39]

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33 Hanushek and Kim (1995).
34 Hanushek and Kimko (2000).
35 Cawley, Heckman and Vytlacil (1998).
36 Tyler, Murnane and Willet (1999).
37 See, for example, Murnane, Willet and Levy (1995).
38 Winship and Korenman (1999) p 70.
39 Heckman (1995).

Test scores and schooling

Test scores and schooling are highly correlated.[40] The debate is whether more schooling increases test scores, whether able children who score higher on tests take more schooling or whether some other factor (such as family background or innate ability) increases schooling and test scores.

There is much evidence that school attendance raises scores on aptitude and achievement tests.[41] Estimates of the effect of a year of schooling on cognitive skills range from one-fifteenth to one-half a standard deviation.

- Neal and Johnson (1995) present convincing evidence that schooling has a large and significant effect on AFQT scores.[42] More schooling increases test scores. The authors present evidence that differences in social environment, such as school quality, cause differences in AFQT scores between racial groups. They conclude that the black–white wage gap reflects primarily a skill gap, which in turn can be traced to observable differences in family backgrounds and the school environments of black and white children. The best way to help black children is to reduce the obstacles they face in acquiring productive skills.
- Bishop (1989) uses a number of data sets to show the steady improvement in test scores over the century until the mid 1960s.[43] This increase is associated with improved economic and educational environments: smaller families, increased parental education and increased schooling attainment. The increase is more than gains in years of schooling alone could account for.
- Winship and Korenman (1999) find that both years of schooling and AFQT scores have a substantial direct effect on economic success and affect each other. More schooling increases test scores, and higher test scores encourage more schooling – reinforcing (and perhaps doubling) the direct effect on wages. The roles are roughly symmetrical. The authors estimate that an extra year of schooling raises AFQT scores by about a fifth of a standard deviation. The effect is greatest for those with the lowest initial cognitive skills.

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40 For evidence see Hanushek (1996a) p 62.

41 See Bishop (1989) p 179; Jencks and Phillips (1999), Winship and Korenman (1999) pp 54–55. Murray (1995) has backed away from his claim that AFQT is a measure of inherent ability that is not easily altered and now agrees that more recent analysis shows that SES and education are more important than he believed in *The Bell Curve* and can "drastically narrow the variation in social and economic success".

42 They use the Angrist and Krueger strategy of quarter of birth as an instrument for grades completed. This is explained in Box 2: Natural experiments.

43 The puzzle of the large test score decline from the mid-1960s until 1980 is addressed in chapter 4 'Evidence on public provision'.

- Jencks and Phillips (1999) use the High School and Beyond data and find the gain in test scores from years 10 to 12 is independent of initial ability and is responsive to effort (such as doing homework) and environmental influences, suggesting that it reflects learning and not just aptitude. The increase in student achievement increased earnings regardless of initial aptitude.
- Girotto and Peterson (1999) compared students' courses in one US school district and accounted for the fact that good students tend to do difficult courses. The authors found that hard courses and student effort enhanced cognitive skills and predicted the college that a student would attend. Meyer (1999) finds that enrolment in challenging high-school mathematics or mathematics-related courses yields substantial improvements in mathematics achievement. All support the view that schools teach useful skills.
- Further evidence that schools increase productive cognitive skills directly is that test performance is affected by school educational practices and the quality of the curriculum. Indeed, the whole effective schools literature implies that what schools do is important and affects learning. There is evidence that academically rigorous courses and orderly classrooms increase the test performance of a school's students.[44]

Conclusions

Schooling can increase measurable cognitive skills for all ability groups, which increases their earnings. One group of papers estimates that an extra year of schooling raises test scores by about one-fifth of a standard deviation. The rise in test scores increases earnings directly by about 2–4 percent.[45] Moreover, increased cognitive skills are associated with reduced crime, reduced welfare dependency and other important socio-economic outcomes.

All of this provides evidence that education reform can make a difference.

- Learning that is valued by employers can take place at school.
- Investments in schooling can directly increase productivity and earnings.
- There is potentially an important role for education policy in dealing with the children of the poor.

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[44] Chubb and Moe (1990) p 99. See chapter 9, 'Private versus public schools: advantages of a private education'.

[45] Mayer (1999) p 11.

It is fair to say that the evidence does not support the view of Murray and Herrnstein (1994) that general intellectual ability determines performance in society and cannot easily be changed.[46] In fact, the evidence is that more schooling even increases their measure of 'innate' ability (AFQT scores). The next conclusion also undermines their claim.

The second conclusion is that economic success depends on more than measured cognitive skills. Cognitive test scores are important but explain only a small proportion of the variation in earnings. We all know intelligent people who are not successful and successful people who are not intelligent. Those with extra schooling earn more, even comparing people with the same level of cognitive skills. This is consistent with, but does not prove, a role for signalling. Schooling develops or signals valuable non-cognitive talents (such as motivation) or cognitive skills not measured by tests.

If schooling does signal abilities acquired elsewhere then the social rate of return to extra schooling may be below the private rate of return, although the benefits from information provided by the signal need to be taken into account.

The third conclusion is that non-school learning is important. Both cognitive and non-cognitive skills, which are valued by employers, can be learned or enhanced in non-school settings, such as the family and on-the-job. The evidence is that much learning takes place in informal settings outside of educational institutions.[47]

- For example, it has been estimated that on-the-job training is about one-third of human capital investment.[48]
- The enormous amount of informal learning about computers that has taken place in recent years is an example of cognitive learning outside schools.
- Literacy skills can clearly be taught within the family before and during school and can improve or atrophy with post-school behaviour.[49]

A great example of the value of on-the-job training is teaching itself. All sorts of valuable teaching skills are best (or only) learned on the job. Most teachers would admit to learning more about how to teach in their first year on the job than they ever did at teacher college – practicum included. Teaching is a complex job, and many only survive with supportive fellow teachers and a great principal.

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46 See also Heckman (1995), Goldberger and Manski (1995) for further discussion.

47 Heckman (1999).

48 See Mincer (1989).

49 See Ministry of Education (1997d), a summary of the OECD International Literacy Study. In many countries, literacy increased between age 16 and 35, suggesting that post-school experiences are an important determinant of high level literacy skills.

Earnings regressions suggest that on-the-job training has a high return, often considerably higher than schooling, although this is seldom emphasised.[50] For example, Maani finds high returns to ageing and potential job experience early in a person's career.[51] At age 18, the return to ageing an extra year was around 6 percent in 1996 for employed males. If on-the-job training causes wages to increase with age and one-third of time on the job is spent investing at age 18, that implies a return of 18 percent to on-the-job training. The US studies that use data with direct measures of on-the-job training find returns of 10 to 25 percent, similar to those estimated from wage profiles.[52]

These important sources of skill tend to be neglected by public policy. One reason is that they are difficult to measure – politicians and bureaucrats prefer to focus on things that can be controlled and cited as proof of action. There is also a deal of self-interest – the public education lobby prefers policies that increase spending on public education, government agencies prefer policies that increase their budgets and politicians prefer policies that increase their power.

Although 'life-long learning' has become a slogan of the education lobby, this type of learning has always occurred.[53] The policies put forward to promote life-long learning are usually proposals to institutionalise it. Although education in formal institutions is an important part of the learning process, not all learning takes place in them and they are not the best place for all learning. For example, some skills are best learned when simultaneously applied to a practical problem, which is why apprenticeships remain popular in many occupations. If a policy to promote life-long learning replaces non-school learning with less effective schooling, the result is to reduce the total amount of learning.

Policies to help the poor should take a broad view of skill acquisition. Even if the return to an extra year at school is high, it needs to be compared with the returns to alternative policies. More schooling is not the only way to help youth, and it may not be the best way – certainly not for all youth, especially poorly motivated students who hate school. For some, a year in the workforce will increase maturity and teach valuable skills far more than an extra year in school (and the real world experience may well motivate them to resume their

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50 See, for example, the calculations in Siebert (1985) pp 21–23. He notes on p 62 that the evidence is not conclusive due to variations in estimated returns to experience from different specifications of the earnings function.

51 See Maani (1999) table C1, p 70.

52 Mincer (1989). He assumes a 15 percent skill depreciation rate, derived from studies about wage changes during periods of unemployment.

53 For example, Tertiary Education Advisory Commission (2001a) has as its overall aim "providing all New Zealanders with opportunities for lifelong learning", p 1.

education in later life). It may be more beneficial for government policy to encourage youth to be in the workforce for a year. For example, in Australia, the measured rate of return to trade apprenticeships was 46 percent per year, much higher than a year at school.[54]

A fourth conclusion is that we should be realistic about how much equality and poverty reduction the government can create. Schooling policy may contribute to lowering inequality but can never eliminate it. Identical twins brought up in the same family have the same genes and family environment. They have much more equal opportunities than government policy could ever ensure for children from different families, yet they earn vastly different amounts.[55] More recent studies also find wide variations between the earnings of siblings leading to the conclusion that much income inequality is natural and cannot be eliminated by government policies.[56] It will be difficult for the government to equalise schooling – even identical twins attend school for different lengths of time.

The fact that inequality would remain if we left redistribution to private charity does not establish a case for government intervention any more than the fact that the current system involves inequalities means it should be abolished. If equality is an aim, the issue is whether feasible policies increase equality and whether the increase is worth the cost. Pursuit of equality often involves reductions in efficiency and liberty.

The rate of return enables us to estimate the level of expenditures on human capital investment required to reduce poverty.[57] If the rate of return to a human capital investment is 10 percent, it would cost $10,000 to raise an individual's earnings by $1,000 a year. The difference in average market income between a household in the bottom 20 percent or quintile (by household gross income) and the next in New Zealand in 2000/01 was $12,620.[58] So, to lift one average household from the bottom quintile to the next would take an expenditure of $126,620, so long as human capital investments with a 10 percent return could be found. To lift 10,000 households from the bottom quintile to the next would cost over $1.2 billion yet would not reduce poverty by much – there are 275,000 households in the bottom quintile. It would take an enormous increase in expenditure for investments in human capital transfers to the poor to have much effect on poverty, even assuming investments with a 10 percent return could be

54 Dockery, Norris and Stromback (1998).
55 See Polachek and Siebert (1993) pp 86–87.
56 See for example, Murray (1995) and Winship and Korenman (1999).
57 This calculation is based on similar calculations in Heckman *et al* (1994).
58 Statistics New Zealand (2003a) table 17.

found. In practice, the returns are likely to fall because such large amounts are spent.

The studies that have been reviewed illustrate the complications involved in empirical work in education. Little is known about the effects of different policies, causal linkages, the lags involved or interdependencies between them. There is always something to criticise in empirical work. It is difficult to disentangle the effects of correlated variables, particularly when some are poorly measured or omitted.

This is not to say that the empirical work should be dismissed. It is the best we can do and provides valuable information about the effects of education policies. Given the crudeness of the empirical work, however, we should be cautious about how it is used and keep its shortcomings in mind. Earnings equations do tell us that the human capital view of education is valid. They do establish that cognitive skills matter and schooling influences them. They also establish that earnings are strongly influenced by school and non-school factors that we know little about. The empirical work ignores many important factors, like non-pecuniary benefits and externalities, that are too hard to measure.

Yet, the empirical work is often the best information available to governments and central authorities. A final conclusion is that we should show some humility and admit there is much about how education works and earnings are determined that the experts know little about, much less control. Because it is difficult to measure and judge many aspects of education from above, decisions should be decentralised down to the people with the appropriate information. For example, if it is believed that parents and students receive large non-market benefits from education or that employers demand non-cognitive skills, then it is appropriate to let the education system respond to parental and employer demands – because they can judge the value of the non-market benefits and non-cognitive skills produced by education. A central authority cannot ensure the correct amounts are provided when it cannot even measure them.

EXTERNALITIES

Externalities associated with education are the costs and benefits that accrue to others and are not taken into account by the person undertaking the education. If social costs and benefits differ from private costs and benefits then government policy has the potential to increase social wealth. For example, if education, or certain types of education, is associated with external benefits (or positive externalities), then in an unregulated market too little education will be undertaken from the point of view of society. In the human capital jargon, the

social return is above the private return. It may be efficient for government to encourage more education, for example, by a subsidy.

A number of points about externalities should be emphasised.

First, external benefits must be external. It is not enough that others benefit – those who receive the education must not be rewarded for them. What many people miss is how the price mechanism ensures that many of the benefits from education are captured by the person who undertakes the education. For example, the more educated are more productive, and that means those who employ them can produce more. But competition will force employers to pay their employees the value of what they produce. The educated will capture the value of their higher productivity in the form of higher wages and better working conditions. The evidence from earnings functions shows that there is a high private benefit from acquiring education. (See, 'What are the estimated returns to schooling?' earlier in the chapter.)

Externalities that operate through the price system, so-called pecuniary externalities, involve external costs and benefits that exactly offset each other and provide no case for government involvement. For example, if an extra doctor is educated that doctor may bid down the price of medical services. This imposes a cost on all other doctors, but also an equal offsetting benefit for consumers of medical services.

A senior Australian vice-chancellor, in an attempt to justify the extraordinarily high subsidies to medical students in Australia, once said to me that doctors serve the public so their education was a public benefit. If all activities that involve selling goods and services to members of the public are to be considered a public good and subsidised, we are left with the problem of what to tax to raise the revenue to pay for the subsidies.

Society may come up with non-government means of dealing with externality problems. For example, private charity may subsidise education; donors prefer to give money to causes with large social benefits. To the extent that social conventions, such as respect and prestige, accrue to the educated and thereby help ensure the production of external benefits, it would be inefficient to subsidise them further. If the externalities involve small numbers of people, such as spill-overs to family and fellow workers, they may be solved through private payments.

The second key point is that for a subsidy to be justified, the external benefits must be marginal so that a subsidy to education increases their production. The question is not only whether education produces external benefits, but also whether to subsidise education significantly increases those benefits. If the government subsidises an activity that would have occurred anyway, it simply provides a windfall gain.

If the private returns are high, the education may be undertaken without the need for a subsidy. For example, there are external benefits from literacy. However, most parents would ensure their children could read even without a subsidy, and some even teach their children themselves. The issue is how much extra literacy government intervention reaps. Certainly, there are large pockets of illiteracy in New Zealand despite massive increases in government intervention in education over the past one hundred years.[59]

The fact that there is no market for externalities makes it difficult to measure them accurately, determine where they come from and decide the appropriate level of subsidy to education.[60] The information needed is not available. For example, consider trying to measure whether there is an external benefit from graduates raising the productivity of other workers. To measure the significance of this possible externality we need to disentangle the effect of more graduates from all other changes affecting worker productivity (technical progress, the business cycle, changes in demand patterns, changes in the amounts of other factors). Assuming we can sort out these different effects, it is another step to determine how an increase in the subsidy will affect the production of external benefits.

The productivity effects of education are at least measurable in principle, if not in practice. Most of the other claimed external benefits for education defy objective measurement.

The case for government subsidies to education does not enjoy the support it once did in the economics profession because of the lack of hard evidence of substantial positive externalities to education.[61]

Education may impose external costs on others if:

- it is used as a signalling device;[62]
- excessive educational requirements are used to restrict entry into some professions (such as medicine);
- education is used as a status symbol, or people care about their education relative to others.

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[59] See chapter 3, 'International test comparisons' for evidence on literacy in New Zealand.

[60] See Blaug (1970) and (1983); Brennan (1988); Fane (1988); Freeman (1973); Friedman (1968); Friedman (undated); Hansen (1973); Hartman (1973); Hope and Miller (1988); McMahon (1987) and Woodhall (1970) for excellent discussions on the size and significance of external benefits in education.

[61] See, for example, Milton Friedman's change of mind between Friedman (1962) p 88 and Friedman and Friedman (1979) p 215.

[62] This point is made in Sowell (1966), Blaug (1983) and Fane (1988). See earlier in the chapter, 'Does education increase productivity? The signalling argument'.

The negative externalities are no easier to verify than the positive externalities. The extent of signalling is impossible to measure. (See earlier in the chapter, 'Does education increase productivity? The signalling argument', for a review of the literature.)

Because subsidies to education require that taxes be raised, and the costs of the taxes to society are greater than the amount raised, it is reasonable that the burden of proof be placed on those calling for subsidies. The benefits from government education spending need to outweigh the costs of the taxes required to finance it. (See chapter 5, 'Churning' and 'The excess burden of taxation in New Zealand' for a discussion of the costs of taxation.)

If subsidies are paid, they should be targeted to produce the greatest increase in externalities for a given expenditure. The relevant externalities should be made explicit, monitored and rewarded. The appropriate intervention should be the one targeted as closely as possible to the source of the externality. For example, if it were true that doctors did produce positive externalities, a subsidy to medical students is not necessarily the best response.

- Students receive the subsidy whether they graduate or not, whether they become doctors or not, whether they work in New Zealand or go overseas to work, and whether they work or not.
- Those who fail and take longer to graduate receive a larger subsidy than those who graduate in the minimum time.
- Those who work long hours and treat many patients after graduation receive the same subsidy as those who do much less.
- To the extent that the subsidy does encourage more students to become doctors, the increased supply of doctors will depress wages, reducing labour supply from non students. Fewer already qualified doctors will join the profession, some will leave it and some will reduce the amount of hours they work.
- Even if the students do become doctors they receive the same subsidy no matter what their speciality or who they treat, but different types of doctors may produce different externalities.

Even if it were true that more doctors produce external benefits for New Zealand, a subsidy to enrolments in medical degrees is not well targeted. Doctors using their skills to treat patients produce the externality. A better approach would be to target subsidies at working doctors as close as possible to whatever is producing the externalities.

Two common externalities that are cited to justify government intervention in education are benefits to economic growth and national prosperity and

benefits to taxpayers from higher tax revenue. Do they give reason for the government to intervene?

Growth

> Many of those with personal stakes in education, once outraged by the suggestion that it could be treated like an industry, are now likely to be more outraged if people 'can't see' that it is the 'most important' industry we have.[63]

When national accounting statistics were developed after World War II it was noticed that a country's income often grew faster than the growth in inputs, labour and capital. This was partly explained by improvements in the quality of labour and capital, and one of the motivations for the development of human capital was to explain and quantify the improvement in labour. Although this accounted for much of the growth in output, there was still a substantial unexplained residual. This raised the puzzle of the causes of technical progress and perpetual economic growth.

Theoretical literature in economics suggests that human capital investment is the driving force behind economic growth, and externalities between educated people is an important element in economic growth.[64] For example, the amount of human capital may affect the development and adoption of invention and ideas.

It is, however, a large jump to go from new theories relating growth and human capital investment to particular policy recommendations: such as more expenditure on public education. The theoretical models do not explain what kinds of human capital investment are best for growth or the responsiveness of human capital output to different government policies. There are many sources of economically useful knowledge other than public schooling, such as on-the-job training, and not all public schooling has the same economic significance.

Should we subsidise formal education or on-the-job training? Should public institutions receive a higher rate of subsidy than private ones? Should the subsidy be highest at the tertiary, secondary, primary or pre-school level? Should the expenditure be on more students or more spending per student? The answers to these questions are empirical: what are the external benefits from different expenditures?

Micro studies (that use individual level data) establish that education has a high private pecuniary return. (See 'Incomes and outcomes: rates of return to schooling' earlier in the chapter.) They are not well suited to measuring growth

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63 West (1994) p 109.

64 See Lucas (1988) and (1993).

externalities. The macro growth literature (that use aggregate data) attempts to measure external returns to human capital. If they exist, country or macro estimates should show a return to education above private rates of return estimated from micro studies.

One strand of work on the growth externalities of education examines the sources of economic growth in a particular country.[65]

- The fact that the change in a country's average schooling level makes a large contribution to growth does not necessarily imply there is an external benefit to education that requires a subsidy. It could merely reflect a high private return to education, with the educated capturing all the productivity benefits resulting from their education. Externalities only arise if others copy, without payment, productivity improvements owing to education, so that gains to the economy as a whole exceed those accruing to the educated individuals. This might happen if the benefits from educated individuals spill across firms.
- Correlation does not imply causation. For example, to the extent that education is consumption, higher income may cause more education.
- The growth accounting studies provided a measure of external benefits by attributing the unexplained residual to education. This provides an upper limit to the external effects of education – the unexplained residual reflects our ignorance. It is no more than an assumption that it reveals education growth externalities. Other authors attribute the residual to physical infrastructure and call for it to be subsidised. Moreover, the size of the residual is certainly a function of the particular methodology used and assumptions made.

The other set of studies on growth externalities make cross-country comparisons. They focus on schooling because the only human capital investment data that can be compared across countries are limited measures of formal schooling. Many studies find a strong positive correlation between measures of human capital investment and the subsequent growth rate of per capita gross domestic product (GDP) across countries.[66] For example:

- Barro (2002) finds that the average years of school attainment at the secondary and higher levels for males aged 25 and over has a positive and significant effect on the subsequent rate of economic growth. He estimates that the social return to schooling is around 7 percent per year. Female attainment at the secondary and higher levels turns out not to have significant explanatory

[65] See, for example, Blaug (1970) pp 89–100 and Becker (1975) pp 196–198.
[66] See, for example, the studies listed in Bils and Klenlow (2000).

power for economic growth, possibly because females are discriminated against in the formal labour market in some countries.

- A country's performance in international tests of cognitive skills in mathematics and science has a strong and robust influence on growth. (See 'Test scores and earnings', earlier in the chapter.) Barro finds that science scores have a significantly positive effect on economic growth – even controlling for per capita GDP. The results suggest that the quality and quantity of schooling both matter for growth but that quality is much more important.
- One study argues that the impact of schooling on economic growth probably explains much less than one-third of the empirical cross-country relationship between growth and schooling. A positive correlation between schooling and labour supply explains another third. The remainder is explained by policies and other factors omitted from the analysis that are associated both with high levels of schooling and growth in productivity and to reverse causality – anticipated growth raises the private return to schooling (it raises future benefits more than current costs) and increases the amount of schooling undertaken.[67]

There have been a number of surveys of the evidence on education and economic growth. Conclusions reached include:

- The evidence is weak because there are problems with the data. Human capital is difficult to measure, and the data is of poor quality, especially for developing countries. The crude measures used are enrolments, literacy rates and levels of educational attainment. Often, stocks and flows are mixed up. For example, enrolments do not reflect the stock of human capital, and may be a poor proxy for additions to human capital. The variables often explain little of the variation in output between countries.[68]
- A careful review of the evidence commissioned by the Dearing inquiry in England found that rates of return to higher education that allow for externalities at the aggregate level are not very different from micro wage-based estimates, which do not. The review found, at best, tentative evidence of "very modest growth externalities" to higher education.[69]
- On the other hand, Krueger and Lindahl (2001) find substantial measurement error in cross-country data on average years of schooling, which biases down estimates of the effect of schooling on growth. When adjusted for measurement bias, estimates of the effect of the change in schooling on growth become large, greater than in the within-country micro regressions.

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67 See Bils and Klenlow (2000).
68 Temple (1999) p 139.
69 Gemmell (1997).

The bigger return to schooling in cross-country models suggests there are large externalities from increases in average educational attainment, or that omitted variables create problems at the country level of analysis, or that there is reverse causality. One possible source of omitted variable bias in cross-country analyses is that countries that improve their educational systems are likely to change concurrently other policies that enhance growth. Further, institutions that encourage the accumulation of physical capital, the development of efficient production and high economic growth, such as the rule of law, effective property rights, enforcement of contracts, protection from government confiscation and incentives for entrepreneurship and inventiveness, also encourage investment in education and give incentives for human capital to be used effectively.[70]

- A major result from the empirical macro growth literature is that the initial level of education is positively correlated with economic growth, which has been widely interpreted as an indication of large externalities from the stock of a nation's human capital on growth through encouraging the workforce to develop, implement and adopt new technologies. Krueger and Lindahl (2001) find the positive effect of the initial level of education on economic growth is sensitive to econometric restrictions that are rejected by the data. They conclude:

  > The macro-economic evidence of externalities in terms of technological progress from investments in higher education seems to us more fragile, resulting from imposing constant-coefficient and linearity restrictions that are rejected by the data.[71]

Graduates will pay higher taxes

A common argument is that tertiary education should be subsidised because graduates will go on to pay more taxes out of their higher incomes, in effect an external benefit to recipients of the tax revenue.[72] This argument is also made for business investment subsidies. In fact, it is true for any profitable investment and is not a reason for subsidising education. To justify subsidising education relative to other investments, it needs to be explained why education is different from other investments. The fact that it pays off is not enough. If all activities that produce income are to be subsidised, we are again left with the problem of what to tax to raise the revenue to pay for the subsidies.

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70 Hall (2002).
71 Krueger and Lindahl (2001) p 1130.
72 See, for example, Chapman (1992).

What would be relevant is evidence that subsidies to higher education result in an increase in tax revenue that is greater than the cost of the subsidy. Because subsidies to higher education only have a small impact on the number who attend, it seems unlikely that such evidence exists.[73] If the private return is high, students will undertake the education without a subsidy. If they face financing barriers, a subsidy will not necessarily be the best response.

COMPELLING OBLIGATIONS: THE CHILD PROTECTION ROLE

Parental negligence and ignorance may provide a case for the government to control the education delivered to children. Negligent and ignorant parents may not choose the appropriate quality and quantity of education for their children. Paying parents subsidies will not work because they may still either choose the wrong type of education or none at all.

If neglect is established, there is justification for the state to intervene, "there is no such thing as an undeserving five year old".[74] There is good reason for ensuring that all children learn basic skills, because they are necessary in order for them to become productive and independent citizens, and, it is difficult to remedy failure to learn basic skills later in life. The policies should be targeted directly at the small minority who are the problem. They raise controversial issues of the role of the state versus the role of the family.

The presumption in favour of parents

Children are dependent on their parents and lack both the knowledge and economic resources to make their own schooling decisions. In a market system, parents will decide for their children. Of course, there is communication within the family and children will have a voice in their own schooling, as may other close relatives. In most families, children will have a greater say as they accumulate knowledge and become more independent.

The case for parental decision making is not that parents always make perfect decisions but that they are more likely to make correct decisions than the alternatives, such as professionals – especially given that parents can seek the advice of neutral experts and can put that advice alongside their own personal knowledge.

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[73] The US estimates in the elasticity of demand are low, –0.2 to 0.25. See Maani (1997) pp 158–164 and LaRocque (2001) pp 30–31, for surveys.

[74] Murray (1984) p 223.

In all societies parents have primary responsibility for the care of their children.

- Parents generally know the child best, care the most, and have the strongest incentives to make decisions in their child's interest.
- Parents are there for the long-term and personally suffer the consequences of poor decisions, unlike the professionals who are involved in a child's life for a few years at the most.
- Parents have a strong incentive to ensure their child functions as an independent adult; "few sane parents want to have their children permanently dependent upon them either financially or emotionally. … It is often in the interest of education and welfare professionals to keep children in need of government services as often and as long as possible".[75]
- The professionals do not reap the returns to investments of time and effort in the child that parents do.

For these reasons, most aspects of child rearing are left to parental choice and are subject to few requirements. In areas such as nutrition, shelter, clothing, medical care, recreational activities and pre-school education, parents have the right to make decisions for their children. There is a broad social understanding that intervening in routine parental decisions will do more harm than good. It is assumed parents are the most likely to promote their child's welfare, and intervention is targeted at the exceptions. Many decisions that are left to parents are quite complex – such as choosing a surgeon to operate on a child.

In general, the child protection role involves the government stepping in to protect children from their parents only when there is evidence of neglect or abuse. For example, the government steps in if a child is malnourished, but it does not monitor each child's diet. This justification for government intervention is sometimes called the agency role – the government acts as the agent of the children.

The child protection role in education

If the child protection role were exercised in education, as it is for other matters, then the government would only interfere with parents' educational decisions when there are clear signs that the interests of the child are at risk because the parents have failed in their duty to educate their children.

Yet intervention in education is much broader and paternalistic – all parents are compelled to school their children from ages six to 16 and there are strong

[75] Coons (1993) p 8.

financial incentives to use government schools. Parents are denied a choice of whether to school their children for fewer years and about how to spend their money on their child's schooling.

Why is education treated differently from other aspects of child rearing? If anything, the case for intervention seems weaker. Food, clothing, shelter and medical care are more important, and damage to the child from physical abuse or neglect of these matters more difficult to remedy than the harm from educational neglect. The general rationales for parental decision making – that parents know the child best, care the most and bear the cost of bad decisions – also apply in education, perhaps even more strongly because what is an appropriate education depends on the individual, and the consequences of education are often long-term. There is less agreement on what constitutes educational neglect than on neglect of physical needs.

Should experts pre-empt parental educational decisions?

It is not clear that decision making by experts produces better results than decision making by parents. The question is not whether parents always make perfect choices, but whether they, on average, make better decisions than those made within the current system. Parents are not perfect, but the alternatives are often worse.

It appears unlikely that parental incapacity (say through drug addiction) or lack of altruism that results in neglect is any more likely in education than in other aspects of child rearing. The critics of parental choice instead focus on a lack of parental knowledge, arguing that parents are uninformed. Even the decisions of parents who put in effort and money to seek a good school for their children are questioned. Typical of the patronising and contemptuous attitude many in the public education lobby have towards parents are claims, in a report to the Ministry of Education written by New Zealand education academics, that parents are ignorant, educational reasons play no part in their choice of schools and they are motivated by racial prejudice and elitism.[76] The authors present no proof for these claims, although detailed data on the reasons for parental choice were collected.[77]

The authors also argue that parental choice will reduce academic standards because many parents do not have information to judge academic outcomes, and working-class parents have low academic expectations.[78] This is painfully

[76] See references and quotes in chapter 7 'Criticisms of dezoning'.
[77] See Smithfield Project (1994a) Report Two.
[78] See Smithfield Project (1998) Report Eight, p 17, p 50; (1995) Report Three, p 50.

ironic, given the authors' own low expectations of low-SES students, which leads them to excuse poor academic performance in low-SES schools.[79] The lack of information that is available is a fault of the current system, not of parents.

Others merely want to relieve parents from the 'burden' of choosing, writing that parental choice of government school under dezoning meant, "Some parents became excessively anxious and even obsessed about whether they had made the right decision".[80] Of course, even under zoning, parents can still choose between schools by choosing where to live – but now have to make a decision about what house to buy as well. Further stress is added by the fact that it is more costly to change your decision under zoning if, for some reason, it does not work out (for example, the local school may deteriorate).

Parents have much information that the central authorities do not have. Parents can continually monitor and receive feedback on the effect of a particular school or type of schooling on the child. It is not self-evident that occasional monitoring by experts is better. Professionals know about the effects of certain types of education on broad classes of children – but not about a particular child. Parents know the abilities and interests of their children, they have more information on their own inputs, other non-school inputs and their child's previous schooling.

Many important aspects of schools (such as the general school atmosphere, the nature of its discipline, the quality of its teaching) can only be judged at the school level. For example, experts may all agree that single-sex schools are better for academic achievement than co-educational schools in general, but parents may know that the particular co-educational school their child can attend is better than a particular single-sex school.

The market will give parents what they want. It is true that parents do not always want what the educational experts want. Although the experts claim that this demonstrates that parents are uninformed, often the difference between parents and educationalists is more than expertise. Educationalists have very different priorities and opinions on the role of education. Many New Zealand education academics believe schooling should be used to conquer capitalism and reconstruct a socialist society rather than to teach children or promote student achievement.[81] Despite being teacher educators, little emphasis is placed on the role of good teaching to ensure a good education for students. Instead,

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79 See, for example, Smithfield Project (1997) Report Six, pp 75–79.

80 Fiske and Ladd (2000a) p 183. The authors later write that New Zealanders would be "loathe to surrender" their right to choose (p 291).

81 See, for example, Thrupp (1997) p 373, Middleton, Codd and Jones (1990) and Lauder (1990). See chapter 6 'Teaching faults: teacher education training, Pre-service training' for the differences in priorities between education academics and parents.

many education academics seem to believe that good education is solely about ensuring a correct social mix in the classroom.

Moreover, on education matters the parents have often been right and the experts wrong.[82]

> Children who are home-schooled by their parents also score higher on tests than children educated in the public schools. Imagine if we discovered that people with no medical training were performing surgery in their kitchens with better results than surgeons operating in hospitals. We would be astounded – and we would wonder why we were spending billions of dollars on medical schools and hospitals.[83]

To justify government involvement in the schooling of most children, most parents must be too incompetent to attend to their child's education. Suppose for the moment the claim is true, and the government is to determine the quality and minimum quantity of schooling.

When governments are responsible for provision of schooling, political pressures from special interest groups mean educational decisions will not necessarily have the welfare of children (who, after all, do not have a vote) as their prime objective. Those who run public education have their own agendas and often have personal stakes in the education decisions. They may use the political process to spend other people's money to benefit themselves and to impose their subjective preferences on others. Even well-intentioned education professionals are not the most disinterested arbiters of appropriate education policy.

To the extent that the political process is not hijacked by special interest minorities, but instead reflects community opinion, then the problem is that the community consists of the same parents who were considered too ignorant or negligent to make decisions about their own child's welfare. The argument for government involvement does not provide any reason why parents' choice of political representatives should be any better, or why there would be any community pressure for 'correct' amounts of education to be provided for children. How can parents choose the representatives who will make correct education decisions if they cannot adequately judge the education themselves?[84]

Further, if it is believed that parents in a market system do not have sufficient information to make wise choices – then the situation for voters in a public

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[82] See, for example, chapter 3 'Benefits from testing'. External exams are denigrated by the education lobby, but popular with parents.

[83] Sowell (2000).

[84] This point is made in West (1994) p 9.

system must be even worse. Voters would need information on the costs and benefits of the numerous educational policies that are centrally decided – for all children, not just their own. They have more information to collect and less incentive to collect it, because they can make little use of it.

The main problem with elite pre-emption and collective decisions, compared with parental choice, is the lack of incentives – for the experts to make an appropriate choice for the individual child, or for voters to consider different policies carefully.

The experts do not always agree with each other. Why should parents have to obey the particular experts thrown up by the political process? Parents can always choose to defer to experts if they want, but should be able to choose – the choice provides some check on the experts pursuing self-interest. The case against parental decision making requires parents to be ignorant and to not know that.

It does not seem plausible that there is widespread parental ignorance and negligence in New Zealand. The government insists that school boards, dominated by elected parents, govern government schools. If parents know enough to vote and serve on school boards, surely they are capable of choosing which schools their children should attend. It is easier to recognise a good school than run one – you do not have to be a wine-maker to choose a good bottle of wine.

If most parents are incapable of making sound decisions about their child's education, that does not say much for public education – it has educated 10 generations of school students and most of the current generation of parents.

Empirical evidence on parental choices

Is there any evidence that significant groups of parents, such as those with low incomes, will make poor choices?

Surveys provide one source of evidence. For example:

- The Smithfield Project in New Zealand conducted an extensive survey of parents "to understand the processes by which parents 'choose' schools for their children".[85] One of the few results they report from their school choice survey is that low-SES parents rank desirable schools in the same way as the Smithfield team and other parents – they make the same judgements as the experts and the rich.[86]

[85] Smithfield Project (1994a) Report Two, p 51.
[86] Smithfield Project (1995) Report Three, p 24.

- In Australia, surveys show that the most important aspects of schooling for parents are teachers, control of drugs, guns and violence, relevance of the curriculum, approachability of the school and absence of discipline problems. Surveys that asked parents to specify why they sent their children to a private school indicate that parents seek a better environment that catered to their individual child's academic, social and spiritual needs. The quality of the school staff and education programme, superior standards of discipline, order and attitudes of students and staff were emphasised, as well as religious orientation (especially in Catholic schools).

  Surveys of private school parents indicate poor quality of staffing, including incompetent teaching and poor educational leadership by principals, poor quality of courses and a lack of emphasis on basic skills were important reasons for not sending their children to government schools.[87]

- Low-income parents who participated in the US voucher experiments were closely questioned about how they chose schools. The results do not support the argument that low-income parents will lower academic standards because they choose schools on factors that have little to do with their child's education. The parents participating in a voucher programme in Dayton, Ohio were asked to identify from a long list the three most important reasons for choosing their child's school. The most important reasons for parents who chose private schools (with a percentage of parents nominating the reason) were academic quality (71 percent), religious instruction (46.8 percent), teacher quality (42.5 percent) and school discipline (42.5 percent).[88] In the New York city programme over 75 percent of the parents of scholarship users said that among the reasons 'very important' for their choice of school were: school safety, academic quality, what was taught in school and school discipline. The school's location, the children's friends, and the sports programme were least frequently mentioned as very important. Religious instruction was mentioned as very important by approximately half the parents.[89]

Another source of empirical evidence on the ability of parents to make sound choices looks at parents' actual decisions.

- In New Zealand, the Ministry of Education found that, in 1998, schools with enrolment schemes performed significantly better than other schools of

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87 See the studies surveyed in Buckingham (2000) pp 6–7, and ACT Schools Authority (1985).
88 See Howell and Peterson (2000) p 19 and table 3.
89 Peterson, Myers and Howell (1998).

similar socio-economic composition, in terms of school leaver qualifications and senior school examinations.[90] That is, educational outcomes were better in popular schools. However, this evidence is not conclusive because it could be that schools with enrolment schemes select the best pupils or because of some other omitted variable.

- Randomised voucher experiments, conducted is the United States, are not subject to these problems. They reveal that the children of low-income recipients who are randomly selected to receive a voucher and attend a private school do better academically than the children of similar parents who miss out.[91] This shows that low-income parents care about academic outcomes, can identify the best schools and, in fact, select the best schools.
- Another example of successful school choice by low-income families comes from East Harlem. Teachers could set up their own schools, which had substantial autonomy, and parents were free to choose amongst schools. The result was an innovative and diverse school system. Student achievement increased dramatically, and the district moved from the worst in New York to the middle, despite the dismal socio-economic environment.[92]
- Historical evidence is that the poor are willing and able to choose. In England and the United States, before government-run schools were introduced in the nineteenth century, there was widespread schooling and high literacy rates amongst the working classes. Almost every child received at least some primary education, usually purchased by parents, out of incomes much lower than today's, from a thriving private education sector.[93] In 1850, in the United States, most free blacks were literate, despite being excluded from public schools and forbidden to establish their own schools in most of the South. Fifty years later, three-quarters of the black population was literate. Most were either former illiterate slaves or their children.[94]
- Parents already have much choice, if they are rich enough. They can choose a private school, or by choosing where to live, their public school. What have been the results of this parental choice? Hoxby (1999) presents evidence for the United States by examining the effect of variations in the amount of school choice in different school districts. She uses an empirical strategy to overcome the problems of selection and the fact that observed choice policies may be simultaneously determined with other policies. She finds that greater

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90 Ministry of Education (2000b) pp 79–80.
91 See chapter 9 'Private versus public schools: advantages of a private education'.
92 See Fleigal with MacGuire (1993) pp 3–4.
93 See West (1994) and Ravitch (2001).
94 Sowell (1994) pp 198, 221.

choice leads to more challenging curricula, stricter academic requirements and more discipline. Hoxby concludes that parents are more likely to insist on these attributes than school staff. Choice does not result in an increased emphasis on sports or extra-curricula activities.

Conclusion

There is little evidence for the proposition that most parents are ignorant and negligent when it comes to determining their child's education, and even less for the assertion that governments make decisions that are, on average, better for children. If only a small minority of parents are ignorant and neglectful, that provides no justification for massive government involvement in the schooling of all children. Choice should not be prevented for all because some small minority cannot choose or cannot cope. The government should target intervention at the problem families.

EQUALITY OF OPPORTUNITY

Definition

A commonly stated, and seldom defined, objective is that the government should promote 'equality of opportunity' in education. To illuminate the meaning of equality of opportunity, West draws an analogy with a race and likens equality of opportunity to ensuring that 'each competitor starts level at the starting line'.[95] The objective creates immediate problems, even if it is assumed that all children have the same potential ability:

> How do we begin to measure the numerous and typical environmental handicaps which are supposed to hinder some children in the race? For instance, on what basis do we sort out those children who have not had the extra educational stimulus incidental to richer middle class homes? More difficult still, how do we detect those homes, whatever their social class, which give better educational environments than others? The quantity of empirical evidence needed to decide these matters will surely be enormous. Even then no two persons are likely to make the same judgment on it.[96]

For example, imagine two identical families. In one, the mother puts her new baby into high-quality day-care and returns to work. The other stays at home and looks after the child. Which family is providing the best opportunities? Is there one answer? Should we help one child over the other? What responses will intervention induce? If it were decided, say, that the baby with the working mother

[95] West (1994) p 61.
[96] West (1994) p 62.

had less opportunity, and a programme to help the children of working mothers were introduced, would the stay at home mother respond by returning to work? Would the working mother decide to spend even less time with her children?

West asks how far supporters of equality of opportunity are willing to follow the logic of their ideal. Do we equalise the opportunities of poor children in other countries? If not, why is the concept constrained within geographical boundaries? Do we redistribute resources to equalise the opportunities of children who are severely disabled, even though that might use up many of the resources devoted to education?[97]

The 'race' analogy has a number of drawbacks. Life is not a single race with clear starting and finishing points, nor even a single activity, and not a contest with one winner. Effort, ability and opportunities interact throughout life, and it is difficult to disentangle their effects. It is therefore difficult to determine exactly what is justified in the pursuit of equality of opportunity.

Lieberman asks how would it be possible to equalise the opportunity to win the race for someone born with one leg. Not many would support amputating one leg of everyone else who entered the race. He concludes that when people support equality of opportunity, they have in mind helping the weaker competitors rather than weakening the strong ones. It does not mean equal prospects of success, but fair and open competition.[98] Equality of opportunity is a different objective from equality of outcomes. The objective is a fair race, not a race where everyone finishes simultaneously.

The meaning of fair and open competition is debatable. Most authors focus on the influence of parents.

- For example, Coleman writes: "Equality of opportunity implies that the State intervenes to insure that inequalities in one generation do not cross generations, that children have opportunities unaffected by inequalities among their parents".[99]
- Blaug considers the everyday meaning of equality of educational opportunity is: "breaking any connexion between the distribution of education and the distribution of personal income. … Education must be distributed not in accordance with purchasing power but with reference to differences in capacity to learn".[100] Blaug points out, however, that: "Unfortunately, capacities to learn depend to a large extent on home background which in turn depends on the

97 West (1994) pp 63–64.
98 Lieberman (1993) pp 202–203.
99 Coleman (1989) p 50.
100 Blaug (1970) p 116.

> education of parents. Thus, to distribute education in accordance with so called 'natural abilities' favours children from well educated backgrounds which reintroduces the influence of income distribution".[101]

How far should the government go in eliminating the effect of non-school factors to equalise opportunities? There are two prevailing interpretations of equal opportunity. The first favours government intervention to give those children with similar abilities equal educational opportunities to develop to their full potential. The second supports the use of schooling to offset non-school disadvantages so that total opportunities are equalised.

At one extreme, it has been stated:

> It is the business of education to eliminate the influence of parents on the life-chances of the young.[102]

Underlying this view is the pursuit of what Sowell calls 'cosmic justice', a more accurate description than social justice because it seeks to mitigate pre-existing inequalities that arise not only from society but from factors beyond society's or anyone's control, such as being born into different families.[103]

It cannot be said that this is a generally accepted, or even achievable, social goal. In effect it abolishes the family as a decision-making unit. If good parents give their child a better start, the advantage gained is seen as improper. The family is seen as the source of unfair differences rather than an institution for raising responsible citizens.[104]

It is not clear that undermining the ability of parents to help their children is desirable. Would we really want to live in a society that penalises families that provide home environments supportive of academic achievement and rewards those families that give no extra stimulus?

Those with the 'cosmic' viewpoint take unequal outcomes as evidence of unequal opportunities. Yet identical twins brought up in the same family, with the same genes and family environment, have earnings differences equal to about 60 percent of the differences between random individuals.[105] Clearly, factors like effort and luck play a role in earnings outcomes, even when opportunities are equalised. Inevitable inequalities will always provide a rationale for more government intervention to achieve cosmic justice.

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101 Blaug (1970) p 116.
102 Musgrave (1966) p 135, quoted in West (1970) p xxxviii.
103 See Sowell (2000).
104 Green (1996) p 51.
105 Siebert (1985) pp 52–53.

A different view of equality of opportunity is that "no-one should be prevented by arbitrary obstacles from using his capacities to pursue his own objectives".[106] This interpretation does not conflict with liberty if arbitrary obstacles are defined as denying access to particular positions in life based on a person's ethnic background, colour or religion. Equality of opportunity, in this sense, is essential for liberty – for the freedom of everyone to pursue their chosen careers according to their own abilities and tastes.[107]

In the New Zealand National Education Goals, the education system is to promote "equality of educational opportunity for all New Zealanders, by identifying and removing barriers to achievement".[108] The extent of government intervention justified by this objective depends on what is thought to be a barrier to achievement. Is it limited to discrimination based on ethnic background, colour or religion? Or does it extend to a poor family environment?

In the educational policy debate, equality of opportunity is often used as a slogan, a moral trump card or as a cloak for producer interests. The term captures an important reason for intervention for many people. However, given the ambiguity about its meaning, a policy that claims to promote equality of opportunity is not necessarily desirable. Equality of opportunity in the cosmic sense is certainly neither feasible nor desirable. It is better to consider explicitly the costs and benefits of individual policy proposals. Will particular changes in policy improve matters or not?

Capital market imperfections

An important source of unequal opportunities is differing abilities to access finance. The special properties of human capital and the operation of the legal system may make it difficult for students to pay for their education by borrowing against future earnings.

Human capital cannot be used as collateral. By and large a person cannot even voluntarily sell a legal binding claim on future earning power. Even without the laws against indentured servitude, the fact that the productivity of human capital depends on the co-operation of the original borrower would make it difficult to use human capital as collateral. Therefore, lenders may be unwilling to extend loans, or only offer loans on terms that reflect a high perceived risk, to students unable to offer alternative collateral.

The fact that workers are not allowed to pledge future labour services as security for a loan is an imperfection of the labour market rather than an

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106 Friedman and Friedman (1979) p 159.
107 Friedman and Friedman (1979) pp 163–164.
108 Ministry of Education (2003d) goal number 2.

imperfection of the capital market, and lenders are correct in adjusting for this legal fact. High interest rates are "not sufficient evidence to allow us to conclude that capital is being allocated inefficiently – any more than the fact that some people walk is proof of an imperfection in the automobile market".[109] There is not necessarily a misallocation of capital if the amount the lender realises on student loans after accounting for the costs involved is no greater than for other investments. The return received by the lender must cover the costs of default and transactions costs associated with the loan, such as collection costs. These are likely to be substantial with educational loans, and the rate of interest charged is likely to be much higher than on secured debt.

Capital market imperfections mean family resources and holdings of non human wealth become important.

- Financing opportunities will differ between individuals because of differences in the willingness or capacity of their families to support them. The rich can finance more human capital investment out of their own resources and are more likely to be able to offer collateral to borrow, whereas the poor will find financing more difficult because they are more likely to have to borrow and face capital market constraints.
- If students need to borrow, to cover tuition and living expenses, and cannot, they must finance these direct costs of education out of their own income from full-time, part-time or holiday work. The capital constrained student will be more likely to school part-time. If it is optimal to specialise in full time schooling, the capital constrained student will substitute into less efficient forms of human capital investment, will accumulate less human capital and be worse off than someone who can finance the direct costs of schooling.
- The greatest under investment will be in human capital investment with large up-front costs (such as a lengthy medical degree). Capital market imperfections may limit full time higher education and expensive courses to those from rich backgrounds who have the support of their parents, resulting in social stratification.
- Students who face borrowing constraints and work while studying to finance their education, often take less leisure than non-students – a cost of education that is often ignored in rate of return estimates.[110] If borrowing constraints are important, standard rates of return estimates are overstated.

[109] Stigler (1968b) pp 114–115.
[110] Parsons (1974).

Equality of opportunity can involve equalising financing opportunities between rich and poor to provide those with equal abilities the same opportunities to pursue their education, independent of parental income. Such a policy may be efficient. If financing opportunities differ, marginal rates of return to human capital investment will differ across individuals. For example, the rate of return to those who need to borrow and are rationed or face very high interest rates would be high. A policy of equalising financing opportunities, such as providing loan guarantees, would make marginal rates of return more equal and increase efficiency.

Just because a market is not perfect does not mean the government can do better. It needs to be established that the benefits are greater than the costs of the proposed intervention. The government should only intervene in the student capital market if it has some advantage that would lower the default and transactions costs, "A misallocation of capital is created, not eliminated, if interest rates are reduced to borrowers without a commensurate reduction in the costs of transactions".[111]

The relevant imperfection should be specified. The government must have some advantage over the private sector in dealing with the imperfection and target intervention at exploiting its advantage. For example, if the private sector fails because of a moral hazard problem, there would be no case for government involvement if it were also subject to the moral hazard.

At the school level, children are financially dependent on their parents. Two of the world's leading economists, Becker and Murphy (1988) claim that because children and parents are unable to sign binding contracts that would raise the welfare of all parties, the government can intervene to raise efficiency. They justify much intervention in education on this basis.

If parents who do not leave bequests to their children invest more in their children's education, they will have less income left over to save and that will reduce their consumption in old age. These parents trade-off their consumption against their children's future income. In general, parents get less marginal utility from consumption by their adult children than from their own consumption when elderly. As Becker and Murphy say: "Therefore, in families without bequests, the equilibrium marginal rate of return on investments in children must exceed the rate on assets saved for old age; otherwise, parents would reallocate some resources from children to savings. These parents under invest in the human capital of their children".[112] The under-investment is greater the

[111] Stigler (1968b) pp 115–116.
[112] Becker and Murphy (1988) p 1.

less altruistic the parents are towards their children (the less parents value their children's consumption).

Both parents and children could be better off with a contract that calls for parents to raise investments to the efficient level, by either lending to the children or borrowing on their behalf, in return for a commitment by children to repay the cost when older. Such contracts are not feasible – for example, parents cannot leave debt to their children (negative bequests) and, generally, the courts will not enforce contracts entered into by children.

Families that are linked by bequests have an incentive to invest the optimal amount, independent of their preferences. If the rate of return to human capital investment were greater than the going interest rate, both parents and children would be better off if the parents reduced saving (and the size of the future bequest) and invested the money in building up their children's human capital. That would increase the children's earnings by more than the cut in the bequest, and parents could cut back the bequest even further and increase their own consumption.

Even the parents who leave bequests may invest sub optimal amounts in their children if they do not have the funds available at the time their children are going through school and cannot borrow against future income (although the more affluent will be able to offer physical assets, such as houses, as security).

The Becker-Murphy argument implies that poor or selfish parents are likely to under-invest in their children. The highest marginal returns are likely to result from more investment in high ability children of the poor. The case for intervention arises from a capital market imperfection (an inability for children to borrow to finance their human capital investment), but the policy implications are more akin to a child protection role. Giving extra funds to parents will not solve the problem – not because they are negligent, but because they do not have the incentive to invest the efficient amount.

Becker and Murphy then claim that state intervention in the provision of education could raise investment to the efficient level. These interventions should be targeted at the children of the poor. To work, the interventions must increase investment in the human capital of those children with high rates of return. The Becker-Murphy rationale provides a case for a voucher or perhaps public provision (to ensure minimum quality) and for compulsion (to ensure a minimum quantity).

The intervention can involve subsidies tied to human capital investment and targeted at those likely to have a high rate of return. One interpretation is to view education financing as an inter-generational loan. Each generation pays taxes (or is compelled) to finance the following generation's education – but

they pay out of the higher income they receive from the investment in their education by the previous generation. That is, the government provides the missing contract – each generation receives a transfer of human capital when young and repays it later through higher taxes as adults.

Equality of financing opportunity, equity and efficiency

Equality of financing opportunities is relevant for equity because financial barriers are highest for the poor. Therefore, equalising financing opportunities should help those from poor backgrounds. The objective is not the same as equity – and may even conflict with it. Often, those who receive the benefits from equalising opportunities are not the worst off in society, so the policy may actually increase inequality. For example, the highest returns may come from the high-ability poor, who have above-average lifetime incomes. The education lobby are inconsistent on whether or not helping them is a good idea. For example, the lobby argues against school choice because they claim it benefits the smart poor and disadvantages others. Yet they support university subsidies, which do exactly the same.

Equity policies should be targeted at raising the income of those at the bottom of the income distribution. The poorest often drop out at the end of compulsory schooling. Many disadvantaged students do not go on to tertiary education because of low academic ability and aspirations. Those receiving poor-quality secondary schooling are simply unable to benefit from subsidies at the tertiary level. Subsidies and reform efforts targeted earlier in the education process or at human capital investments made by the poor (such as on-the-job training) will be more equitable than subsidies to tertiary education. For example, a recent US study found that the most income inequality comes from differences in human capital accumulation by age 16.[113]

The equality objective often underlies what some people call equality of opportunity, especially those who have the cosmic viewpoint and who believe inequality of results is automatically evidence that opportunities were unequal.

Nevertheless, it is worth distinguishing between the two objectives. Equalising financing opportunities has more to do with efficiency. It tries to overcome capital market imperfections that result in under-investment and high rates of return to extra investment. Often, the result is policies that reduce equality but ensure talent is utilised.

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[113] Keane (2002).

Evidence on capital market imperfections

A robust finding of social science research is a strong and systematic relationship between parents' socio-economic status and their children's educational attainment and earnings. A wide body of empirical evidence finds that people from higher socio-economic backgrounds tend to have higher levels of educational participation and attainment and earn more than people from lower socio-economic backgrounds.[114]

The connection between family background and schooling is prima facie evidence of the influence of financial constraints on educational choices. The family, however, also influences ability and aspirations. It could be that family background has its effect on schooling through the home environment (parental inputs and values) and genetic endowment.

Evidence from twins studies shows that the main way family background affects economic success is through education. About 60 percent of schooling differences in the population appear to result from differences in family background and explains only 27 percent of earning differences. At least some of the effect of family background on schooling arises from differences in ability – either genetic or environmental – so the effects of capital market imperfections on earnings inequality do not appear large.[115] The greater the effect of family background on ability, the smaller must be the impact of capital market imperfections on schooling.

The most important determinant of children's success (as measured by earnings, education and avoidance of destructive behaviours) of measurable family background characteristics is parental education, often independently of income or wealth.[116] The mother's level of education is most important.[117] Economic circumstances (like family income relative to need) have a persistently positive effect, but it is not quantitatively large. The fact that parental education matters more than parental wealth implies children's success depends on family inputs more than family finances. Further evidence comes from:

- Woessmann (2001), who uses the Third International Mathematics and Science Study (TIMSS) data set, finds the effect on a student's examination performance of more books in the family home was strong, even stronger than the effect of the highest educational level achieved by the parents.[118]

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[114] See the summary of studies that show this in Hanushek (1986) and Haveman and Wolfe (1984) p 1856. For New Zealand, see Wylie (1998) pp 11–12, Ministry of Education (2000b) p 76 and Harker and Nash (1996).

[115] See Siebert (1985) pp 51–53.

[116] Haveman and Wolfe (1993) p 1855.

[117] Siebert (1985) p 49.

[118] For details on the TIMSS see chapter 3 'International test comparisons'.

- The Programme for International Student Assessment (PISA) study found that the possession of items related to classical culture (classic literature, books of poetry and works of art) in the family home is closely related to student performance, more than family wealth. The effects are higher in reading than in mathematics or science.[119]

Although parents' income has a significant effect on children's outcomes even after controlling for parents' education and other observable parental characteristics, that does not prove that parental income matters. Parental income may be correlated with parental ability that can be passed on through environment or genetics. Parents could have certain skills, qualities, and attitudes that are valued in the work place and make them more effective parents. They therefore tend to earn more money and have more socially and academically successful children.[120] Standard estimates of the effect of parents' income are upwards biased because parental income is likely to be positively correlated with their children's ability.[121]

Evidence in favour of capital market imperfections would be that children from poor families have a higher rate of return to extra schooling than rich children of the same ability.

- Altonji and Dunn (1995) find that rates of return do not vary systematically by family income in the United States.
- Measured rates of return to human capital investment are usually about 10 percent – not a sign of high borrowing constraints.
- Shea (2000) isolates observable determinants of parental income that arguably represent luck. He finds that changes in parents' income because of luck have:
  - a negligible impact on children's human capital for most families, even though the measured influence of family income is likely to biased upwards;
  - at best, a negligible impact on children's wages, earnings, years of schooling, and total family income;
  - a beneficial impact on children in families in which the father has less than 12 years of schooling, but not in families with low income per se.

  Shea concludes: "The results are generally not supportive of models in which parents' money matters for children because of binding liquidity constraints

[119] Organisation for Economic Co-operation and Development (2001) pp 144–146.
[120] See Mayer (1997).
[121] Shea (2000) p 156.

in human capital investment". It seems that ability and family attitudes matter more than money.[122]

The US evidence shows that capital market imperfections do not appear to affect college attendance. They may, however, still affect course choice and whether the student can school full-time.

- Cameron and Heckman (1999) find that when they do not control for family background, family income is a major determinant of college attendance. The chances of attending college rise with family income. This is consistent with the conclusions of a substantial literature in economics and sociology.

  Using a longitudinal data set (the NLSY) Cameron and Heckman find that long-run factors associated with parental background and income, not short-term credit constraints facing college students, account for differences in college attendance rates between different ethnic groups. When the authors control for a widely used measure of cognitive ability (AFQT score), the effect of family income on college entry is greatly weakened. The authors interpret this as being the long-run effect of family background. Family income has a stronger effect on who stays in high school and who graduates than it has on who attends college.[123] They conclude:

  > The strong correlation between college attendance and family resources is widely interpreted as evidence that short-term borrowing constraints impede enrollment. We argue that the importance of short-term credit constraints is greatly exaggerated. It is the long-term influence of family income and family background, as captured by our measure of ability, or equivalently by parental education, that best explains the correlation. Family income matters but its greatest influence is on forming the ability and college-readiness of children and not in financing college education.[124]

- Keane (2002) finds that borrowing constraints have little effect on college attendance. He estimates that even if all students could borrow to finance almost the entire cost of college, it would have almost no effect on whether youth from low-income would attend college. The primary effect would be on their labour supply while in college. It seems that students mitigate the effects of borrowing constraints by working their way through college.

There is little evidence that capital market imperfections are important at current levels of government intervention. They may, however, be more important if the government intervened less, but provide little case for additional interventions.

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122 Shea (2000) p 156.
123 See also Heckman (1999) table 2.
124 Cameron and Heckman (1999) p 39.

A BETTER CLASS OF STUDENTS: PEER EFFECTS

A peer effect occurs when a student's peer group affects the individual student's educational outcomes. The relevant peers may be fellow students. In that case, the mix of students within a classroom or school matters, and one family's choice will affect other families. That is, there are externalities between students.

For example:

> … the presence in a school of a (large) critical mass of high ability students from high SES families, with a strong positive valuation towards qualifications, and the worth of academic study, has a powerful, independent effect on the examination performance of all students who attend such a school. Conversely, of course, the presence of a large mass of students with a negative valuation has a depressing effect on the scores of all students.[125]

It is plausible that peer effects are important in formal schooling. Students impose externalities on each other in the classroom. They may directly teach each other and the composition of students may influence teacher classroom practice and expectations. What one student gets out of a moment of classroom time depends on the behaviour of others in the class.[126] For example, some students may be disruptive or draw disproportionately on teacher time, or racial or gender tension in the classroom may interfere with learning.[127] For instance, Hoxby (2000a) finds that both males and females perform better in mathematics in classes that with more female students despite the fact that females' mathematics performance is about the same as that of males.

In the educational literature the peer effect is also called a school-mix, compositional or contextual effect. In the economics literature it is called customers as inputs,[128] peers as co-producers,[129] peer externalities[130] or education as an associative good.[131]

Relevance for criticism of markets

The criticism directed at markets is that if there is an academic peer effect, whereby students' academic achievements depend on their own abilities and the average ability within a school, parental choice will cause schools to become segregated by income and ability. Different schools will offer different qualities

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125 Harker and Nash (1996) p 157.
126 Lazear (1999) p 5.
127 Hoxby (2000a) p 5.
128 See Rothschild and White (1995).
129 Parry (1996) quoted in Wylie (1998) p 11.
130 See Epple and Romano (1998).
131 Hansmann (1996) quoted in Blank (1999).

of education and charge different fees. If the demand for academic achievement increases with income, the rich will buy higher quality education and be in the most expensive schools. The rich will demand a more able peer group and will subsidise the schooling of high-ability types. For example, the high-ability poor will be offered tuition discounts to attend the high-quality schools. The segregation is worse if ability and income are correlated. Essentially, students with more resources buy better education. Students' resources are their abilities and their parents' wealth. [132]

Stratification means low-income students without high ability will be isolated and concentrated, their problems exacerbated by adverse peer effects. Restrictions on choice have been proposed to help these students. There are two separate arguments for the government to restrict competition to encourage social mixing: a social cohesion argument and an equality argument:

- The social cohesion argument is that social mixing between students from different classes, races and ethnic backgrounds should be encouraged to promote social cohesion.[133] For example, racial prejudice may be reduced by increased contact between different races.
- The equality argument is that increased mixing of students by ability will help low-ability students and make outcomes more equal. If the academic performance of a student increases with the quality of the relevant peer group, then stratification by academic ability will exacerbate inequality – the high-ability students will benefit further by being surrounded by other high-ability students, whereas those with low ability are doubly disadvantaged by also having low-ability peers.

The two arguments are related, because race, socio-economic status and ability are all highly correlated. Indeed, one argument in the Smithfield Project reports is that parents choose to be segregated because of racism and snobbery, and the segregation then has an adverse effect on the academic performance of minority and low-SES students.[134] Alternatively, stratification by academic achievement may result in less mixing between different classes and races.

Problems in measuring whether a peer effect exists

Evidence for an academic peer effect comes usually from a significant effect of the school mean of a variable (such as SES or ability) on pupils' outcomes after

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132 See Glennerster (1991), Willms and Echols (1992) and Epple and Romano (1998).

133 See, for example, Blaug (1970) pp 311–313; Smithfield Project (1996) Report Four, p 1 and Blank (1999) p 17.

134 See Smithfield Project (1998) Report Seven, p 2; Smithfield Project (1997a) Ethnicity Article, pp 99, 103.

controlling for individual student characteristics. It is difficult to disentangle the effect of peers from the influence of other school and non-school characteristics. For example, the effect of the school population mix may depend on school characteristics (such as classroom practice and discipline policy) and on system factors (such as whether parents can influence the school).

The measured effect of peers may be picking up the effect of a correlated, omitted school characteristic. For example, schools attended by high-SES children may do better because they have greater resources or because they are able to offer more pleasant working conditions to attract the best teachers. (See chapter 7 'Criticisms of dezoning', for reasons why, and evidence that, good teachers gravitate to schools with well-to-do students.)

In addition, the aggregate variable may be picking up the effect of a poorly measured variable at the individual level or unmeasured characteristics of individual pupils or their parents or the community.[135] The characteristics of the family, its neighbourhood and the school are all highly correlated. Evans *et al* (1992) write that "family background traits nearly always have powerful effects on individual behaviour: they typically dwarf the peer group effect in importance. . . . As a rule, the more aspects of family background we control, the smaller neighbourhood and school effects look".[136] Zimmer and Toma (2000) find that peer effects are smaller in private schools, perhaps because peer effects in public schools also pick up community effects.

Evans *et al* (1992) point out that individuals and households have some scope for choice of peer groups, so measured peer effects reflect selection bias. When parents decide where to live, and students decide with whom to associate, the simple estimates will overstate the effects of the local community and student peers. For example, parents who devote great effort to the welfare of their children will see that they attend schools in which the peer group is 'better' than expected given the family's observable characteristics. They will also directly spend more time with their children. The effect of both is to boost the child's performance. The effect of unobservable family characteristics is likely to be mistakenly attributed to the effect of the peer group.

The authors show that significant peer effects yielded by standard estimates disappear with estimation techniques that adjust for selection bias in the formation of peer groups. Selection bias is very large. Although peer group effects may exist, most studies do not prove they do.

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135 Harker and Nash (1996) p 157.

136 Evans, Oates and Schwab (1992) p 970.

When schools assign children to particular classes they may generate further selection. For example, a school may place all of the problem students in a certain teacher's class because she is good at dealing with them.[137]

Evidence for a peer effect

Although many recent reports on schooling in New Zealand by education academics emphasise the role of peer effects, there is little evidence that peer effects are important in New Zealand. Certainly the reports do not establish it with their empirical work.

- The Smithfield authors find, in Report Six, that the average student achievement of a school is a significant influence on student performance. However, their empirical work is dubious. Their procedure for selecting variables guarantees biased estimates and increases the chance of falsely finding significant variables.[138] They wrongly control for factors that are within a school's control and so underestimate the effect of schools. Further, it is not clear how much school characteristics contribute to this finding. The authors do not test to what extent differences in the quality of teachers or the amount of school resources accounts for variations in school performance.
- A more careful New Zealand study finds no peer effect.[139] The authors use school certificate results to measure school success, which are more suited to judging school performance than the Smithfield test data. Doing well in the school certificate is a major goal of all secondary schools, and the school is informed about its performance on this criterion. Schools teach the school certificate syllabus carefully, whereas the Smithfield measures of output were less related to a specific curriculum and more to general achievement and aptitude.[140]

The US and international evidence is that peer effects exist at the school level, but that they are relatively small.[141]

- Chubb and Moe (1990) find the effect of the student's own ability, family background and school organisation all to be greater than that of student peers.

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137 Hoxby (2000a) p 3.

138 See Harrison (1999) for details.

139 Harker and Nash (1996). Surprisingly, Harker and Nash are cited by the Smithfield authors and Wylie as support for the importance of peer effects: Smithfield Project (1997a) Ethnicity Article, p 104–105, Wylie (1998) pp 11–12.

140 Smithfield Project (1997) Report Six, p 67.

141 The studies date back to Coleman's seminal work, Coleman *et al* (1966). See the references cited in Zimmer and Toma (2000); Hoxby (2000a); Epple and Romano (1998) footnote 5; Evans *et al* (1992) and Chubb and Moe (1990).

- Peer effects do not appear to be important at the post-secondary level; what matters is the student's own ability and motivation.[142] Although high grades and a degree from a more selective college are worth more, it is more difficult for a student to obtain them. Students may be made worse off by attending a college with a higher median ability than their own.[143]
- Hoxby (2000a) deals with the problem that unobserved variables are associated with a child being in a particular school and classroom because parents choose schools and schools assign students to classes. Hoxby examines the effects of variations in peer composition within a grade within a school that are idiosyncratic and beyond the easy management of parents and schools. The author argues that variations in race and sex shares between cohorts within a school give estimates of peer effects that are credibly free of selection bias. She eliminates time trends in racial composition. She finds that an exogenous change of one point in peers' reading scores raises a student's own score by 0.10 to 0.55 points. There is evidence that peer achievement is not the sole channel for peer effects. For example, peer effects are stronger inside racial groups than between racial groups.
- On the other hand, Figlio and Page (2001) find no evidence that grouping students into different classes by ability (streaming) harms disadvantaged students. If anything, they find that the effect of streaming is positive for members of the low-ability group. The advantages of specialisation appear to outweigh any loss of positive peer effects from high-ability students.

Is increased academic mixing the best way to help students?

It is not clear if intervention to increase academic mixing is the best way to help the poor, or even whether it will help them, for the following reasons:

- The educational literature confesses ignorance about how peer effects work, which makes them a poor instrument to achieve policy aims.[144] Do peer externalities come from the school level, the classroom or from close friends? How do they compare with the effect of peers in the community? How do they vary with the age and other attributes of students? For example, if it is the classroom that is crucial, and there is academic streaming within schools or classrooms, there will be no academic peer effect from ensuring schools

142 Dale and Krueger (1999). This finding is for selective colleges.
143 Loury and Garman (1995).
144 See, for examples, Nechyba (1998) p 10; Willms and Echols (1992) p 342 and Smithfield Project (1994) Report One, p 10.

have a mixed student body. Students are simply re-segregated within the school. There is no point in forcing mixing on schools to promote make-believe equality.

- Segregation by ability may permit greater specialisation and targeting.
- Even if the market results in segregation and detrimental peer externalities, the solution is not necessarily to introduce policies to increase mixing. There may be more effective and less costly ways to help those harmed.
- It is not clear whether many current and proposed policies do in fact reduce segregation.

The social cohesion case for mixing

Those who propose increased mixing do not produce any evidence that it will increase tolerance. Empirical observations of the effects of voluntary mixing will overstate it. For example, those at mixed schools may be measured to be more tolerant simply because the intolerant parents choose to send their children to segregated schools. Although policy can make the population of a school more mixed, students cannot be forced to mix within the school. In the United States, although students were bused from out the area to create racially balanced schools, often they sat in segregated groups in the cafeteria.[145]

It has been generally agreed, and even enthusiastically promoted, by the New Zealand education lobby that Maori parents should be free to send their children to schools that emphasise the Maori language and culture.[146] Yet such a policy of freedom of choice is incompatible with a policy of balancing school intakes along ethnic lines. It is arguable that it actually creates ethnic enclaves and promotes social divisiveness. Because assimilation is eschewed and parental freedom preferred to social cohesion aims, in this case, it is not clear where that leaves the promotion of mixing of races to further social cohesion. When one group is encouraged to separate from the whole, not only does it make ethnic balancing within schools impossible, it would it be a double standard to insist that mixing trumps other parents' choices.

FISCAL RISK

Fiscal risk is the risk of having to spend more because of the decisions of others. It arises whenever the government funds or provides education. Government

[145] Greene and Mellow (1998).

[146] See for example Smithfield Project (1997a) Ethnicity Article, pp 105–106; Smithfield Project (1995) Report Three, p 37; Middleton (1998) p 1 and the Ministry of Education reports quoted in chapter 3 'Maori schooling reservations: Maori education'.

funding of education creates a purchase interest, and an interest in limiting costs to the taxpayer and seeing that money is well spent. Provision creates an ownership interest. Decisions taken by managers will affect the value of the government's asset. It will want to control managers to limit being exposed to the risk of large liabilities. For example, if the government underwrites an institution's debts, managers can take risks with government money and expose the government to the risk of large payouts. The government will wish to regulate the institution's borrowing.

When the government funds schools, it faces two types of fiscal risk. One is uncertainty about how much expenditure will be required. For example, if the government offered a voucher for tertiary education to all school leavers, the cost would depend on how many take up the offer. The government may be tempted to regulate to obtain predictability in government spending, for example, by fixing the number of vouchers offered.

The other fiscal risk is a moral hazard problem: government funding may cause the recipients to change their behaviour to receive more funding. The result may be a blow out in programme costs. For example, if the government gives a higher subsidy to more expensive courses, universities have an incentive to change their course mix to offer more of the highly subsidised courses. Again, the government may regulate to control costs, for example, by controlling the course mix offered by universities.

The government's role as risk holder comes from ownership and funding, but also from political reality – if the government is held politically responsible for the outcome of a decision, then it will want to influence that decision. When the public holds politicians accountable for what happens in schools, the government will want to control schools.

The existence of fiscal risk means that if the government owns or funds educational institutions, it has an incentive to regulate to control fiscal risk. It will want to be involved in some way in the administration of the subsidised service. When the government bears the financial consequences of a decision, it will want to influence that decision and put restrictions on decision makers. The same applies if you sent someone to the racetrack with your credit card and pin number – you would want to put some limits on how bets could be placed with your money.

The autonomy of government-owned institutions, therefore, will always be incomplete. Subsidies inevitably mean increased centralisation, loss of autonomy and the introduction of bureaucratic principles and attitudes for the institutions that receive them.

If subsidies or ownership inevitably require more centralised control because of fiscal risk, and attendant costs such as increased bureaucracy, loss of entrepreneurship and the stifling of initiative, the overall costs and benefits of the entire package should be judged. For example, it may be accepted that there is a case for subsidies to be paid. However, once subsidies are paid there is a need to control decision making, and it may be considered that this would best be done by government ownership, which in turn requires even more centralised control. It could be that the overall cost of this package of interventions exceeds the benefit – even though the subsidies seemed like a good idea.

3
COULD DO BETTER: THE PERFORMANCE OF NEW ZEALAND'S SCHOOLS

> The fact is that New Zealand has a world class education system – other country's [sic] envy us.[1]

EXAMINING THE SYSTEM

Problems with measuring outcomes

To evaluate schools objectively requires measurable outcomes. It is difficult to measure educational outcomes. They are often intangible, and the effects of education are cumulative and may vary in duration – they may be short lived or not appear until the long term.

Test scores are the outcome most often used in empirical work, mainly because they are available and contemporaneous with schooling. It is more difficult to measure the effect of schooling on success in later life. For example, earnings data (a crude measure of success) take a lifetime to observe and seldom accompany information on the individual's ability, school or classroom characteristics and family background (the exception being a few, much studied, longitudinal data sets).

Clearly, the objectives of education are not limited to what can be measured, but also include personal, cultural, moral, social and spiritual development. Although test scores are not the only, or even the most important, objectives of schooling, they matter. Two important functions of schooling are to teach basic skills (reading, writing and mathematics) and introduce students to their cultural and scientific inheritance through the study of literature, the arts, history, geography, mathematics and science.[2] Test scores can measure success at these tasks. Further, test scores may be correlated with other objectives. A school that cannot teach its students basic academic skills is unlikely to do anything particularly well. Test scores are correlated with earnings and important socio-

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1 Wyatt Creech, Minister for Education, Post Primary Teachers' Association Principals Conference, 1996. (Quoted in Kerr, 1999.)

2 Education Forum (1998a) p 27.

economic outcomes and are increased by schooling. (See chapter 2 'Test scores, schooling and earnings'.)

Tests are designed to measure what schools should be doing, have value in themselves and are used to select individuals for further schooling. Most schools rely on tests to measure student progress. Some are used to decide the futures of students. There is evidence that parents are willing to pay more for houses located in areas with schools that achieve higher test scores (after controlling for other factors that affect house prices), and test scores do better than per-pupil expenditures as a measure of school quality that parents are willing to pay for. For example, one study finds that an increase of 5 percent in elementary school test scores leads to an increase in house prices of approximately 2.1 percent.[3]

Not only is there controversy about the relative importance of academic achievement compared with other educational objectives, there is also debate about whether particular tests do measure school academic objectives.

It is true that not all the benefits a school produces can be measured from outside the school. That weakens the case for central provision, because the centre does not have enough information to judge how the schools are doing, and favours decentralising decisions down to where the information is. Some important educational outputs can only be measured at the school level. It also favours looking at parental satisfaction, because parents know how they value different school outputs and have much information on how school performance affects their individual child that is not available to outsiders. For example, parents may value a better moral climate, stronger discipline, safety, protection from exposure to drugs, social development and more individual attention for their children, all of which are difficult to measure from the centre.

It is even more difficult to measure school quality – because that not only involves measuring educational outputs but disentangling the effect of the school from non-school educational inputs, such as student ability, parental time, support and aspirations and community environment. Many of these other inputs are poorly measured – and often not measured at all. It is difficult to separate the influence of these factors from the contribution of the school. Other difficult to measure inputs include the curriculum, the ability of peers, and past educational instruction.[4] The problems of omitted variables and selection bias are rife in empirical work on school performance. (The difficulties in disentangling the influence of school and non-school factors on earnings are discussed in chapter 2 'Income and outcomes: rates of return to schooling'.)

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3 Black (1998) p 91. A survey of this technique is in Black's paper, pp 89–91.

4 Jacobsen, Duncan and Hunt (1999) p 30.

For all the faults of test scores and other measurable outputs, they are better indicators of school performance than the typical way the education lobby evaluates policies – by measures of inputs, such as expenditure, or by questionnaires of producer interest groups.

Revealing secrets: provision of information on the system

> … if people do not know what you're doing, they don't know what you're doing wrong.[5]

Do New Zealand's schools work well, or are they in desperate need of reform? Are they starved of funds or do they spend wastefully? Were Tomorrow's Schools reforms a success or not? Did they improve student performance?

Little information is available to answer these questions. The education lobby resists strongly attempts to collect and release information. When specific targets are set, the emphasis is on inputs, such as expenditure, class sizes or participation rates (an input of students' time), and on the need to increase them. Further, the stress is placed on equality of inputs. It is much easier to demonstrate inequalities than inadequacies. Whether the increased inputs produce the proclaimed ends is not tested. The result is to benefit the lobby, and minimise accountability.

A potential role of government is to provide information on current education policies and programmes for government, policy makers and voters to inform decision making. It fails to do so. Provision of information to evaluate policies is poor.

Rank refusals: lack of comparative information

> There is currently little valid and reliable information on the actual achievements of students in the New Zealand school system.[6]

National information on student achievement in New Zealand is not systematically collected and released. There are no mandatory universal standardised tests. Some schools give the Progressive Achievement Tests in reading, comprehension and vocabulary, but each school decides how to use the results. There is little testing that leads to data on student achievement by school or classroom.

The National Education Monitoring Project assesses the achievement of a sample of Year 4 and Year 8 students. It is based on in-depth studies of a

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5 Sir Arnold Robinson, Secretary to the Cabinet, *Yes Minister*.

6 Education Review Office (1998a) p 1.

3 percent representative sample of students. It does not provide information about schools, classrooms or individual students, so does not help parents choose a school, bring about accountability for teachers or give students an incentive to do well in the testing.

There are school leaving examinations, but not all students take them. The results from traditional leaving examinations were based on norm-referenced assessments that did not facilitate comparison of achievement levels of different cohorts of students. The new National Certificate of Educational Achievement (NCEA) for senior school qualifications uses standards-based assessment, which potentially allows student achievement to be compared over time. Whether it will in practice, however, remains to be seen. The standards are vague and may be too ambiguous to ensure consistent and comparable assessment by markers in different providers in one year, much less over many years. Standards may well change over time with prevailing norms. Further, the NCEA is still not universal. Selection problems may make comparisons between cohorts difficult: the NZQA does not receive the results of students that fail to achieve internally assessed achievement standards. Changes in internal school assessment, therefore, would affect the estimated rates of attainment and participation for each cohort. Moreover, the figures for each cohort may be mixed with candidates from other cohorts retaking a standard. (The NCEA is discussed further later in this chapter in 'Testing times: changes to assessment'.)

Parents, school boards and teachers have no way of knowing how well their children are achieving in comparison with children in other schools and against national standards – especially at the crucial primary and lower secondary levels.[7] By the time the School Certificate and Bursary examinations come around, is too late to pinpoint where improvements are needed – and many of the poorer students have already left or do not participate.

Parents and school managers find it difficult to determine whether the decisions they make about the education of children are correct and to judge whether school programmes are effective. The lack of information reduces accountability and limits the ability of schools to improve their education services.[8] It reduces incentives for both schools and students to maintain academic standards and on teacher training colleges to produce teachers with academic skills. It makes it more difficult for school managers to assess what works and to motivate people to do it.

The ERO has pointed out that the refusal of many schools to collect and analyse assessment information systematically has meant there is no guarantee

7 See Education Review Office (1999a); Ministry of Education (1999d) p 35.
8 See Education Review Office (1999a); Ministry of Education (1999d) p 35.

that all students will acquire good literacy skills. (See 'Education Review Office evaluations', later in this chapter.)

It is also difficult to judge government education policies. The government (and the electorate) has little way of knowing whether its objectives are being met. To limit the right of the public to know about school performance contradicts the notion that public education is democratic. If the electorate determines education policies, it should be fully informed. Public release of the data, and the accompanying scrutiny, will also help minimise deceptive test score reporting.

International test comparisons

Although national information on student achievement is not systematically collected and released, New Zealand participates in a number of international studies of learning outcomes. They are one of the few sources of information on primary school performance. International testing focuses on mathematics and science, for which similar achievement goals are set in different systems.

The Third International Mathematics and Science Study results

The largest international comparative education project ever undertaken is the TIMSS, conducted by the International Association for the Evaluation of Educational Achievement (IEA). The study aimed to assess the:

- mathematics and science achievement of nine-year-old students (standards 2 and 3 or years 4 and 5) and 13-year-old students (forms 2 and 3 or years 8 and 9);[9] and
- both achievement and literacy in mathematics and science among secondary school students in their final year of schooling (forms 6 or 7 or years 12 and 13).

Forty countries participated. The tests were administered in 1994 and 1995 (the new National Curriculum Statements had just started to be introduced (mathematics in 1994 and science in 1995) and would not have affected the results). A replication study was conducted in 1998 for years 5 and 9 students

[9] This is from Walker and Chamberlain (1999) pp 43–44. However, the Ministry of Education (2000f) p 4 and Martin *et al* (2002) p 32 report that the mean age in nearly all countries, including New Zealand, of those taking the repeat test in both Year 8 and Year 9 is 14.

and in 1999 for Year 8 students. The study also collected information on teachers, institutional arrangements and educational practices.[10]

The Ministry of Education described mathematics achievement by New Zealand nine- and 13-year-old students as 'mediocre'.[11]

- Nine-year-old students performed well below the international mean and 13-year-old students were just below the international averages.[12]
- In addition: Year 4 students came eighteenth out of 24 countries; Year 5 students came twentieth out of 26; Year 8 students came twenty-fifth out of 39; and Year 9 students came twenty-fourth out of 41.[13]

In science, the Ministry concludes "overall the performance of New Zealand children was disappointing".[14]

- Years 4 and 5 students were at the international mean and New Zealand ranked fifteenth out of 24 and sixteenth out of 26.
- The Year 8 and 9 students were just above the international averages and were twenty-fourth out of 39 and twenty-first out of 41.

Then, in the 1998 replication TIMSS study, New Zealand Year 9 students came twenty-first out of 38 countries in mathematics, just above the international mean. In science, they were nineteenth out of 38, significantly above the international mean.[15] New Zealand students did score well above the international average on one aspect. They were more likely to perceive themselves to have high abilities in mathematics and science.

In the 1999 replication study, New Zealand Year 8 students showed similar results. In mathematics:

- They came twenty-first out of 39 countries, not significantly different from the international mean.
- Only 8 percent of New Zealand students reached the top international benchmark of mathematics achievement, the same as in 1995. (The average across all countries was 15 percent.)

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10 Reports on the test results and details of the tests are available from the TIMSS web page, www.timss.org. Summaries are also available from the US Department of Education web site at www.nces.ed.gov. This paragraph draws on Walker and Chamberlain (1999) and the Ministry of Education (2000f).

11 Ministry of Education (1997c) p 59.

12 Ministry of Education (1997c) pp 59–62 and Walker and Chamberlain (1999).

13 Belgium was split into Flemish and French and counted twice.

14 Ministry of Education (1998) p 60.

15 Details from Ministry of Education (2000f).

- Fifty-six percent achieved the median international benchmark, down from 62 percent in 1995. (Both the 1999 and 1995 proportions were below the international average of 69 percent.)
- Fifteen percent failed to reach the lower quarter benchmark – above the international average of 9 percent, and up from 10 percent in 1995.
- New Zealand students had one of the largest declines in their average score from 1995.[16] (These students came in nineteenth out of 38 in science.)

In every test at the compulsory schooling level, New Zealand did significantly worse than Australia. In years 8 and 9, it did not do significantly better than any English speaking country. In years 4 and 5 and in the years 8 and 9 replication studies, New Zealand did worse than all other English speaking countries.

The Ministry prefers to emphasise the "areas of strong international comparative performance".[17] For example, New Zealand performed well in the TIMSS testing of senior secondary school students (years 12 and 13 or forms 6 and 7), scoring significantly above the international mean in science and mathematics.[18]

Therefore, the TIMSS data indicate that the New Zealand schooling system provides a mediocre education in mathematics and science for the average student in a cohort. It provides a good education for the top part of the cohort who go on to senior secondary school, who tend to be children from middle-class families. The inescapable conclusion is that the New Zealand system provides a poor education for those at the bottom, who tend to be from a low-SES background and who do not go on to senior secondary school.

The Programme for International Student Assessment

In 2000, the Organisation for Economic Co-operation and Development (OECD) conducted the two-hour PISA tests. Thirty-two countries participated and 3,667 15 year olds were tested in New Zealand. The tests were in "reading literacy, mathematics literacy and science literacy".[19] They did not test how well students had learned a particular curriculum, knowledge or academic skills, but tested "the ability of 15 year olds to reflect on that knowledge and on their own experience, and to apply that knowledge and experience to real world issues".[20]

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16 Mullis *et al* (2000) pp 32, 33, 36.
17 Ministry of Education (1999d) p 1.
18 Details from Ministry of Education (1998) pp 73–76 and Walker and Chamberlain (1999).
19 Ministry of Education (2001b) p 1.
20 Ministry of Education (2001b) p 2.

In the reading literacy test, students were not penalised for ill-constructed sentences, spelling and grammatical mistakes.[21]

In terms of its mean or average score, New Zealand was among the seven best performing countries for each of reading, mathematical and scientific literacy.[22]

- In reading literacy New Zealand came third and 19 percent of New Zealand students were at the highest proficiency level (Level 5), the highest proportion of any country. The international average was 10 percent.
- In mathematics literacy New Zealand came second.
- In scientific literacy New Zealand came third.[23]

Compared with other countries, New Zealand had a relatively large gap between the top and bottom performing quarter of students for each of reading, mathematical and scientific literacy, suggesting that high average performance masked poor performance at the bottom. In reading literacy, it had the second highest gap. The performance gap between students in the top and bottom quarters of the family wealth and socio-economic indices (based on parental occupation) was also relatively large.[24]

Literacy tests

In 1994, the OECD's International Literacy Survey examined levels of literacy in the adult population (aged 16 to 65) of 13 industrialised countries (with French and German Switzerland counted separately), including New Zealand.[25] Prose, document and quantitative literacy skills were tested with texts containing the type of information that people encounter in everyday circumstances (such as interpreting newspaper extracts, reading a train or bus timetable or calculating savings from a sale advertisement).

Adults were classified into five literacy skill levels. Twenty percent of the New Zealand adult population were at the lowest level. People at this level do not have basic literacy skills, cannot read everyday material and would generally be thought to be illiterate. One reason for poor performance was that 10 percent of those tested had a first language other than English. Some were schooled outside New Zealand. For example, 45 percent of Pacific peoples were at level

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21 Donnelly (2002) p 22.
22 More detailed information about the international results can be found at www.pisa.oecd.org.
23 Ministry of Education (2001b) pp 1, 9–15.
24 Ministry of Education (2001b) p 21.
25 Details are available on the OECD web page www.oecd.org. This treatment draws on the Ministry of Education (1997d) in which all factual statements are from, unless otherwise referenced.

one, but 70 percent of these were born outside New Zealand. Nevertheless, 30 percent of Maori were in level one for prose literacy (the figures were worse for the other domains).

Compared with other countries, New Zealand did quite well in prose literacy with only two (out of 13) countries performing at significantly higher levels than New Zealand and five significantly below. The levels of literacy in the other domains were "low compared with international averages, and were particularly weak for the majority of Maori and Pacific peoples".[26]

Further, Skill New Zealand reported considerable demand from employers for workplace literacy training.[27] A number of New Zealand education academics and literacy experts claimed in 1999 that literacy problems were not limited to Maori and Pacific Islands students and low-decile schools, but existed across all ethnic groups and all classes.[28]

Persistent complaints from employers, academics and retiring teachers provide evidence that traditional academic skills, such as the ability to write (not measured by the international tests), are in decline.[29]

Conclusions

New Zealand's overall performance in international test comparisons is mixed, which is to be expected, because education policies differ across countries in many ways. New Zealand's own policy settings over time have moved in different directions – with school autonomy and competition between government schools first increasing, and then decreasing. Further, the tests themselves differ, are infrequent pencil and paper tests, are not based on the curriculum and the students that take them have little stake in doing well.

Nevertheless, all of the international tests indicate that the New Zealand school system provides a poor education for those at the bottom, who tend to be the disadvantaged. Although a major argument for government intervention is to achieve universal literacy and help children from disadvantaged backgrounds to a more successful life, the evidence is that current arrangements do not do this. Government schools do not equip a significant proportion of students with a satisfactory level of basic skills. Moreover, this failure appears to have been tolerated for decades.

These test results do not tell us the whole story because they ignore the cost side of the productivity equation. A focus on student outcomes favours

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26 Ministry of Education (1999d) p 10.
27 See Kerr (1998) p 7.
28 See 'Literacy report a roughly drawn map', *New Zealand Education Review*, 30 April 1999, p 5.
29 See Hames (2002) pp 15–16 and Kerr (1999) for examples.

greater spending to raise achievement. Even if we assume that the test scores are good measures of how well an education system is doing, they do not tell us about value received for the money spent on education, whether we should spend more or less, or spend in a different way. The tests look at whether students have been educated adequately, not whether they are educated efficiently. Nor is it clear how to value an improvement in international test scores. Would it be worth spending $1 billion a year to raise New Zealand's international test ranking by one place? Although performance and spending levels can be compared across countries, there appears to be little relationship between the two.

Does the relatively good senior school student performance mean that poor primary school performance is not a concern – because you judge a race by the results at the finish line, not halfway? Apart from ignoring those who leave before the end of senior secondary school, the true finish line is life after school, and the adult literacy results are not encouraging. Further, just because current senior secondary students do well, does not mean that current poorly performing nine year olds will do well once they reach years 12 and 13. Still, it is puzzling that the assessment system that produced such good performance at the senior secondary level has been abandoned for the new National Certificate for Educational Achievement.

Discipline and attendance

Another concern about school performance in New Zealand arises from evidence of increased indiscipline and truancy.

- In 1977, on a typical day, 1.5 percent of secondary and 0.6 percent of primary school students were unjustifiably absent for either a half or a whole day.[30] By 1996, it had more than doubled to 3.7 percent of secondary school students. A further 3.2 percent were unjustifiably absent for less than half the day.[31] In 2002, the truancy rate was to 6.0 percent for secondary school students and 1.4 percent for primary schools.[32]
- The TIMSS indicates that New Zealand's levels of absenteeism, student turnover, bullying, and theft are very high compared with those of other participating countries.[33] The study links these behaviours with lower test results.

30 The Treasury (1987) p 232.
31 Ministry of Education (1998) p 63.
32 Ministry of Education (2003i).
33 Chamberlain and Caygill (2002) pp 4, 53; Ministry of Education (1999d) p 9.

- In 1994, half of the New Zealand mathematics and science teachers felt disruptive students limited their ability to teach their Year 9 students 'a lot' or 'a great deal'.[34]
- From 1991 to 1998 suspensions per 1,000 students (in state and integrated schools) rose from 6.6 to 17.5. Total suspensions rose from 4,297 to 12,063.[35] Greater regulation of school suspensions and expulsions has not stopped the increase. In July 1999, the Ministry introduced a new system of suspensions and stand-downs, specifying school board decision-making processes. In 1999/2000, there were 4,881 suspensions and 15,998 stand-downs, to give a total rate of 30.2 per 1,000 students.[36] Over 2.5 percent of New Zealand students were either suspended or stood down in that year.[37] By 2002, the rate had risen to 32.3 per 1,000 students, because of an increase in stand-downs and 3 percent of students were suspended or stood down. More than half were for continual disobedience, physical assault on other students or verbal assault on staff. These problems are concentrated on low-SES students, which makes it difficult for those in low-SES schools who want to learn. Suspension rates and stand-down rates in the bottom three school deciles are more than triple those in the top three.[38]

Students leaving without qualifications

In 2001, 17 percent of school leavers had no qualifications, more than in 1989 – despite an increase in average years of schooling. Students from low-SES backgrounds are more likely to leave with no formal qualification. In 2001, 30 percent of school leavers from schools in the bottom three deciles left with no qualifications compared with 7 percent of those from the top three decile schools.[39]

It could be that either the bottom students are not spending more time at school – and the increase in average years of schooling is caused by better

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34 Chamberlain and Caygill (2002) pp 77, 94.

35 Ministry of Education (1996) table 39, p 58 and (1999b) tables 11 and 12, p 35.

36 Ministry of Education (2000h). In Ministry of Education (2001), table 1.15, p 88, the rate for 1999/2000 is given as 31.6 per 1,000 students.

37 Author's calculations from Ministry of Education (2000g) pp 4, 6. The number of students involved is less than the suspension rate because some students were suspended or stood-down more than once.

38 Ministry of Education (2003b).

39 Ministry of Education (2003a) table A.3, p 70; (2000b) tables 32 and 33, p 79 and (2002b) tables 3, 6 and 10. From 1996, students with no qualifications includes those with fewer than 12 credits at National Certificate Level 1 and no participation in School Certificate.

students staying longer – or the bottom students are staying longer, but have nothing to show for it. In either case, the increase in school retention rates has not helped the worst off students.

One reason for the increase in students leaving school without qualifications is the wide range of non-school alternatives that are now available. Much of the increase comes from a rise in the number of early leaving exemptions granted to 15 year olds to enter some other form of education (such as Youth Training courses) or full-time employment.[40] It may be better for those children who are not suited to school to leave without qualifications rather than to stay. It does confirm, however, that current schools do not serve these students well.

Education Review Office evaluations

It may be argued that the performance of New Zealand's schools can only properly be judged by visiting them and being familiar with what actually goes on inside them. The ERO sends teams of outsiders, made up of experienced teachers, to review all schools in New Zealand and evaluate and report publicly on the quality of education. The teams visit classrooms, examine documents and records and meet with managers. The ERO examines governance, professional leadership, classroom teaching and the quality of students' educational achievement.[41] It has produced thousands of reports on individual schools.

In its review of schools, the ERO focuses on process – whether schools are meeting legal requirements, undertaking self review, providing professional leadership, managing teacher performance, the curriculum, finances and property. From 1999 to 2001 the ERO reviewed over 1,800 schools. For each criterion, it rated 5–38 percent of the schools reviewed as unsatisfactory. For example, in each year more than one-quarter were found not to be managing staff performance satisfactorily. In 1999 and 2000, 20 percent of schools were found to manage the curriculum poorly. They failed to cover the seven essential learning areas, to deliver a balanced curriculum, to evaluate teaching programmes, or to monitor student progress and achievement properly. In 2000, the ERO found the overall management performance in 25 percent of the schools reviewed to be unsatisfactory, with concerns about governance, curriculum management and delivery, professional leadership and relationships between board, principal, staff or community.[42]

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40 Ministry of Education (2001) p 14.
41 Education Review Office (1999a).
42 See Ministry of Education (2000b) pp 55–57, (2001) pp 35–37 and (2002c) pp 57–59.

It is not clear how closely process is related to student learning.[43] To be fair, the ERO does express frustration at the lack of reliable national data about student learning outcomes.[44] Nevertheless, the ERO concludes that 20–25 percent of government schools have performance problems, and about 10 percent appear to have persistent problems.[45] The ERO's assessments confirm the problems identified above, such as truancy and poor performance in schools serving low-SES students.[46]

The ERO makes it clear that the poor functioning of schools contributes to these problems. For example, literacy programmes were often poorly managed, expectations were low and assessment non-existent;[47] and poor attendance and bullying policies contributed to truancy problems.[48] Failures with school process, and problems with internal school management cannot be blamed on non-educational changes in society or students' family backgrounds.

The ERO concluded, in its 1997 study of literacy, based on its investigations of literacy programmes in 337 New Zealand schools, that:

> The schools in which the delivery of literacy education was poor were, however, disproportionately rural, small and in areas of socio-economic disadvantage. Whether it is because the teaching methodology is ill formed or poorly implemented, or because this curriculum area is poorly managed by schools or because there is simply no useful tool for assessment, government goals for all students to achieve high levels of basic literacy are not yet being realised.[49]

The ERO undertook three cluster evaluations in Mangere/Otara, the East Coast of the North Island and the Far North. These are low-SES areas and the schools examined enrol many disadvantaged students. The ERO found that in all three districts, the achievement of a significant percentage of students is adversely affected by poor-quality curriculum management and teaching, and the lack of good systems to manage the performance of teachers.[50] Further, these problems have gone on for decades.[51]

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43 Education Review Office (1999) examines how the quality of governance affects student achievement.
44 See for example, Education Review Office (1998a), (1999a) and (2003).
45 Education Review Office (1999a).
46 Education Review Office (1997a), (1999b), (1997).
47 Education Review Office (1997).
48 Education Review Office (1995), (1997a).
49 Education Review Office (1997).
50 Education Review Office (1998a).
51 See Education Review Office (1996).

Maori schooling reservations: Maori education

Maori students do relatively poorly on tests of educational achievement and in senior school examinations, spend less time at school than other ethnic groups and are much more likely to have poor literacy skills, be expelled or suspended and leave school with lower levels of attainment. For example:

- Maori and Pacific Islands students are less likely than other students to participate in examinations, tend to be older when they do sit and are less likely to achieve higher grades.[52]
- Maori students are less than half as likely to attend university compared with the average school leaver.[53]
- In 2002, 35 percent of Maori school leavers had no qualification, almost double the average. Only 4 percent achieved a university bursary, compared with 19 percent of all students.[54]
- In 2002, the Maori suspension and stand-down rate per 1,000 students was twice the average, or more than 2.5 times the non-Maori rate.[55]

The Education Review Office "constantly produces evaluations that make it unequivocally clear that in both kura kaupapa Maori and mainstream schools, the quality and outcomes of Maori children's education are below the level that should be tolerated".[56] Problems include inexperienced teachers, use of inappropriate teaching techniques, the quality of pre- and in-service training and the level of English language skills of some kura kaupapa Maori students.

Maori under-achievement is further evidence that the school system in New Zealand does a poor job in educating the disadvantaged – through neglect, low expectations and misguided policies.

Disadvantaged and minority students overlap considerably – many Maori live in poverty and many of those in poverty are Maori. The Ministry of Education has ranked each state school into decile (10 percent) groupings based on the degree of socio-economic disadvantage of the community from which students are drawn (see Box 3: School decile rankings). In 2003, although only a quarter of all students attended low-decile schools, just over half of Maori and two-thirds of Pacific Islands students did.[57]

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52 For comparisons, see Ministry of Education (1998) p 76, (2000b) pp 75–76 and (2001) p 97.
53 Ministry of Education (2003a) table A.4, p 71.
54 Ministry of Education (2003a), table A.3, p 70.
55 Ministry of Education (2003a) table A.14, p 77.
56 Education Review Office (1999b).
57 Ministry of Education (2003c).

Box 3: School decile rankings

Low decile schools (deciles 1–3) draw on students from communities with the highest degree of disadvantage, whereas high decile schools (deciles 8–10) draw on students from communities with the lowest degree of socio-economic disadvantage. A socio-economic indicator for each school is calculated using census 'mesh-block' (a small geographic area) data for households with school-aged children in the areas from which the school draws students, together with ethnicity data from schools' July 1 roll returns. Factors taken into account in determining decile rankings are: household income, parental educational qualifications and occupation, household crowding, income support payments received by parents, and the proportion of Maori or Pacific Islands students. The rating is reviewed automatically every five years and can be reviewed once per year if schools believe their SES make-up has changed significantly. The rankings were introduced in 1995. They were revised in 1997 using 1996 census data.[58]

One report concluded that about two-thirds of the education gap between Maori and non-Maori is explained by differences in family background.[59] Maori children are more likely to be in single-parent families, have parents with lower incomes, less education, and are less likely to own their home (a proxy for wealth and stability).

In fact, ethnicity explains only a small amount of variance in incomes. Rather, age, education and literacy explain the significant income gap between Maori and non-Maori.[60] This is consistent with the US evidence that the black–white wage gap reflects primarily a skill gap, which in turn can be traced to observable differences in family backgrounds and school environments of American children. (See chapter 2 'Test scores, schooling and earnings, Test scores and schooling'.)

Parental education usually affects children's outcomes more than parental wealth, which implies that family inputs rather than financing ability are important. For example, the number of books the family has at home is important. (See chapter 2 'Evidence on capital market imperfections'.) There is evidence that differences in family literary resources and other cultural capital explain differences in Maori and non-Maori achievement.[61]

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58 Education Review Office (1998) and Ministry of Education (1997b).
59 Else (1997) pp 17–18.
60 Green (2001) p 43.
61 See Education Forum (1998a) p 99.

The Ministry's main strategy to deal with the Maori education gap is to encourage Maori-medium education or schooling in te reo Maori – the Maori language.[62]

In the mid-1980s the success of te kohanga reo, a Maori community initiative to stimulate the revival and survival of spoken Maori, led to the government establishing kura kaupapa Maori, state primary schools that taught in te reo Maori and promoted understanding of Maori culture. In the 1990s, the kaupapa was extended into secondary education.[63] Nga kohanga reo cater for children from birth to school age. In July 2003, there were 61 kura kaupapa Maori, but most Maori students received their Maori-medium education in a network of 354 mainstream schools.[64]

The Ministry has embraced the idea of Maori-medium education, writing that the 'key' to their Maori education strategy is "the development of quality immersion options, learning contexts that value and support the culture and values of students and their whanau, and with these strong links to the revitalisation of te reo Maori".[65] The Maori-medium system currently receives favourable subsidies, and exemptions from some regulation.

The Maori-medium approach blames the failure to educate Maori children on inappropriate culture in the schools and being taught in the wrong language, rather than poor teaching methods. The Ministry also believes that Maori students need to be taught by Maori teachers, as "cultural role models".[66]

Yet, the Ministry presents no empirical evidence to support the claim that students are taught more effectively by people of the same ethnicity, a policy that has been described in the United States as "pork barrel politics, masquerading as educational philosophy".[67]

Asian students in New Zealand outperform other ethnic groups in senior school qualifications – they are more likely to get a qualification, get As and Bs and to stay on at school.[68] Yet they are seldom taught by members of their own ethnic group or have their own cultures supported at school. Many have English as a second language.

Maori-medium schooling is not a comprehensive solution to problems of Maori under-achievement. Only a minority of Maori students participate. In

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62 See the 'strategic directions' for Ministry policy on Maori education in Ministry of Education (2000b) p 82.
63 Ministry of Education (2001) pp 62–63.
64 Ministry of Education (2003e) table 4.
65 Ministry of Education (1999c) p 12.
66 Ministry of Education (2000b) pp 62, 82.
67 Sowell (1993) p 97.
68 Ministry of Education (2000b) pp 75, 78, 79.

2002, 22,295 students (3 percent of all students) were in involved in Maori-medium education for more than 30 percent of the time (more than 7.5 hours per week). Only 14 percent of Maori students participated, a proportion that has been stable for the past six years.[69]

The Ministry supports full Maori-medium schools with 81–100 percent of the curriculum delivered in te reo Maori using "an evolving Maori curriculum" with English considered a second language. Maori knowledge and pedagogy are prioritised. The major aim is cultural revitalisation. It has made available new government funding "to develop Maori language education to reflect local dialects. Iwi are being funded to both revive their dialect and language".[70]

Initiatives include programmes to teach Maori scientific knowledge, based on Maori beliefs and customs, rather than the standard science curriculum – as if all beliefs about science are equally valid.[71]

The curriculum statements for Maori-medium schools "acknowledge that most Maori language teachers are second language learners. Consequently, the statements include language function guides to assist teachers to use new vocabulary".[72] The ERO is "concerned" that Maori-medium schools find it difficult to recruit appropriately trained teachers who are fluent in te reo Maori.[73] The programme, therefore, often involves teachers not fluent in Maori teaching in Maori to children whose first language is English in an English speaking country. Moreover, the Ministry faces "a diminishing pool of native speakers".[74] The ERO found there are few Maori immersion teachers who have a sound knowledge of second language pedagogy and of teaching the curriculum through the Maori language.[75]

There are good reasons as to why most Maori parents reject Maori language schooling. To cut Maori children off from the knowledge, skills, and analytical techniques that Western civilisation has drawn from all the other civilisations of the world and limit them to Maori culture will increase their disadvantage. It is, at the very least, not self-evident that it is a good idea to encourage Maori children to de-emphasise English, a language common to a billion people on earth and encompassing a vast literature in science, philosophy and other fields, for a language spoken nowhere else on the planet and with little, and only

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69 Ministry of Education (2003a) table A.15, p 76.
70 Ministry of Education (2001) pp 63, 69.
71 See Partington (1997) pp 203–206 for details.
72 Ministry of Education (2000b) p 86.
73 Education Review Office (2003) p 5.
74 Ministry of Education (1999c) p 15.
75 Education Review Office (2003) p 5.

recent, literature.[76] The National Educational Monitoring Project noted a paucity of appropriate reading material in Maori-medium settings, particularly in non-fiction and for Year 5 and beyond.[77]

Maori-medium education has been pushed as some sort of panacea for low academic achievement. This gives the impression that there is some special form of pedagogy, applicable only to Maori, that will lead to instant success without the need for hard work.[78]

There is no strong evidence that Maori-medium schooling improves the educational achievement of Maori students. The Ministry states it is an attempt to cultivate high self-esteem in students and that there is "anecdotal evidence to support the assumption that high self esteem results in academic achievement as well as language and cultural revitalisation".[79]

Education will only help Maori improve their living standards if it results in them acquiring productive skills. Building up Maori students' self-esteem at school does not help if the schooling does not prepare students for post-school reality.

The Ministry sets out evidence from the 1999 national assessments that Year 8 Maori students in Maori-medium education have more positive attitudes about their own abilities in science and art. Their performance, however, was worse than Maori students learning in English.[80]

The Ministry had found earlier that Maori students in immersion or bilingual settings "are more likely to leave school with higher qualifications and better grades than Maori students in other secondary schools. This provides some support to the argument of language immersion being a strategy for improving achievement as well as cultural maintenance".[81]

More recent senior school examination and assessment results, across all subjects other than te reo Maori, suggest that:

- Maori students in full immersion and bilingual schools "perform at least as well and maybe better than their Maori counterparts in other education settings and are more likely to achieve higher qualifications".[82]

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76 Sowell (1994) p 30.
77 Ministry of Education (2002c) p 19.
78 Education Forum (1998a) p 100.
79 Ministry of Education (2001) p 64.
80 Ministry of Education (2001) p 64.
81 Ministry of Education (2000b) p 85.
82 Ministry of Education (2002c) p 19.

- Maori students in mainstream schools offering full immersion and/or bilingual classes do worse than those in traditional schools with no such classes,[83] and most Maori students receive their Maori-medium schooling in mainstream schools.

Unfortunately, none of these assessments appears to control for non-school factors so are of limited relevance in determining the effect of Maori language schooling. They also do not examine post-school performance.

The promotion of Maori-medium schooling recognises that diversity is desirable and that Maori parents are capable of choosing. If Maori parents are permitted to choose educationally risky Maori schools, why not permit them increased choice? Their range of choices should be greater than poorly performing public schools or Maori language schools.

If parents want to choose Maori language education, that is their right. It should be left up to individuals how much of their culture they want to keep, how much of other cultures they wish to adopt, and how best to do so. For example, some may want academic achievement emphasised at school because they maintain culture in their own communities.

Rather than favoured with subsidies, Maori-medium education should be funded on an equal basis with other options, so that parents can choose the type of education they prefer on a more neutral basis.

When decisions about Maori education are made through the political process, they are influenced by motives and interests other than the best way to educate Maori children. Maori language education may be promoted because of patronage aspects. A bureaucracy develops with a host of full-time positions devoted to Maori issues and an interest in perpetuating 'Maori problems'. There are the self-interested efforts of Maori activists to create separate ethnic arrangements, preferably alienated from the larger society. It is possible for the education of children to be sacrificed to the financial and ideological interests of activists.[84] Parents are more likely to choose the best alternative for their own children.

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83 Ministry of Education (2002c) p 19.
84 Sowell (1993) pp 81–82.

COMPELLING PROBLEMS: COMPULSION

The case for compulsion

All New Zealand residents between the ages of six and 16 must regularly attend a registered school.[85] The government overrides family decisions to ensure the child receives a minimum quantity of schooling. Possible reasons why some parents may fail to ensure an adequate education for their children include negligence, ignorance or because they do not face the correct incentives to invest the appropriate amount.[86]

Although compulsion may be an appropriate response to parental negligence, it may be used to achieve other objectives that come out of the political process – such as increasing demand for teacher services, reducing competition for producer interests or to hide youth unemployment.

Do students benefit from compulsory schooling laws?

Compulsory schooling laws do not constrain the great majority of students – 80 percent of all students stay on at age 16.[87] Compulsory schooling laws affect students who are at risk of leaving early. What effect do the laws have on these at-risk students?

Years of schooling are not an educational outcome, but measure the input of students' time. Compulsory schooling will make a student better off if the benefits from the extra time the student is forced to spend at school exceeds the cost of doing so. If the student's alternative activity, such as joining the workforce early, would have given the student greater benefits than the extra time at school, the student has been made worse off by the intervention.

Other, often unmeasured, inputs, such as the quality of the curriculum, the quality of the teaching and the amount of student effort, are also important. If the increase in the measured input is at the expense of other inputs, then the result is likely to disappoint. For example, if extra students are attracted by dumbed-down courses and lower standards, there is no guarantee they will

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85 The Education Act 1989 provides that exemptions may be granted for students to be taught in an alternative setting, provided the student is taught as regularly and as well as in a registered school – this is used by parents who wish to home-school their children or use an alternative to special education classes. Fifteen year olds may also be granted an exemption when they are likely to be better off in an activity other than school. Alternatively, students may enrol in a correspondence school if their home is a considerable distance from schools. Correspondence school is also used as a school of last resort. About half the students enrolled at correspondence schools are children at risk, while one-quarter comprises children who have been suspended from regular school. Education Review Office (1997a).

86 See chapter 2 'The child protection role in education' and 'Capital market imperfections'.

87 Ministry of Education (2003a) table A8, p 72. This figure is for 2002.

reap the same return as students who undertook the old curriculum, no matter how you view the role of schooling. Worse, some students who may have attempted the more difficult courses in the past may be tempted into the easier options. To the extent that schooling merely signals innate ability, an increase in compulsory schooling will be wasteful, creating 'credential inflation'.

There is little evidence that compulsory schooling to the age of 16 has benefits for the at-risk students, much less that they are greater than the alternatives. Indeed, 17 percent of students leave school with no qualifications.[88]

All school leavers should acquire a minimum level of knowledge and basic skills – but it can be taught in less than 10 years, and certainly does not require more. It is unlikely that students who have not learned basic literacy skills in 10 years of schooling will pick them up with another one or two. It is more likely that those with low levels of skills are not prepared for more schooling.

Some cite the high measured return to years of schooling as support for increasing time students spend in school.[89] Although there are high measured average pecuniary returns to achieving most school qualifications,[90] these may be an overestimate of the return from extra schooling to students who are poorly motivated (for example, simply 'hate school'), have poor academic skills, no parental support, low aspirations and attend poor-quality schools. That is, to the kind of student who would leave if it were not for compulsory schooling.

A major problem with compulsory schooling is poor targeting. The current system dispatches students to government schools. Government schools are for all students – not just the at-risk students. Policy for government schools is shaped through the political process, in which middle-class and producer interests have a large say. As a result, helping at-risk students is not necessarily the priority for government schools, and they need not be the best place for at-risk students to learn. Even schools that do an excellent job in teaching students who have strong parental support may not be able to motivate and teach at-risk students.

Early leaving has been seen as a problem to be blamed on the family, and to be solved by forcing children to attend school for longer. It can just as easily be argued that it is an indictment of the current system – despite generous subsidies, schools cannot offer enough to induce these students to attend – not an argument to force them to stay on longer.

Compulsion does not give schools the incentive to fix up the problems that meant they could not engage, motivate and teach these students. Instead, it

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88 Ministry of Education (2000e).

89 For example, Maani (1997) p 184, advocates increasing the school leaving age because the average estimated pecuniary return to the Sixth Form is high.

90 Maani (1997) estimates the returns to be above 10 percent. See chapter 2 'What are the estimated returns to schooling?'.

assumes that there are no good reasons why students may want to leave early, even though the benefits from extra schooling when the student does not want to be there are likely to be small.

Alternatives to extra years in government schools

If there are high returns to having potential dropouts stay longer at school, they are more likely to be reaped if at-risk students were given funding that allowed them a realistic chance to attend a private school. The US evidence is that urban minorities have much higher graduation rates from private schools.[91]

Private schools are more likely to keep students in school and engage them while they are there. Diversity in the private sector means that specialised schools can appeal to students frustrated with the government schools – particularly students with unusual tastes or problems. Private schools can reduce dropout rates by providing a school environment that offsets social deficiencies associated with dropping out. For example, religious schools often provide social capital (such as ties with adults and an established climate of purpose and concern) that may substitute for poor home environments and help retain children in school.

Government high-schools tend to be large, teaching roles are defined in terms of the subject matter rather than the interests of the students and there is little teacher involvement with students or their families. Although these features may be desirable for the typical student, they make dropouts more likely. The government school environment tends to be more impersonal and the teachers are not expected to react to non-subject related learning difficulties or family and social deficiencies.[92]

At-risk students have different abilities, interests and needs – and schools are not necessarily the best institutions for them. Ability is much broader than academic aptitude, and many young people have abilities of a more practical nature and may do well outside school. An alternative is for the student to spend time in the workforce gaining job experience and learning valuable skills (both vocational and social), as well as earning money. The return to on-the-job training and apprenticeships is also high – often much higher than the return to schooling – and may be more suitable for at-risk students and may help integrate them into society rather than alienate them from it.

Compulsory schooling crowds out the provision of education by non-school alternatives. Welfare agencies and private charities may be more willing and better organised to provide care and education for at-risk children than schools

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91 See chapter 9 'Private versus public schools: the advantages of a private education'.

92 Ferris and West (2000) pp 19–20.

– and these students would identify themselves by leaving school. In 1997, the Ministry estimated that 500 children were catered for quasi-legally or illegally by church, iwi and community groups. Those children were alienated from mainstream schooling, were at risk of educational or social failure and were in trouble – for example, some had come before the courts. Since 1997, the government has provided funding for Alternative Education programmes for those who become alienated from schools. The programme focuses on 14- and 15-year-olds, who attend programmes run by non-school providers. In 2002, 1,636 students participated.[93] These non-school alternatives may do a better job than government schools because they have a greater focus on, and experience with, dealing with at-risk children, and may be able to deal better with other issues, such as health problems. They would provide a broad diversity of approaches – not all at-risk children have the same problems or respond to the same solutions. Teachers in low-SES schools often complain that they are being turned into social workers, and there are complaints about the burden of dealing with at-risk students.[94] Perhaps the solution is to involve professionals who are better able to deal with these problems, leaving schools free to deal with academic matters.

Other problems with compulsion

Compulsion reduces competition from non-school alternatives, which is likely to worsen school performance.

The laws requiring students to stay at school longer are likely to result in a reduction in effort from both teachers and students. When schooling lengthens, intensity of learning decreases – there is less urgency. Schools take longer to teach the same material and time is filled up by non-academic activities. Further, if schools did change to cater more for at-risk students in the later years, that may detract from their academic role, lower standards and give soft options to other students.

Rather than expecting at-risk students to thrive in schools designed for mainstream students, or for all schools to reorganise to cater for small minorities, what is needed is more diversity and specialisation.

In 2002, on a typical day, only 88 percent of secondary school students attended school for the entire day – 6 percent were unjustifiably absent.[95] It is not clear how successful current arrangements are in even ensuring that at-risk children actually attend school. If truancy is tolerated, then students have to

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93 Ministry (2000b) p 34 and (2003a) table A.17, p 77.

94 For example, Fiske and Ladd (2000a) p 236 state that the increase in compulsory schooling age has over-burdened urban schools with unenthusiastic students.

95 Ministry of Education (2003i).

bear all the costs of compulsion (they are prevented from being in the workforce) with none of the benefits (they are not in school learning).

Compulsory schooling may certainly impose external costs on others. The students forced to stay at school may be disruptive and be a disproportionate burden on teachers and administrators, reducing the benefits other children receive from their education.

Another claim is that increasing compulsory schooling is the answer to youth unemployment, despite the fact that the current generation is the most highly schooled in history. For example, advocates of more schooling point to the fact that those with more schooling have lower unemployment rates.

Youth unemployment is a labour market problem rather than an education problem. Full employment is possible at any level of schooling. Many jobs in Western economies do not require education beyond basic levels and immigrants with low levels of schooling, literacy and communication skills get jobs.

Causes of youth unemployment include minimum wages being too high relative to a person's productivity, incentives from welfare programmes and unfair dismissal laws. Extra schooling only deals with the problem of low productivity – and may not be the best way to raise a student's productivity

THE TARGETS OF THE LEFT: CURRICULUM CHANGES

What is the case for government control of the curriculum? So far, we see two possible roles:

- to promote social cohesion by inculcating common values; and
- a child protection role (to ensure all children receive a quality education).

Both must come from a belief that if parents were allowed free choice of curriculum, the resulting decisions would be socially divisive or ignorant parents would make poor choices that would harm their children. A further possible justification is a consumer protection role: for the government to provide information to parents and assure curricular quality.

There is much professional opinion, and empirical evidence, that the new school curriculum in New Zealand does not promote social cohesion, ensure all children receive an education necessary to participate in society or establish educational coherence among schools as students progress through the system. The result is particularly damaging to those who do not receive academic training from their families and to those with bad teachers. The effect is to hinder

the child protection role, reinforce, rather than offset, inadequate student preparation and increase inequality. [96]

Even if it were agreed that the government should establish a curriculum, the process should be carried out in an open and transparent manner – to determine majority values and to make clear the trade-offs and gains involved. That has not been the case with the new New Zealand curriculum framework and curriculum statements, which represent a total revision of the New Zealand curriculum and have been progressively replacing old syllabuses since 1993.

The process by which the new curriculum was brought in was not designed to achieve consensus; instead it imposed the controversial 'progressive' education ideas that rule in the Ministry and teacher education institutions. Indeed, these views dominate the education sector in English speaking countries, and ultimately derive from the United States. Nor are they new, but go back at least 100 years.[97] The values and assumptions that underlie the new curriculum are not common, and have more to do with social engineering than social cohesion. They are the unrepresentative views of a particular minority.

Dewey-eyed education: progressive education beliefs

The new curriculum embodies a set of 'progressive' opinions on the best way to conduct an education system. Highly contentious assumptions about knowledge and learning are made, but no grounds for their adoption are given. For example, the curricular documents adopt a 'postmodern' view of the curriculum, a 'constructivist' view of learning, 'subjectivism' in values and a 'child-centred' approach to pedagogy. Subject- and discipline-based learning are downplayed. Many of the assumptions have been discredited in the literature and by experience.

The new curriculum policy assumes all children in state schools should follow the same curricular path for the first 10 years. What kind of curricula are to be imposed?

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[96] This section on curriculum changes draws heavily on the work of Michael Irwin and a number of experts engaged by the Education Forum. See Irwin (1994), (1994a), (1994b), (1995), (1996), (1996a), (1997), (1997b), (1998) and (1999) and Education Forum (1999), (1998b), (1998c), (1996) and (1994).

[97] See Sowell (1993); Hirsch (1996) and (2001).

Outcomes

The *New Zealand Curriculum Framework* imposes the same structure on all the new curriculum statements.[98] It assumes that all curricula can be packaged in the same way and defined in terms of outcomes. There are important differences between subjects and between academic study, applied education and vocational training, which might indicate different ways of structuring and defining curricular material, but these differences are subordinated to Ministry concerns for uniformity.[99]

In the new curricula the stress is placed on skills and attitudes rather than knowledge and actual content. The curricula encourage critical skills and inconsistently promote particular attitudes and forms of society (bicultural and gender equitable) that are not to be criticised. Some of the skills listed in the eight essential skills are personal attributes (for example, effective communication, self-management and competitive skills), and it is not clear how, or even whether, they can be taught or objectively measured. It has not been established that the new curriculum achieves these skills more effectively than the old curriculum.

Take the emphasis on self-esteem, or what the Ministry calls "sense of self-worth".[100] One major study found that programmes designed explicitly to promote self-esteem actually produce less of it than programmes designed to improve academic performance.[101] Constant praise to increase self-esteem breeds complacency, scepticism, self doubt, a mistrust of adults and an inability to judge true success. Students simply do not believe empty praise. The net result may be to decrease self-esteem.[102] The psychological literature finds that "accurate and matter of fact appraisals of a student's work, as well as realistic encouragement toward effort and actual achievement"[103] do the most to raise self-esteem.

Moreover, studies show no link between self-esteem and any important behaviour or skill in the child's social, emotional or intellectual life.

- Some research shows self-esteem is correlated with performance in school, but the direction of causation is not clear: self-esteem may result from superior performance rather than cause it.[104] "The very idea that self-esteem

98 Ministry of Education (1993).
99 See Smithers (1997) p 40.
100 See, for example, Ministry of Education (1992) p 7 and (1999) p 8.
101 See Stepp (1995).
102 Hirsch (1996) p 66.
103 Hirsch (1996) p 267.
104 Step (1995); Sowell (1993) pp 97–99; Stone (2000).

is something *earned* rather than being a pre-packaged handout from the school system, seems not to occur to many educators."[105]

- Other studies find that only effort is consistently correlated with academic achievement and that it is not correlated with self-esteem.[106]
- In fact, one major study found that students taught by a programme that employed self-esteem boosting as its principal intervention did significantly worse on both basic academic skills and cognitive skills as a result of their participation. Praise highlights the teacher's authority role and encourages children to be satisfied with their performance rather than informing them about how they can improve.[107]

It is stated in a Ministry of Education Green Paper that curricula must "specify clear learning outcomes against which students' achievements can be assessed" as part of "the shift from a content-based curriculum to an outcomes-based curriculum".[108] There is a focus on what students should achieve or be able to do rather than on what they should be expected to learn or know.

The curricula do not specify the minimal content each child is expected to learn, what is essential and what is desirable. It is simply not possible to tell what students should know from reading the curricula. The vagueness means that teachers are less accountable and determine what is taught. Students in good schools get taught more and poor teachers do more damage. Students learn different material because teachers omit different topics – which means subsequent teachers cannot be sure what their students know and do not know. The effects are particularly disruptive for students who move from school to school.

Everyone has lost and all must have prizes: a postmodern view of the curricula

The postmodern approach is sceptical of objectivity or external truth: notions of scholarly rigour, intellectual standards and literary excellence simply express the opinions of the powerful.[109] This downgrading of the importance of knowledge pervades the new curricula and what is taught in the teacher training institutions. Teacher educators downplay the importance of a teacher having substantive knowledge of the subjects they are to teach.[110] In the English

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105 Sowell (1993) p 97.
106 Hirsch (1996) p 101.
107 See Stone (2000) and Hirsch (1996) p 167.
108 Ministry of Education (1998a) p 7.
109 Brunton (1996).
110 See Partington (1997) pp 87–114.

curriculum, politically correct 'balance' between ethnic, geographical and gender origin is used to select literature for study, rather than literary merit. Phonics and grammar have been downgraded.

The curricula emphasise attitudes, feelings and values thought to be important rather than the teaching of basic skills, the transmission of knowledge and of our rich Western heritage and culture. The curricula reflect the view that the government should control the inner life of children, including spiritual development, sexuality, mental health, personal identity and self-worth, as well as indoctrination of 'correct' political attitudes. Consider, for example, the requirement that "concern for social justice … be fostered".[111] Children are to be taught what to think rather than how to think. Topics are chosen on the basis of social and political issues rather than by the structure of a discipline.

There is a contradiction between the postmodernist approach and the claim that we should measure outcomes to compare performance against clear standards. There is a strange combination of progressive educational thinking with its disdain for the capitalist system and an emphasis on the vocational ends of education. The result is an incoherent muddle of contradictory philosophical assumptions. In practice, the conflict has been resolved by vagueness in the standards. Both approaches reflect a central-planning mentality and adopt a utilitarian role for the education system – to serve the economy and social reconstruction, by turning out students with predetermined skills and attitudes. Trade-offs between the interests of individual students and the requirements of society and the economy are not addressed.

Follies and fallacies: child-centred ideology

A 'child-centred' education philosophy infuses the new curriculum. The Ministry states "teaching and learning are focused on individual students rather than whole classes".[112] Who could be against such a noble declaration? Hirsch points out that if a class comprises 20 students and the teacher gives each child individual attention, then children will be left to their own devices 95 percent of the time. Individual instruction for each child means individual neglect for most children, most of the time. Whole class instruction has a role to play in achieving the best results for individual students.[113]

To base the educational process on each individual child's immediate interests, and have a different process for each child would be impossible to achieve in anything but a superficial sense (especially when basic skills cannot

[111] Ministry of Education (1993) p 14.
[112] Ministry of Education (1996a) p 55.
[113] See Hirsch (1996) pp 66, 255.

be taught properly). The student's 'needs' are said to be the basis for learning, but students' needs are ambiguous. Teachers are in no position to decide each child's needs, nor conduct 20 different teaching styles and paces in the one class.

The child-centred approach is put forward as an alternative to subject-based teaching. It uses the student's idiosyncratic interests to determine what is taught, rather than a planned syllabus that details essential knowledge to be imparted and not left to chance. It places a lower value on students knowing and understanding the accumulated wisdom of past generations. In practice, the teacher's evaluation of an individual student's needs involves disguised value judgements and the substitution of easy-to-teach material in place of the development of basic academic skills. As a result, children are not taught important subject matter.

The child-centred approach assumes that all the necessary resources and motivation vital to success in learning are already in the child. The result is to harm those children who do not receive the prerequisites for academic success from home. Those from a disadvantaged background are less likely to have the relevant experience and vocabulary.

For example, there is evidence that the most effective way to teach reading is a middle-of-the-road approach that includes both phonics and a whole language methods.[114] Some argue that so-called 'balanced' approaches in practice often persist with an ineffective whole language approach.[115] When schools use the whole language approach exclusively, many children from disadvantaged backgrounds do not learn to read properly, perhaps because they do not receive the necessary phonics instruction from home. Those who are most dependent on effective classroom instruction and who do not learn to read properly because of an inadequate school programme seldom recover from their poor start.

Murray points out that once the government begins trying to do many more things, such as making teachers social workers as well as educators and meddling in their students' inner life, it takes on tasks without straightforward 'by-the-book' techniques. Bureaucracies make a mess of such tasks. Not only does the government take on tasks it does not know how to do, it does its old tasks (such as teaching literacy) less well. The new tasks take time, effort and motivation away from core functions, especially if the new tasks have moral priority.[116]

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[114] See Hirsch (1996) p 67. In English in the New Zealand Curriculum the first achievement objective in teaching reading to students who have just started at school states: "select and read for enjoyment and information a range of written texts, beginning to use semantic, syntactic, visual and grapho phonic cues to gain meaning". (Ministry of Education (1994) p 34.)

[115] See Moats (2000).

[116] Murray (1997) p 145.

Although the public education lobby excuse poor performance on traditional academic objectives by claiming that society has foisted extra burdens on them, they have often been in the vanguard in pushing for schools to undertake roles traditionally performed elsewhere in society: sometimes for ideological reasons, sometimes in a grab for more funding.

Not only does the student-centred approach undermine the key rationales for government involvement in the curriculum, it is inconsistent with many of the basic tenets of those in the government education sector. The notion that individual students should direct their own schooling contradicts the idea of a national curriculum for all, as well as the idea that all students should have the same education to encourage equality. It is also inconsistent with opposition to school choice – if children are the centre of teaching and learning why should they not be able to choose their school? In fact, if children should determine what they learn, and teachers are merely facilitators, why not give them the freedom to choose where to learn and abolish compulsory schooling?

CONCERNING ASSESSMENT

Although there may be a consumer protection role for the government to provide information for parents and students that the market does not, but for which the benefits exceed the costs, it fails to do so. It does not even provide basic information that would be provided in a market system.

There is no market test on the value of the information provision that the government does undertake, such as provision of assessment and inspection services by the NZQA and the ERO. Policies are determined by central fiat rather than by consumer preferences. Major changes have been made to assessment policies with little regard for the costs and benefits that result.

There is a conflict of interest when the government provides education and also regulates and finances competitors (such as independent schools) and protects consumers' interests. If unsatisfactory performance by government schools tends to reflect unfavourably on the relevant minister, the incentive to gather and release information is reduced. The Ministry of Education, in its role as regulator, is not likely to say that it is doing a bad job as the main provider of education.

Benefits from testing

External testing helps meet the demands for information on student academic performance by students, parents, employers, teachers and school management. Testing is an indispensable, if imperfect, tool to collect useful information about

educational progress. External testing provides information on performance that is comparable across classes and schools.

It is true that measuring on its own does not improve performance – that requires good teaching, motivated students, a good school environment and a supportive family. The point is that testing is a way to achieve these things. Testing provides information on, and incentives for, students and teachers.

Well-designed testing, which supports instruction, contributes to effective teaching and learning by rewarding students who do well and so motivating them to work. The evidence is that student effort responds to incentives.[117] Further, students learn by preparing for a test. At the end of a course, a test can encourage the student to review the course as a whole and see the connections between its different parts.

Student effort affects teacher effort. If students give up, then there is no point in teachers putting in the enormous effort required to teach well.

Students learn more when they are tested. Bishop has shown that, when other factors that influence academic achievement are controlled for, students from states, provinces, or countries with medium- or high-stakes testing programmes score better on neutral, common tests and earn higher salaries after graduation than do their counterparts from states, provinces, or countries with no or low-stakes tests.[118]

Further, there is little evidence of undesirable effects from testing. In Canadian provinces with external examinations, students increase, not cut back, other learning activities (such as reading for pleasure and watching science documentaries). This is contrary to the argument that a focus on examinations excludes many other worthwhile educational experiences.[119]

Woessmann (2001) finds that in the TIMSS, students in countries with centralised examinations (set by an administrative body beyond the school level) scored significantly higher in mathematics and higher in science.

Bishop sets out crucial characteristics of external examinations that encourage achievement:

- They must be curriculum based. Aptitude tests give few incentives for effort because they are usually deliberately something that cannot be prepared for, and so have minimal effects on learning and teaching.
- The examinations need to be organised by discipline and keyed to the content of specific course sequences to focus responsibility on particular

[117] Bishop (1991); Girotto and Peterson (1999).
[118] See Bishop (1996), (1997) and (1999).
[119] See Bishop (1999).

teachers for preparing students. The examinations must assess a major portion of the subject.

- They must have real consequences for the students who need to have a stake in doing well. For a start, the students' performance must be reported to the students and be able to be used by them to demonstrate achievement to outsiders. If students do not benefit from a good test score, what incentive do they have to do it with any degree of care?
- The examination system must cover most students. The examinations need to be able to signal high performance. Simple pass/fail gradings will not stimulate effort from many students, because achievement differentials are so large. An examination that tests whether students meet a minimum standard will not stimulate good students.[120]

There are a number of advantages to curriculum-based external examinations:

- Most schools have an incentive for their students to take a major, independently administered, reputable external examination to provide objective evidence of student academic performance in order to attract parents. External testing may be a source of quality assurance and helps parents judge schools.
- They provide useful, objective and independent information on student, school and teacher performance. For example, outstanding teachers may be identified by consistent outstanding performance of their pupils in examinations. Further, public recognition of successful performance will help motivate teachers.
- External testing can be used to help school management evaluate programmes and school performance. For example, performance can be compared with other schools with similar student profiles and objectives. It is difficult to see how comparisons between schools can be made without external testing.
- They provide good incentives to teachers and to students. They provide accountability for teachers to ensure a particular body of knowledge is taught, rather than leaving it to individual teachers to decide what is important, or easier, to teach.
- They separate out assessment from instruction – which may help teacher and pupil work together as a team against the examiners (us-versus-them). If teachers are also the examiners, students are encouraged to hide their ignorance rather than seek help. External examinations allow teachers to

[120] See Bishop (1999) pp 244–245.

demand more from their students. For example, teachers become more likely to assign homework.[121]

- They allow assessment to be performed by experienced and competent examination setters and markers. Not all teachers (especially new ones) have the skills and experience to do these tasks properly. For example, a Ministry of Education study on the effectiveness of teacher education programmes found that a significant portion of first year primary and secondary teachers felt poorly prepared to assess students in their curriculum areas.[122] Inexperienced teachers can learn by participating in marking.
- They compare children fairly from different social backgrounds and allow children from poor backgrounds to exhibit their abilities in direct comparison with their better off peers. When external examinations are abolished and replaced by internal school assessment, school reputation becomes more important, to the disadvantage of those attending schools with bad reputations. Employers give greater worth to assessments from schools with better reputations.
- External examinations can be used to provide credible information on student achievement to others – such as employers and institutions of further education. Better information means they give academic achievement greater weight in admission and hiring decisions – which in turn increases parents' demand for academic achievement. When examination results displace student social class as the primary determinant of school reputations, this increases the benefits to the school from increasing learning and encourages a focus of school resources and policies on academic achievement and less on other goals. For example, the school will be more likely to hire qualified teachers, favour higher standards and a heavier student workload – policies with little return under internal school assessment.[123] Internal school assessment means the returns to school reputation from increasing academic achievement are uncertain and in the future.
- They protect students from biased teacher assessment. Teachers may find it difficult to assess those known to them personally, and they may become biased for or against the student.
- They can protect schools from unrealistic parental demands and provide accountability for parents. An objective measure of achievement is

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121 Bishop (1999).
122 Rivers (1999) p 4.
123 Bishop (1999) pp 244, 249–250.

necessary for schools to be independent, to provide what society ultimately demands and to resist parents who try to improve their children's chances through underhand means. With internal assessment, teachers have an incentive to buy popularity, or reduce complaints, by eroding standards. External examinations reduce pressure on teachers from children and parents to inflate grades.

- Internal school assessment means if one student works hard, that makes it more difficult for others to get high grades and raises their workload. This "gives students a personal interest in persuading each other not to study" and encourages 'nerd' harassment (denigration of studiousness), which reduces students' work incentives.[124] Adolescents are particularly sensitive to what their peers think. In contrast, external examinations define achievement relative to an external standard or national norms rather than to other students in a particular classroom or school. Students do not compete with their immediate peers which reduces the payoff to nerd harassment.[125]
- Compared with internal school assessment, external examinations make cheating and plagarism more difficult.

Criticisms of testing: shooting the messenger

The New Zealand government education lobby is antagonistic to external examinations. The dominance of the anti-testing ideology in the Ministry was exposed in its Green Paper that ostensibly argued for national primary school testing – but, in fact, revealed that the Ministry could not even convince itself that national testing is a good idea. The report denigrates the value of tests for individual students and for comparing schools. The Ministry opposes league tables, not because of the difficulties of disentangling school performance from other factors but because it believes the tests are not valid measures of school performance – hardly a strong argument for spending money to introduce these tests on a national scale. It emphasises the 'limited' nature of 'pencil and paper' tests and the need for 'authentic' or 'performance based' activities at the school level.[126]

Further, even if testing were to be introduced, it would be to cater for producers rather than consumers. The Green Paper makes no reference to parents' or individual students' need for information, and the Ministry later

[124] Bishop (1999) p 240.
[125] Peterson (1999a) p 113.
[126] Ministry of Education (1998a) pp 24–26.

admitted, "The policy is not driven by a concern about reporting to parents".[127] Instead, the focus is on how tests will help schools:

> The tests would be primarily designed to provide information on group levels of achievement, not individual achievement … the main reason that the tests are proposed in New Zealand is to provide information that will help teachers and principals to evaluate and improve students' performance.[128]

In other words, much of the information collected will be suppressed, and the information released will be no more than could be gained from testing of samples – not much of a return for the expense of national testing.

Nevertheless, the education lobby opposed overwhelmingly even these weak proposals, exhibited in a series of anti-testing (and no pro-testing) articles in the *New Zealand Education Review.*[129] The NZEI writes that one of the 'key issues' in education was that there be "No compulsory testing of nine- and 11-year-olds". It claimed "There is no evidence to show that national testing will help children learn. Many argue that it will hinder learning and stigmatise students".[130]

The claim that there is 'no evidence' is wrong. The previous section presented evidence that testing can promote learning. Even if testing does not help children learn, it is still valuable to check how much they have learnt and provide evidence on it to others to add an incentive to ensure the system is teaching children. Weighing the pig may not make it any heavier, but it can be useful information and a check on whether its diet is suitable.

A New Zealand education academic claims that a system of national testing is "unworkable and educationally undesirable" and evidence on the performance of the education system should not be collected because there is no evidence it is failing.[131]

There is no evidence, of course, because we do not collect it. Actually, the little information on primary school achievement that is collected and released does provide evidence of a poorly performing tail. (See 'International test comparisons' earlier in the chapter.) National testing is workable and is carried out in many countries – including New Zealand (at the secondary school level and at the primary school level in the past).

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127 Ministry of Education (1999c) p 52.

128 Ministry of Education (1998a) p 25.

129 See for example, McFarlane (1998) p 6; Neyland (1998); *New Zealand Education Review* (1998a) p 13; Handke (1998) p 6; Cassie (1998) p 2 and Lee and Lee (1999) p 9. For further examples of the antagonism to student testing by New Zealand education academics, see Partington (1997) pp 119–123.

130 Ministry of Education (1999e) p 32.

131 Neyland (1998) p 6.

The resistance to testing comes from ideology and self-interest. 'Progressive' education ideology eschews competition and rankings, believing they destroy co-operation, egalitarianism and self-esteem. Policies that reduce producer accountability are favoured in the political process – the resistance to testing is as much about unwillingness to compare teachers as unwillingness to compare children.

The result is that public schools suppress information deliberately on the poor performance of disadvantaged students and make monitoring by parents difficult. An Auckland University School of Education evaluation of South Auckland schools found "few schools had explicit standards on their reports and information was difficult for parents to understand". For example, a child rated as 'excellent' could be well below the national average or age standard. According to the evaluation, the schools explained the biased practices by saying they wanted to create a positive environment for learning and protect students' self-esteem. They consider that the role of reporting is not to convey information to parents, but to conceal poor performance.

The Otara Principals' Association president believed an investigation of reporting and assessment at any school in New Zealand would produce the same results. One principal said: "If you were told that your child at age six was below the national average, what's the point in that? Is that going to make them feel good about themselves?"[132]

Surely it is better to identify problems when there is still time to remedy them rather than sending children out into the world assured of failure? The stigma from failing an examination is nothing compared with the stigma of not being able to read as an adult or failure to get a job.

Rather than stigmatising low-SES students, continual testing provides incentives and rewards. Children learn that effort is often rewarded by success and failure in one instance does not mean universal or perpetual failure, especially when they observe other students no different from them progressing upwards.[133]

Suppressing information does not result in equal outcomes. It merely hides differences. In fact, such make-believe equality in schools probably harms the poor by removing one of the few opportunities to prove themselves against students from advantaged backgrounds and by reducing their incentives for effort. The opponents of testing presume that measuring results will reveal poor performance, but it can encourage improved performance.

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[132] Rowe (1999).

[133] See Murray (1984) pp 225–226.

To abolish rewards for those who do well does nothing good for their self-esteem – nor, in the long run, for the self-esteem of the children who do not win the awards.

Some critics, with a typical focus on institutions, object to the release of test score data to rank schools on the grounds that it is unfair to schools with low-SES students. They argue that raw test scores often reflect the social background of the students more than the influence of the school. That is not a deficiency in achievement tests – they reveal unequal achievements. When information is suppressed, parents and employers use whatever information is available, such as SES ranking, to determine a school's reputation. Students in low SES schools may fare worse than with testing.

To close the achievement gap between disadvantaged students and their more affluent peers requires poor schools with low-SES students to be compared with other schools to see how they are going, and to compare with other low-SES schools, to see which ones are doing well and to learn from their practices.

Teaching to the test

A drawback with testing is the possibility of perverse incentives that distort behaviour and lead to unintended results. Poorly implemented performance indicators can do harm. A focus on measurable objectives may encourage the neglect of important non-measurable objectives. An emphasis on a particular standard may lead schools to focus attention on those near the margin of an arbitrary cut-off point and neglect others, including those at the bottom who have little chance of meeting the standard.

The most common objection to testing in education is that it encourages narrow 'teaching to the test'. If schools are judged on the basis of their test results, they may have an incentive to emphasise material expected to be in the tests to the exclusion of all other material.

For example, two New Zealand education academics claim that national testing is "educationally reprehensible" and "most, if not all of what is educationally worthwhile will be driven out by that which is to be tested". They assert that testing must result in mindless rote learning.[134]

There is no reason why testing need result in rote learning. As well as their retention of facts and figures, examinations can test pupils' understanding, ability to synthesise and apply concepts. Although it is true that not everything worthwhile can be tested, it is not true that anything tested is automatically worthless.

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[134] Lee and Lee (1999).

Teaching to the test is not necessarily bad. Good tests are worth teaching to and prevent teachers filling classroom time with fads and propaganda courses. A well-designed external examination can ensure a broad body of specified knowledge is taught, including more difficult material for the better students. A good test gives students a chance to show they understand and can use what has been taught.

Basic skills tests should not distort teaching. They test whether students have learned the necessary foundation skills for all learning. Students will learn basic academic skills in any school that is educating them successfully.

Teaching to the test may be costly if the test is not a good one or does not have the objective to raise learning in schools. For example, some tests are deliberately designed to be independent of particular curriculum content and to measure ability rather than achievement. These tests should not be used to rank schools – because schools can do little to influence student performance on these tests.

Although comparability of test scores over time does not require that identical test questions be given every year, that is exactly what is done for many tests in the United States. Many of the concerns with standardised testing in the United States result from that policy.[135] For example, it encourages cheating by teachers and school administrators, including narrow teaching of actual test items rather than a body of knowledge (that is, teaching the test rather than teaching to the test), to the long-term disadvantage of students. Yet such blatantly irresponsible policies can result when those who formulate testing policies have a vested interest in demonstrating high or improving test scores and where there is little ultimate accountability to consumers.

Testing times: changes to assessment

Outcomes and standards

The new curriculum statements on each 'essential learning area' (such as English, mathematics and social studies) set out 'strands of learning', each with achievement objectives set out in levels. Teachers are expected to assess the achievement of individual students at each level against the "clear learning outcomes" provided in the achievement objectives. For example, in English the strands are oral language, written language and visual language. The achievement objectives include personal reading, expressive writing and poetic writing.[136]

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135 See Hirsch (1996) pp 192–196.

136 Education Forum (1994) p 5 and (1998c) p 15.

The equivalent move in qualifications has been to assess student achievement against 'standards'. At the senior school level, these standards are to be derived from the new curricula outcomes at the relevant levels. Along with this change is the imposition of a single assessment methodology for all school qualifications (basically a 'competency' form of standards-based assessment) irrespective of the material to be tested, the purpose of the assessment, and the information required.

National Qualifications Framework

The National Qualifications Framework (NQF) was introduced in the early 1990s to improve certification. It was based on a Scottish model limited to vocational skills but, especially in its original form, the New Zealand version was much more ambitious. The NQF set out a single framework for national qualifications spanning *all* qualifications – both vocational and academic – at senior secondary and for all post-school education and training.

The building blocks for NQF qualifications are unit standards. A unit standard corresponds roughly to 10 hours of class time. Each unit was to be assigned to one of eight levels ranging from Form 5 to postgraduate. Qualifications were to be obtained by acquiring a number of unit standards at the appropriate level.

Assessment is against specified performance criteria or standards. Each unit standard is described in terms of outcomes and graded on a competent/not competent (that is, pass/fail) basis. Students are judged to have met the standard or not.

The unit standards approach was initially introduced for vocational training on a voluntary basis. It provided a pathway into further training through school and an increased range of qualifications. The idea was to permit schools to offer credit towards post-school vocational qualifications and to ensure that all students had a chance to gain something useful from their time at school.[137]

The ultimate goal, however, was to develop unit standards for all school subjects and to merge school and non-school training:

> . . . in order to establish a 'seamless' education system, which reduced the separation of 'school' from 'tertiary' education, and 'academic' from 'vocational' learning.[138]

All learning, whether academic or vocational, was to be organised into unit standards and placed on a single framework, bringing together senior secondary education, industry training and tertiary education. The competency-based

[137] Ministry of Education (1997e) p 12.
[138] Ministry of Education (1997e) p 12.

assessment approach would displace traditional, norm-referenced examinations in which students' performances are compared, ranked, and scaled in terms of a predetermined distribution of marks or grades. Objectives included ensuring recognition for existing knowledge and skills, no matter how acquired, and facilitating credit transfer. For example, many unit standards would be common to two or more qualifications which would enable students to change pathways and use credits gained already.[139]

The plan to extend unit standards to all subjects and qualifications for post-compulsory education and training was dropped in response to opposition from the universities and many schools and teachers.[140]

National Certificate of Educational Achievement

The new qualifications system for senior secondary students, the National Certificate for Educational Achievement (NCEA) retains unit standards for 'non-conventional' subjects such as carpentry, but for the great majority of students the achievement of credits in such subjects will be via the new 'achievement standards'.

The NCEA has three levels – corresponding to years 11, 12 and 13. Most conventional school subjects (English, mathematics and so on) are divided into five to eight achievement standards at each level. At least half of the achievement standards in each subject at each level will be externally assessed, and classroom teachers will internally assess the remainder. All assessment, whether internal or external, will employ a standards-based methodology, that is, assessment will be against standards. Achievement standards have three grades (credit, merit and excellence as well as no-credit, that is, 'fail'). Each achievement standard sets out what is to be achieved for the award of credits towards the NCEA and the criteria for each of the three grades. A mark out of 100 for each subject at each level will be derived from each student's credits and grades for the achievement standards gained in each subject.

This new school qualifications system was initially seen as being "comprehensive" and "inclusive "– a political compromise between organising all school education and training into unit standards and maintaining traditional external examinations.[141] In practice, the logic of a standards-based system has driven out most vestiges of the traditional system; and an outcomes-based framework employing a single standards-based methodology that embraces

[139] Irwin (1997) p 2.
[140] See Hotere (1998) and Gerritsen (1998).
[141] New Zealand Qualifications Authority (2003) pp 3, 4, 8.

all conventional subjects in senior secondary schooling as well as vocational training has emerged. The main concession to the traditional system is that at least half of the available credits for achievement standards will come from external examinations (although even those are to be assessed using a standards-based methodology and without scaling of any kind) and the introduction – a very late one in the scheme's development – of subject marks.

New Zealand is the first country to attempt to apply a standards-based qualifications system at all levels of the senior school, including the post-compulsory levels.

> It is untrialled and a radically different form of senior school certification for which there is no successful precedent anywhere in the world.[142]

Reasons for the shift to outcomes and standards

Opposition to rankings of, and competition between, students has partly driven the change to assessment for school qualifications against standards derived from the curricular outcomes, "students are assessed on what they know and can do, rather than in comparison to one another".[143]

The alternative of norm-based assessment with large groups also gives an accurate reflection of what a student is capable of. We know that students who come in the ninety-fifth percentile for School Certificate mathematics are outstanding at mathematics – especially with our accumulated experience with the system, which includes teachers' experience at ranking students.

Also, standards have underlying normative assumptions. If the standards are not based on the 'norm' for the relevant stage or age they have very little value.[144]

An explicit aim of the NCEA is to remove 'artificial distinctions' between academic studies and vocational education and training. The Ministry states, in a paper to the Secretary for Education, that the NCEA "unifies and removes the status distinction between the standards-based and traditional examination approaches to qualifications assessment".[145]

Matters such as a desire for parity of esteem by vocational providers are important in the political process. However, it is not possible to impose parity of esteem – esteem is not something dictated from above but is either accorded or withheld 'below' – in society generally. Moreover, the aim to equalise the esteem in which academic and vocational education is held is based on the

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142 Education Forum (2000) p 1.
143 Ministry of Education (1996a) p 55.
144 Irwin (1994) p 53.
145 Ministry of Education (undated).

misconception that it derives from differences in assessment methods or in the type of learning. It is not. The value of a qualification and the esteem attached to it depend on what can be done with it and does not follow a vocational/academic divide. Many high status areas of study (law, medicine and accountancy) are vocational, and some academic subjects have a low status.[146]

The achievement of these essentially egalitarian and ideological aims via the imposition of a one-size-fits-all structure and assessment methodology comes at a considerable cost. The new system assumes:

- that all education can be expressed in outcome terms;
- that decomposing education into little bits can be undertaken without loss of subject integrity and adverse effect on teaching and learning; and
- that one assessment methodology can be used for all curricular material and for all informational requirements.

These assumptions are suspect, yet were not examined in the official papers leading up to the adoption of the new schemes. Problems with standards-based assessment include the following criticisms.[147]

The standards are vague

The standards are vague, unduly subjective and do not provide much information about expected achievement levels.

In the new NCEA system it is difficult to distinguish different levels and grades. Many of the achievement standards could apply to 11-year-olds just as well as to 16-year-olds. For example, in the English curriculum the learning outcomes include "select and read independently, for enjoyment and information, different contemporary and historical texts, integrating reading processes with ease (Personal Reading)".[148] It is suggested that students study the work of a New Zealand author and assessment be, "the teacher notes the students' responses to the material; and the teacher observes and discusses the process of finding and recording information with the students, and assess the effectiveness of the presentations".[149]

It is not clear that academic and vocationally oriented training belong on the same framework and should be assessed in the same way on the basis of outcomes. Even if the unit standards approach is considered suitable for some

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146 Smithers (1997) p 47.

147 Criticisms from Irwin, Elley and Hall (1995) p iii; Irwin (1994) pp 71–106; Irwin (1995); Education Forum (2000).

148 Ministry of Education (1994) p 34.

149 Education Forum (1998c) pp 15–16.

vocational training, it is generally less suited to knowledge-based academic work. The problem of vagueness – whether a standard or set of grade criteria reveals much about the level of knowledge and skill associated with it – is more pronounced in academic education.

The standards reduce information about student achievement

The pass/fail system for unit standards does not allow for qualitative judgements about how well a student has performed – simply whether or not some, often vague, 'standard' has been attained. Standards do not work well for academic subjects at high achievement levels – they do not recognise high achievement or motivate high achievers. Much valuable information about student performance is lost. It inhibits the striving for excellence and does not cope adequately with complex dimensions of knowledge and understanding. A sense of overall student competence is lost.

The outcomes approach interferes with important educational objectives

The approach assumes that outcomes-based assessment is suitable for measuring the many combinations of skills and knowledge to be found in education and training courses and programmes, and that all learning can be specified in advance in terms of outcomes. It places all qualifications on the one framework, although they have widely differing contents, intellectual demands and approaches to learning. A lot of education cannot simply be reduced to precise, unambiguous standards against which different teachers can assess students on a consistent basis.

In practice, important educational objectives, often the more difficult ones, cannot be specified in specific outcome terms – and may be neglected, for example, understanding concepts, writing fluently, reading critically, detecting hidden assumptions and communicating clearly. The outcome focus is likely to lead to less emphasis on general education, and result in increased specialisation and less flexibility.[150]

The outcome approach assumes it is appropriate to divide a course of training into discrete units and that the aggregation of components amounts to overall capability. Yet, that does not measure integration of knowledge or how well something is done. It arbitrarily compartmentalises and fragments knowledge

[150] Irwin (1994).

into isolated pieces. Unit and achievement standards pose problems for teaching and learning when material is interdependent and needs to be learned and assessed as a whole. Fragmenting subjects undermines subject coherence and the importance of integrating understanding.

Standards are too ambiguous for consistent internal assessment

Standards-based assessment assumes that the required standards of performance will be so clear that many different markers in many different providers will make consistent judgements of students who are attempting different assessment tasks under different conditions. This can be disputed.

According to the ERO, many of the achievement objectives "are also not sufficiently specific for a judgement to be made about their achievement".[151] For example, the ERO cites a Level 3 achievement objective in mathematics in the New Zealand Curriculum, "perform measurement tasks using a range of units and scales". It points out that neither *tasks* nor *range* is sufficiently defined to determine what a student is actually required to do to achieve this objective.[152]

The unit and achievement standards put enormous pressures on internal assessment arrangements. It will be difficult for teachers to come to consistent and comparable judgements about whether vague standards have been met. Teachers may use different types of assessment tools, set different tasks, and prescribe a wide range of conditions under which students attempt internally assessed standards. Different conditions may include the time allowed, the degree of teacher guidance given, the number of drafts that may be presented before final assessment, and whether the assessment is undertaken in or out of class. All this will reduce comparability and, hence, credibility of the resulting qualifications.[153] The separate assessment and reporting of small samples of student work will reduce the reliability of the assessments.

Worse, teachers may be placed under pressure to lower the performance required against the standard when the school has a vested interest in the outcome – for example, school enrolments may depend on success rates.

Proponents of outcomes-based assessment like to use an analogy with driving tests – which require the examiner to judge road sense and performance of a series of tasks. However, imagine if driving qualifications were administered on the NCEA and awarded on the basis of driving instructors testing whether their

151 Education Review Office (1995a).
152 Education Review Office (1995a).
153 Irwin (2001).

own pupils have passed the requisite unit standards. It is unlikely that the roads would be safer, especially if instructors advertised their pupils' success rates.

The new system requires excessive amounts of time to be devoted to assessment

There are also likely to be major problems in the administration of the NCEA system. The ERO pointed out the large number of achievement objectives – more than 200 in Levels 1 through 5 in the mathematics curriculum – and concluded that there is a risk that assessment in the new curriculum statements will become an unmanageable activity.[154]

A system relying on substantial internal assessment is costly – not least in terms of over assessment and incursions into teaching and learning time.

Reports of the assessment results are likely to be confusing

Traditional subjects are to be divided into numerous small bits (the achievement standards) and many of the distinctions between them are such as to confuse most parents and users of qualifications. To compare different students will require examination of long transcripts of, for many students after three years in the senior school, over a hundred achievement standards. Not only will there will be insufficient differentiation between students, given only three grades at each level, but also it will be impossible to discriminate between students who gained credits at the first attempt from those who had to make two or more attempts.[155]

The problems with central planning

The new school curriculum, the NQF saga and the NCEA are classic examples of the perils of central planning and the advantages of a market test. A particular, and controversial, 'solution' designed by officials who bear no price for being wrong is imposed on all, which is very costly if mistakes are made.

The NZQA has "strongly promoted new qualifications based on unit standards, and methods of assessment based on these standards".[156] Without a market test, it receives little feedback on the value to consumers compared with costs, or on the producer compliance costs. It has little incentive to pay attention

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154 Education Review Office (1995a).
155 These criticisms summarise those in Education Forum (2000).
156 Ministry of Education (1997e) p 29.

to either. It has been described by one participant as "a bureaucratic juggernaut determined to implement a rigid ideology of competency-based learning . . . bogged down in its own paperwork. Its communications and data-handling systems being unable to cope with the monster it had created".[157] The Association of Polytechnics in New Zealand (recently renamed as the Institutes of Technology and Polytechnics of New Zealand) estimated the cost to polytechnics of implementing the NQF at between $12 million and $20 million.[158]

All this funding for assessment services is not spent according to consumer demands. Indeed, the movement away from prescription-based external examinations is in complete disregard of consumer demands. External examinations are popular with parents. For example, one survey of public opinion found that only 9 percent wanted external examinations dropped.[159] Parents have good reason to support external examinations because they have a positive effect on student and teacher incentives.

Only in a political process could what has been built up over a century be arrogantly discarded for an untested plan based on assumptions rather than analysis or evidence that it will improve matters. The usefulness of assessment depends on its predictive value. An advantage of the School Certificate and Bursary is that there is much experience with them and they provide reliable information. Employers have learned what those qualifications mean through trial and error. They know what the results say about candidates' actual abilities and supplement qualifications with interviews and other selection methods. It is costly to go to a new system and lose the benefits of long experience. The reputation of existing qualifications is valuable and should not lightly be thrown away.

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157 Coolbear (1997).
158 Association of Polytechnics in New Zealand (1997) p 5.
159 Heylen Research Centre (1991) p 17.

4
FAILING GOVERNMENT POLICIES: THE EFFECTS OF PUBLIC PROVISION

Public provision is when the government, or a government-owned entity, delivers a service. Most students in New Zealand – and in many, but not all, comparable countries – attend government-owned schools.

There are cases to be made for the importance of educating the public in order to alleviate poverty, produce externalities, protect children and promote equal opportunity. But those cases do not rely on government-run education so much as a government-ensured education.

In practice, a centralised and politicised system is a defective way to run education. There are better ways to meet objectives. Many problems with public education are inherent in government provision – where decisions are made through a political rather than an economic process. Issues are resolved on the basis of political clout, and producer interests dominate.

In the previous chapter, the evidence was that the current system does not help the poor. That is no surprise. There is no reason why the political process necessarily favours the interests of poor people or reduces inequality. They may not have much political power.

Education policies often serve the needs and interests of producer groups and the middle class – who are politically strong. Programmes introduced for the poor are often extended to the middle class for electoral advantage. Not only is the middle class powerful politically but, under some circumstances, it is also vote maximising to target policies at the median voter.[1] Moreover, incentives to target policies at swinging voters and marginal electorates also favour the middle class.

THE CASE FOR PUBLIC PROVISION OF EDUCATION

The proponents of public education seldom specify exactly the advantage in having the government provide education. A case for government intervention is not enough. The government can subsidise, regulate or contract with private

[1] The technical requirement is if voters have single peaked preferences over a single policy dimension, the policy that reflects the preferences of the median voter will beat any other policy in a vote.

providers to deal with market failures and equity concerns. To justify public provision requires some reason for the government to control the education that is delivered and some advantage in having the government directly employ teachers and administrators.

The make or buy decision

Whether the government should provide the education itself or use private providers is an example of the 'make or buy' decision that is continually faced by private decision makers. Families must decide whether to eat in or buy take-aways, grow their own vegetables or buy from others, paint their own house or hire a painter. In the commercial sphere, the make or buy decision determines the scope of the firm. For example, a firm that needs its offices cleaned must decide whether to hire cleaners as employees or contract the cleaning services out to another firm.

Whether the firm contracts out or provides a service itself depends on the costs and benefits of dealing through a contract between firms rather than within a firm.[2] A firm will be more likely to hire an employee to provide the service when the costs of contracting are high. The costs of contracting include the costs of negotiating and enforcing contracts and in dealing with the unprovable and unexpected. Enforcement may be costly if important factors are non-verifiable (cannot be proved to outsiders, such as a court), if it is difficult to express relevant information and if monitoring is difficult.

If there were no contracting costs, it would not make any difference whether the firm contracts out or provides itself. In either case it would write a perfectly detailed contract that sets out what it wants in all possible circumstances.

In practice, a contract is necessarily incomplete. It is impossible to write a detailed contract that anticipates, describes and deals with all the many things that may happen.[3] Some things are non-contractable: they are too complicated, unlikely or unpredictable to specify. Many contingencies will be left out. Revisions and renegotiations will take place, and they are costly.

A cost is that the mere possibility of renegotiation may encourage one party to take advantage of the other, so-called opportunistic behaviour. For example, there is the 'hold up' problem. Once the parties invest in their relationship, those investments are often not recoverable (are sunk). That is, something is lost if the relationship breaks down. Each party realises that it can ask for more from the contract, hold up the other party, and yet it will not pay the

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2 Coase (1937).

3 The description of the causes and consequences of incomplete contracts is based on the introduction to Hart (1995), which provides an overview of his work on this issue.

other to break the relationship. There is no easy way to distinguish such opportunistic behaviour from renegotiation motivated by a change in circumstances.

The transactions costs of negotiating contracts, and of ensuring the outsider does what the firm wants, may mean work can be better organised using the internal administrative processes of the firm than by detailed contracts.

A firm would rather make than buy if unforeseen contingencies are likely and if the contract is difficult to enforce and gives rise to opportunistic behaviour. The appropriate activities to undertake within the firm may vary over time and in different circumstances.

Reasons why it may be cheaper for the firm to provide the service itself include:

- the firm may have different dispute resolution mechanisms (for example, not courts of law, because something may be observable but not provable);
- monitoring costs may be lower within the firm; and
- there may be advantages in giving someone the authority to direct rather than renegotiating the contract in the light of unforeseen or unusual events.

These benefits need to be weighed up against the costs of conducting activity within the firm. For example, it may be desirable for the assets to be owned by the party in the best position to control costs. If a local manager plays a key role in cost control, say through management of staff, then there is a strong case for ownership to be decentralised. In many situations the importance of providing correct incentives for efficient local management dwarfs the hold up problem and results in a contractual relationship.[4] Moreover, if there are repeated interactions between the parties, hold up problems may be solved through each party's incentive to build a reputation for fair dealing.

When should the government provide education?

It is only in the public interest for the government to provide education in quite narrow circumstances. The requirements are:

- there is a valid reason why government control over schools would promote the public interest;
- an important aspect of education is non-contractable so that control is better exercised through ownership than through the use of regulation or contract;
- these benefits from public ownership exceed the associated costs.

[4] Holmstrom and Roberts (1998).

The case for the government to provide education must be that it is too costly to specify what is to be provided in a contract with a private school. For example, if school quality is hard to specify and measure, a private school may skimp on quality and not deliver what was promised in order to save money, and this may be difficult to prove. Alternatively, if quality is measurable but it is difficult to measure the contribution of the school, the school may blame poor student performance on lack of resources and demand more from the government.

Public provision will be an improvement in two cases. The first arises where the government has some advantage in monitoring quality when it provides the education. The second arises if the reduced incentive for those in government schools to cut costs (so-called soft incentives) decreases the incentive to reduce non-contractable quality compared with the hard incentives of profit-making firms.[5]

Neither case is particularly plausible. It is not clear that the political process provides a better way to ensure non-contractable quality is maintained in schools than through contract. Information on school quality in the public system is often suppressed or deliberately not collected in response to pressure from teacher unions. (See chapter 3 'Rank refusals: lack of comparative information'.)

The soft incentives argument assumes that the higher costs of public schools reflect the maintenance of non-contractable quality. Yet the higher costs may instead go to benefit various special interests in public education. For example, powerful unions may capture some of the extra expenditure for their own benefit. The evidence is that, in public education, higher costs do not lead to higher quality. (See chapter 5 'The empirical evidence on the effect of school resources'.) It is not clear that the incentive to reduce non-contractable quality in order to boost wages and conditions of those in public education is any less than that faced by contractors wanting to increase profits.

A number of the rationales for government intervention do not provide a reason for the government to control what schools do. They do not question the type of education provided by the private sector and, therefore, do not require the government to ensure a different type of education is provided. Public provision is not the best response. It is better to use policies targeted directly at the relevant problem.

For example, capital market imperfections, where people cannot undertake the education they wish to because they cannot borrow to finance it, may provide a reason for subsidies or loans. Equity objectives may provide a case for transfers to the poor or their children. Peer effects can be manipulated by direct regulation.

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[5] This case for public provision is set out in Hart, Shleifer and Vishny (1997).

For compulsory schooling to bring the child up to a minimum standard when parents have been neglectful requires that a minimum standard can be objectively measured (so it is known when a child needs protection) and that compulsory schooling can ensure it is reached without parents' co-operation. It seems possible that a minimum standard is contractable and so private contractors can be used. The contractors should be required to bring the children up to the minimum standard, and only be paid if they do. Usually, school quality is difficult to measure because it is difficult to disentangle the influence of non-school factors, but, in this case, it is assumed that the parents are playing no role in the education of their child. The single largest group of for-profit schools in the United States actually serves the disabled and at-risk students under contract.[6]

If externalities come from particular types of education, then simply subsidising all education will not ensure they are produced. If schools cater to parents, they will focus on private benefits. The government must contract with, or regulate, schools to ensure they produce the relevant externalities. The case for public provision comes from production of the relevant externalities being non-contractable. An example of such an externality is social cohesion.

Social cohesion

Social cohesion is a potentially important externality. In a democracy, these externalities may be extensive: "education shapes values, values shape votes and votes shape policy".[7] The political environment that B lives in and the laws that shape B's life depend on A's education. In any society, avoiding conflict between different social groups is an important objective.

If education is left to market forces, the education provided would mainly be what parents wanted and education that promotes social cohesion may not be provided.[8] In a market process, parents can educate their children in the way they desire if their views are shared by even a relatively small number of others. Some values-based organisations, such as churches, would offer subsidised education that indoctrinates their own values. A market system could result in parents sending their children to private schools that reinforce the family's political, ideological and religious views and create social division, religious sectarianism and disrupt national identity and solidarity. The values taught at different private schools may be incompatible with each other and

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6 Coulston (1996). See chapter 9 'For-profit schools' for an example.
7 James (1991).
8 Levin (1991) sets out this argument.

divide the nation into religious, racial and ethnic groups. For example, private schools have been accused of perpetuating religious bigotry.[9] In the United Sates, critics of the use of markets in education warn of Balkanisation and have even claimed that voucher programmes "could end up resembling the ethnic cleansing occurring in Kosovo".[10]

It is not necessarily divisive to have segments of the population in religious schools. That depends on what is taught in them. Religious schools may teach tolerance – and what evidence there is suggests they do a better job than government schools at doing so. (See chapter 9 'Production of externalities'.) The social cohesion objective may justify regulating what is taught in schools to ensure children are indoctrinated with views, such as tolerance, that will support a stable society. It does not necessarily require wholesale closure of religious schools.

For example, the current mandatory requirement that curricula at private schools "provides suitably for the inculcation in the minds of students sentiments of patriotism and loyalty" may be justified as preventing Muslim fundamentalist schools training students to undermine New Zealand from within.[11] This case may be clear-cut, but others may not be. Would all university departments pass this test? Further, general anti-discrimination laws and restrictions on free speech apply, and it is not clear that extra education-specific regulation is needed.

If parents consider values to be important, they will choose schools that reinforce, or at least do not undermine, these values. If 'common values' were widely held in the population, they would then be widely taught in a market system. If they were not widely held, it is difficult to see how they could be called common values or that a democracy would provide pressure for the government to ensure they were taught.

Social norms and pressures encourage parents to ensure their children learn widely held values, simply to get on in the society they live in. Many parents will deliberately choose a socially integrated school as the best preparation for their children to fit into a diverse society. If parents do not want to send their children to such schools, zoning will not help create integration because parents can always segregate through housing choices.

There are few concrete examples about what type of courses and curricula promote social cohesion, and little evidence about their effectiveness. Transmission of values does not only occur in schools. The community and

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9 See Matheson (2000) p 16.

10 See the summary of such claims in Fuller and Caire (2001) pp 21–22.

11 Education Act 1989, section 35A.

families are also sources of values and culture. It is not clear how successful or beneficial it would be to teach values in opposition to those that parents want.

The argument for public provision to promote social cohesion assumes that it is necessary and feasible to do so and that the political process produces social cohesion as a goal for schools.

'Common values' are often anything but common and tend to be most controversial. Moreover, there is unlikely to be a consensus view about something as complex and multi-faceted as values and about how society should be run. Those who do not share the chosen views are alienated.

When there are differences of opinion about what social and cultural values should be taught, the social-cohesion objective then conflicts with parental freedom of choice, the rights of minority groups and liberty. An important example of the clash is the freedom of parents to choose a denominational education for their children in the religion of their choice.

Difficult issues are involved. New Zealand is an immigrant society with a sizeable ethnic minority. Does this mean that social cohesion is more important? Or should diversity in cultures, religions and attitudes be respected? Who determines the social values to be pushed by the government? Is it prudent to have the government of the day dictate what is to be taught in all schools? When one curriculum is imposed on all, the costs of mistakes are large. Some argue that government control over what is taught in schools, which attempts to influence how we think, risks totalitarianism.[12]

When the government determines what views are to be indoctrinated in schools, rather than promoting social cohesion, it may use its powers to help politically powerful interest groups. For example, it can transfer wealth towards producer groups, or indoctrinate beliefs that further the aims and promote the values of those who control government to lower the cost to the government of making transfers. Totalitarian governments spend a greater percentage of GDP on public education than democratic ones.[13]

The power of extreme views may be stronger in the political process than in the market place. For example, a minority group with the balance of power in parliament might successfully push a particular view resulting in a poor curriculum being imposed on everyone.

Far from promoting social harmony, government control over the curriculum often politicises educational issues and fosters confrontation. For example, when the curriculum is centrally determined through the political process, conflict is created as groups with different ideologies battle over what is to be in the

[12] For example, Mill (1859) p 177; Bast and Harmer (1997).
[13] Lott (1987), (1987a).

common curriculum. Because there is a large gain from winning (you get to determine what is taught to everyone) and the costs of losing are great (you have an alien ideology forced on your children), many resources can potentially be used up in the battle. The result may be to reduce social cohesion. Is it less divisive to force parents to pay for, and send their children to, schools that do not represent their preferences? A further problem is that the winners of the battle often impose bureaucratic controls on schools to ensure compliance, and that their victory is not easily reversed.[14]

The alternative view is that what is taught in the curriculum is better resolved through competition in a market process rather than being imposed through the political process. That is, plurality and competition in ideas will lead to better outcomes and may reduce social conflict. For example, Coulston concludes:

> Historically, it has been coercion, not diversity and choice, which has lead to social conflicts over schooling. When heterogeneous populations have been forced to pay for and/or attend a single official school system, it has inevitably led to a fierce contention to control the content of that schooling. Choice in education, much like choice in religion, has allowed diverse groups to coexist far more peacefully.[15]

Many academic disciplines progress through the open competition of ideas, and academics are protective of complete academic freedom and autonomy to determine what is taught at the university level. In New Zealand, legislation enshrines the role of universities as a 'critic and conscience of society', the opposite to inculcating common values. Yet some academics insist the government control what is taught in schools.

Even if there are externalities that require the government to control what schools do, they are only some of the outputs of schools and their size is unclear. It makes no sense to build the whole education system around uncertain benefits to third parties.

The externality argument does not justify public provision throughout the entire education system. At least some years should focus on producing private human capital. For example, education may promote social cohesion through inculcating common values. But students need to be able to read for this indoctrination to work. That favours private schooling in the early years, because the private sector is more efficient at producing private human capital.[16]

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14 Chubb and Moe (1990) pp 38–45.
15 Coulston (2001) p 4.
16 This argument is from West (1990).

Supply by non-profits as an alternative to public provision

The non-profit sector has always been important in education, possibly because the non-profit character of suppliers encourages honest behaviour that creates trust from consumers. No-one has a legal claim to a non-profit organisation's earnings, any surplus must be put back into the school. It may go into perquisites and increased salaries for those who manage or work at the school. Or, it may be used to increase quality, improve facilities or promote ideological content. The incentive to cut costs by downgrading non-contractable quality is less if those who run the school care about quality directly, or, if they value a dollar of perquisites less than the owner of a for-profit firm values a dollar of profits. When consumers cannot judge quality, they may prefer to purchase from a non-profit firm because it has soft incentives and is less likely to behave opportunistically.[17]

The same criticism that was made about this argument in the case of government schools applies to non-profit schools. The incentive to reduce non-contractable quality in the non-profit sector may not be much less than that in for-profit firms. Increased costs may instead be used to finance improved pay and working conditions for those who manage and work in the school; and there is no shareholder scrutiny of managerial pay. The evidence is mixed on whether non-profit firms actually provide higher quality services than for-profits.[18] When increased quality was supplied, the non-profit services were more expensive. Further, in the for-profit sector, a firm's reputation may be used to guarantee quality. For-profit firms operate industries where information problems loom large, such as the in the car repair business. (See chapter 8 'Information provision'.)

The argument that high costs are used to maintain quality is more plausible in the case of the non-profit sector than for government schools because support for non-profits remains voluntary – they must attract revenue from customers or donors to survive, which provides incentives to maintain quality and constrains trustees. In contrast, those in government schools can erode standards at little cost to themselves.

The existence of non-profit organisations narrows the scope for public provision even further. The quality assurance rationale is limited to cases where public provision can do a better job than non-profit organisations at guaranteeing quality. Non-profits may have the edge over public sector providers if they can

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17 See Shleifer (1998) p 140; Rose-Ackerman (1996).

18 See surveys in Blank (1999) p 13; Rose-Ackerman (1996) pp 721–723; Lieberman (1989) p 179.

be monitored and controlled more easily by customers and donors than government firms can by taxpayers.[19]

PROBLEMS WITH THE POLITICAL PROCESS

> There is, as it were, an invisible hand in politics that operates in precisely the opposite direction to Adam Smith's invisible hand. Individuals who intend only to promote the general interest are led by the invisible political hand to promote a special interest they had no intention to promote.[20]

It is one thing to say the market is imperfect, but quite another to say the government will do better. There are two problems with the assumption that the government intervenes to promote the public good.

- The first is whether the government will have that objective. A competitive market can lead (through the invisible hand of the price mechanism) to an efficient outcome from self-interested behaviour rather than from any conscious concern for the public good. There is no equivalent mechanism in the political process that automatically implements appropriate policies when there is a potential gain from intervention.
- Even if the government does have the correct objective, the second problem is whether it is capable of achieving it. For example, it may not always have the necessary information to do so.

It is important to compare actual outcomes with feasible alternatives, not with textbook perfection. What matters is whether, in practice, imperfect markets work better than imperfect governments. Governments are not necessarily benevolent or infallible and it is an open question whether government interventions actually increase equity and efficiency.[21]

The case for intervention depends on externalities, information problems and non-contractable educational outputs. Yet the political market itself is riddled with the same problems. Voting to choose governments involves externalities, the incentive to produce and use information on government performance is poor and government management of policy is non-contractable and difficult to observe.

There may be strong public interest reasons for the government to be involved in education, but the operation of the political process may expand its

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19 Rose-Ackerman (1996) p 716.

20 Friedman and Friedman (1979) p 340.

21 References on imperfections in the political process include Peltzman (1989); Friedman (1990) pp 545–550; Peltzman (1976) pp 211–240; Stigler (1971); Rosen (1999); Browning and Browning (1994) chapter 3; Sowell (1980) pp 114–150; and Chubb and Moe (1990) pp 26–68.

involvement until incremental costs exceed incremental benefits. For example, public provision may initially have been motivated by a desire to help the poor, but it has been extended to almost 90 percent of the student population.

The political process involves voters choosing between political parties each putting up a bundle of policies. When choosing between packages of policies, voters are led to support some policies that they do not want in order to get the ones they do want. Most people will not agree with all the policies of any party and are even less likely to agree with the policies of the winner. It is quite possible that a party can win an election with education policies that a majority of voters oppose. Many voters care more about other issues, and those who care most about education policies are likely to be those who derive their livelihood from government spending on education.

A market process has prices to convey effective knowledge of inherent constraints, the political process does not.[22] There is nothing to ensure that the bundle of promises made by politicians or the demands of voters are consistent, accurate or feasible. For example, a politician may promise to increase spending and not raise taxes or increase the deficit.

Friedman and Friedman (1979) set out the different ways to spend money. You can spend your own money on yourself. In that case you have an incentive to economise and get value for money. You can spend your own money on someone else. You will economise, but not get full value from the recipient's point of view. You can spend someone else's money on yourself – you have no incentive to keep down cost, but do get value for money. Or, you can spend someone else's money on someone else. Then you have little incentive to economise or get value. In fact, you have a strong incentive to satisfy your own tastes at the expense of the recipient. Most government programmes involve voters, politicians and bureaucrats all spending someone else's money on themselves or someone else. Both lead to a push for bigger programmes and to poor value for money. They have little incentive to economise or spend the money in the way most beneficial to the recipient. This explains the wastefulness and ineffectiveness of much of the spending.[23]

A major cost of government intervention is that it encourages resources to be spent in rent-seeking – lobbying for political and financial favours. The availability of government support, even for good reasons, inevitably encourages increased rent-seeking. Resources spent on lobbying efforts in promoting and opposing a government decision are a social cost. Rent-seeking imposes negative externalities on others, so there is too much of it. Do we

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22 Sowell (1980) p 119.

23 See Friedman and Friedman (1979) pp 146–147.

want to live in a society where the best lobbyists, rather than the most productive, succeed? Where producer groups rely on government protection or regulation instead of improved service at reduced cost to protect and promote their interests?

The whole 'consultation' process that the Ministry of Education uses to devise policy recommendations ensures interest groups are not threatened. It seeks their input, lets them shape policies and ensures whatever policy comes out does not threaten their interests. It has been pointed out that:

> Reform efforts are sorely handicapped by the widespread belief – eagerly nurtured by educators – that every stakeholder group must assent to any change before it can be made. This, of course, is a perfect prescription for maintaining the status quo, save for minor innovations on the margin that can be lubricated by extra funding.[24]

Further, it illustrates the mindset of the Ministry and education lobby – education reform is to be imposed from above, and usually is a single solution for all.

EVIDENCE ON PUBLIC PROVISION

The usefulness of US data

Many of the studies on the effect of competition, government ownership and regulation of schooling use US data. This is partly because it is available – the United States has a tradition of testing and also has a number of longitudinal data studies that contain detailed information on students and follow them through life. There is much hard evidence in the United States about the effects of education policies. It is also a fact that the United States dominates academic research.

The US studies provide useful information for judging schooling in New Zealand. One problem with empirical work in New Zealand is that the vast bulk of schooling is controlled by the national government – so there is little to compare it with. Education is primarily a state and local matter in the United States, and there is much variation between states, and between districts, to examine. For example, different states have different:

- degrees of centralisation of funding at the state level;
- rates of teacher unionisation;
- industrial relations laws;
- curriculum and testing policies;
- rules on entry of charter schools; and
- private school funding arrangements.

[24] Finn (1997) pp 236–237.

Although there are some differences in the funding and operation of schools between the United States and New Zealand (particularly the use of local property taxes to fund schooling in most US states), the empirical studies often have thought-provoking results that alert us to possibilities that are often ignored in New Zealand. They challenge many dogmas that rule in New Zealand education and provide evidence on how similar policies and practices have worked in the United States.

New Zealand is equivalent in size to the median US state, and the Ministry of Education is equivalent to a US state department of education.[25] The two countries have much in common:

- a shared English-speaking heritage;
- similar problems with the education of significant urban minorities;
- United States' educational ideas and practice have had an enormous influence ('progressive' educational philosophies, originating in the United States, have been adopted in New Zealand).

In the United States, hard evidence of a decline in educational standards was provided by standardised test data. A 50-year trend of gains in the knowledge and basic skills of those graduating from high-school was reversed in the mid-1960s, when a decline that lasted until the early 1980s started. This pattern was observed on tests of both achievement and aptitude. For the first time, new entrants to the workforce were not better prepared academically than earlier generations with the same amount of schooling. The decline appears to have been caused by something that happened to children after the fourth grade, because test scores of first to fourth graders increased.[26]

The fall took place despite increases in per-pupil expenditure (which was driven by drops in class sizes). From 1960/61 to 1980/81, real expenditure per student in the United States more than doubled, and average class size fell by one-third.[27]

Some argue that the test score decline was not the fault of schools but was caused by non-school factors, such as:

- an increased proportion of children living in poverty;
- increased crime; and, especially,

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25 Fiske and Ladd (2000a) p 11.

26 See Bishop (1989); Murray and Herrnstein (1994) pp 423–427; Hirsch (1996) p 39 and Hanushek (1996a) pp 49–51.

27 Hanushek (1996) p 13, table 1.

- changes that reduced parental input into children's education such as the growth in working mothers and single-parent families (caused by welfare policy and increased divorce).[28]

On the other hand, different trends appear to be positive forces for student achievement – family sizes have fallen and parental education levels risen.[29] The importance of these various factors is not clear. Given that the biggest test score falls were for able students, for whites and for those in suburban schools, it appears unlikely that problems of increasing poverty and social disintegration are to blame. Because the declines did not show up until after the fourth grade, it is difficult to believe a decline in levels of parental inputs were to blame.

Why did test scores decline in the face of massive increases in resources devoted to schooling? Some recent studies shed light on the collapse of productivity in US schools. They also provide evidence on what may be the cause of poor performance in New Zealand's schools and how to go about fixing it.

Intercepting money thrown at schools: unionisation, centralisation and politicisation

Economist Sam Peltzman examines the causes of the decline in test scores for college bound and non-college bound students.[30] Given the pattern of test score declines, he looks for variables that changed considerably in the 1960s and 1970s and either stopped changing or reversed course thereafter. This rules out, for example, television watching as a cause.

Peltzman finds that the declining performance of America's schools can be explained by changes in the political economy of public education – specifically the growth in teacher unionisation and the centralisation of school finance towards the state rather than the local level. The effects show up first in the college bound students, then on the non college bound.

Teacher unionisation was non-existent in the United States prior to 1961. By the late 1960s half of all teachers were unionised, three-quarters by the late 1970s. Union density is currently about the same as it was in 1980.[31] The proportion of students enrolled in unionised public school districts has grown from 1 percent in 1963 to 43 percent in 1992.[32]

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28 See, for example, Hedges and Greenwald (1996) p 75.

29 Hanushek (1999) p 138.

30 College bound in Peltzman (1993) which uses Scholastic Aptitude Test (SAT) and American College Test (ACT) scores; and non-college bound in Peltzman (1996) which uses AFQT scores of military applicants and draftees. Both are self-selected samples, but he detects no selection bias.

31 Peltzman (1996) pp 80.

32 Hoxby (1996c).

One of the most important trends in US schooling has been the decreased reliance on local property tax-based funding and increased reliance on state funding. From 1960 to 1980, state governments increased their share of funding from 40 to 50 percent. The share then stabilised. The proportion varies widely from state to state (for example, in 1990 it was 100 percent in Hawaii and 7 percent in New Hampshire).[33] Increased state funding decreases local control and increases central control.

Local property tax financing, combined with residential choice, gives a high level of allocative efficiency. It provides incentives to both residents and school staff to maintain effective and efficient schools. School districts must compete with one another or risk losing students to better-performing districts. Families are attracted to districts with successful schools, and school success raises local property values. Districts with unsuccessful schools experience falling property values. This provides local residents an individual incentive to monitor school performance and either to support the status quo if it is producing good results, or to work for change if it is not. It also rewards schools that perform well, because rising property values increase property tax revenues, which gives school personnel an incentive to provide high-quality and efficient schools.

Local financing allows diversity, as well as giving parents some choice and matching expenditure levels with parental preferences. It is not a perfect mechanism – certainly it is more costly to exercise choice, and incentives are much more limited compared with a voucher scheme – but it does quite well. For example, with local financing it is not necessary for all residents of a state to agree on what makes a school desirable. As long as a sufficient number of families find the school district's programme desirable, house prices will be maintained.[34]

When more funding is from the state government, schools become more oriented towards that government than towards local families. Political action, lobbying and playing the system rather than improved service are encouraged as ways to increase producer benefits. There is a drift away from local control and autonomy, a reduction in parental responsibility and in incentives for cost-efficiency. Student achievement is closely and positively related to the percentage of funding derived from local sources.[35]

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33 Hoxby (1997c).

34 The last two paragraphs are based on Hoxby (1996a) pp 56–57 and Hoxby (1997c).

35 Hoxby (1997c).

Peltzman focuses on cross-state differences in the changes in school performance over time. States that went the furthest in centralising finance and unionisation had the greatest test score declines. He finds that the negative effects are through state policies rather than through schools. That is, the effects are fairly uniform within a state despite the fact that unionisation is not. He also found common effects across disparate groups within a state. For example, centralisation did not narrow the gap between the top and bottom of the achievement distribution or help the bottom quartile of students or blacks. Although these groups have done better over time, increased centralisation tended to retard their progress – despite the fact that increased state funding was often motivated by a desire to make educational spending between rich and poor areas more equal. Either centralisation did not equalise resources or the associated negative effects outweighed the impact of increased resources for the poor.[36]

Suggestions for the state policies associated with centralisation and unionisation that led to the declines in student achievement include:

- a dumbing down of textbooks, curricula and requirements for homework, courses and graduation and a neglect of the gifted;[37]
- poor discipline policies that affected teacher and student incentives;[38]
- low academic standards and an anti-intellectual curriculum focused on psychological conditioning, social propaganda and ideological indoctrination;[39]
- progressive education practice and lack of a core curriculum.[40]

Most of these authors agree that faddish curricula played a role. Other possibilities include policies that protect public schools from competition. The policies that have been blamed for the decline in educational standards in the United States have been introduced in New Zealand over the 1990s.

Peltzman finds little support for the notion that a broad process of social disintegration is responsible for the decline of public education, even though divorce and crime rates peaked or flattened around 1980 when the academic decline ended. The marginal explanatory power of growth in crime rates and children living in single-parent households is nil.[41]

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36 Peltzman (1996).
37 Murray and Herrnstein (1994) p 417.
38 Murray (1984) pp 172–175.
39 Sowell (1993) pp 21–102.
40 Hirsch (1996) p 179.
41 Peltzman (1996).

The finding that the growth in unionisation and centralisation were responsible for the sharp decline in student academic performance in the United States has strong implications for New Zealand. New Zealand has a highly centralised and unionised school system. More than 90 percent of school funding comes from the Ministry of Education, and teacher unions represent more than 80 percent of teachers.[42]

Hoxby (1996c) also finds that teachers' unions increase school inputs but sufficiently reduce productivity to have a negative overall effect on student performance. She finds that union effects are magnified where schools have monopoly power. She measures carefully the extent of unionisation, accounts for the omitted variables problem – some school factors may cause both unionisation and poor performance (for example, incompetent administrators) – and uses longitudinal data that allow her to examine changes in unionisation over time.

Hoxby estimates that unionisation raises per-pupil spending by about 12 percent – three-quarters of which goes for increased teachers' salaries and reduced student/teacher ratios. Unionisation raises teacher salaries by about 5 percent and lowers student/teacher ratios by about two students per teacher. Yet unionisation raises student dropout rates. In non-unionised schools, reduced student/teacher ratios and increased teachers' salaries reduce dropout rates. In unionised schools, neither student/teacher ratios nor teacher salaries affect dropout rates. The findings on the effect of unionisation on costs are consistent with earlier studies.[43] A recent survey of the literature summarises the evidence as "the general sense that is emerging suggests a negative role for unions when isolated from competition through a centralised school bureaucracy".[44] How do unions decrease student achievement?

The role of unions

> When school children start paying union dues, that's when I'll start representing the interests of school children.[45]

You can read Ministry of Education guides to the education system in New Zealand and not find a single mention of teacher unions.[46] Yet media treatment

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42 Ministry of Education (1999c) p 42.
43 See Easton (1988) pp 56–57 for a survey.
44 Nechyba (1998) p 11.
45 Albert Shanker, former president, American Federation of Teachers, 1985 quoted in Clowes (2001).
46 See, for example, Ministry of Education (1999a).

of education issues invariably contains a quote from a teacher union official. In fact, the teachers' unions are extremely well organised, powerful and influential players in the education, policy and political arenas.

They are vocal opponents of privatisation. "Trade unions around the world are typically the strongest opponents of privatisation, precisely because they obtain significant benefits for their members from the government owned firms in exchange for political support."[47]

Union officials are just doing their job, but we should be clear about what that job is, because they have been successful in portraying their self-interest as concern about students. Teacher unions were established to promote teacher welfare and their job is to look after their members' interests – not to represent parents, students or to maximise educational achievement. Teacher unions invariably promote teacher and union benefits. For example, the teacher unions submit a wish list to incoming governments. For the NZEI the first priority at the 1999 election was more funding and the second was to abolish bulk-funding of teachers' salaries.[48] The Post Primary Teachers' Association (PPTA) must be admired for its honesty, its first key educational issue was: "the achievement of significant reductions in the work-overload of members".[49]

It is not surprising that unions decrease student educational achievement. If what was good for teachers was automatically good for students, schools could simply be turned over to be run by teachers. Unions will support policies that benefit students when student and teacher interests coincide, but if they conflict, union leaders look after their members' interests.

Unions may increase the overall budget, reallocate spending among inputs and affect the productivity of inputs. Unions divert extra school resources into the things they care about – increased teacher pay and improved working conditions (including reduced class sizes).

For example, unions often support reduced class sizes, which are claimed to increase student achievement[50] (although there is little evidence to support this assertion and the policy has a low, even negative, return). (See the survey in chapter 5 'The empirical evidence on the effect of school resources'.) There may be better ways to use the money required to reduce class size, but smaller class sizes mean an easier life for teachers and more teachers – which translates into more union members. Certainly, the unions would not support wage cuts or increased contact hours for teachers in order to reduce class sizes. Nor is it

47 Shleifer (1998) p 142.
48 Ministry of Education (1999e) pp 31–32.
49 Ministry of Education (1999e) p 36.
50 For example, see Ward (1999) p 6.

likely that teacher unions would strike to reallocate money towards more computers and fewer teachers if that was in the children's interests.

Public sector teacher unions have a strong incentive to be politically active to influence the behaviour of their employer, the government. In effect, they help elect their board of directors and management and play a role in determining the agenda for those facing them at the bargaining table. The outcome of teachers' strikes depends on the mobilisation of public and political opinion, not on economic pressure.[51] For example, the employer does not lose revenue during a strike, as in the private sector.

The evidence from the Peltzman study is that unionisation reduced school performance in the United States mainly through their effect on centralised public policy.[52] Unions have large political clout at the centralised level and, as a result, central departments often set rules and regulations that promote union objectives. The Ministry of Education in New Zealand even uses its centralised payroll system to collect union dues and transmits them to the union. Teacher unions will be interested in any education policy that affects terms and conditions of employment. They also influence other education policies, such as the extent of competition between schools and curriculum policies.

Teacher unions "try to eliminate wage competition, restrict entry to the occupation, increase demands for services provided by union members and weaken their rival service providers".[53] For example, unions try to prevent government subsidies to, and impose regulatory burdens on, private sector rivals. They attempt to monopolise labour markets, and so form an obstacle to the introduction of competition and choice. It is in their interest to maintain the monopoly position of government schools and a politicised process for determining education policy. The PPTA lists as a priority "the defeat of salaries bulk-funding and of the marketisation and privatisation of the education system".[54]

The empirical evidence is that autonomy in personnel matters is key to a school's success. (See chapter 9 'Private versus public shools: advantages of a private education, Evidence on school characteristics'.) The importance of good teaching makes autonomy in choosing and setting incentives for staff vital. That is exactly what unions want to prevent. They push for centralised control over who schools can hire, how much they can pay them and whether they can dismiss staff. For example, unions promote restrictions on disciplinary action

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51 Lieberman (1997) p 110.
52 Peltzman (1993) and (1996).
53 Lieberman (1997) p 29.
54 Ministry of Education (1999e) p 36.

that make it extremely difficult to dismiss incompetent teachers. Unions protect members of the union – whether they are good teachers or not.

Unions have a profound influence over teacher compensation and working conditions. The effects of unions on these matters will be discussed in a later chapter. (See chapter 6 'Teacher pay and industrial relations'.)

INNOVATION AND PUBLIC OWNERSHIP

An important aspect of the education system is its 'dynamic efficiency', whether it can improve over time by offering increased quality, or the same quality at reduced cost. Although there is much change in the public system, with drastic changes to administration, the curriculum and assessment in recent years, most have been imposed from the centre, and it is not clear whether they have been improvements or not.

Spending on new technology is low. In 2002, the net depreciated value of information and communications technology equipment owned by state schools in New Zealand was only $119 million,[55] less than 4 percent of the total annual spending on schools and less than 2 percent of the value of buildings and land.

Most spending in education goes towards salaries. What little research and development spending there is mainly goes towards servicing policy makers rather than improving the product.

A number of writers have commented on the lack of innovation in schooling, despite the substantial innovation in communications and information transmission and storage elsewhere in the economy. One author asks us to imagine time travellers from the 1890s visiting schools and hospitals of the 1990s and observing the differences in the use of technology. Surgeons would not recognise the modern operating theatre, but teachers would be immediately familiar with their surroundings.[56] Murray puzzles over why schools struggle to teach literacy in what should be a golden age of improvement. In other services, new technology has led to more options and flexibility, lower costs and better value for money.[57]

The lack of innovation in the public sector is often blamed on rules and bureaucratic limitations. These things certainly make change difficult, but often arise because of the need to control risks imposed by decision makers who do not bear the costs of bad decisions.

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55 Ministry of Education (2003a) table A.25, p 79 and table A.34, p 82.
56 See Papert (1993), cited in Caldwell and Hayward (1998) pp 6, 136.
57 Murray (1997) p 90.

Lack of innovation is inherent in government ownership. Those who possess the information necessary for desirable innovations, such as principals, often have neither the incentive nor power to implement many desirable changes. Those who do make the decisions do not receive the resulting income flows, so have little incentive to reduce costs and improve quality, because they do not capture the benefits from doing so.

Instead of letting the market decide which innovations to keep and reject, large-scale experiments are imposed on all by decision makers who do not bear the costs for being wrong and have little incentive to change when mistakes are made. Further, they simply do not have the information to judge the value of the changes to consumers. When useful research is produced, those at the school level seldom use it. As Lieberman summarises, "The fundamental problems with educational research are that there are no compelling incentives to conduct useful research, even to know what it would be, and no compelling incentives for educational personnel to utilize what little research of value may have materialized".[58]

An owner has strong incentives to make investments that improve the ways, or reduce the costs, of using their assets because the owner reaps rewards from the innovation. Without ownership, the incentives to invest and innovate are reduced because the inventor must get the permission of the owner to implement the innovation and share the benefits.[59]

The political process that runs public education distorts the incentives to innovate and what innovations are adopted. For example, the power of unions would prevent the introduction of labour-saving technology. Indeed, even research and development expenditure on labour-saving technology is blocked despite its potential importance in such a labour intensive sector.

The potential importance of new technology, and the need to have feedback on the desirability of its adoption in education, weakens the case for public ownership. The cost from poor incentives in a publicly owned system is increased in times of fast-paced technological change and vast opportunity.

The lack of innovation from the school level in a centralised system and the lack of incentives to stop undesirable changes is a major fault that has probably thwarted many desirable innovations. Innovations must be subject to a market test, so that they are only adopted if chosen by parents over existing methods, to ensure that they better meet family needs.

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[58] Lieberman (2000). See also Lieberman (1993) chapter 11, pp 249–272 for an analysis of the problems with education research and development in a public monopoly system.

[59] Shleifer (1998) p 137.

PROPERTY OWNERSHIP, MANAGEMENT AND SUPPLY OF CAPITAL

Property management is another area in which it is possible that the government could create increased efficiencies through economies of scale. But in reality, it has become a model of inefficiency. The net carrying value (after depreciation and assuming that it is restricted to educational use) of Crown-owned school land and buildings was $6.3 billion in June 2002. A further $841 million was held in the schools sector fixed asset portfolio, valued at historical cost and after depreciation at the end of 2002.[60]

The Ministry of Education determines the number, location and capacity of schools and how capital funding is allocated to them. Most of the land and buildings used by government schools are owned by the Crown and occupied by schools on the basis of property occupancy documents drawn up between the Ministry of Education and individual boards of trustees. Schools are responsible for the day-to-day management of their property, including predictable (within a 10-year cycle) property maintenance. The Ministry monitors school boards' property management and is responsible for major maintenance and capital works.[61] Boards of trustees cannot lease, buy or sell land and buildings without authority from the Minister or Secretary for Education and their borrowing is also restricted.[62]

The government provision of capital, and guarantee of borrowing, removes an important capital market pressure on management – monitoring by lenders, including denial of capital. Instead, government-owned schools are monitored through the political process, a less effective mechanism.

The Ministry provides and allocates capital directly to schools. It is provided 'in-kind' at no cost to schools, so there are no price signals to encourage efficient decisions about its use. Instead, schools are encouraged to ask for as much as possible and use whatever they hold. There are few sanctions for letting assets lie idle.

Capital is rationed through a politicised and bureaucratic process, with decisions made by those often ignorant of important information and with little penalty for incorrect decisions. For example, in the New Capital Works Programme, the Ministry sets national priority categories of work and a District Property Consultative Committee ranks projects within these priority categories.[63] These committees decide whether boys' schools should get more

60 Ministry of Education (2000a) p 66; (2003a) table A.25, p 79 and table A.34, p 82.
61 Ministry of Education (1999b) p 51.
62 Birtwistle and Guerin (1998) p 51.
63 Ministry of Education (2000a) p 216.

land than girls' schools because a rugby field is larger than a netball court.[64] Political rather than market incentives determine the amount and allocation of capital, and so consumers' demands and local needs count for less.

The current system creates incentives for lobbying, which results in wasted resources because schools put time and effort into competition over limited funds. This is on top of often time-consuming and uncertain bureaucratic processes used to allocate funds. The need to constrain decision makers at the school level in order to control fiscal risk, and the short time horizon of political decision makers, does not support long-term planning.

The Taskforce on the Development of Long-Term Policy for School Property, set up to advise the government on the best way to supply and manage school property, found a number of problems with the existing property provision system, such as:

- A conflict between the Ministry's policy advice role and its property provision role.
- Inflexible provision and management with little information on, and little weight given to, local views and needs. Property resources are not integrated with educational needs. Local boards cannot make decisions about the amount and type of property for the school. Nor can money to be spent on property be diverted to higher priorities.
- Inconsistent property allocations, with wide variations among schools serving comparable age groups.
- Political incentives that favour the status quo and discourage contentious reallocations of property among schools, even if they improve equity and efficiency.
- There is little sharing of facilities between schools in close proximity.
- There is little community use of school facilities or school use of community facilities (such as libraries).
- Often maintenance responsibilities are unclear. Some maintenance is difficult to classify as predictable or major. If schools neglect predictable maintenance, the costs are borne by the Ministry.[65]

The problem is a familiar one – the Ministry of Education lacks both the incentive and information to allocate capital efficiently. Capital does not become a free good just because the government supplies it – it has alternative uses. Capital

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[64] Example given to me by a former Treasury representative on such a committee.

[65] Taskforce on the Development of Long-Term Policy for School Property (1993) pp 10, 27, 38, 39, 41.

given to a school could be spent on other parts of the education system, or on building a hospital or road or be used to cut taxes.

The current system has little flexibility. It ties each school to one site, and each site to one school. There are limited incentives or opportunities for successful schools to expand. They cannot use market mechanisms, such as takeover, franchising and access to more capital.

At the same time, unsuccessful schools are kept open. It is a poor use of money to spend large amounts to provide capital for small numbers of students in declining schools. If the money tied up in keeping failing schools open were spent more effectively, it could provide much help for the children in them.

There are many ways local activity can reduce the cost of capital provision for schools, such as more intensive use of the capital stock to generate extra revenue. For example, schools are only in operation 180 days a year, and, on those days, many facilities are only used until 3.00pm. Facilities that could be rented out commercially include meeting rooms, parking spaces, auditoriums, work spaces, audio-visual and copying equipment, computers and recreational facilities (for example, tennis courts).[66] The school could be used at night for adult education and training classes and over summer for youth oriented programmes.

A further benefit is that these activities may provide employment and entrepreneurial opportunities for both students and staff. Easy access to a youth market may be attractive to commercial operators. For example, the many for-profit after-school student coaching franchise operations (such as Kumon programmes) could lease classroom space. Professionals who provide services to children (doctors, dentists, speech therapists) could rent school premises and serve children before, during and after the school day.[67]

Those who control schools do not receive the income flows from them and have little personal incentive to pursue these activities, especially if success means a cutback in government funding. Although some schools engage in commercial efforts, there is little doubt that school facilities are not efficiently utilised. The evidence from privatisation in other industries is that private ownership is more entrepreneurial. Private owners are better at spotting and pursuing opportunities to satisfy consumer demands and improve revenues.[68]

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66 Lieberman (1989) p 82; Lieberman (1993) pp 322–323.
67 Lieberman (1993) pp 83, 323–324.
68 Frydman *et al* (1997) p 3.

SUBSIDY IN-KIND

Government provision of schooling is a subsidy in-kind. The government offers the student a free place in a government school. The package of government education and subsidy is offered on a take-it-or-leave-it basis. The student must undertake the particular type and amount of education offered at that school in order to receive the subsidy.

If parents want a higher quality education, they must attend a private school. If their child attends a private school, their subsidy is cut, in effect a large implicit tax on choice of private school that discourages extra parental spending on education and encourages them to choose the quality offered by government schools.

Those who control government schools do not have the incentive or information to offer what parents want. For example, 'free' education means there are no price signals to convey consumer demands to producers. As a result, the government may provide services that consumers value less than their cost of production and fail to produce services that consumers do want. Further, there are no direct feedback mechanisms to improve performance. Often, the government never finds out whether it provided the right quality and amount of education.

Further, if parental preferences are diverse, 'one-size-fits-all' decisions imposed on all must leave at least some parents dissatisfied. To take one example, the government determines how much is to be spent per student and may dictate more or less than parents would be willing to spend in the absence of intervention, or if they were able to top up the subsidy. Clearly, there are many other dimensions of education, such as the curriculum, religious orientation and whether schools are single sex, where what the government provides is different from what at least some parents would choose in a market setting.

The public system does not provide very well for groups with special needs, including many disadvantaged children, and is not responsive to parents who seek something different. The public system is run through a political process and the incentives are to cater for those with political power. Small groups, with special needs, often have little political power at the school or national level. The parents of these children often have to seek out solutions themselves, and make their own arrangements for special schools – that is, they use the market. Under current financing arrangements, that is too expensive for many parents and their children are left, stuck in government schools that do not cater for their needs.

Government provision is inefficient because the quality provided does not match consumer preferences. In general, the education provided by the government will be valued by the recipients at less than its cost of production.

A subsidy in-kind crowds out, or displaces, private expenditure. Because government schooling is difficult to supplement, this crowding out may be greater than 100 percent. In the absence of government provision, most parents would be buying some private schooling for their children in the private market. Most parents' love for, and desire to help, their children to become successful, independent and prepared for adult life means they will ensure their children are educated.

When people take up the offer of a free place at a government school, they no longer buy private schooling – it has been crowded out by public provision. As a result, the amount of education received by some children may decrease.[69] For example, assume the government spends an average of $5,700 per student in government schools, and independent schools receive a government subsidy of $1,400 per student. (These figures are accurate for 2002/03, see chapter 5 'Government spending on schools'.) To attend a school that offers $6,700 of education, parents must pay $5,300 out of their own pocket (they have a subsidy cut, or implicit tax, of $4,300 when they choose a private school). It costs them $5,300 to get an additional $1,000 of education. Some individuals will accept the $5,700 government school place rather than the $6,700 private school place because the government school is more heavily subsidised. The student is induced to undertake the courses offered by the government, rather than higher quality (and more expensive) private courses, in order to receive the subsidy. Moreover, the taxes needed to pay for the subsidy reduce families' income and result in a further reduction in private education spending.

The same point applies to other aspects of schooling – the subsidy in-kind favours the particular model of schooling provided by the government and crowds out alternatives. Parents may prefer a single-sex school, a different school size, curriculum or religious orientation, yet send their child to a government school because it is subsidised more generously and so is much cheaper.

A subsidy in-kind encourages some to undertake more education and some less. If there are enough consumers whose acceptance of free education at a government school reduces their expenditure, the subsidy in-kind may actually reduce total expenditure on education. This is a real possibility. Certainly, if the critics who claim that the government starves its schools of adequate funds are correct, then it is more likely. When the government reduces subsidies to private

[69] Peltzman (1973).

schooling, which makes it more expensive for parents to choose to buy higher quality education at a private school, it makes it more likely that total expenditure will fall.

Empirical work in the United States higher education sector, where students choose between highly subsidised public universities and less subsidised private ones, has found that public provision increases the quality of education undertaken by low-income students, but reduces the quality for high-income students. The net effect is to decrease the overall quality of schooling.[70]

Certainly, a subsidy in-kind reduces the total quality of education undertaken compared with alternative, equal cost subsidy policies. For example, if the subsidy was given as a voucher that could be supplemented, it would force families to spend a minimum amount without the expenditure reducing effects of a subsidy in-kind. Moreover, some families that would consume less than the voucher with no intervention may choose to supplement it, adding to expenditure on education. Peltzman (1973) found that the largest part of expenditures and enrolment at government higher education institutions appears to substitute for private expenditures and enrolment. He estimated that the giving of government higher education subsidies in-kind, rather than subsidies that can be directly supplemented by the student, reduced higher education expenditures by 17 percent. Ganderton (1992) found that most students would choose to supplement a voucher in higher education.

Provision of free education is only one example of an in-kind subsidy in the education system. Often, schools receive in-kind subsidies from government agencies, with the provision of free or subsidised services, rather than a cash subsidy to buy the services themselves. The same inefficiencies apply: the services may not be what schools want and crowd out the school expenditure on those services. A school may accept a service from the government agency that is inferior to what it would have bought for itself, because the government's service is subsidised and cheaper. These considerations were behind the introduction of operations grants for schools to purchase their own maintenance services and supplies rather than have them provided in-kind. The in-kind provision often resulted in wasted expenditure, such as classrooms being repainted for the second time in two years while urgent repairs went unattended.[71] Many services, such as inspection, payroll, curriculum and assessment are still provided by government agencies as an in-kind subsidy.

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[70] See Ganderton (1992).

[71] Fiske and Ladd (2000a) p 32.

RESPONSIBLE GOVERNMENT: CONCLUSIONS ON PUBLIC PROVISION

> . . . as the dismal record of state enterprises around the world and the tragedy of communism illustrate all too well. . . . A good government that wants to further 'social goals' would rarely own producers to meet its objectives.[72]

If the government decides that it must control what schools do, it must choose whether the best way to achieve its objectives is to subsidise and regulate private providers, or to provide the education itself. The case for public provision comes from the government being able to control better what schools do if it directly employs teachers and administrators rather than contracting with or regulating private providers.

Public provision may be used to pursue the public interest or to achieve other objectives. The case for public ownership ignores the consequences of political control of firms. Unfortunately, the incentives facing government in the political system often mean public provision is used to benefit politically powerful special interest groups, which include teacher trade unions, education bureaucrats and the politicians themselves.

> Political considerations generally not only strengthen the case for privatisation, but actually are the crucial reason for it in the first place. Elimination of politically motivated resource allocation has unquestionably been the principal benefit of privatisation around the world.[73]

Public provision is not good way to encourage externality production. It is cost inefficient, which means fewer benefits are produced for a given expenditure. The fact that it is given out as a subsidy in-kind may act to reduce the total amount of education undertaken. Externality production may be reduced compared with no intervention, and must fall compared with a voucher scheme.

Likewise, if the motivation for government intervention is to overcome capital market imperfections, public provision will result in a worse education for many students compared with giving the same level of subsidy out as a supplementable voucher. Although public provision may increase the education received by many students to the level provided by the government, a supplementable voucher would allow parents to increase it still further by adding their own money.

In chapter 2 (see 'Equality of opportunity') it was argued that some parents may invest too little in their child's education. Does public provision result in

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72 Shleifer (1998) p 148.
73 Shleifer (1998) p 144.

improved education for these children? It is not clear that public provision increases the amount spent on these children, especially when the costs of the taxes needed to pay for it and compensating behaviour by parents are taken into account. (If the government invests more in a child, the child's parents may respond by spending less of their own resources on the child and more on themselves or their other children.) Further, cost inefficiency means children get less value from the money that is spent – and this makes it more likely that the net effect is to lower the quality of education received by many children.

Education must compete against other budget priorities in the political process, and it may not be successful. For example, the ageing population in New Zealand has already meant a higher priority in funding and attention to the health sector. It may be better to allow individuals to increase educational expenditure directly from their growing incomes without having to wait on the political process.

In addition, when a bureaucracy runs education, through a political process, then political power and negotiation skills become important and these are unequally distributed among parents. Inequality of opportunity for some children now stems from having politically weak parents.[74]

[74] West (1994) p 72.

5
SCHOOL SPENDING

INTRODUCTION

The education lobby alleges that voters support more government spending in education, yet few voters would have any idea how much the government spends on education – in total or per student – or how much the taxes required to fund spending cost them personally.

This chapter examines government spending on schools in New Zealand, who gains and what effect it has. Much of the effect of education subsidies is to redistribute over the lifecycle rather than between rich and poor. In fact, education spending goes mainly to middle- and high-income households and involves churning – taxing families to provide them with education they could have bought themselves. The excess burden of taxation makes this an expensive way to finance education.

The amount spent on education is its cost. Spending says nothing about the quantity or quality of education delivered. What effects would result from an increase in spending on education? There is evidence from a variety of sources that, given the way current government schools operate, extra measurable resources do not consistently improve student performance. More resources could fail to improve performance in government schools because inefficient practices waste resources, the extra resources are used to achieve objectives other than student achievement, or other changes offset any beneficial effects from the extra resources. These problems come from flawed incentives inherent in the government system.

EXPENDITURE

Government spending on schools

The Treasury estimates government spending on New Zealand's schools in 2003/04 to be more than $4 billion, averaging $5,450 per student. Central department expenses were a further $582 million, including depreciation and maintenance of capital.[1]

Government expenditure on schools does not include the cost to the taxpayer of having vast sums of money tied up in providing capital. In June 2002, the

[1] The Treasury (2003a) tables A.9 and A.10, p 28. Depreciation is included under departmental expenditure. Buildings are depreciated on a straight-line basis over 25 years. Revalued fixed assets are depreciated on their revalued amount on a straight-line basis over their remaining useful lives.

estimated net value of state-owned school land and buildings was $6.267 billion.[2] The Ministry of Education's capital charge is the estimate of the cash return the government might expect to obtain from an alternative investment of similar risk, but forgoes by allowing its assets in school property to be used for educational purposes.[3] In 2003/04 the capital charge came to $551 million, adding around $850 more per state-school student.[4]

Government funding per student varies with the type of school. Secondary students are funded at a higher level than primary school students. State schools receive more than integrated schools, which get more than private schools.

The government provides over 90 percent of the funding for state and integrated schools. Teachers salaries and operational funding represent 98 percent of government grants to schools. Schools also raise money from their students' families and local communities to supplement their government grants.[5]

A salaries grant is paid to state and integrated schools to remunerate staff holding designated management positions. The Ministry arranges for teachers to be paid their salaries directly. The Ministry determines each school's teaching entitlement based on the number of students and their grade distribution, and it meets the cost of teacher transfers and relief teachers. If a school does not employ the staff, it does not receive the funding, giving schools the incentive to hire their full entitlement of teachers. Each school's board of trustees selects its teachers, who are then paid according to the national salary schedule – which rewards years of teaching experience. As teachers at a school gain salary increments, the extra funding needed to cover the higher salary bill is automatically provided. Schools with a more experienced teacher profile, therefore, receive more funding than schools with the same teacher entitlement, but more junior (and cheaper) staff.

The government pays operations grants, based on the number and grade distribution of students, directly to state and integrated schools. It includes targeted funding for disadvantaged groups. The grants are administered by school boards. Schools are able to use the funding provided according to their priorities. The operations grant is used to employ administrative staff, for school maintenance, for services such as electricity, for books and can be used for extra teaching staff and learning resources.

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2 Ministry of Education (2003a) table A.25, p 79. The land and buildings are individually valued on a three-yearly cycle by Quotable Value New Zealand. Land is valued for its use for educational purposes only.

3 The Treasury (1996) p 42.

4 Ministry of Education (2003g) p 58, (2003c) table 1.

5 Ministry of Education (2003a) pp 60–62.

The government funds directly the building of new schools, acquisition of property, major capital works and major maintenance. The Ministry of Education provides these services in-kind to state schools.

Integrated schools own their own land and buildings. The owner is responsible for capital costs and integrated schools may charge attendance dues to cover them.[6]

Parents and students also receive direct government subsidies, such as student living allowances. A small annual allowance is available to approved home-schoolers.

Registered private schools receive a per-student government subsidy. In 1999 it was increased to 30 percent of state school grants. Students in Year 11 or above received 40 percent.[7] In 2000, the incoming Labour government capped the total amount of the subsidy at its 2000 level, $40.2 million per year.[8] Some private schools choose not to receive government funding and provisionally registered private schools are not entitled to such funding. The main source of funding for independent schools is tuition fee revenue from parents. There is no cap on fees charged by private schools.

In 2002/03, government grants to state and integrated schools came to $4,625 per student. Government funding per private-school student was $1,394 per student, 30 percent of the level for other students.[9] Further, students in state schools received explicit capital subsides of $245 per head and implicit capital subsidies of $850 per head (the capital charge), totalling $1,095.

The current financing arrangements give a large subsidy for those who attend state-owned schools, a smaller subsidy for those at integrated schools and a much smaller subsidy for those at private schools. It is equivalent to giving everyone a subsidy for schooling, but then taxing parents who use integrated or private schools. The implicit tax on children who use private schools is high. In 2002/03, students who used integrated schools each received $1,095 less than state-school students. Students in private schools each received $4,326 less (= $4,625 + $1,095 – $1,394). A further tax is added because GST is charged on private school fees (even though education is more investment than consumption.

Although it is true that the average income of parents of children who attend private schools is greater than those who attend public schools (most private schools are deciles 9 or 10[10]), that is a consequence of current financing

6 See chapter 10, Box 7: Integrated schools.
7 Ministry of Education (2000b) p 36.
8 New Zealand Institute of Economic Research (2003).
9 Spending from the Treasury (2002a) pp 2, 63. Student numbers from the Ministry of Education (2003c) table 1.
10 Duncan, Jacobson and Savage (1998). The decile ranking of schools' SES is explained in chapter 3, Box 3: School decile rankings.

arrangements. Subsidies to private schools are low, their fees are consequently high and it is difficult for the poor to afford to attend them. The implicit tax on private schooling is a badly targeted equity instrument. Why should a poor person who wants to attend a private school get little and a rich person at a public school get a large subsidy? The Targeted Individual Entitlement (TIE) programme paid for 160 children a year to attend private schools. The scheme was targeted at children from poor families, reduced segregation and received positive evaluations.[11] The beneficiaries were mainly single-parent and minority families. In 2000, the Labour government abolished the scheme, indicating that the opposition to subsidies to private schools is not based on notions of equity.

Within each level of schooling and type of school, per-student funding levels vary widely between individual institutions, depending on factors such as school size, their decile rating and enrolments of students with special needs. For example, each school receives a level of base funding, which means small schools receive more per pupil than large schools – and creates a disincentive for schools to merge.[12]

The distribution of government subsidies is targeted towards schools that draw from lower socio-economic communities. Part of the operations grant is given out on the basis of the schools' SES rankings, and low-SES schools tend to have a greater proportion of students who receive supplementary financing (such as the English as a Second Language and Maori language programmes).[13] Further, low-SES schools tend to be small, and smaller schools receive higher per student funding.

In 2002, net local funds accounted for just under 7 percent of school sector revenue. They come from voluntary fees and fund-raising activities. Not surprisingly, more is raised in higher SES schools than lower SES schools (see Table 1). Low decile primary schools raised 5.8 percent of funding from local sources. For high decile secondary schools, it was 8.2 percent.[14]

Despite claims that low decile schools with high proportions of Maori and Pacific Islands students "are the most poorly resourced" because they raise far less than other schools in private funding,[15] in fact, the opposite is the case. Schools in the bottom three deciles receive the highest level of total per-head funding – the extra government grants that low decile schools receive more

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11 See Gaffney and Smith (2001) of the Children's Issues Centre at the University of Otago, Dunedin for a summary of their evaluations.

12 Fiske and Ladd (2000a) p 142.

13 Ministry of Education (2000b) pp 49–50.

14 Ministry of Education (2003a) p 62.

15 Smithfield Project (1997) Ethnicity Article, p 106.

Table 1: Government grants and local funding per student by school SES – 2002

	Primary			Secondary		
Revenue	Deciles 1–3	Deciles 4–7	Deciles 8–10	Deciles 1–3	Deciles 4–7	Deciles 8–10
Government grants	4,249	3,697	3,352	5,770	4,900	4,342
Investments	42	32	30	60	61	51
Local funds	310	388	510	715	940	1,102
Total	4,613	4,136	3,915	6,591	6,032	5,362

Source: Ministry of Education (2003a) tables A.40–A.41, p 85. Note, total includes other revenue.

than outweigh their lower levels of private funding. Total funding per student declines as a school's decile ranking rises. 'Poor' schools receive significantly more funding per head than 'rich' schools. Most of the additional funds are spent on learning resources.[16] In the 1999 TIMSS repeat study, only the principals of high decile schools reported a serious effect on instruction of a lack of school resources.[17]

Who gains from education subsidies?

In 2003/04, the government will spend an average $5,450 per year on each child while at school, and $11,600 per year if they attend a public tertiary institution (not counting capital subsidies or central administration).[18] The amount varies with the type of school and level of schooling. Households with more children, whose children attend school for longer and use government schools, have more spent on them.

Education spending is not targeted at children from low-income families. Although spending within an education grade is skewed moderately towards low decile schools and towards those with special needs, the current system gives more to those who stay at school the longest – and the size of subsidies increases with the level of schooling. Because years of schooling are positively correlated with socio-economic background and ability, subsidies to education may redistribute income towards those children with rich parents and those with the greatest lifetime earnings potential, thereby increasing inequality.

In particular, children from middle- and upper-income families and those with high ability are more likely to go on to public tertiary education where the subsidies are especially high.

16 Ministry of Education (2000b) p 50.
17 Chamberlain and Caygill (2002) p 51.
18 The Treasury (2003a) tables A.10–A.11, p 28.

Cox (2001) conducts a fiscal incidence study for New Zealand based on the Household Economic Survey and budget data to examine who benefits from government social spending and who pays direct and indirect taxes.[19] Government expenditure in education (net of GST and not including capital expenditure or student assistance) was allocated to households. The average expenditure per student was calculated for each education programme and was allocated to each household according to the number of household members in each programme. The level of schooling, the type of tertiary institution attended and whether attendance was full- or part-time were taken into account. The results are summarised in Table 2. Each quintile contains 20 percent of households.

Table 2: Distribution of education spending 1997–1998

Households ranked by	Lowest 20 percent	Second quintile	Third quintile	Fourth quintile	Highest 20 percent
Market income	11.5	20.1	23.1	22.0	23.3
Gross income	9.0	18.7	26.3	23.3	22.7
Disposable income	8.7	9.5	22.4	26.2	23.1
Final Income	3.0	11.8	21.3	27.8	36.3
Expenditure	6.6	15.3	22.6	21.4	34.0

Source: Cox (2001) tables 5.1–5.7, pp 128–134.

In fact, education spending is the proto-typical middle-class subsidy and mainly goes to middle- and high-income households. Of all the social expenditures that Cox examined, it was the most inequitably distributed. It is clear from the table that a substantial portion of the benefits of education spending accrues to high-income households. Each of the top three quintiles on any ranking receives a greater portion of education spending than their population share, the bottom two quintiles receive less. (I have excluded the rankings based on household equivalent disposable income that adjusts for household size and measures spending relative to 'need' because household size is determined by household choices.) The rankings that are best related to notions of equity are the two based on household expenditure and final income. Household expenditure tends to fluctuate less than income and provides a better indicator of the household's lifetime economic status. Household final income is disposable income plus in-kind health and education benefits less indirect taxes. It gives a good indication of the household's standard of living. On these measures, more than half of

[19] See Cox (2001) chapter 5, pp 115–154.

education spending goes to the richest 40 percent of households and the highest 20 percent gain more than any other income group.

Churning

The fact that a substantial portion of education subsidies goes to high- and middle-income households, indicates that education spending involves churning, where a household both receives government benefits and pays a substantial amount in taxes. Churning indicates unnecessary government spending and involves a redistribution of resources through government that does nothing for equity.[20]

The money spent on your child's schooling makes a return trip to Wellington first. Instead of families purchasing their education directly, in the same way they buy food and shelter, billions of dollars of their money are collected in taxes to be cycled through the bureaucracy and then spent on education to be directly provided to the families for 'free'. Your money is collected by the central government, 'churned' up with everyone else's and then used to provide education that you could have bought for yourself.

> Subsidy schemes are merely ways of robbing Peter to support Paul. Thus, it can be pointed out that the modern welfare state is merely a complicated arrangement by which nobody pays for the education of his own children, but everybody pays for the education of everybody else's children.[21]

A number of major costs result. The costs in administration and bureaucracy, in both the tax department and education department, are clear. So is the fact of increased government influence over day-to-day aspects of our lives and the loss of individual liberty. Churning transfers control of resources from individuals to the government, crowds out private effort and increases political decision making.[22] A dollar spent on Paul's education often benefits him by less than a dollar. The education the government provides is not what Paul would have bought if he had spent the money.

The taxes also impose costs. Churning worsens the disincentive effects of taxation. Taking a dollar off Peter costs Peter more than a dollar. Taxes not only have compliance costs, but also impose economic costs because they distort decisions and change behaviour. They affect the willingness to work, to start new enterprises and to take risks with capital. The result is what economists call a 'deadweight loss' or 'excess burden'. Taxes induce individuals to consume a mix of goods that is less desirable from the standpoint of their own subjective

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20 Cox (2001) p 3.
21 Hazlitt (1993).
22 Cox (2001) pp 6–7.

preferences. That is, taxes change what Peter does to a less preferred option. The excess burden from a tax is the difference between how much it makes individuals worse off and the amount collected. The more the tax changes behaviour, the greater the excess burden. The greater the excess burden, the greater the cost to society from churning.

The excess burden of taxation in New Zealand

A New Zealand study estimated that in 1992 the marginal excess burden associated with labour taxation was 18 cents per additional dollar of revenue and 14 cents for consumption taxes.[23]

These estimates do not take account of administrative and compliance costs and appear to be conservative of the true excess burden of taxation for a number of reasons:

- First, tax rates have risen since the study was conducted – the overall tax burden is higher now. The marginal cost of taxation rises with the square of the relevant tax rate. For example, a doubling in tax rates leads to a four-fold increase in the marginal excess burden.
- Second, the estimates do not take account of the higher effective tax rates that people on low incomes often face because of the phase-out of welfare payments and the low-income rebate. For example, the family assistance payment for non-beneficiary families reduces by 18.8 cents for every dollar earned between $20,000 and $27,500 and then 30 cents in the dollar until the assistance cuts out (which depends on the number of children, and is as high as an income of $50,000 for a three-child family). This adds 18.8 percent and 30 percent to effective marginal tax rates in those income ranges.[24] The marginal tax wedge that affects behaviour is much greater than the statutory tax rates for many people.
- Third, the economic costs of some other taxes are likely to be substantially higher than the costs of labour taxation. For example, in a later study, Diewart and Lawrence estimated the marginal excess burden of capital taxation in Australia to be 48 cents per dollar of revenue – consistent with the international evidence that capital taxation is much less efficient than labour taxation because capital decisions are more responsive.[25]
- Fourth, the conventional estimates of the welfare effects of taxes focus on the effects on labour supply decisions and estimates of the effect of taxes on

[23] It is reported in Diewart and Lawrence (1995).
[24] The Treasury (2003b) p 1.
[25] Bates (2001) p 56.

hours worked. Taxes may affect other behaviour. In the labour market, effort, human capital investment and risk taking also respond to incentives and may be adversely affected by taxes. Further, these conventional estimates ignore the welfare cost of tax avoidance and evasion, which is encouraged by high tax rates. These other effects substantially raise the deadweight loss from taxation.[26]

- Fifth, the excess burden rises with the tax rate and elasticity of labour supply. Tax rates and elasticities vary across different people, and so the excess burden of taxation varies. For groups with high labour supply elasticities, such as married women, it is likely to be much greater.

It is plausible that the total burden imposed from raising an extra dollar of tax revenue – the excess burden plus the extra administrative and compliance costs – is 30–50 cents. Government funding of education means that taxes are $8.25 billion higher than they might otherwise be for 2003/04, and this imposes a further $2.06 to $3.43 billion in costs on taxpayers.[27] There are substantial costs to society from cycling the money through government. Taxing families in order to give them education subsidies will make society better off only if there is some offsetting efficiency or equity gain.

Churning within a year

It is often assumed that the government's education programme takes from a rich Peter to give to a poor Paul. That is simply not true. First, whether it is possible or not to raise all the required revenue from 'the rich', in practice much revenue comes from the middle class and the poor. For example, for 2003/04, the Treasury estimates that the 67 percent of taxpayers who earned $30,000 a year or less paid 22 percent of individual income tax. Further, earning just $40,000 puts you in the top 20 percent of income earners – the so-called rich.[28] That is hardly enough to buy a luxury yacht – especially if the high earnings come only after years of working up the promotions ladder.

The proportion of consumption taxes, such as GST and excises, paid by the poor is likely to be even higher, because low-income households spend a higher

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[26] See Usher (1986).

[27] This estimate takes account of the fact that if taxes were cut by $8.25 billion, the average tax burden in 2003/04 would fall from 33 to 27 percent, which would reduce the marginal excess burden. If all taxes were reduced proportionately, it would fall by a third. (The Treasury, 2003a, p 64.) Government appropriation for education in 2003/04 was $8.25 billion. (The Treasury, 2003c, p 406.)

[28] Figures from the Treasury (2003b) p 1.

Table 3: Households classified by taxes paid and education spending received 1997–1998 (percentage of households)

Education subsidies	Lowest tax quintile	Second tax quintile	Third tax quintile	Fourth tax quintile	Highest tax quintile
No subsidy	13.4	9.3	3.4	1.6	1.4
Lowest 20 percent	0.7	1.9	3.6	4.2	3.8
Second quintile	0.6	1.4	3.7	4.6	4.0
Third quintile	2.0	2.7	3.1	3.0	3.3
Fourth quintile	1.7	2.2	3.1	3.3	3.8
Highest 20 percent	1.6	2.5	3.0	3.3	3.6

Source: Cox (2001) table 6.3, p 166.

proportion of their income on consumption than better-off households (and especially on goods subject to excise such as tobacco).[29]

Cox estimates what he terms simultaneous churning – the amount by which households receive benefits and pay taxes in the one year.[30] He finds that education involves the greatest churning of all social expenditure.

Cox ranks households by the amount of tax they pay. He finds that the two highest quintiles of taxpaying households receive 47.5 percent of education spending, the three highest quintiles receive 71.2 percent.[31] The fact that a group of households pays taxes and receives benefits does not necessarily mean that individual households within the group do so. To get a better idea of churning Cox then divides recipients of education payments into quintiles. Many households receive no education payments (29.1 percent of all households) and they are separately recorded. The results are in Table 3.

Table 3 shows a positive relationship between taxes paid and education subsidies received. Households with high tax payments are more likely to be receiving subsidies, and higher levels of subsidy, than those paying low levels of tax.

Churning over a lifetime

The households who pay taxes and receive benefits at a particular point in time give a misleading picture of the true effects of the tax and subsidy arrangements. A truer picture takes account of taxes and transfers over the lifecycle. For example, although education involves a large transfer to those with children in

[29] See the figures on household income and expenditure in Table 4: Household income and expenditure 2000/01. Goods and services tax paid is roughly proportional to income for the 80 percent of households in the middle of the income distribution (Tax Review, 2001, p 43).

[30] See Cox (2001) chapter 6, pp 155–180.

[31] Cox (2001) tables 6.1 and 6.2, pp 164–165.

school from others, the net transfer is exaggerated by the cross-section data. All parents go through periods when they do not have children in schools but still pay taxes that go to education subsidies. Much of the transfer, therefore, is simply between the same people at different stages of their lives.

Likewise, the cross-section data exaggerate the redistributive effects of tax subsidy arrangements. Lifetime income is much more equal than income at a point in time. Income varies systematically with age (it rises with work experience), with different past investments (for example, doctors earn more, but they gave up many years of income to become doctors) and fluctuates because of chance (people have good and bad years). Much income inequality at a point in time is simply because of these factors, and much redistribution is simply redistribution over the lifecycle and not between the rich and poor. Low income is a transitory state for many people. This explains how, as shown in Table 4, many low-income households spend more than they earn – they are running down savings accumulated when income was higher or are borrowing against higher future income.

A number of international studies use panel studies that follow families for a number of years and establish the importance of income mobility over time and how cross-section data on annual incomes vastly overstate inequality and poverty rates – by a factor of three or more.[32]

Barker (1996) summarises studies on income mobility in New Zealand. They show significant income mobility.

- Of those in the lowest income quintile (the bottom 20 percent) in 1980, 25 percent had moved up out of it one year later, and 46 percent seven years later.
- Another study examined the bottom quintile of tax filers in 1991. One year later, 25.7 percent had moved to a higher quintile. Two years later, 31.3 percent had.

Education spending involves much churning within each year. There is even more churning if we take a lifetime perspective. A truer picture of the effect of education subsidies is that the bulk of the money taken from Peter is given back to Peter at some other stage of his life. The main systematic transfer is away from those who will never have children and toward those who have large families. The subsidy to education is probably the biggest single subsidy to having children.

To get an idea of the burden that taxes to finance education impose, consider how much of the GST goes into financing education. The GST is chosen because

[32] See Headey and Muffels (1999) and Browning and Browning (1994) p 263 for a summary of these studies and references. See also Bartlett (2000) and Lillard and Willis (1978).

it is a highly visible tax, levied on a broad base at a uniform rate, which makes the calculations easier. It may not be the best tax to cut. Indeed, the reasons why it has been chosen to illustrate the costs of taxation may make it one of the last taxes that should be cut.[33]

Government involvement in education cost the taxpayer $8.25 billion in 2003/04. This comes to 19 percent of expected tax revenue in 2003/04. Without education spending, the tax share would have been 27 percent rather than 33 percent of GDP.[34]

In 2003/04 the GST rate was 12.5 percent and the Treasury estimates it will raise $12,139 million.[35] Education costs of $8,219 million used up 68 percent of GST revenue. Therefore, if the government was not involved in funding education, the GST rate could be cut by 68 percent, or 8.5 percentage points from 12.5 percent to 4 percent. One-twelfth (about 8 percent) of household spending, therefore, goes to the government to pay for its finance of education. Actually, this is an underestimate of how much the GST could be cut because the lower GST rate would reduce marginal tax rates and would increase work effort and cause more revenue to be raised from the remaining GST and other taxes. Increased labour supply would allow the GST to be cut by a further percentage point. (For example, a cut in the GST rate from 12.5 to 4 percent raises what can be purchased from after-tax earnings by 8.2 percent. If the elasticity of labour supply was 0.3, then hours worked would increase by 2.46 percent – boosting income and consumption tax revenue. In 2003/04, a 2.46 percent increase in personal income tax and indirect taxes would raise an extra $900 million.)

Table 4 sets out information on New Zealand households by income decile. Each income category contains 10 percent of households. Assuming that education spending is financed by a 10 percent GST, Table 4 shows that in 2000/01, the average household paid $3,352 towards education subsidies. Even households in the lowest income groups averaged over $18,000 in spending – and so paid $1,603 towards education subsidies. The amount of GST paid over a lifetime is likely to be substantial for most people. Much of the effect of education subsidies is to redistribute over the lifecycle rather than between rich and poor.

Much government education spending involves churning – a household receives an education subsidy financed by taxes imposed on the same household over its members' lifetimes. Even the churning within a year is substantial. Most children aged five to 14 (62.8 percent) live in households in the top half of

[33] The Tax Review (2001) concluded that the GST was the last tax that should be cut.
[34] The Treasury (2003a) p 64.
[35] The Treasury (2003a) tax revenue table 1, p 1.

Table 4: Household income and expenditure 2000—2001

Annual household income ($)	Under 14,900	14,900 to 20,699	20,700 to 25,899	25,900 to 32,399	32,400 to 40,599	40,600 to 51,099	51,100 to 62,699	62,700 to 76,699	76,700 to 101,099	101,100 or over	All income groups
Average annual income ($)	9,402	17,399	23,202	28,839	36,416	45,427	56,456	68,505	87,490	157,690	53,076
Average annual expenditure ($)	18,555	19,172	23,743	28,236	32,776	40,482	44,465	49,010	59,077	78,655	39,432
Children aged 5–14	18,000	21,600	54,600	53,800	62,100	80,300	73,000	72,500	73,000	56,400	565,200
Proportion of total %	3.2	3.8	9.7	9.5	11.0	14.2	12.9	12.8	12.9	10.0	100.0
GST paid towards education spending	1,603	1,630	2,018	2,400	2,786	3,441	3,780	4,166	5,022	6,686	3,352

Source: Statistics New Zealand 2000—2001 Household Economic Survey standard tables, tables 1, 17. The income groups are deciles of household regular income before tax, including benefit payments.

the income distribution, who pay over $3,000 per year in taxes towards their education subsidies. Churning does not do much for equity, yet imposes the marginal cost of taxation.

THE EMPIRICAL EVIDENCE ON THE EFFECT OF SCHOOL RESOURCES

> To believe that the quantity of education or the quantity of spending on it are reliable guides to its quality is no more sensible than judging a book on the number of pages it contains and its cover price.[36]

Producer interests tend to see more spending on education as a benefit, not a cost and invariably focus on inputs, such as expenditure, retention rates and teacher/student ratios. Many see inputs as indicators of good intentions to be maximised instead of as costs to be reduced. To measure performance based on inputs is like awarding the Melbourne Cup to the horse who ate the most oats.

Given the way current government schools operate, extra resources do not consistently improve student performance. Time series evidence, international evidence and public–private comparisons support these conclusions. Further, the evidence is that increasing school resources from current levels would have little effect on student earnings. The evidence on the effect of resources on outcomes will be presented and discussed in detail in the following sections.

The lack of a consistent relationship between spending and performance in government schools indicates that they are economically inefficient. That should not be surprising given the lack of incentives to improve performance. Administrators who cut costs without affecting student learning are not rewarded for doing so. Indeed, often extra resources are given to schools for poor performance.

Teacher salaries comprise over two-thirds of grants to schools. An increase in teacher salaries has a large effect on spending, yet there is reason to believe it would have little effect on productivity. For example, because of the way government schools operate, higher salaries across the board in the United States did not improve the teacher applicant pool, did not have much effect on keeping new teachers longer in the profession, and did not deal with teacher shortages in particular areas. (See chapter 6 'Attracting and keeping high-ability teachers'.)

Although teachers differ dramatically in effectiveness, the evidence is that matters used by central bureaucracies to determine teacher pay are not related to good teaching. The enormous differences in teacher quality that exist are not related to teacher qualifications or experience (after the first few years). Under the current system the problem is not that teachers are paid too much or too little, but that pay does not vary enough with performance. Skilled teachers (as

[36] Baker (1994).

measured by student performance) are not paid more than unskilled. (See chapter 6 'The effect of teachers'.) Across the board pay rises will increase spending, but do little to fix the problems in the teacher market.

Extra resources may not improve student outcomes because they are spent to achieve other objectives. For example, teacher unions may favour using extra spending to reduce student–teacher ratios because additional employees increase their political power. Yet that may not be the most effective way to spend money to raise achievement, especially if it involves a reduction in the average quality of teachers as more are hired. The evidence is that the return to spending on reducing class size is low and unions raise spending but reduce achievement (see 'Class size' later in this chapter and chapter 4 'Interpreting money thrown at schools: unionisation, centralisation and politicisation'.)

Even if increases in resources do increase student achievement, they may be offset by other policy changes that have been adopted. For example, it has been estimated that the effect of rigorous mathematics and science courses or an external examination taken in the senior year is the same as reducing class sizes by one-third.[37] Inefficient policies that have been adopted in New Zealand and that reduce student achievement include:

- changes in assessment away from external curriculum-based examinations towards outcomes-based internal assessment;
- the replacement of subject- and discipline-based curricula with curricula based on a 'constructivist' view of learning and a 'child-centred' approach to pedagogy; and
- falling discipline standards, which offset the benefits of smaller class sizes.

(See chapter 3 'Targets of the left: curriculum changes' and 'Assessment'.)

These changes often lead to a poorer working environment for teachers and negate the effect of salary increases on teacher quality. Working conditions are just as, or more, important to teachers as pay – private schools in the United States attract better teachers than government schools, despite paying less.

What policy implications result can we draw?

The US evidence that: "There is no strong or systematic relationship between school expenditures and student performance. This is the case whether expenditures are decomposed into their determinants and when expenditures are considered in the aggregate"[38] should give pause to those who believe that the way to improve New Zealand's education system is to give it more resources.

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[37] See Mayer and Peterson (1999) pp 346, 352.
[38] Hanushek (1989) p 47.

The reasons why spending more does not improve student outcomes in the United States also strongly apply under current arrangements in New Zealand.

Hanushek draws the conclusion that a policy focus on spending and its determinants is misplaced:

> . . . increased expenditures by themselves offer no overall promise of improving education. Further, the components of these expenditures offer little promise.[39]

Because, within the existing institutional structure, expenditures and class size are not systematically related to performance, policies should not be formulated on the basis of expenditure or class size:

> . . . school reform discussions that begin with the premise that constraints on expenditure are the most serious roadblock to improved student performance are, at best, misguided.[40]

Hanushek points out that

> . . . the results come from the operation of currently existing schools. They do not say that school resources *could not* be effective in raising student achievement; they say only that there is little reason to expect improved achievement from added resources in schools as currently organized and run. Organized in a different way – particularly with different incentives – added resources could lead to higher achievement by students.[41]

The lack of a relationship between inputs and outcomes is a sign that the current system does not work well and needs reform. A centralised system is not a good way to run education. Extra resources would have an effect if incentives were improved – as private schools demonstrate. Private schools perform better than government schools, even when they have the same or fewer resources. Parents prefer them even when they have to pay part of the costs themselves. Private schools also use their resources differently. For example, the government sector spends a lot more on central bureaucracy than the private sector.

There is a low return to increases in measurable inputs given the way public schools are currently organised and run. If the government spent more, without changing the incentives that face government schools, it would lead to a more expensive system, but not to a better performing one. Government schools fail to make full use of the resources they already have.

Inputs and student outcomes: the empirical estimates

In 1966, the Coleman Report on schooling in the United States was released.[42] Its conclusions were extremely controversial. It found that the measured aspects of

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39 Hanushek (1986) p 1167.
40 Hanushek (1989) p 49.
41 Hanushek (1996a) p 57.
42 Coleman *et al* (1966).

schools and teachers had little effect on student achievement. Families and, to a lesser extent, peers were the primary determinants of variations in student performance. It led to much research about the relationship between inputs and outputs in schools. In 1986, Eric Hanushek, leading economist and education researcher, published a summary of the results of two decades of that research. He summarised studies that used student, school and school district level data, both cross-section and longitudinal. The results shocked and dismayed many.

Hanushek summarised the estimates of the effect of measured school inputs on measured student outcomes. The inputs included:

- classroom resources (teacher education, teacher experience and the teacher/pupil ratio);
- financial resources (expenditure per student and teacher salaries); and
- other school resources (administrative inputs, facilities).[43]

Most of the studies measured outcomes by standardised achievement test scores, the rest used measures such as graduation rates, school attendance and college enrolment rates. To be included, a study had to be published, relate some objective measure of school output to characteristics of the schools attended, include some measure of family background and provide information on the statistical significance of the estimated relationships. All the studies were on US public schools.

An update of Hanushek's tabulations, through to 1994, is set out in Table 5. It covers 377 separate estimates from 90 published articles and books, half published since 1985.

Table 5: Percentage distribution of estimated effect of key resources on student performance

	Statistically significant			Statistically insignificant		
Resources	Number of estimates	Positive (%)	Negative (%)	Positive (%)	Negative (%)	Unknown sign (%)
Teacher/pupil ratio	277	15	13	27	25	20
Teacher education	171	9	5	33	27	26
Teacher experience	207	29	5	30	24	12
Teacher salary	119	20	7	25	20	28
Expenditure per pupil	163	27	7	34	19	13
Administrative inputs	75	12	5	23	28	32
Facilities	91	9	5	23	19	44

Source: Hanushek (1996) table 2, p 17, also in Hanushek (1996a) table 2.3, p 54.

[43] In Hanushek (1986). See also Hanushek (1989).

The conventional wisdom was that each factor should have a positive effect on student performance. Yet Hanushek found that variations in measured inputs are not systematically related to measured student performance once the family background of students is controlled for. Only a small proportion of studies gives much confidence (that is, show a statistically significant positive effect) that extra inputs increased student performance. Some showed a statistically significant negative effect. Most of the estimates were statistically insignificant, and these were split pretty evenly between positive and negative effects.

For example, only 15 percent of the estimates on the effect of increasing teacher/student ratios provide evidence that it will improve student performance. Thirteen percent suggest that the effect is to worsen achievement, and the majority suggest there is no effect at all.

It should be emphasised that these results do not imply that schools are unimportant or equally good. Schools differ dramatically in effectiveness, but resource measures do not capture these differences.

Hanushek is not without his critics, who seized upon his methods and selection of estimates.[44] They argue that the evidence demonstrates a positive relationship between resources and student achievement. Hanushek agrees that resources may have positive effects – but they are seldom achieved in public schools. Resources do not improve performance consistently. A national policy to increase inputs can only expect average gains, which appear to be very small, at a great expense.[45]

Other evidence that more inputs need not improve performance

The evidence on public provision, including time series evidence, international evidence and public–private comparisons, supports the view that more inputs do not necessarily improve outcomes, probably because government schools are inefficient.

The US test score decline from the early 1960s to the early 1980s in the face of large, across-the-board increases in per-pupil expenditure and teacher/pupil ratios is evidence that more resources do not necessarily improve outcomes. The evidence is that the decline was not because of changes in non-school factors but came from changes within public education: centralisation and unionisation.

The international evidence also fails to support a link between resources and student performance.

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44 See Krueger (2000); Hedges and Greenwald (1996).

45 Hanushek (1998) p 20; (1996a) p 57; (1996) p 18.

- Large differences in pupil/teacher ratios and in class sizes across countries are unrelated to the measures of mathematics and science achievement from the TIMSS results. There is actually a significant negative relationship between countries' teacher/pupil ratios and their test scores.[46]
- A more detailed study of the TIMMS data finds the relationship between school resources and student performance is ambiguous. Woessmann (2001) finds that, after taking account of other factors, higher spending and smaller class sizes appear to have a small negative effect on student performance. Decent instructional materials and experienced, well-educated teachers showed positive effects.
- Hanushek and Kim (1995) use the data from six international tests in mathematics and science conducted between 1960 and 1990. They find a negative, insignificant teacher/pupil effect (after controlling for parental education).
- The PISA study found that a lower student/teacher ratio had a positive effect on combined reading literacy scale, but only at ratios greater than 25. From 10 to 25, reductions had relatively small effects and under 10 a negative effect.[47]

The evidence on private–public comparisons and the effects of competition also supports the conclusion that the lack of a link between resources and student outcomes in government schools comes from schools' inefficiency. Private schools were superior to public schools despite lower per-student expenditure and large class sizes. The private school advantage in voucher experiments was not because of lower class sizes.[48] Private schools appear to be more efficient than public schools. Their superiority appears to be because of their internal organisation.[49] Public schools in metropolitan areas with limited competition tended to have more resources (higher spending and greater teacher/student ratios) and lower achievement than public schools in areas with more competition. (See the chapter 9 'The effect of competition on school performance'.)

The effect of school resources on earnings

Another strand of research considers the effect of school resources on student earnings after they leave school. Earnings are a better measure of labour market

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46 See Hanushek (1999) p 146.
47 Organisation for Economic Co-operation and Development (2001) p 202.
48 Peterson (1999b).
49 See chapter 9 'Private versus public schools: advantages of a private education'.

productivity than are test scores (although they are related) and are more closely related to individuals' welfare.

A major problem is the need for data that reports individuals' earnings, educational levels and information on the resources available in the schools they attended. There are two main types of study. Some use longitudinal data that follow individuals through life and contain information on their schooling and later earnings. Others use information on earnings and state or district level data on school resources.

Card and Kruger (1996a) survey a variety of studies that link increases in school resources (such as per-student expenditure and class size) to increases in student earnings. They also find evidence that the greater the resources in a school system, the more students earn and the longer they stay at school.[50]

The most commonly cited study on earnings effects is their own, Card and Krueger (1992). It used census data that gives information on earnings, educational attainment and state of birth for cohorts educated between 1920 and 1949. Card and Krueger assume people went to school in the state they were born in. They then attributed the average state level of resources per student during their schooling years. They found that school resources were related to the rate of return to schooling. Men who grew up in states with better school resources had a higher return to schooling than those from states with low levels of school resources.

Studies that have information on resources in the actual school attended by individuals raise large doubts about the Card and Krueger findings. For example, Betts (1995) uses the National Longitudinal Survey of Youth, which has data on people aged 14–21 in 1979. He finds no significant relationship between the financial resources available to individual schools and students' earnings. However, when Betts substitutes state level measures of school inputs (as used by Card and Krueger) for measures at the individual school level, he finds a significant relationship. The findings of studies that use state level data could be a spurious correlation that results from the approach used. Other studies uncover a number of biases from using state level data that inflate the estimates.[51]

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[50] See also Card and Krueger (1996) for a more detailed examination of this evidence.

[51] Hanushek, Rivkin and Taylor (1996) find aggregation and omitted variable bias is important. Heckman, Lyne-Farrar and Todd (1996) find that omitted family background variables explain the correlation between earnings and school resources. Heckman *et al* also estimate a more general statistical model and find that when Card and Kruger's ad hoc assumptions are varied, the results no longer hold. For example, migration is selective and log earnings are not linear in education. And, selective migration gives rise to a spurious correlation between earnings and school resources.

The consensus is that, at best, extra school resources increased adult earnings for cohorts educated in the first half of the century.[52] Since the 1960s, spending has had little effect on student outcomes in public schools.[53] There is little evidence that increasing resources from current levels is likely to be effective.

The debate over the effect on wages outlined above has been about statistical significance: is there evidence that school resources are positively related to adult wages? Even if there was, a statistically significant relationship, economic significance is another question – what are the returns to increased spending?

A number of authors estimate the returns from more spending on government schools.[54] They are low or negative. Additional spending is not justified by the effect on earnings. Even if it is assumed a 10 percent rise in per-pupil spending increases future earnings by 2 percent, the highest estimated effect of resources in the literature, the estimated rate of return to spending increases is negative for all schooling levels.[55] These estimates calculate the benefits as a percent increase in the wage paid to men. But half of school students are women, who have a weaker labour attachment and so smaller earnings gains. The estimates therefore overstate the returns to increasing school resources from increased earnings.

Class size

A common policy prescription is to cut class size. It means smaller workloads and a greater demand for teachers, and so is advocated by teacher unions. It is also supported by many parents, because it seems a common-sense way to improve schooling. For example, according to Lazear (1999), increased class size means an increased probability of disruption. Therefore, smaller class sizes can be beneficial even if teachers do not change their teaching methods – they limit the number of children who are exposed to a disruptive child's behaviour. Lazear's model is consistent with evidence that class size is more important for disadvantaged children and for special education students.[56] It also implies that the benefits of decreased class sizes can be offset by a decrease in discipline.

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52 See Betts (1996), Loeb and Bound (1996). Two sets of articles that attempt to resolve the conflict between the Hanushek and Card and Krueger summaries are in Burtless (ed) (1996) and the 'Symposium on school quality and educational outcomes' in *The Review of Economics and Statistics*, November 1996, vol LXXVIII, no 4, pp 559–686. The articles are summarised in Burtless (1996a) and Moffit (1996).

53 See, for example, Burtless (1996a) p 40–41.

54 Note that these are the returns to extra spending. The private rates of return in chapter 2 'Incomes and outcomes: rates of return to schooling' measure the returns on private investment. The main private cost is the value of the student's time. A high private return does not necessarily imply a high return to government spending on education.

55 See Betts (1998) pp 100–101 and Heckman (1999) pp 18–19 and table 4.

56 The evidence is from the Tennessee Student/Teacher Achievement Ratio (STAR) project evidence described later in this section. Hanushek (1999) p 162.

Any changes in teaching techniques to take advantage of smaller classes, more teacher–student interaction, and greater individual attention will result in further gains from smaller classes. Unfortunately, there is little evidence on what methods work best in smaller classes, and the evidence is that large class size cuts do not result in any noticeable changes in teacher classroom behaviour.[57]

If student/teacher ratios fall by one-third, this may reduce class sizes by one-third, teaching loads by one-third, increase leave entitlements or allow administrative loads to be reduced. In practice, the fall in student/teacher ratios has been used to achieve a combination of these possibilities: it has reduced workloads, and only partly been translated into smaller class sizes.

Class size is an important determinant of school costs, and cutting class sizes requires a large change in per-student spending. Teacher salaries account for over two-thirds of grants to schools. To cut class size by one-third requires a 50 percent increase in the number of teachers, as well as more classrooms. No doubt the number of administrators would rise too. Even more teachers will be required, and the cost increased, if teaching loads are reduced at the same time. Further, the increased demand for teachers may bid up teacher salaries.

Empirical estimates of the effect of increases in the teacher/student ratio are mixed. Although some were significantly positive, almost as many were significantly negative. Most showed no effect at all (see Table 5). The evidence refers to the effect of class size reductions within the normal ranges observed in schools – roughly between 15 and 40 students per class.

Lazear (1999) considers that the mixed findings about class size result from selection. Better students tend to be found in larger classes because schools adjust class size to student behaviour. When the optimal class size is larger for better behaved students, the observed relationship between class size and student performance could be positive, negative or negligible. For example, the larger classes found in Catholic schools are associated with better educational outcomes, not because larger classes are better than smaller but because they have more attentive students in them.

A reason for the lack of a relationship between class size and student performance in the cross-section data could be because students who perform poorly are assigned to small remedial classes, creating a spurious negative association between smaller classes and student achievement – offsetting any positive effect.

When the least able students are more likely to be in smaller classes, controlling for initial test scores and focusing on the gain in test scores can reduce the negative effect on the measured relationship between performance

[57] Mosteller (1999) p 125.

and class size. Many studies do so, and come to the same results (if anything, the effect of the teacher/pupil ratio in these studies is even weaker).[58]

If resources mattered, the extra resources devoted to low achieving students should improve their performance and increase general student performance over time. Further, removing disruptive students to smaller classes may improve the performance of the remaining students. Selection does not, therefore, explain the lack of a relationship between class size and performance in the time series data.

There are selection problems that go the other way and give a bias towards overstating the effects of resources. High achievers may seek out schools that have good resources. If the children of wealthier families or families who place a high priority on education attend schools that are well resourced, a positive correlation between resources and performance may pick up the other advantages of children from wealthy or motivated families.

Hanushek only summarised estimates that controlled for family background in an attempt to overcome its confounding effects. The controls may, however, be poor. They usually measure parental income, education or occupation. The environment that really matters is parental attitude, which is only weakly measured by these proxies. If the public school lobby attributes the measured superiority of private schools to insufficient controls for the influence of parents, then, to be consistent, they should attribute some of the measured effects of resources to parents.

The Tennessee Student/Teacher Achievement Ratio (STAR) project set up a random experiment to attempt to measure the effects of cutting class size, free from selection bias. It involved 11,600 students in 80 schools. In the 1985/86 school year students in each school were randomly assigned to small classes of 13–17 and large classes of 22–25. Students were kept in these small or large classes for four years (from kindergarten through third grade), and their achievement in reading, mathematics, listening and word study skills was measured at the end of each year. After third grade, the experiment was ended and students went back to regular classes. A follow-up study tested the students for several years after they returned to regular-sized classes.[59]

Like most so-called random experiments in the social sciences there were some problems with the design and conduct of the experiment. There were no initial baseline test scores collected, and so whether the random assignment worked cannot be checked – although student characteristics indicate it was random. There was high attrition, because some students left and some repeated

[58] See Hanushek (1996a) table 2–4, p 59.

[59] The details of the experiment are from Hanushek (1994) pp 144–145 and (1999) p 154, Mosteller (1999) pp 121–122 and Krueger (1998) pp 34, 36.

grades. Less than half of the 6,234 children who started the experiment in kindergarten were still there in third grade. Not all students were tested. In any year, up to 11 percent of the students did not take the tests, although the proportion did not differ by treatment group. In response to parental pressure, students were reassigned between school types. About 10 percent of the students in small classes in grades one through three had been in regular size classes the previous year. Also, each year waves of new students joined the classes (and were randomly assigned) – especially in first grade. Further, the Tennessee teachers knew they were being observed and the outcomes would inform policy. The school and teachers that participated were not randomly selected. The net biases introduced by these flaws is not clear.[60]

The students in small classes performed significantly better on the achievement tests. This gap was maintained, but not increased after the first grade. The gains for low-income and minority students were almost twice as large as those for other students.[61] The gain in performance occurs the first year in which the students are assigned to a small class, irrespective of the grade.[62]

A number of authors have estimated the rate of return to cutting class sizes, assuming the estimated effects from the STAR project are correct. Rate of return estimates also require information on the cost of class size cuts, which is roughly proportional to the number of grades to which the class size reduction is applied. The STAR experiment does not give a clear answer as to how many years the class size reductions must apply in order to give the test score gains it measured. Are four years of small classes required, or could it be done in fewer? The different authors agree that the jump in performance occurs after the first year in small classes, and that the gap does not grow thereafter.

It is possible that the initial test score gains are only preserved if the smaller class is maintained for several years. Students from small classes continued to perform better even after they returned to larger classes. Mosteller (1999) claims that the test score effect after several years was only half the size of what it was at the end of the third grade.[63] Perhaps the decline would have been less had the small classes been maintained.

On the other hand, Hanushek claims that essentially there was no change from first grade to sixth grade and so class reductions after kindergarten have

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60 See Krueger (1997) and Hanushek (1999) pp 154, 159–160.

61 Peterson (1999b); Mosteller (1999) p 122; Krueger (2000) p 26.

62 Krueger (1997).

63 Mosteller (1999) p 122. Krueger (2000) p 27 agrees that the effect halves between the end of small classes and sixth grade.

little effect on student performance.[64] A reason for the differences is that the project provided many different test score results and different authors focus on different scores. Hanushek argues that it can only be concluded from the STAR experiment that there are gains from large reductions in class size in kindergarten or first grade. There seems to be a one-time effect of being in small classes if done early, perhaps from learning how to behave at school. He concludes that the STAR experiment reinforces the case for early intervention and it does not provide support for reductions in later grades.[65]

The estimates of the benefits from class size reductions require an assumption as to how the effect of class size cuts on test scores is converted into social benefits. Even though the authors focus on a narrow measure of benefits – the increase in earnings – different authors adopt wildly different assumptions.

- Krueger (2000) assumes that a cut in class size by a third in the four years from kindergarten to third grade increases test scores at third grade by 0.2 standard deviations and this increases wages by 1.3 percent. On this assumption, the rate of return is around 5 percent (6 percent if real wages are assumed to grow by 1 percent per year).[66]
- Mayer and Peterson (1999) estimate that if cutting class size by one-third from kindergarten to sixth grade increased test scores by 0.2 of a standard deviation and wages by 4 percent, the rate of return is 7 percent. Although Mayer and Peterson assume the higher test scores boost wages by more than double the amount assumed by Krueger, the rate of return estimate is similar to Krueger's because they assume it takes seven years in a small class to produce the gain.
- Mayer and Peterson find that if cutting class size only in the first grade produces the same increase, the return would be around 50 percent.[67]

The STAR experiment does not necessarily provide support for smaller reductions in class size or cuts in class size to above or below 13–17 students. Indeed, the Tennessee experiment was influenced by an earlier summary of experimental studies that suggested cuts in class size only had an effect when the student/teacher ratio was reduced to 15.[68]

The STAR experiment is not the only randomised class size experiment that has been conducted. The results from an analysis of earlier controlled experiments would have predicted only half the gains that actually occurred in the STAR project.[69]

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64 Hanushek (1999) p 157. Meyer and Peterson (1999) p 350 agree that the gains only declined "a bit".
65 Hanushek (1999) pp 156–158.
66 See Krueger (2000) table 5, p 41.
67 See Mayer and Peterson (1999) pp 350–351.
68 Hanushek (1999) p 158.
69 Mosteller (1999) p 128.

Class size may make a difference to student performance, but the difference will depend on many variables, including the type of students, their age, teaching methods, and the skills of the teacher. For example, there is evidence from international comparisons that smaller classes are beneficial only when teacher quality is low. Capable teachers promote student learning well, regardless of class size, less capable teachers do poorly in large classes.[70] Targeted class size cuts – in the early years and for disadvantaged and special needs students – may be worthwhile. It is not clear, however, that the political process will direct funds to where the educational benefits of class size reduction are greatest.

[70] West and Woessmann (2003).

6
TEACHER QUALITY

Those of us lucky enough to have had an excellent teacher know what a difference it can make in a child's life. The likely result of current pay arrangements is that good teachers are underpaid and bad teachers overpaid. Teachers who excel at their jobs, who teach hard-to-staff subjects, such as mathematics and science, or who teach the most disadvantaged, are paid the same as if they were mediocre or could be replaced easily.[1] The result is adverse selection – the able are most likely to prefer occupations where pay is more closely related to productivity, and the least able have an incentive to become teachers. The situation has worsened with the opening up of other professions to high-ability women.

While their solutions differ, commentators from all perspectives agree that problems faced by the New Zealand education system include low teacher morale, difficulty in attracting, training and keeping good teachers, a declining quality of entrants into the profession and persistent shortages in particular fields.

THE EFFECT OF TEACHERS

A good teacher in a large class is more effective than a poor teacher in a small one.[2]

Teachers differ dramatically in effectiveness

It makes a big difference to children's educational outcomes whether they have a good or bad teacher.[3] For example, one study of a group of poor, black children in the United States found that the difference between a good and a bad teacher was approximately one grade level per academic year. A student with a good teacher might advance 1.5 grade equivalents in a school year, whereas one with a bad teacher might advance only 0.5 grade equivalents.[4]

A detailed study of Texas schools, which followed individual students as they progressed through school and were tested annually, found that schools have powerful effects on student achievement – and these effects came from differences in teacher quality. One standard deviation of teacher quality – for example, moving from the median to the eighty-fourth percentile of the teacher

1 Hoxby (2001).
2 Lazear (2000).
3 See, for example, the studies surveyed in Hanushek (1986) p 1159.
4 Hanushek (1992).

quality distribution – increases the annual growth of student achievement by at least 0.11 standard deviations, and probably by substantially more. This magnitude implies, for example, that having such an eighty-fourth percentile teacher for five years in a row rather than a fiftieth percentile teacher would be sufficient to eliminate the average performance gap between poor children and non-poor children. The study also found a negative impact of initial years of teaching. Teachers learn quickly in the first few years, after that experience makes little difference.[5]

Teacher quality dominates class size as a determinant of student performance. For example, the best empirical evidence suggests the average student will be slightly worse off in a class taught by an average teacher as in a class twice as big taught by a good teacher. A good teacher is roughly equivalent to two average teachers, and certainly worth more than two bad teachers. Having a teacher one standard deviation above the median in the teacher quality distribution (at the eighty-fourth rather than fiftieth percentile) raised annual student achievement growth by 0.1 of a standard deviation – or 0.4 over four years.[6] The STAR estimate was that a cut in class size of one-third for the first four years of schooling raised achievement by 0.2 of a standard deviation. If we assume a further cut in class size by a third (to just under half its original size) increases achievement by a further 0.2 standard deviations, then halving class size will increase student achievement by slightly less than 0.4 standard deviations.

The relative importance of teacher quality and class size is pertinent when class sizes are reduced. As reductions are made, more teachers are needed. If the new teachers are of lower quality than existing teachers, then average teacher quality will fall. Further, more new teachers are hired and there is a negative impact on students from having a first year teacher.

The new, lower-quality teachers are likely to be concentrated in low-SES schools. High-SES schools often get their additional teachers by poaching experienced teachers from low-SES schools. As a result, class size cuts could easily make many students worse off – especially those in low-SES schools.

The effect of teacher experience and education on student performance

In both New Zealand and the United States, teacher pay depends mainly on credentials and years of experience. Hanushek, in his survey of decades of

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5 See Rivkin, Hanushek and Kain (2001).

6 Rivkin *et al* (2001) and Krueger (2000) p 26. The STAR experiment is discussed in chapter 5 'Class size'.

empirical education research on the relationship between inputs and outputs, examined the estimates of the effect of inputs on student outcomes (see Table 5 in chapter 5). Out of all the factors examined, the estimates of the effects of teacher experience are the most strongly related to student performance, with a majority of positive estimates, and the greatest proportion of statistically significant positive estimates. Nevertheless, 70 percent of the estimates are either negative or statistically insignificant.

It seems that teacher experience is positively related to student performance, but not consistently so. There is the problem of reverse causation – it could be that the more experienced teachers get to teach in the schools and classrooms with better students.[7] Further, the correlation between teacher experience and student performance does not necessarily mean that teachers improve with experience. It could reflect a weeding out process – if the worst teachers leave the profession.

Teacher qualifications have little relevance for student performance. The factor with the smallest proportion of significant positive estimates (less than 10 percent) in Table 5 is teacher education. A substantial portion of the insignificant estimates are negative.

Studies find, almost universally, that graduate education of teachers has no systematic relationship with student achievement. This can be interpreted as saying that current teacher training institutions do not, on average, change the skills of teachers.[8]

The evidence is that matters used by central bureaucracies to determine teacher pay are not related to good teaching. The enormous differences in teacher quality that exist are not related to the measured attributes of teachers – teacher qualifications or experience (after the first few years). Skilled teachers (as measured by student performance) are not paid more than unskilled.[9]

A number of authors have found that subject matter knowledge – in particular university training in the field taught – is related to teaching success. The cognitive ability of teachers – as indicated by verbal and literacy test scores – has a significant positive relationship with the rate at which students learn.[10] Interestingly, principals' evaluations of teachers were highly correlated with estimates of total effectiveness. Principals can identify good performance without relying on test results.[11] This implies that good teaching can be measured at the school level.

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7 Hanushek (1986) p 1162.
8 Hanushek (1986) p 1165.
9 See Hanushek (2001).
10 See Burtless (1996a) p 9, Betts (1998) p 111, and Thomas Fordham Foundation (1999) for references.
11 Hanushek (1986) p 1165 and (1994) pp 98, 134.

INSTRUCTING OBSERVATIONS: TEACHER INCENTIVES

There is no doubt that the most important requirement for effective schooling is good teaching. Although many factors can affect student performance, classroom teaching determines the school's contribution.[12]

The effectiveness of schools, and teachers, depends on the environment they face. The current education system in New Zealand involves a politicised monopoly where political action, lobbying and playing the system rather than better service is the way to increase producer benefits. One of the powerful special interests are the teacher unions, which represent the largest and most important producer group, teachers.

The evidence from the United States is that the growth in unionisation and centralisation were responsible for the sharp decline in student academic performance – mainly through the effects on government policies. Teachers' unions increase school inputs but reduce productivity sufficiently to have a negative overall effect on student performance. (See chapter 4 'Intercepting money thrown at schools: unionisation and politicisation'.)

In New Zealand, state school boards appoint staff and pay the salaries of senior management (such as the principal and deputy principal) from grants they receive. The Ministry of Education sets each school's teaching staff entitlement and funds salaries that are paid to teachers through a centralised payroll system. The Ministry and teacher unions negotiate centrally the collective contracts that set pay and working conditions for most teachers. Collective contracts are negotiated for primary teachers, secondary teachers, area teachers, primary principals and support staff. The Ministry also promulgates base rates of pay for principals.[13] Teacher central employment contracts are the only large scale cross-employer contracts remaining in the state sector.

The New Zealand Teachers Council, which took over responsibility for registering teachers from the Teacher Registration Board in early 2002, restricts those whom boards can hire, and promises to increase regulation of teacher education, entry standards and practice.[14] School boards are subject to the general restrictions on an employer's ability to dismiss staff, and usually lack the resources and industrial relations expertise to risk a battle in the Employment

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12 For the effect of teachers and other factors on the student performance see chapter 5 'The empirical evidence on the effect of school resources'. The contribution of peer effects are examined in chapter 2 'A better class of students: peer effects'.

13 Ministry of Education (1999c) p 42.

14 Ministry of Education (2001) p 34.

Court. Often, it is easier to give poorly performing staff extended leave rather than dismiss them, with adverse effects on the incentives and morale of the remaining teachers. Further, even a small minority of incompetent teachers use up large amounts of managerial time.

Although school boards technically employ teachers, they are paid by the Ministry of Education and managed by the school principal. School boards have little direct control over staff incentives, making it difficult to reward good teaching.

The Ministry has emphasised the importance of improving the quality of teaching and enhancing the professional status of teachers.[15] These are fine objectives. Current arrangements, however, often discourage good teachers and actually diminish teacher status. The Ministry's proposals, which involve increased central control, will make matters worse. Competition and autonomy for schools are required to foster good teaching and give teachers professional status.

The public education lobby respond to criticisms of current arrangements for training and compensating teachers with accusations of 'teacher bashing'.[16] As Sowell points out, "A word like 'bashing' conveys absolutely no information other than a dislike of criticism, and contributes nothing to a logical or factual assessment of its validity".[17]

To criticise teacher unions and the incentives inherent in a public system is not to criticise individual teachers. There are many good teachers who put in enormous amounts of effort, despite the lack of incentives to do so. The interests of those who run the teacher unions may diverge from those of their members. Union officials have a vested interest in maintaining a centralised system, which increases the demand for their services. Indeed, many current policies have adverse effects on teachers and provide them with poor incentives. Teachers as a whole may be better off in a system that rewards good teaching rather than union activism.

Teacher pay and industrial relations

The effects of centralised provision

From a teacher's point of view, the government is a monopoly buyer (a monopsonist) in the market for teacher services. Teachers will most likely graduate from a government owned, funded and regulated teacher-training institution, to work at a government-owned school. Government decisions

[15] See for example, Ministry of Education (1997f) p 5.
[16] For example, Ward (1999) p 6. Also, the Post Primary Teachers' Association (2001a) p 7.
[17] Sowell (1993) p 249.

directly influence teacher salary, working conditions and promotion prospects and determine the quantity and quality of future teachers.

The government monopoly on education creates a major incentive for teachers to join unions. The fact that state school managements do not face market incentives and can pursue personal and political objectives increases the need for protection of teachers and for explicit personnel practices and grievance machinery.[18]

Although unions may successfully promote teacher interests in a monopolised and politicised system, it is not clear that teachers as a whole are better off than they would be in a competitive market, where teacher pay and working conditions are determined through competition between potential employers. On the one hand, in a centralised system the government may use its monopsony power to force down pay and working conditions. On the other hand, the system may favour teachers because, if they organise into unions, their employer faces no competition, can more easily pass costs on to taxpayers than competitive firms can to their customers and so has less incentive to resist teacher demands.

A competitive system would not only give parents choice, it would give teachers choices they do not currently have, such as a broader range of working environments. It may make teachers better off, even if it makes unions worse off.

A consequence of centralised provision is that teacher conditions are dependent on the vagaries of the political process, with damaging effects on teacher morale and the attractiveness of teaching as a profession.

- For example, winning a pay rise depends on the success of political and industrial campaigns rather than successfully satisfying customers – and often means battling against an unsympathetic government and against competing public sector priorities.
- Career prospects in a centralised system are highly uncertain, and they can change dramatically with outcomes of political battles and elections that may turn on non-educational issues.
- Partisan political battles will always alienate a substantial fraction of teachers.
- Union officials have an incentive to encourage a siege mentality to maintain loyalty.
- Continual harping by unions and others that resources are too low (whatever the true picture) affects motivation and creates excuses for failure.

[18] Freeman (1986b) p 63.

Political accountability is an inevitable outcome of government funding. Government bodies, partisan politicians and taxpayers all feel they have a right, indeed the duty, to scrutinise and criticise teachers – a certain recipe for antagonism and resentment.

Teacher morale is low in New Zealand. For example, mathematics and science teachers were interviewed in the Third International Mathematics and Science Study. A majority of primary and secondary teachers felt that society did not appreciate their work.[19] Although more than three-quarters of primary teachers reported that teaching was their first career choice, more than one-half also said they would change their career if the opportunity arose. A similar trend was evident among the secondary level teachers, although not as marked as that for the primary teachers.[20] In 1999, 40 percent of teaching principals surveyed by the NZEI said they would leave teaching were they able to make that choice.[21] Around 10 percent of teachers leave the teaching service each year – but only 1 percent move to another occupation.[22] On the other hand, the PISA study finds that morale among New Zealand teachers (as reported by principals) is relatively high – New Zealand teachers are in the top quarter of OECD countries.

The effect of teacher unions on wages and conditions

The ability of teacher unions to improve wages and working conditions is often exaggerated. Collective bargaining takes place every few years. In the absence of bargaining, employers would increase benefits incrementally. Instead, changes are made at contract renegotiation and the union takes the credit. The fact that the improvements may have occurred anyway, perhaps even sooner, is ignored. Indeed, if employees are represented by a union, employers are more likely to withhold or delay benefits because it is more difficult to reduce them in the future if necessary.[23]

The public system is heavily unionised and dominates the teacher market. There is little to compare current compensation arrangements with, and it is difficult to determine what might have happened in the absence of the unions. It is even more difficult to compare current arrangements and their effects with what may happen in a competitive market.

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19 Ministry of Education (1997c) p 61 and (2001b) p 24.

20 Walker and Chamberlain (1999) p 54. The teachers interviewed were the teachers of the representative sample of students – not necessarily representative teachers. They were interviewed in October–November 1994.

21 *New Zealand Education Review* (1999).

22 Ministry of Education (2000b) p 37.

23 Lieberman (1997) pp 208–209.

In the United States there is more variety, because the rate of unionisation differs between states. The wage effects of unions have been estimated by comparing union and non-union teachers:

- The estimated effects range from small to large.
- Unions raised the premium for teachers' educational qualifications and experience but reduced the relative secondary to primary school wage.
- The union wage differential is smaller when teacher demand is strong.[24]

These studies are fraught with problems:

- Teachers in unionised states were paid more than in non-unionised states even before unionisation.
- The union may boost non-union wages. For example, private schools may have to offer more to attract good teachers and survive.
- It is difficult to measure the value of fringe benefits. Public sector unions often have a strong focus on raising retirement and other fringe benefits because that helps keep the cost hidden from taxpayers and they are negotiating with politicians with a short time horizon (to the next election).
- It is difficult to determine the extent to which other working conditions adjust when wages are increased. For example, what if the union wins increased wages but, as a result, class sizes are increased? The extent teachers gain will depend on their preferences for higher wages against larger classes. They may even lose.[25]

Further, teacher unions may have broader goals than raising wages. For example, they often increase education budgets and increase (rather than reduce) employment in their industry. They place a greater weight on employment than private sector unions because additional employees increase their political power.[26]

It is even more difficult to determine whether teachers as a whole gain or lose from unionisation. First, it is difficult to specify the appropriate comparison group. If unions do increase teacher wages and fewer teachers are employed, are teachers better or worse off? Those in jobs may be better off, but those who do not join the profession because of scarce job opportunities, or because union policies make the profession unattractive to them, are worse off – and difficult to identify.

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24 Freeman (1986b) pp 54–55, 58–59.
25 Lieberman (1997) pp 207–211.
26 Freeman (1986b) pp 52, 61.

Second, even limiting attention to current teachers, some groups of teachers may be made worse off and some better off. For example, teachers nearing retirement may have different interests from younger teachers. How do we trade of the gains and losses to different groups?

Third, even if there is a transfer to union members, this may be dissipated in competition to get the transfer – so called rent-seeking. If wages are above market clearing levels, there will be an excess supply of teachers and the jobs must be allocated in some way. For example, prospective teachers may have to queue to get a job (remaining unemployed and applying to school after school to get one) or entry standards may be tightened and further years of training and education courses required. This 'rationing by ordeal' means those who eventually get a teaching job may not gain much from the increased wages – they have been spent in competition to get the job. As a result, the union premium may be wasted in queuing costs or captured by the education colleges. Further, there is the cost of the resources spent in fighting to get the pay rise.

Compression of salary differentials

Although it is difficult to determine the overall effect that unions have on wages, the effect of some union policies is clear. They favour uniform absolute wage increases across the board rather than wages that reflect the supply and demand for different types of teachers. In the 2001 collective contract negotiations the PPTA wanted a flat rate salary increase of $2,500 a year for every secondary teacher for the next three years.[27]

The result is that those in high demand are paid too little, those in low demand too much. For example, unions oppose the payment of salary premiums to attract teachers to fill subject area shortages, and support paying all teachers the same salary, based on experience and qualifications, regardless of subject.[28] They cite shortages of mathematics and science teachers as a reason to raise all teacher salaries.[29] Because it is too expensive to pay all teachers at the level needed to attract enough qualified mathematics and science teachers, the shortages persist and unqualified teachers teach mathematics and science courses. Clearly, teachers in the subject areas experiencing shortages lose from the unions' policy. Meanwhile, the increased salaries may induce excess supply of other types of teacher.

The TIMSS found that 51 percent of Year 9 students in New Zealand were taught mathematics by teachers who had mathematics and/or mathematics

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27 Smelt (1998).

28 See, for example, the NZEI in Ministry of Education (1999e) p 32.

29 See, for example, Post Primary Teachers' Association (2001a).

education as a major area of study in their degree course or teacher training programme, compared with an average of 84 percent internationally.[30] It was found that teachers' lack of knowledge in mathematics and science contributed to the relatively poor performance of New Zealand school pupils in the study.

Teacher shortages adversely affect low-SES schools the most. For example, the TIMSS study found that 16 percent of New Zealand students were in schools affected 'some' or 'a lot' by a lack of qualified mathematics teachers, increasing to one-third of students in low decile schools.[31]

There can be no better example that central planning fails than the teacher market, where:

- the government dominates the demand for, and training of, teachers;
- the number of school students is fairly predictable; and
- as the major purchaser, the government has an incentive to predict correctly.

Yet the teacher market is characterised by shortages, severe in some areas. The Ministry of Education has raised concerns about shortages of teachers in some regions (for example, Auckland) and subject areas (mathematics and technology). At the same time, there are surpluses in other areas, such as an excess supply of primary school teachers.[32]

The training of more teachers will not solve a teacher shortage in a field if the problem is keeping trained teachers in the profession because of low salaries. It will certainly not help if the problem is that the teacher training colleges do not ensure that their graduates are adequately trained to teach – those who find classroom realities impossible and cannot motivate children are likely to leave the profession. If letting more into teaching requires lowering standards, then the problem may become worse.

Current salary arrangements prevent the common-sense approach of paying more in subjects and schools that are difficult to staff than in subjects and schools that are amply supplied.

The reason for union opposition to salary differentials is the political incentives that face union leaders. Unions are majority rule political organisations, and mathematics and science teachers are a small minority of union members. Union leadership has an incentive to promote policies that achieve benefits for the majority of members and not policies that give large rewards to a small group of members.[33]

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30 Ministry of Education (2000f) pp 14–15.
31 Chamberlain and Caygill (2002) p 49.
32 Ministry of Education (1999c) p 65.
33 Lieberman (2000).

For the same reason, unions oppose merit pay. If merit pay is to be effective, it needs to be substantial – which limits it to a small number of teachers. Large rewards to a few teachers on the basis of their own efforts also undermine the union's interest in having members believe that everything they get is because of the union's efforts. Further, disputes over whether merit pay was fairly awarded will involve the union in antagonistic disputes between members, something it wishes to avoid.[34]

Another case of compression of salary differentials is the introduction of the unified pay system between primary and secondary school teachers, which has increased the relative pay of primary school teachers compared with secondary teachers. The result has been a glut of primary school teachers, with hundreds of applications for vacancies and a decline in applications for secondary teacher training.[35] That should be no surprise, because primary teachers can qualify to teach with a three-year Bachelor or Diploma in Education, whereas secondary teachers must take four years (for an undergraduate degree and a one-year diploma). Comparable salaries mean primary teaching is more attractive.[36]

The critics of pay differentials ignore their role in allocating people to jobs in an efficient manner. Potential teachers are not all the same – they have different tastes, aptitudes and skills. Non-pecuniary factors are important to people when choosing careers and differ between primary and secondary school teaching. Primary and secondary school teaching require different skills, and there is no reason why the wage that ensures adequate supply of primary teachers should be tied to the wage that ensures an adequate supply of secondary teachers. The price mechanism ensures those with scarce skills go to jobs where those skills are more valuable and that those with a taste for particular work are more likely to undertake it.

Further, the demand for primary and secondary school teachers will differ. Prices also transmit changing demands to suppliers and give them an incentive to respond. If the demand for secondary school teachers increases, then it is efficient that we have more secondary school teachers. High wages attract them into the profession. Over the next few years there will be increased demand for secondary teachers as the student population bulge moves from the primary to

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[34] Lieberman (2000). For a detailed, and compelling, treatment of why union leaders oppose merit pay see Lieberman (1989) pp 17–19.

[35] See "Teacher Shortage" and "Too Many Teachers" in the *New Zealand Herald*. www.nzherald.co.nz/storydisplay.cfm?thesection=news&thesubsection =&storyID=165145 or www.stuff.co.nz/inl/index/0,1008,551571a1934,FF.html.

[36] See Education Review Office (1999d) appendix F.

the secondary sector.[37] Yet the unified pay system has moved salary differentials in the opposite direction to that required.

Teacher pay in New Zealand is not low. The average salary in 2002 was $50,873, which puts teachers, on average, in the top 13 percent of taxpayers.[38] Teachers also receive generous holidays.

The problem is that pay does not vary enough with performance, but depends mainly on qualifications and time served. In the collective agreement, teachers' starting salaries are determined by qualifications, and then rise by a set amount each year to maxima set for the various qualification levels.[39] In 1999, 70 percent of secondary teachers were at the top of the base scale.[40]

Yet when the education lobby emphasises the importance of lifting admissions standards to teacher training they are admitting that there is more to teaching than years of experience and qualifications. Individual characteristics will make people good or bad teachers. The evidence is that there is much variation in teaching ability and that teachers' effectiveness at promoting academic achievement is related to their academic ability but not to their qualifications or experience (after the first few years).

Good teachers are extremely valuable, and there is no reason why they should not be earning six figure salaries – especially if schools were organised to get the maximum benefit from them. For example, even under current funding arrangements, secondary schools receive $150,000 in grants for a class of 27 students. One possibility is that using whole class, interactive teaching methods, with large classes and excellent teachers, as so successfully used in Switzerland and Japan,[41] would permit high salaries to good teachers and maximise children's exposure to them without any increase in costs.

Lack of a professional culture

Many teachers have a strong desire to enjoy the status and autonomy of those in other professions. Yet there was a time when teachers were highly respected professionals, and they still are in many Asian countries.

The teaching profession departs from other professions in significant ways. Teacher unions are the bodies that represent teachers. The PPTA considers itself the secondary school teachers' professional organisation and asserts that it should represent teachers in professional matters, such as curriculum,

37 Ministry of Education (1999c) p 65.
38 Ministry of Education (2003a) table A.23, p 79 and The Treasury (2003b) p 1.
39 See Post Primary Teachers' Association (1999) p 17.
40 Ministry of Education (1999c) p 43.
41 See *The Economist* (1997) p 25 and Education Forum (1998a) pp 42–44 for the advantages of whole class teaching and its success in countries that use it.

assessment and teacher training, at a local and a national level.[42] The NZEI describes itself as "a union and professional organisation".[43]

Most professionals compete in a market setting as employees of a competitive firm, in self-employment or in partnership, and their earnings depend on how the market values their services. In contrast, teacher unions push for uniform pay schedules determined centrally by collective bargaining and lobby against accountability or performance pay.

The NZEI has adopted an industrial union model rather than that of a professional organisation. It represents not only teachers but all school site employees, spread over more than 80 occupational groups. Support staff are about 17 percent of its members.[44] This model is in the interests of union officials trying to increase demand for their services, at the expense of teachers' professional status.[45] In comparison, the New Zealand Medical Association does not include nurses, x-ray technicians, operating room assistants, hospital orderlies, and medical secretaries.

The underlying rationale for unions, and the interest of union officials, is to represent teachers on industrial issues – particularly in collective bargaining – rather than improving members' services in the interests of their clients.

In a review of in-service training for New Zealand's teachers, the Education Review Office observed:

> . . . there are no professionally driven requirements for in-service training. Most other professions have professional bodies whose role includes setting and promoting high quality standards and sanctioning members of the profession who fail to meet them. Professional bodies typically set out training requirements for ongoing membership of the profession and arrange in-service training programmes.[46]

Unions do not generally take on the task of formulating and enforcing professional standards – they have little incentive to do so. Rather, they are paid to defend their accused members against allegations of misconduct. Union officials do not win elections by advocating restrictions on teacher conduct or by emphasising the unethical behaviour of some teachers. Further, it may not be desirable for unions to do so. Who would then protect employees against capricious actions by the union?[47]

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42 Ministry of Education (1999e) p 36.
43 Ministry of Education (1999e) p 31.
44 Source, NZEI web page, www.nzei.org.nz/get/2.html.
45 Lieberman (2000a).
46 Education Review Office (2000a).
47 Lieberman (1988).

Attracting and keeping high-ability teachers

New Zealand has just had a large increase in teacher salaries – from 1996 to 2000 average state school teacher salaries rose by more than 18 percent in real terms, then fell by 1 percent to 2002.[48] The Ministry of Education argues that the increase improved the earnings of teachers relative to other occupational groups, was needed to achieve competitive entry level salaries, and will attract and retain high-quality teachers.[49]

The US experience indicates the problems that may occur in a centralised system and how competition may change matters. For example, a 20 percent real increase in average teacher salaries in the 1980s in the United States, and an increase relative to other college workers, had no discernible effect on the quality of new teachers.[50]

In the United States, hard data are collected on the abilities of education students and entrants to the teaching profession. College graduates usually have higher ability (as measured by cognitive ability tests) than first year undergraduates. The weaker students are weeded out. That is not true for college graduates who go into teaching. Graduates completing teacher training have roughly the same distribution of cognitive skills as entrants into college. Of those who qualify to teach, high-ability graduates are less likely to start teaching than their lower-ability peers and are less likely to remain in teaching. Further, relative teacher earnings do not significantly affect participation in teacher training.[51]

There are a number of reasons for high-ability people shunning teaching. One is the union induced compression of wages for teachers. (See 'Compression of salary differentials' earlier in the chapter.) Further, the working conditions and environment in schools may be particularly irksome to the more able – especially risk-taking entrepreneurial types. For example, a bureaucratic atmosphere or lack of discipline within a school may drive out talented teachers.

Another factor that discourages high-ability students from entering teaching is the education courses required for entry and the general trend in teacher training away from an emphasis on subject knowledge and towards specialist courses on education theory. One view is that the content of these specialist

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48 Ministry of Education (2000i) table 31 and (2003a) table A.23, p 79. I deflated the figures by the Consumers Price Index with base June 1999.

49 Ministry of Education (2001) p 34.

50 Ballou and Podgursky (1997) pp 15–52. Although there was some improvement in the ability of education students and graduates, it was not related to salary increases, which differed by state. Mobility between states was low.

51 Hanushek and Pace (1995); Hoxby (2000b), (2001).

courses directly repels the able – especially the emphasis on ideological conformity, attitude training and child-centred teaching methods.[52] As US education secretary Roderick Paige has said, teacher training requirements "maintain low standards and high barriers at the same time".[53]

In New Zealand, all schools, public and private, are only allowed to employ teachers registered with the Teachers Council (kura kaupapa Maori schools are exempt). In general, registration requires an approved teaching qualification, such as the Diploma of Teaching. People with substantial practical experience as a teacher may be registered. A New Zealander who does not meet registration criteria may receive a temporary limited authority to teach in a specified school, if the application is supported by the professional leader of the school and a registered teacher cannot be found for the position. The authority is for a fixed term of employment to a maximum of one year.[54] The result is to limit permanent teaching positions to those with teaching qualifications. Further, unregistered teachers employed under the collective contract start on a lower salary and have a lower maximum salary.[55] Overall, 98 percent of teachers reported in the 1998 teacher census that they possessed a formal teaching qualification.[56] Union officials claim that only those with teacher training are qualified or suitable to teach.[57] A Nobel prize winner could be unqualified to teach science on this definition.

A US empirical study identifies a more subtle mechanism by which education courses, and the way the teacher labour market works, discourage the able from entering teaching. It examined the puzzle of why substantial increases in teacher salaries did not improve the quality of newly recruited teachers. The reason is that teacher pay rises increase pay for all teachers. As a result, quit rates fall and jobs become more difficult to find. Prospective teachers are required to undertake education courses that have no value in other occupations, and so are sensitive to declining job prospects. The effect is greatest for high-ability students who have the most attractive prospects outside teaching. They incur the greatest loss if they train to become teachers and do not find a job.

Further, public schools are no more likely to hire candidates with high ability and strong academic records – despite the fact that these attributes are positively

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52 For example, in the United States, Sowell (1993) pp 288–289 and in New Zealand, Scruton in Partington (1997) p xv.
53 Quoted at www.ascd.org/educationnews/edpolicyupdate/edpolicyupdate072002.html.
54 Teachers Council (1997), (2003a), (2003b) and (2003c) pp 2, 4.
55 Post Primary Teachers' Association (1999) p 17.
56 Ministry of Education (2001) p 34.
57 For example, Ward (1999) p 6.

and significantly correlated with the rate at which students learn.[58] As a result, it cannot be guaranteed that high salaries will improve the pool of prospective teachers or, even if it does, that schools will select or retain the better people.

The risk from undertaking training that can only be used in the education sector is even greater in New Zealand, where the central government is the dominant employer and job prospects depend on policies that can be subject to dramatic change.

It is true that high salaries will encourage more to enter, stay in and return to the teaching profession, and remain in New Zealand. There is, however, more to job satisfaction than money. In fact, working conditions play a huge role in discouraging qualified people from entering or sticking with teaching.

- For example, surveys of US teachers who are considering leaving the profession find their major concerns are lack of support from parents, student misbehaviour, lack of materials or supplies, poorly run schools and student apathy.[59]
- A US survey on the attitudes of new teachers found that 86 percent prefer a school with significantly better student behaviour and parental support to a significantly higher salary. Also, more than three-quarters preferred schools with administrators who are strongly supportive, schools with highly motivated and effective teachers, and schools with a mission and teaching philosophy similar to their own to a significantly higher salary.[60]

The issue is how many more teachers will be attracted to the profession by high salaries and whether they will be high-quality teachers. The way that the public sector operates may be as important as pay in discouraging talented youth from becoming teachers.

Teacher unions point to the high turnover of beginning teachers as a reason for increasing teacher pay across the board.[61] High turnover may be a symptom of other problems – such as poor training failing to prepare new teachers to handle the job, a lack of support and training at the school level, an unsatisfactory work environment, or a poor salary structure. If these other problems are not fixed, more money will not make much difference – or the amount of salary increase needed to overcome these other difficulties may not be feasible.

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58 Ballou and Podgursky (1997) – their argument is summarised on pp 163–165.

59 See, for example, Ballou and Podgursky (1997) p 135 and *Catalyst: For Cleveland Schools*, August/September 2001, available at www.catalyst-cleveland.org.

60 Farkas, Johnson and Foleno (2000) p 19.

61 See, for example, Post Primary Teachers' Association (2001a).

Teaching faults: teacher education and training

Licensing

The focus of licensing is on quality control at point of entry, and there are few sanctions for bad teaching. Yet it is not clear whether good teaching can be predicted upon entry. There is no significant correlation between the requirements for teacher registration and the quality of student achievement (as surveyed earlier in this chapter in 'The effect of teachers').

The licensing body is meant to take into account the interests of the whole community – including government, teachers, employers, parents and students. These groups may have different, and often conflicting, interests, and which interests are given priority is resolved through the political process. As a result, the interests and agendas of organised and politically powerful groups are promoted. For example, licensing can be used to restrict entry into teaching for the gain of producer groups, to impose a particular ideology on the profession and to drive out those who will not conform.

Pre-service training

It is not true that the only problems with improving teacher quality are in recruiting good people and ensuring they undertake a teaching qualification. There are problems within the colleges of education and schools themselves.

Various US studies highlight the gaps in priorities between parents and education academics. Education academics tend to be 'progressive'. They favour pushing particular multicultural and political values in the classroom and are indifferent, or even hostile, to subject competence. They oppose testing, rigorous standards and results-oriented instruction. They prefer process over content, 'facilitating learning' over conveying knowledge and 'partnership and collaboration' over imparting knowledge.[62]

Judging by the writings of prominent education academics, similar attitudes dominate in New Zealand education faculties. Many New Zealand education academics see education as a tool with which to achieve political aims or as an instrument of social and economic reform to win class warfare.[63] They recommend (or rather 'demand') education 'reforms' such as the abolition of the private sector and "radical de-emphasis on the role of examinations and qualifications" . . . "as a necessary component in any change towards a socialist society" and they believe "education is a powerful force to achieve a left

[62] Phelps (1999); Stone (2000); and Stotsky (2000).
[63] See for example, Thrupp (1997) p 373; Middleton, Codd and Jones (1990) and Lauder (1990).

agenda".[64] Further, 'progressive' education views dominate the new curriculum. (See chapter 3 'The targets of the left: curriculum changes'.)

It is no wonder that empirical studies fail to detect any relationship between teaching qualifications and student learning.

The education courses taught are biased towards child-centred and reconstructionist theories. The objective of reconstructionist education is to transform society radically from capitalism into a more 'equitable and socially just' one. Further, there is a strong emphasis on the radical feminist perspective, permeating almost every course at some institutions.[65] For those taking an education degree, this focus on one-sided educational theory comes at the expense of subject knowledge.

The hostility to assessment means that new teachers are not taught how to assess students properly, and the assessment procedures within teacher colleges are affected. Criticisms by students include claims that assessments did not accurately reflect performance, that colleges failed to enforce standards, that colleges did not deal satisfactorily with inadequate students and did not provide students with sufficient written documentation to help them compete successfully for jobs.[66]

Many current teacher education programmes have little study of mathematics and science.[67] A Ministry of Research, Science and Technology survey of Wellington region primary school teachers found that 42 percent felt they were not well trained to teach the science curriculum.[68] Evidence on the standard of New Zealand education students comes from Matthews (1996). He reports a study of the mathematics ability of students entering a primary teacher training programme at the Auckland College of Education in 1991 and 1992. These were students who had finished secondary school and in one of the more prestigious teacher training institutions. Twenty percent could not work out the length of a pencil when placed on a ruler, and 27 percent could not work out the length when one end was placed at the 2 centimetre mark. More than half could not work out what time was 37 minutes before 12.03. The following year, students did worse. When given the number of litres purchased and the total amount paid, 41 percent could not even recognise the calculation needed to work out the per litre price of petrol.[69]

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64 Lauder (1990) pp 24, 25, 26.
65 See Partington (1997) pp 135–151.
66 See Partington (1997) pp 123–125.
67 Education Review Office (1999d).
68 Ministry of Education (1998) p 67.
69 Matthews (1996) pp 31–32.

7
TOMORROW'S SCHOOLS REFORMS TODAY

> . . . a selective adoption of only some of the main elements could result in a continuation of the present inefficient administrative practices 'dressed up' in different clothes.[1]

EDUCATION REFORMS OF THE 1990S

The Education Act 1989 implemented the Tomorrow's Schools reforms, which had four pillars:

- parental voice at the school level;
- delegation of powers to the school level;
- contractual relations between the school level and the centre; and
- parental choice.[2]

The Tomorrow's Schools reforms were based on the recommendations of the 1988 Taskforce to Review Education Administration (the Picot Taskforce). They have been described as the introduction of market competition.[3] Although parents were given increased choice between government schools, and schools were given more autonomy, a market system was not introduced.

Why the reforms did not achieve decentralisation has important implications for future reform efforts. It is fair to say that the reforms have not had the effect expected by opponents and proponents. For example, Smelt (who worked with the Picot Taskforce) concludes each pillar has proved 'limited or flawed'.[4]

Further, a myth has built up that the Tomorrow's Schools reforms have dramatically increased inequality and segregation in New Zealand's schools. This myth has dominated the public debate and actually influenced policy, but is based on misleading analysis and misrepresentation of the data in some studies by a number of New Zealand education academics. In fact, an important

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1 Taskforce to Review Education Administration (Picot Taskforce) (1988) Letter of Transmittal, p vii.

2 Smelt (1998) p ix. Smelt provides an excellent overview and analysis of the Tomorrow's Schools reforms.

3 For example, Fiske and Ladd (2000a) p 292 and the Smithfield Project (1994) Report One is entitled "The Creation of Market Competition for Education in New Zealand", pp 1, 12, 14 and 15.

4 Smelt (1998) p x.

lesson from the Tomorrow's Schools reforms is how school choice can promote social integration and reduce polarisation.

PARENTAL VOICE AT THE SCHOOL LEVEL

After the reforms, boards of trustees, dominated by elected parents, governed state schools. The Picot Taskforce recommended that central control be limited to the setting of broad national objectives (for example, over curriculum matters).[5] The school would be the 'basic unit of education administration', set its own objectives and determine how resources were to be used within the overall objectives set by the state.[6] Schools in New Zealand had long had parental boards, although at the primary school level they had limited tasks, like fund raising, while secondary school parent boards were able to appoint teachers and administrators.[7]

The Picot Taskforce saw governance by elected parental boards as a means to determine community needs and concerns and increase the incentive for community and parental involvement.

It is generally agreed that governance by parental boards is an improvement on the hierarchical and bureaucratic[8] system that went before it – a common statement, even from critics, is that "no-one in New Zealand wants to return to the old system".[9] It undoubtedly increased the attention paid to parents' interests. In the old bureaucratic system, not only did parents have little voice, but those who ran the schools did not have to listen.

There is a strong case for a governing body to be within a school, and a need for some mechanism to transmit parental views and concerns to the school's administration. Voice and choice are not alternatives. Indeed, in a market setting, it is in the interests of those who run the school to listen to parents and to iron out problems in order to prevent parents from choosing another school.

Nevertheless, it is a large step to say that parent boards should govern schools. Customer control of suppliers is unusual in the business sector and the rest of the education sector, and there are a number of problems with current arrangements. The governance structure is dictated from above for all government and integrated schools. There is no competition from alternative structures or any scope for diversity. Yet the optimal governance arrangement may not be the same for all types of schools.

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5 Taskforce to Review Education Administration (1988) p 42.
6 Taskforce to Review Education Administration (1988) p xi.
7 Fiske and Ladd (2000a) p 23.
8 See Fiske and Ladd (2000a) pp 31–32 (for some amusing bureaucratic 'horror' stories of the old department).
9 Fiske and Ladd (2000a) p 291.

Parental boards create problems for schools that serve low-SES parents.[10] These schools tend to have a small pool of parents with appropriate skills and expertise. In decile 1 schools (see chapter 3, Box 3: School decile rankings), which draw from the lowest SES communities, it has been estimated that over half the parents have no secondary school qualification.[11] The boards in low-SES areas may find it difficult to meet the demands on them, and are less likely to fill vacancies.

As a result, low-SES schools are more likely to be poorly governed, creating a further disadvantage and an increase in inequality. For example, the ERO compared decile 1 and decile 10 schools and found that, although standards varied widely, the decile 1 schools were more likely to have ineffective governance. A major cause of poor performance in low-SES schools is trustees with limited expertise.[12] In particular, small, isolated rural schools had problems electing a competent parent board.

There are a number of disadvantages with elected parent governing boards that apply to all schools:

- They do not have an ownership interest and tend to lack perspective on the future. Often, parents are only interested in the school while their child attends.
- With elected representatives, there is no guarantee that a school philosophy will survive.
- Factions can develop and domination by vocal groups can be a problem.
- Parent governors, and the teachers of their children, are placed in an invidious situation, with potential conflicts of interest on both sides. For example, in disputes over the introduction of bulk-funding, parent governors were subject to explicit threats of retribution by teachers against their children.[13] Of course, teachers may be subjected to pressure to treat board members' children favourably.
- Another criticism of parent boards is that they have not been innovative.[14] Elected parent boards are likely to reflect general community preferences and have a short-term focus. Boards do not have the time, power, support or incentive to be entrepreneurial. The Tomorrow's Schools reforms have not remedied the poor incentives for innovation in the government system.[15]

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10 Smelt (1998) p (x); Fiske and Ladd (2000a) pp 89–91 and Education Review Office (1996), (1999) also point to problems with parent boards in low-SES areas.
11 Fiske and Ladd (2000a) p 235.
12 Education Review Office (1998).
13 See Roger (1996).
14 See Fiske and Ladd (2000) pp 8–9; Smelt (1998) pp 37–38.
15 See chapter 4 'Innovation and public ownership'.

Schools can be made more accountable to parents without the parents running the schools themselves. A market system relies on choice and competition to get schools to provide what is demanded. In most professions, such as medicine, law and accountancy, professionals are either self-employed and directly judged by customers or are directly judged by the management of the firm they work for, and the firm is judged by customers. Very few are governed by the customers.

In the private school sector, parent representatives are usually not elected and are rarely more than 50 percent of the board. Private school boards usually choose members for specialised skills and expertise and a commitment to raise image, students and money. Typically, the owners of the school maintain control over the board to ensure that the school is used to further the owner's objectives.

There should be open competition from alternatives so that parents can choose the one they prefer. That is, governance arrangements should be subject to the market test. One type of organisational form should not be mandated or favoured over others. Just as supermarket co-operatives exist, parents should be free to send their children to parent-run schools. Not all will want to – many do not want participation. One New Zealand study finds no relationship between roll trends and collaboration between parents and teachers.[16] As with supermarkets, many parents will prefer to choose among competing suppliers rather than run things themselves. Most parents make better customers than managers. As customers, they only have to choose what they prefer and judge whether the overall experience is satisfactory or not, rather than dictate the schools' policies themselves.

A market system would require parents to weigh up the costs and benefits of different governance arrangements. For example, one cost is the cost of the parent governors' time. Parents have the best information on these costs, and the centre has little incentive to consider them. Parents can decide whether to use a school that requires large amounts of parental time.

DELEGATION OF POWERS TO THE SCHOOL LEVEL

All schools were given an enrolment-driven operations grant to fund administration, ancillary support, maintenance and materials. The Picot Taskforce had recommended that schools receive a formula-based bulk grant from which they would purchase services and pay all staff.[17]

The funding for teaching staff was decentralised to the school level only on a voluntary basis from 1993. With bulk-funding (also called the fully funded

[16] Robinson, Timperley, McNaughton and Parr (1994).
[17] Taskforce to Review Education Administration (1988) p 49.

option), schools received their total funding direct from the Ministry of Education, and then spent it in the most effective way according to priorities determined at the school level. They could appoint more or fewer teachers than other comparable schools, pay above award salaries and employ whatever mix of teachers, teacher aides and other staff they need. Boards of trustees were forced to consider the true cost of trade-offs that must be made.

In 1993, fewer than 3 percent of schools opted to become bulk-funded. By October 1999, 31 percent of schools, containing 40 percent of all students, were bulk-funded – including nearly 25 percent of schools with students from low socio-economic areas.[18] The majority of schools entered the scheme after the May 1998 Budget increased the financial incentives to do so. In 2000, the new Labour government abolished bulk-funding for the payment of school teacher salaries. Still, the rest of the education sector is bulk-funded. Pre-schools, private schools, and tertiary providers are funded by formula-driven grants.

The Ministry determines how much funding state schools receive. For schools that were not bulk-funded (now all schools), it kept control of teacher salaries. They account for around 70 percent of recurrent costs. A school's entitlement to teaching positions and management units is formula determined; teacher salaries are funded by the Ministry, and are delivered direct to teachers through a central payroll system.[19]

Parents are customers of the school and have their own interests, which may conflict with the concerns of the government as owner and funder. Parent boards have an incentive to join the producers and demand more funding from the government.

'Free' education means that parents do not directly pay any more as education becomes more expensive, which removes any incentive for the consumer to monitor costs and exacerbates the fiscal risk faced by the government. One survey found that parents on school boards in New Zealand consider their main obligation is to the students, school and staff and felt the least direct responsibility to the government.[20]

Parent boards do not solve the fundamental problems with public schooling. They do not fix monopoly, politicisation or poor ownership incentives. Parent boards do not bear the residual income risk, so do not have the incentive to make efficient decisions. As consumers, they have the incentive to commit the government to more expenditure. Because the government is held responsible for school performance and must account for taxpayers' funding, it finds it

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18 Education Review Office (1999c); Sullivan (2000) p 7.
19 Smelt (1998) p 13. The actual payment to teachers is contracted out to private firms.
20 Wylie (1997) p 130.

difficult to delegate powers and has an incentive to impose input and procedural controls to limit fiscal and political risk. As a result, centralised decisions replace decentralised ones. This fundamental problem limited the amount of autonomy granted to schools and reintroduced many of the problems of centralisation and politicisation the reforms were meant to deal with.

For example, although school boards are legally the employers of teachers at the school, the government pays teacher salaries directly. That makes it impossible to decentralise wage negotiations without exposing the government to enormous fiscal risks. If the government guarantees funding to pay teachers' salaries, school boards will lose any incentive to resist wage demands. The problem is exacerbated with parent boards, who have a direct personal interest in making the school as well resourced as possible.

Consequently, the government maintains central control over wage negotiations. The collective contract that determines pay and conditions for most teachers is centrally negotiated by the Ministry and unions. This reduces school autonomy over the compensation arrangements for their most vital resource, the teachers. Although school boards are the employers, they have little control over financial incentives for teachers and principals. The national awards mean boards find it difficult to structure employment terms to take account of their own particular conditions.

Not only did the centre maintain much control over decisions and funding, it actually grew in size after the Picot Taskforce. Central administration costs were 4.7 percent of total education spending in 1987/88 (before Picot).[21] The Picot Taskforce expected this would fall by a third to 3 percent, with the devolving of administrative activities and funds to the schools outweighing increased expenditure on reviewing and auditing.[22] Instead, by 1993/94 it had risen by a third to 6.4 percent.[23] The centre had delegated administrative tasks to the school level, yet increased its share of funding. This explains why the reforms increased workloads at the school level, including a large increase in unpaid parental time to govern schools.[24] In 1994, New Zealand secondary school principals averaged 120 hours per month on administrative duties, the highest in the TIMSS. In 1998, they spent an average of 83 hours per month on administrative duties, the second highest, whereas the international average was 51 hours per month.[25]

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21 Taskforce to Review Education Administration (1988) p 89.
22 Taskforce to Review Education Administration (1988) p 94.
23 The Treasury (1997) table 4.22, p 138.
24 See Wylie (1997) pp 81–93.
25 Chamberlain and Caygill (2002) p 43; Ministry of Education (2000f) pp 17–18.

CHARTER

The Picot Taskforce report proposed that New Zealand's government school system be converted into a system of charter schools in 1988, three years before the first US charter school started (in Minnesota).

The report proposed that each school board draw up a charter for the school in consultation with the principal, the staff and the community. The charter was expected to define the purposes of the institution and the intended outcomes for students and take account of the particular interests of the students and community and the skills of the staff. It would serve as a contract between the community and the institution and the institution and state. The boards would be accountable to a national review and audit agency (the ERO) for the use of funds and for meeting the charter.[26] The charter would be the key instrument of accountability of the school to the community and to the centre. Instead, charters became one way, with most of their content dictated by the centre, and national goals dominating.[27] The national guidelines, that must be incorporated into charters, set out what is to be learned, operational requirements (like the length of school day and year) and process requirements that are enforced by the ERO.

DEZONING: CHOICE OF GOVERNMENT SCHOOL

When zoning was removed, parents could, for the first time, choose to send their children to any government school, so long as there was space available. As the Picot Taskforce had recommended, in the first year of dezoning (1991), students in a school's home zone had guaranteed access, and places for out-of-zone students were allocated by a lottery.[28]

From 1992, the government abolished compulsory priority to students from home zones, and over-enrolled schools determined their own enrolment scheme. In 1999, legislation increased central regulation of enrolment schemes to ensure students could attend a 'reasonably convenient' school, in effect giving priority to those within a school's residential area. In 2000, the Education Amendment Act required schools to enrol in-zone students and allocate places to out-of-zone students by ballot – returning to the situation in 1991.

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26 Taskforce to Review Education Administration (1988) pp 44–45.

27 Smelt (1998) pp ix, 56–58; Fiske and Ladd (2000a) p 280.

28 Taskforce to Review Education Administration (1988) p 77. The Picot recommendations were implemented in the 1989 Education Act. The new zoning regulations first applied in the 1991 school year (the 1989 Act was passed after 1990 school applications had been made). See also Smithfield Project (1994) Report One, p 19.

Two prominent evaluations of the Tomorrow's Schools reforms by New Zealand education academics are the series of Smithfield Project reports, commissioned by the Ministry of Education,[29] and Ainsworth *et al* (undated). Despite the wide-ranging changes made to the regulation, provision and finance of government schools by the Tomorrow's Schools reforms, the authors focus on dezoning and its effect on student mix in schools and barely mention the other reforms. Fiske and Ladd (2000a) is a broad examination of all the Tomorrow's Schools reforms by an education journalist and an academic economist. All three studies are critical of the effects of the introduction of choice between government schools and present empirical evidence on the effects of dezoning.

Dezoning led to a dramatic and immediate exodus from some schools and a large movement from low to higher SES schools.

- In the Smithfield sample, from 1990 to 1991 the proportion of the student intake not using their local school increased from 22 percent to 31 percent. The proportion fell slightly over the following two years, but by 1995 had risen to 35 percent. Some schools almost halved their student intake from 1990 to 1993.[30]
- Fiske and Ladd examine the change in enrolments from 1991 to 1996 in the Auckland, Wellington and Christchurch urban areas.[31] They compare enrolment patterns with changes in the number and ethnic composition of school-age children in the schools' catchment zones reported in the 1991 and 1996 censuses. They demonstrate a dramatic shift in enrolments from low to higher decile schools (the decile classifications are in terms of socio-economic status and were based on 1994 enrolment patterns), and the shifts are much greater than predicted by changes in school-age children in the local wards. The greatest changes were in secondary schools. For example, in Wellington's secondary schools, rolls fell by about 30 percent in deciles 1 and 3 and more than 17 percent in decile 2 schools. Within each decile, some individual schools fell by more. Decile 8–10 schools increased their rolls by about 5 percent.[32]
- Ainsworth *et al* find that in Christchurch the state schools with the lowest SES rating were more likely to have declining rolls from 1989 to 1993.[33]
- Fiske and Ladd also find that from 1995 to 1998, the higher the school's initial proportion of minorities, the greater the decline in that school's

[29] These are listed sequentially in the bibliography under Smithfield Project.
[30] Smithfield Project (1994) Report One, table 6, p 31 and p 44 and (1996) Report Four, table 8, p 4.
[31] See Fiske and Ladd (2000a) pp 183–209.
[32] Fiske and Ladd (2000a) p 186.
[33] Ainsworth *et al* (undated) p 1.

enrolment (after controlling for other factors likely to affect enrolment) and the more likely its decile ranking fell.[34]

CRITICISMS OF DEZONING

These authors criticise the effects of dezoning, claiming that parents choose schools on the basis of SES or ethnic mix, and prefer schools with a good SES mix and a high proportion of Pakeha (white) students. The New Zealand education academic critics assert that parents are ignorant, that educational reasons play no part in parental choice of schools, and that parents are motivated by racial prejudice and elitism.[35] They claim that as a result of "middle class flight" and "white flight",[36] schools with high proportions of low-SES and minority students experienced the greatest loss of students under dezoning.[37] That increased the low SES and minority make-up of the students who remained and led to a further loss of students, reinforced by the effects of the accompanying loss of funding and morale. Thus, low-SES schools become caught in "spiral of decline" through no fault of their own.[38] These schools suffer not because they are bad schools but because they have the wrong type of student. Choice, they claim, creates rather than exposes bad schools.[39]

At the same time, high-SES schools have more applicants than places. The over-subscribed schools put on an enrolment scheme and become more selective, which further increases their popularity. It is claimed that these schools do the choosing rather than the parents. They shunt problem students to schools further down the SES hierarchy and limit access by minority students.[40] This "has contributed to ethnic and socio-economic polarization of student enrolment".[41]

Much of the concern of the critics is with the effect of policies on institutions and the adults that work for them rather than children. The concern is with the effect of choice on conditions faced by 'rich' and 'poor' schools, and the staff within 'poor' schools.[42] For example, the Smithfield authors are concerned that

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34 Fiske and Ladd (2000a) pp 199–201.

35 For example, Smithfield Project (1997) Ethnicity Article, pp 99, 103; (1998) Report Seven, p 2; Ainsworth *et al* (undated) pp 33, 34. See also Middleton (1998) p 1.

36 Ainsworth *et al* (undated) p 1.

37 Smithfield Project (1998) Report Seven, p 21; (1998) Report Eight, p 41.

38 Smithfield Project (1996) Report Four, p 1.

39 See for example, Ainsworth *et al* (undated) p 33 and Fiske and Ladd (2000a) pp 225–226, 287.

40 Fiske and Ladd (2000a) pp 202, 208–209, 217, 222.

41 Fiske and Ladd (2000a) p 308.

42 See, for example, finding five, Smithfield Project (1998) Report Eight, pp 41, 43; Smithfield Project (1994) Report One, p 65, recommendation 3; Smithfield Project (1995) Report Three, p 55; Smithfield Project (1997) Ethnicity Article, p 107; Ainsworth *et al* (undated) p 34 and Fiske and Ladd (2000a) p 250.

"schools which experience a middle class exodus are likely to go into a spiral of decline with serious consequences for the stability of employment and morale of staff".[43] Rather, we should strive for fairness between all New Zealand school children, with the priority being to help the most disadvantaged in the population. What matters is whether students are better or worse off, not whether particular schools become smaller.

Why should a school maintain its funding if students leave? Surely the purpose of funding is to educate students, not benefit staff in particular schools? Funding should follow the pupil, to where it does the most good. If a school gets extra students, its funding should rise because it is more costly to educate more students. Likewise, if a school has fewer students its funding should fall.

In New Zealand, funding for each remaining student does not fall as students leave a school – if anything it rises. Smaller schools tend to receive higher recurrent funding per pupil. If the school's SES ranking falls, it gets more per student through the Targeted Funding for Educational Achievement (TFEA) programme. The in-kind subsidy received from free use of buildings and grounds remains unchanged, and increases on a per-head basis. In fact, so called 'poor' government schools have more resources per student than 'rich' schools. (See chapter 5 'Government spending on schools', especially table 1 for details.)

Why would movement of students between different types of schools have an adverse effect on individual students? Surely students choose to go to another school to make themselves better off? Although the Ainsworth *et al* study does not go beyond the effect of dezoning on low-SES schools, the Smithfield authors, at times, appeal to peer effect arguments. They assert that academic peer effects are important. Indeed, they believe that schools have little control over their students' performance and that the contribution of a school to educational outcomes depends entirely on its mix of students.[44]

The Smithfield authors claim dezoning encourages SES and ethnic polarisation because the ability to exercise school choice is not equally distributed throughout the population. Minority and low-SES students are the least likely to be able to exercise choice[45] or to be able to gain access to the schools of their choice because of inequality in the capacity of parents to act upon their judgements.[46] Further, it is alleged that there is a "systematic bias in the school selection of students where enrolment schemes have been instituted"[47]

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43 Smithfield Project (1996) Report Four, p 1.
44 See, for example, Smithfield Project (1997) Report Six; (1998) Report Seven, p 78.
45 Smithfield Project (1998) Report Eight, p 41.
46 Smithfield Project (1995) Report Three.
47 Smithfield Project (1995) Report Three, p 53.

and that the schools discriminate against low-SES and minority students.[48] Fiske and Ladd adopt the same line.[49]

The critics therefore argue that the most disadvantaged students are left behind in the declining schools and are made worse off by the peer effect from the decline in the average ability of their peer group, plus the increased segregation by race and class also reduces social cohesion.[50]

An alternative scenario

The critics lay out a negative scenario about the effects of choice, and focus on the costs of choice and the losers from the policy. An alternative 'positive' scenario is set out below.

Before the Tomorrow's Schools reforms there were some bad schools – schools that lacked an ethos, lacked leadership, that ignored their students' needs, that did not assess students or check progress, and where failure for low-SES and minority students was accepted, even expected.

The system tolerated poor performance from some schools because there was simply no pressure to change it:

- Some of the children had apathetic parents.
- Those parents who did care had little way to make their dissatisfaction known, and those in charge had little incentive to listen.
- The system favoured producer interests, unions ensured their members would have job security and, anyway, politicians had little incentive to focus on the issue unless it turned into a crisis. The bad schools tended to be in low-SES areas, and the poor did not have much political clout.
- Most importantly, zoning was used to ensure enrolments were maintained in bad schools, and parents were forced to send their children there.

The greater mobility of high-SES parents and the fact they could afford private schools gave their state schools more competition and an incentive to perform. The parents were demanding and politically powerful and ensured that any problems at the school were fixed. Good teachers tended to gravitate to their schools. Teachers, on average, find it less demanding to teach high SES-children. Farkas *et al* (2000) survey new teachers in the United States and find that 86 percent of them prefer a school with significantly better student behaviour

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48 Smithfield Project (1995) Report Three, p 53 and Smithfield Project (1997) Ethnicity Article p 100.

49 See Fiske and Ladd (2000a) pp 202, 208, 223, 233, 283.

50 See for example, Smithfield Project (1995) Report Three, p 2; (1996) Report Four, pp 1, 26; (1998) Report Seven, p 1; (1998a) Report Eight, p 41; (1997) Ethnicity Article, p 108. Fiske and Ladd (2000a) p 305.

and parental support to a significantly higher salary. Hanushek *et al* (1999) find that teacher mobility is more affected by characteristics of the students (income, race and achievement) than by salary schedules. Basically, teachers in the United States move to teach high-achieving, high-income white children. Because salary levels are uniform across schools, teachers will prefer high-SES schools. Such schools have a greater choice of applicants for teaching positions, so are likely to have a better teaching staff than low-SES schools. Although direct evidence on school and teacher quality is difficult to come by in New Zealand, Fiske and Ladd present indirect evidence that good teachers (those selected by the NZQA to be moderators) are concentrated in high-decile schools.[51]

With dezoning, many poor parents, who had been frustrated at being forced to send their children to bad schools, now gained access to better schools. Many dissatisfied parents took their children from poorly performing schools and placed them in better schools. Those schools that had neglected their students for years lost many students. Among the students remaining were those with apathetic parents, who did not try to leave. These students, often the most disadvantaged, lack a supportive family environment and continued to perform poorly.

Although the most disadvantaged students were left behind in declining schools, overall, low-SES and minority students took the greatest advantage of choice. These groups were the most adversely affected by zoning, they were forced to attend bad schools, and so gained the most from dezoning. The net effect of the movement of students out of low-SES to other schools was to decrease segregation.

Increased choice allowed more students from low-income families to attend a better school and allowed improved matching between schools and students. It enabled schools to get the critical mass of students to support programmes for minorities that may not have been possible with zoning. Moreover, the increased freedom given to schools under the reforms allowed some dynamic principals to turn around failing schools. A more homogeneous student body permitted schools to specialise and target curricula and teaching techniques. Choice and parental governance increased parental involvement, and parents appreciated the extra choice.

The market critics present much evidence that supports the alternative, positive scenario. Further, the empirical evidence they present does not confirm their negative scenario. Although they do establish that schools with the lowest average SES and lowest percentage of Pakeha students experienced the greatest loss of students under dezoning,[52] the effect of the policy on students (rather than the schools) has largely been positive. The critics make a number of assertions:

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[51] Fiske and Ladd (2000a) p 205.

[52] See, for example, Fiske and Ladd (2000a) pp 199–201.

- that minority and low-SES students are the least likely to exercise choice;
- that dezoning increased segregation;
- that academic peer effects hurt low-SES and minority students under dezoning.

The critics do not establish these assertions are true. The first two are flatly rejected by their own evidence and there is little evidence for the third.

Are minority and low-SES students the least likely to exercise the choices offered by dezoning?

Although the students that remained in declining schools tended to be minority students and from low-SES backgrounds,[53] the data presented in the Smithfield Project reports established that these two groups have taken the greatest advantage of the extra choice from dezoning.

Even under zoning, many students attended out-of-zone schools. Some secondary schools had enrolment schemes that gave priority to those in the geographical zones, and set out-of-zone quotas that were up to 30 percent of their enrolments. About 10 percent of secondary schools were 'numbers only' with no geographic zones. Students were required to attend their local school unless they gained a place in another school's out-of-zone quota or a 'numbers only' school.[54] In 1990, the final year of zoning, 22 percent of students did not attend their local school in the Smithfield sample, and "it was mainly the well-off who managed to send their children to other than local schools under zoning".[55]

The main result of dezoning was to increase the proportion of students attending adjacent schools. Those attending distant schools were still the best off in society, but "students going to adjacent schools appear to come from families with a lower SES than students going to their local school",[56] the reverse of the position under zoning. Dezoning allowed families who were poorer than average to exercise a choice that was previously available mainly to families with high incomes.

Minority students in New Zealand are actually more likely to attend an out-of-zone school than other groups, a reverse of the situation under zoning.[57] Most minority students are in middle and higher decile schools, and are more likely to have to leave their zone to attend them.

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53 See Fiske and Ladd (2000a) table 8.4, p 235.
54 See Crawford (2000) pp 10–11.
55 Smithfield Project (1994) Report One, table 6, p 31 and pp 32–33.
56 Smithfield Project (1994) Report One, p 33.
57 Smithfield Project (1994) Report One, table 7, p 32.

Did dezoning increase segregation?

In theory, dezoning may increase or decrease segregation. Under zoning, the system is highly segregated, reflecting the segregation in housing patterns. The Smithfield evidence is that the students who took advantage of the extra choice from dezoning were from a poorer than average background, but were higher than the average SES in their neighbourhood. Fiske and Ladd found that although both Pakeha and minority students left low decile schools, a greater proportion of the Pakeha students left, which increased the proportion of minority students in low decile schools.[58]

As a result, those schools that lost students would have found the average SES of their students declined, because the relatively higher SES students in the school were first to leave. These schools were already below average SES, and so would have been left with the very poorest students. The average student SES in schools that expanded would be likely to have decreased, because the extra students were poorer than average.

The net effect on segregation by SES is ambiguous. On one hand, the very poorest students are left behind in declining schools and become increasingly segregated. On the other, the movement of poor students to other schools reduces segregation. Likewise, ethnic segregation increases in declining schools, and falls in other schools.

Although the Smithfield authors claim that dezoning increased polarisation in schools along ethnic and social-class lines,[59] the evidence they present is that dezoning *reduced* segregation by social class from 1990 (the final year of zoning) to 1993 (see Table 6). They examine dissimilarity indices for socio-economic segregation for entering students in 11 schools using two measures: segregation between high-SES and low-SES students, and between students with both parents unemployed and others. In 1991, both measures of segregation *fell* considerably with the abolition of zoning and then increased, but were still below the level under zoning. A similar pattern was observed in a sub-sample of six local schools with clear local zones (see Table 6).

Fiske and Ladd (2000a) rely on the Smithfield figures for their conclusions on SES segregation – and selectively quote them. They fail to compare segregation under zoning with segregation under dezoning. The first column and last two rows in Table 6 are not reported by Fiske and Ladd.[60] They seem to believe that

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58 Fiske and Ladd (2000a) p 189.

59 Finding one, Smithfield Project (1998a) Report Eight, p 41. See Smithfield Project (1995) Report Three, p 2; (1996) Report Four, p 1 and p 28; (1994) Report One, p 57 and (1997) Ethnicity Article, p 108.

60 See Fiske and Ladd (2000a) p 194.

Table 6: Smithfield Project findings on dissimilarity indices for socio-economic segregation in student intake (higher number equals greater segregation)

	1990	1991	1992	1993
For six local schools				
SES	69.7	49.2	54.9	63.6
Unemployed	59.3	44.2	57.2	61.6
For all 11 schools				
SES	58.3	48.1	49.3	53.4
Unemployed	58.2	51.6	52.6	55.2

Source: Smithfield Project (1994) Report One, table 3, p 27 and table 5, p 29.

dezoning did not occur until 1992.[61] In fact, dezoning started in 1991, and there was much student movement in that year. In 1992, schools could determine their own enrolment scheme, but that made little difference because most schools gave priority to those within a defined local area (83 percent of those schools with enrolment schemes in 1997).[62]

The dissimilarity indices for ethnic segregation fluctuate considerably from year to year in the Smithfield study. For example, the Maori/Pakeha index in the four years is 46.2, 47.0, 39.1 and 53.0.[63] Overall, racial segregation within schools has increased during the period. If the data had stopped a year earlier, segregation would have appeared to have decreased substantially.

Choices made by Maori families (such as attending schools emphasising Maori culture) contributed to the increase in segregation of Maori and Pakeha students under dezoning.[64] Many, including the Smithfield authors, would agree that Maori parents should be free to send their children to schools that emphasise Maori language and culture.[65] Yet these decisions by Maori parents inevitably increase Maori/Pakeha segregation. Because race and SES are correlated, the decisions probably act to increase segregation by SES as well. It is inconsistent to support the right of Maori parents to make these choices, but then point to the resulting increased segregation as an argument against choice.

The Smithfield team also found that ethnic residential segregation was higher than school segregation for all years.[66] In other words, if all students were forced to attend their local school, ethnic segregation in schools would increase.

61 Fiske and Ladd (2000a) pp 180, 183.
62 Wylie (1998) p 80.
63 Smithfield Project (1994) Report One, table 2, p 25.
64 Smithfield Project (1994) Report One, p 26.
65 See, for example, Smithfield Project (1997) Ethnicity Article, pp 105–106.
66 Smithfield Project (1994) Report One, p 28.

All the segregation measures jump around a lot, and so depend on more than whether there is zoning or not. A major weakness in the Smithfield Project is the lack of controls for other factors that affect the variables of interest, such as demographic changes, other policies, economic circumstances, and school characteristics. They simply compare the size and composition of school intakes after dezoning with the intakes in 1990, the final year of zoning, and attribute the differences to the effects of dezoning. The implicit assumption is that the 1990 figures represent what would have happened from 1991 to 1996 if zoning had continued.

We do not have a controlled experiment and cannot observe what would have happened from 1991 to 1996 under zoning. Many of the Smithfield measures vary greatly from year to year, and it is not clear whether 1990 represents a typical year under zoning. The trouble is that one can never be sure whether the changes observed were produced by factors other than, or additional to, dezoning. For example, one commentator has noted that increased income inequality results in increased geographical segregation by income, and there is evidence of both in New Zealand over recent years.[67] It could be that segregation would have increased if zoning had been maintained.

Fiske and Ladd calculate dissimilarity indices for minority and Pakeha students in urban schools and their neighbourhoods over the period 1991 to 1997.[68]

- Segregation by ethnicity in schools did rise over the period, but only by a small amount. Segregation in state schools increased by about 1 percentage point in primary and intermediate schools and by about 3 percentage points in secondary schools, from 1991 to 1996. These changes hardly represent polarisation.
- Residential segregation fell during the same period (except for a small rise in some Auckland wards). School segregation was greater than residential segregation.

Fiske and Ladd attribute the difference between the increase in school segregation and decline in residential segregation to the segregating effects of school choice.[69] But residential decisions will be affected by whether parents can choose their schools. Dezoning separates a family's housing decision from the decision about where to send its child to school and can promote residential integration. Families will be more willing to seek cheap housing in low-income areas if they can send their children to school elsewhere. School choice, therefore, may be responsible for the decline in residential segregation. If zoning had

[67] Crawford (2000) p 10, footnote 4.
[68] See Fiske and Ladd (2000a) pp 191–193.
[69] Fiske and Ladd (2000a) p 191.

continued, residential segregation (and school segregation) may well have been greater than it is now.

Did dezoning make low-SES and minority students worse off?

The critics assert that competition between schools does not benefit 'disadvantaged' students and increases educational inequalities.[70] They focus, however, on the alleged losers from choice, and ignore or downplay the many minority and low-income students who have gained from choice. For example, the critics claim that schools that serve Maori and Pacific Islands students have been hardest hit by the competitive mechanisms introduced into educational provision.[71]

Although schools with high proportions of minority students tended to lose enrolments, and most of the students who remained were from poor families and minority groups, the authors do not establish that the schools in decline served even a majority of Maori and Pacific Islands students. Many minority students were in schools that were doing well. In the Smithfield cohort, 55 percent of Maori and Pacific Islands students and 60 percent of students from low-SES families attended schools considered by the authors to be high or middle socio-economic status.[72] Most of the poor and minority students did not attend the schools Fiske and Ladd focused on. The authors establish that only a small number of Maori and Pacific Islands students were in unsuccessful schools and a majority were in successful schools.[73]

Those who exercise choice gain from attending a school they prefer to their local school. We have already seen that Maori, Pacific Islands and poor students have taken advantage of the extra choice from dezoning to the greatest degree.[74] Fiske and Ladd do admit that "individual winners include the many low income and minority students who now attend higher-quality schools than they would have under the old system"[75] and that "parental choice made it possible for many students to escape from low-performing schools and thereby improve their educational experiences".[76] The evidence is consistent with the US findings

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70 See Smithfield Project (1997) Ethnicity Article, pp 107, 108 and Fiske and Ladd (2000a) p 283.
71 Smithfield Project (1997) Ethnicity Article, p 95 in an overview of the Smithfield findings on "ethnicity in relation to school choice".
72 Smithfield Project (1995) Report Three, table 12, p 35 and table 8, p 31.
73 Fiske and Ladd (2000a) pp 229, 232.
74 See above section, 'Are minority and low-SES students the least likely to exercise the choices offered by dezoning?'.
75 Fiske and Ladd (2000a) p 233.
76 Fiske and Ladd (2000a) p 288.

that the students from poor families gain the most from choice, because they start out attending the worst public schools.[77]

The critics do establish that choice makes life difficult for some schools. The fact that low-decile schools have lost enrolments and have been left with concentrations of students from poor families and minority groups does not imply that ethnic minorities have been increasingly concentrated in these failing schools. Most of these students are in other schools and dezoning meant many left failing schools.[78] There are fewer minority students in these schools as a result of choice, not more.

What about those left behind? Fiske and Ladd point to a widening achievement gap between successful and unsuccessful schools and show that decile 1 schools had higher proportions of failing students than they did in the past.[79] The fact that some schools have declined as a result of the reforms is not enough to establish that students in those schools are any worse off. If schools with falling enrolments are losing their best students to other schools, then their performance will worsen and the failing students will be a larger proportion of those left, even if the performance of their remaining students stays the same. As the higher achievers leave, the school average must decline.

The critics show that inequality has increased between schools, but not between students. For the students left behind to be worse off from choice, the decline in their school must have an adverse effect on their performance, for example, through a peer effect.

The Tomorrow's Schools reforms made many changes and the effect of the whole package should be considered. Increased competition, improved incentives for students and those who run schools, better matching and more parental involvement may have improved the performance of the schools in decline and outweighed any adverse peer effect.

It is difficult to establish whether the students in low-SES schools have done better or worse. Indeed, that is one of the faults with the current system. There is little data to determine the effect of the reforms on student learning, especially because the critics do not have information on student performance before dezoning.

International testing data does not support the argument that poor performance at the bottom comes from the students left behind in schools in decline. The PISA study found that only a relatively small proportion of the

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77 Neal (1998).
78 Fiske and Ladd (2000a) pp 189, 190, 229, 233, 322.
79 See Fiske and Ladd (2000a) p 231, and table 8.7, p 240.

differences in the test scores of New Zealand students (16 percent) is accounted for by variation in performance between schools – and 84 percent is explained by variations within schools, much higher than the average across OECD countries of 35 percent.[80] Poor performance in the tail comes from something that affects all schools.

The critics do present evidence of the desperate condition of some students in low-SES schools, but do not establish that dezoning has made their situation worse. It may be that low-SES schools now deal mainly with problem students, but that does not mean there are more of them or that their problems have increased.

It is possible that those who remain behind do not lose, but, rather, gain. When the student body is more homogeneous the school may be able to specialise in dealing with the students they have. Teachers in those schools can target the curriculum and teaching techniques to that level of ability.

The critics even present anecdotal evidence that some low-SES schools have improved. For example, Fiske and Ladd give examples of dynamic principals who have used the freedom granted by the reforms to turn around low-SES schools. They report of schools competing for low-SES students and setting up specialised classes for these students and their parents.[81] The Smithfield Project case study shows that schools do make changes desired by parents in response to falling rolls. The response of one school that faced a decline in student numbers was to introduce "a new discipline system to reduce parental fears of violence and unruliness".[82] Some policies were introduced to cater to low-SES students.

It is doubtful whether those students attending failing low-SES schools would have fared any better had the old centralised system continued. The experts showed no success with, or urgency about, fixing the problems with low-SES schools in decline. For example, the ERO points out that for one set of poorly performing low-SES schools, "Former inspectors of schools recall projects aimed at addressing ineffective schooling in these areas through the provision of additional resources mainly in the form of extra staffing or advisory support during the '70s and '80s. It is clear that neither of these strategies nor current arrangements for the delivery of education have resulted in sustainable high quality education for all students in Mangere and Otara".[83] Their problems are long-standing and pre-date dezoning.

Instead, failure was tolerated and the schools protected. Zoning merely kept the failure of some schools hidden and forced more children to attend them. It

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80 Ministry of Education (2001b) p 10.
81 Fiske and Ladd (2000a) pp 76, 77–79, 210–12.
82 See Smithfield Project (1994) Report One, p 45.
83 Education Review Office (1996).

was parental choice that made the extent of parental dissatisfaction clear and forced central authorities to respond. The chief executive officer of the Ministry of Education comments that poorly performing schools in low-SES areas have existed for years, yet were not a focus for policy until their problems were made evident by the Tomorrow's Schools reforms.[84]

Conclusions on zoning

The fall in transport costs over the past century has led to residential segregation, because households providing different types of services no longer have to live near each other.[85] Instead, households have sorted into residential areas by income, with the higher income households in the most desirable (and expensive) areas. Zoning means schools simply reflect their local neighbourhood, and so are segregated. Zoning reproduces and reinforces segregation in housing.

Under guaranteed entry for those in the home zone, entry into a good school depends on being able to afford to live in its zone. The result is 'selection by mortgage'. There will be increased demand for housing within the zone of a popular school, and property prices and rents within the zones of good schools will rise relative to other areas. For example, it has been estimated that the reintroduction of zoning in 2000 increased house prices in the Auckland Grammar Zone by $50,000 to $70,000.[86] Statistical research in England has found that house prices in the catchment areas of over-subscribed schools were 15–19 percent higher than neighbouring houses outside those catchment areas.[87]

The rich are also more likely to be able to afford shenanigans such as renting a house in the catchment area during enrolment time, a practice so common that legislation was passed in October 2001 to allow school boards to review enrolments gained through use of temporary residence.[88]

Choice is limited to the rich in a zoning system. Entry into the better schools is still rationed by the ability to pay, but it is ability to pay high house prices rather than school fees. The policy permits those who can afford it to buy their way into any government school by purchasing or renting a home in the relevant zone. Selection by mortgage has the disadvantage that there is no direct reward to the school for good performance. Instead, the benefits go to landowners in

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84 See Fancy (2000) p 18.

85 See Nechyba (1998) p 4 and Coleman (1981) p 242.

86 Morris, John (2001) Letter to Hon Trevor Mallard, Auckland Grammar School, 8 November. This is in line with predictions by the New Zealand Real Estate Institute about the effect of a return to zoning. See Connelly (1998) p 5.

87 Leech and Campos (2001).

88 Education Standards Act 2001.

the relevant zone. There are the adverse equity effects from segregation without the advantages of direct price signals to provide incentives and convey information to suppliers. Further, the cost of moving restricts parents' choices.

The best schools tend to be in high SES areas. They tend to have children with fewer social problems, who are more academically able and pleasant to teach. They therefore get a greater choice of teachers to hire and so tend to have the better teachers. If academic peer effects are important, schools in high SES areas have more academically desirable peers.

If the high SES areas have the best schools then zoning will exacerbate residential segregation. Housing in high SES areas will have an extra premium from having the best schools, making it more difficult for the poor to move into the area. An increase in residential segregation from zoning will increase polarisation within schools and reduce social mixing outside schools – which could be more valuable than what goes on inside schools.

Further, families who are poor will find it more difficult to attend good schools. In a market system, a poor family with a high priority on education only has to pay the higher fees that good schools will charge. In a zoning system, they have to pay to live in a good school's catchment area. Not only do they have to pay the premium for a good school but also the premium that exists between residential areas for non-school factors.

LESSONS TO BE DRAWN

The Tomorrow's Schools reforms were an improvement on the previous system, created significant benefits and the benefits mainly went to the poor. Real problems with the centralised public system motivated them. The idea behind the reforms was to grant schools more autonomy and increase their attention to customers. Both have happened. The reforms introduced competition between government schools, increased parental voice, gave many parents (particularly the poor) increased choice and gave schools more autonomy. Substantial numbers of parents gained from being able to move their children to good schools. Decentralisation of control over operational budgets meant schools no longer had to order light bulbs through central office, or have the department repaint the school when much more urgent maintenance went unattended, or have central office spend money on unwanted equipment. The selection of principals by school boards, rather than by a bureaucratic selection process, has probably helped talented and maverick individuals to become principals.

From what little information there is (mainly international testing data, reviewed in chapter 3, 'International Test Comparisons'), the reforms appear to

have had little effect on student performance – of the whole student body or the tail of poor performers. It is difficult to disentangle the effect of the Tomorrow's Schools reforms from the effect of other changes, such as curriculum and assessment reform and the re-regulation of school enrolment decisions.

Many of the criticisms directed at the Tomorrow's Schools reforms, such as increased polarisation, have been wrong, and contrary to the critics' own evidence. Students from low-SES families and minority groups made the greatest use of extra choice, and claims that those left behind in poorly performing schools were worse off are wholly unsubstantiated.

The major problems the critics identify are that the way spaces in over-subscribed schools are allocated means that the schools do the choosing and many parents' choices are limited; and that there are failing schools with concentrations of disadvantaged students.

These problems occur precisely because the incentives and processes of a normal market system do not apply. For example:

- The opening, closing and expansion of schools is still centrally determined and is relatively unresponsive to the needs and preferences of parents.
- Spaces in popular schools are limited because there are limited opportunities and incentives for successful schools to expand.
- Unpopular schools continue to operate because the usual market response – improve or be taken over or be driven out of business – is prevented. Instead they can go on performing poorly.

The Tomorrow's Schools reforms have been described (see section above, 'Education reforms of the 1990s') as the introduction of market competition. Although parents were given increased choice between government schools, and schools were given more autonomy, a market system was not introduced.

A market system works only if there are minimal restrictions on the entry of new schools, so that new schools can emerge in response to what parents and students want, and the schools that fail to attract support can go out of business or be taken over.[89] Performance must be relevant for survival.

In New Zealand's school system, the centre controls the supply side and determines the entry and exit of schools. Tomorrow's Schools remain government owned, subordinate to the Ministry of Education and subject to political control from above. The government is held politically and financially responsible for what happens in schools. There is pressure for the government to control and monitor how schools exercise their authority and reverse or prevent decisions that create political opposition.

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[89] See Chubb and Moe (1992) p 9.

As a result, the tension between autonomy and accountability has been resolved in favour of central control. The state kept or quickly reasserted control over many aspects of a school's operation, such as the level of funding, teacher numbers, teacher salaries, property management, administration, curriculum, assessment and enrolment schemes.

The reforms failed to introduce a decentralised system because they did not address issues such as fiscal risk, entry and exit, the need to de-politicise, a lack of price signals and poor ownership incentives.

Another lesson from the Tomorrow's Schools reforms is that, in complete contrast to the claims of market critics, school choice can promote social integration and reduce polarisation, in both schools and neighbourhoods. Dezoning in New Zealand reduced SES segregation within schools, and encouraged less residential segregation.

8
THE CASE FOR MARKET COMPETITION

In New Zealand's public school system, neither teachers nor students are encouraged to perform well. Mired in politics, it holds no one accountable for ensuring that students learn. The way teachers are currently paid and trained, and the way the profession is organised and schools run, conspire to discourage good teaching.

New Zealand's reliance on the government to provide education has proven to be a route to failure. A centralised system that responds mostly to political pressure from the producer interests – administrators and teachers – results in a costly product that meets the needs of adults rather than children. The favourable subsidies to government schools, compared with competitors, gives them monopoly power and allows the public system to lower quality and to impose controversial values.

The unsatisfactory performance of the government school system affects those from impoverished backgrounds the most. In theory, government intervention is to help the poor overcome their background and ensure everyone meets a minimum standard. In practice, the government fails to achieve these objectives and blames its failure on the social background of the students.

Costs of the current system include:

- a lack of innovation;
- a lack of diversity;
- limited information;
- difficulty in encouraging good teaching;
- the quality provided does not match consumer preferences;
- a conflict between accountability and autonomy;
- a lack of price signals to elicit and confirm consumer preferences and provide the incentive to meet them;
- conflict and lobbying as different interests compete to get the policies they want;
- inefficient use of resources; and
- churning, a large portion of education subsidies to households are paid for by taxes paid by the same households.

The political process is a bad way to run education and does poorly at meeting broad social objectives.

DIFFERENT REFORM APPROACHES

There are four main strategies for school reform:

- extra resources;
- additional external expertise;
- standards-based reform; and
- market reform.[1]

Extra resources

The public education lobby promotes the 'extra resources for public schools' approach. They argue for additional expenditure, reduced student–teacher ratios, increased teacher pay, extra professional development, increased teacher training requirements, additional computers and further years of schooling for students. Their focus is on inputs, often thought of as ends in themselves, and educational institutions rather than individual students. Indeed, many who call for extra resources often directly benefit from the predictable cash streams that result – whether it is union officials ensuring a flow of union dues, those in teacher colleges ensuring an inflow of students, or those in the bureaucracy ensuring new and increased programmes to administer. They view the school system as a place in which to provide jobs for adults rather than educate children.

If the government spent more, without changing the incentives that face public schools, it would lead to a more expensive system, but not a better performing one. There is a low return to increases in measurable inputs given the way public schools are currently organised and run. The inefficiency of government schools means extra funding is often used in ways that do little to improve educational outcomes or that are offset by other changes. For example, additional funding may be spent on extra bureaucracy or used to finance adverse curriculum and assessment changes. The bulk of education spending goes on teacher salaries. Class size reductions are likely to have small benefits because they may reduce average teacher quality. Increased teacher salaries under current arrangements do not necessarily improve teaching. Because of the way public schools operate, increased salaries across the board in the United States did not improve the applicant pool, did not have much effect on keeping new teachers longer in the profession, and did not deal with shortages in particular areas. (See chapter 6 'Attracting and keeping high-ability teachers'.)

[1] This taxonomy is from Finn and Kanstoroom (2000) p 53.

The fundamental problem with current arrangements is not inadequate resources but the lack of incentives to boost productivity and ensure children are well educated.

Additional external expertise

Another reform strategy relies on external expertise to provide the system, or schools within it, with the know-how and capabilities it lacks. This approach assumes that the main problem with the system is a lack of know-how that outside experts can provide, that outside experts are good at fixing schools and that the schools and system will welcome them.[2] Often, this approach is pushed by those who hope to supply the expertise – such as education academics and education agencies.

Each of the assumptions that underlie the approach can be questioned. It is not clear that outside experts are the best people to improve poorly performing schools. Do outside experts have the information or incentive to come up with successful reforms? Even if they manage to come up with the right policy, what incentive do schools have to adopt and fully implement it? Often, those in schools may have different goals and may not welcome necessary changes. Even if policies are implemented, what feedback is received on whether they are correct?

A further problem is that external experts often pay little attention to consumer preferences, when not forced to by market accountability, and, instead, impose their own beliefs and values. In New Zealand education that often means progressive education dogma.

Standards-based reform

This approach does not trust schools to fix themselves but, instead, uses externally imposed incentives to produce better results. Standards and goals are imposed – such as externally set academic norms that spell out what children are supposed to learn and test what they have learned. Rewards and penalties, based on the test results, provide incentives for students, teachers and principals to improve performance. The approach is highly centralised and shifts power from the schools to outside 'masters' such as state education agencies.[3]

The traditional approach in senior secondary schooling in New Zealand has been to use external syllabuses and examinations to provide incentives. A centralised system with performance incentives can work quite well. The

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2 Finn and Kanstoroom (2000) p 53.
3 Finn and Kanstoroom (2000) p 53.

problem in New Zealand has been an abandonment of existing external standards and incentives, and opposition to new ones, owing to the 'progressive' education beliefs that rule in the Ministry of Education and teacher education institutions. For example, the antipathy to testing means that inspection of schools is focused on process rather than results. Proposed national testing at the primary school level was successfully opposed by those in the sector. At the senior secondary level there has been a movement away from external examinations.

A further problem with a standards-based approach is the conflict of interest between the Ministry's role as regulator and as the main producer. As Finn points out:

> The underlying problem is that most education standards are set, tests administered and scores reported not by objective outsiders but by those running the education system itself or with a stake in how it looks. In other words, there's no meaningful external audit.[4]

It is often politically difficult to impose consequences on students, teachers and schools for breaching standards. As a result, standards are often watered down.[5] The power of special interests in the political process means a 'top down' approach is unlikely to work.

Market reform

Market reform assumes that the government monopoly is the prime source of problems and that further centralisation of decisions will not help. The market-based approach relies on choice and competition. It relies on increased incentives to perform, improve and change – the incentives of the market – such as the need to attract students and pressure from competitors.[6]

A market-based system gives parents choice between different types of schools run by competing education providers. It is fundamentally different from, and more comprehensive than, the other reform approaches. Decisions are made, and judged, according to parents' choices in a market setting rather than by government decisions in the political process, shifting power from producers to consumers.

It potentially encompasses the other reforms. In a market system, schools are free to take any, or all, of the first three approaches. Schools can spend more,

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4 *The Education Gadfly* (2002).
5 Finn (2002) p 32.
6 Finn and Kanstoroom (2000) p 53.

rely on outside experts, or adopt standards if they think that will improve performance and attract parents in competition with other methods.

The other three approaches involve changes to the way schools operate. They may improve matters, but may make them worse. In a centralised system, reforms that manage to get through the political process are imposed on all from above. There is little feedback on whether changes improve matters and few incentives to systematically seek out and keep only beneficial changes. Disastrous changes can survive.

When the government runs schools, issues that are properly internal management issues are, instead, decided through the political process. Education issues become political issues. In contrast, in a market system, autonomous school management make these decisions themselves. They have the incentive to adopt improvements in order to attract parents and survive competition from rivals – and success is judged by consumers on the basis of results.

A good example is the staple reform proposal of merit pay for teachers. Merit pay may be a good idea – but there are many possibilities. For example, teachers may be rewarded according to:

- the test scores of their students (perhaps value-added or learning gain);
- the subjective judgement of the principal (especially when matters like co-operation with colleagues are important);
- the judgement of peers (as in US higher education);
- ratings from parents; or
- some combination of the above.

Different methods have different advantages and disadvantages. For example, using test scores may distort teacher behaviour and encourage them to 'teach to the test'.

A particular merit pay system, introduced in a public system, that has managed to overcome union objections, may or may not be a good idea – and school administrators are unlikely to have the incentive, or even be allowed, to experiment and adapt with different methods to encourage good teaching, or abandon it if it is unsuccessful. How can we tell whether it is an improvement? Not only is there no market test on these matters, the public system is a dominant monopoly and there is little to compare it with.

In a market, those who run schools have the autonomy to negotiate a merit plan if they want. Whatever system they come up with for paying and motivating teachers must survive in competition with others. How teachers are paid, and the incentives that result, are extremely important – a successful school must foster good teaching. But it is a school management matter that is

not relevant to the consumer. Parents only have to judge whether the final product is better than alternatives and should be no more concerned about how teachers are paid than they are concerned about how supermarket workers are paid. Do we know or care whether Woolworths uses merit pay?[7]

Specific matters as to how schools are run, such as class size, teacher training, teacher salaries, homework levels and curriculum, are second order issues. The first order issue is whether they are resolved through a market or political process. Who makes the decisions, what information do they possess and what incentives and accountability structures do they face?

Mayer and Peterson (1999) examine the evidence on the effects of a number of standard reform proposals, such as more rigorous mathematics and science courses, class size reduction, additional years of schooling, vouchers for poor students to attend private schools, and rigorous external examinations. The particular proposals they examine have similar benefits, but their costs vary widely. For example, class size reductions are very expensive, whereas their voucher programme saves money (as the subsidy for the students to attend a private school is less than the cost of educating them in government schools).

They make the point that each reform on its own has a substantial effect, but will not transform the education system.[8] A combination of these reforms needs to adopted. A movement to a market system may do exactly that. A market system will be likely to result in the reforms with the highest returns: an increase in poor students attending private schools and, in response to parental preferences, a reversal of the movement away from rigorous curricula and external examinations. In contrast, many of these reforms tend to be less politically acceptable and would be difficult to adopt in a centralised system – indeed, the trend is in the opposite direction. The political process favours the reforms with more modest returns: reduced class size and additional years of schooling.

A market system would overcome many of the problems with public provision. Competition drives schools to improve and satisfy consumers to survive, something that no amount of tinkering with a public system will provide.

If the government allows parents the freedom to choose it will benefit both the parents and the education system itself by: boosting educational innovation, lifting up the poor, providing quality assurance, encouraging good teachers, promoting parental involvement and fostering community.

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7 See Gillespie (2000) for a more detailed argument along these lines.

8 Mayer and Peterson (1999) p 353.

HOW MARKETS WORK

> He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good.[9]

Competition, choice and freedom of entry

A market relies on competition between producers. The layman thinks of competition as a contest for a given prize, with a winner and losers. Many within the education sector believe schools that compete must engage in hostile rivalry.

There will be competition over scarce resources in any system. A competitive market does not create conflict over resource use – it is one way to resolve it. In a competitive market, resources are used for the most valuable purposes as judged by consumers' willingness to pay. There is not one winner and a bunch of losers, but the whole standard of living of the economy can be made higher from the gains from specialisation and trade. Everyone is a consumer, and consumers gain from having producers compete to satisfy them.

Competition increases the pressure on firms to be efficient – so as not to lose market share, and ultimately to survive. Firms must constantly evaluate whether they are using the best methods to achieve desired outcomes. Schools cannot take students and money for granted, but have to perform to keep them.

Competitive pressure will confront providers with incentives to:

- tailor their outputs to the demands of the outside community;
- establish effective mechanisms to monitor and control the activities of teachers and other staff; and
- oblige management to perform.[10]

Management will need to assess and monitor performance, striking the balance between the need to control inefficiency and to encourage creativity.

The market uses self-interest to encourage people to co-operate with and serve others. A competitive market in education is consistent with co-operation within a school between teachers, between students and between teachers and students. Schools can even compete over who offers the most co-operative environment. Economic competition signifies a lack of market power – an inability of any producer to influence market prices. It does not require an

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9 Smith, Adam (1776) *Wealth of Nations*, p 456.
10 Hogbin (1988a) p 30.

unpleasant atmosphere between different schools. Indeed, the ideal of perfect economic competition is impersonal and the fortunes of one firm are independent of what happens to any other firm – they depend solely on whether it can produce profitably at the going market price.

Competition requires freedom of entry into, and exit from, the provision of education services and the same rules for all competitors. There must be no artificial barriers against producers entering and offering different types of schooling arrangements, so that consumers can choose to buy from whoever gives them the best value for money.

Free entry and exit help ensure minimum cost production. The threat of being forced out of business gives firms the incentive to improve productivity and efficiency, to bear the costs of restructuring and to adopt efficient restructures. Entry provides a mechanism for innovations to become available to consumers, and for successful innovations to spread.

The price mechanism[11]

An education system must perform many tasks. It must:

- resolve how education is to be provided and financed;
- determine resource flows and quality;
- monitor performance;
- set objectives, the weight to be given to each, and resolve differences;
- train and compensate teachers;
- evaluate, measure and certify student performance;
- provide information; and
- determine the curriculum.

Each task involves many decisions and trade offs. For example, educational provision requires decisions about:

- school organisation;
- school governance;
- the number, appropriate size of schools, and where to locate them;
- how students are to be allocated among them;
- the number and mix of staff;
- instructional methods;
- class sizes;

[11] This section draws on: Boaz (1997) chapter 8, pp 148–185; Friedman and Friedman (1979) pp 30–47; Sowell (1980) chapter 3, pp 45–80.

- what to teach;
- who will teach it;
- what hours to operate, and how long class periods will run; and
- how best to impart reading skills.

To run the education system efficiently, the Ministry of Education must know consumer preferences (for example, student preferences over different educational packages and employer demand for different skills) and production functions (how best to produce what is demanded). For example, to provide the places of the correct quality, the cost of increasing quality must be balanced against its value to the student. Moreover, efficiency requires that the system responds to changing demands and requires appropriate incentives to innovate to increase benefit or decrease cost.

The knowledge necessary to reach efficiency is dispersed among many market participants, and is difficult or impossible for some central body to obtain (it is difficult to even articulate). An incredible amount of specialised knowledge and technical skills are required to produce any good for consumers, and it is continually changing with technical improvement.

On the consumer side, only individuals know the relative importance of their objectives. The value of something is subjective. It varies from person to person and for the same person over time. Our willingness to trade off one end for another is not fixed, but changes with circumstances. For example, the relative importance of different items depends on how much of each we have. It is difficult to express and may depend on particular circumstances not known in advance. For example, it is hard to articulate what education a high-school graduate should have. In a market, parents can monitor results without articulation of a list of educational criteria. They can compare different schools and decide which they prefer.

Competitive markets make use of decentralised knowledge, because consumers know their own preferences and producers know their own production functions. That is, people know their own interests and circumstances best. Decisions are decentralised to where the information is. Markets permit individuals to decide in accord with their individual circumstances.

The price mechanism works to allocate scarce resources and provide incentives. Price signals provide information to education suppliers on the value parents place on different educational packages and provide the incentive for producers to respond to those preferences. Prices transmit consumer preferences to producers by revealing how much consumers are willing to pay for goods and services. Each producer can then decide whether it can produce what

consumers want at a cost less than what consumers will pay for it. Producers receive direct feedback from consumers and can judge whether changes are successful. Prices are important not because money is paramount, but because they convey fragmented information fast and effectively.

Prices convey information to consumers about cost and provide consumers with the incentive to take the costs of provision into account when choosing between providers. Consumers can judge whether they are willing to pay the price asked, or whether their money is best spent on other goods. For example, whether increased quality is worth the extra cost is tested by whether consumers are willing to pay for the higher-quality product.

In the market, consumers' willingness to pay determines what is produced. This is what is meant by consumer sovereignty. It does not mean consumers ordering around producers, as sometimes claimed by those in the education sector. The market relies on voluntary exchange – the consumers must make it worthwhile for the producers to sell to them. Producers cannot be forced to produce. The producers' values, standards and tastes also matter in the market. They influence the cost of production – and whether it is worthwhile (profitable) to satisfy consumers' demands. Prices encourage producers to supply what consumers want, but also force consumers to consider the costs of their demands. Producers are not the slaves of the consumer – no-one is sovereign over anyone else – but producers and consumers interact.[12] The market price reflects what consumers are willing to pay for the product – and what suppliers require to supply the product. A competitive market assigns resources to where they have the greatest value, as judged by consumers and producers.

The profit motive[13]

The price mechanism gives the information and the incentive to provide what consumers want in the right amounts. Profits are the reward to entrepreneurs and owners of capital for doing so.

Profits give an incentive to provide capital, to assume risk, to organise production, to seek out what buyers want and produce it efficiently, and to innovate. Without profits, there would be little incentive to undertake these important activities.

Profits reward entrepreneurship – which involves moving resources from less to more valuable uses. Activities that entrepreneurs perform in the production process include:

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12 See Blundell (2000).

13 This section draws on: *The Economist* (1995); Hazlitt (1979) pp 159–163.

- risk bearing;
- detecting shirking;
- searching for the most valuable activities to perform;
- predicting the values of alternative products;
- co-ordinating joint efforts amongst team workers;
- predicting best production opportunities;
- selecting good team members;
- directing joint production; and
- monitoring performance.

An entrepreneur is essentially a middleman, forecaster and planner between consumers and productive inputs.[14]

Profits indicate which goods should be made and the most efficient way to make them, and they convey resources to those who do so. In a competitive market, businesses maximise consumer well-being by maximising profits, and they are penalised by a loss for providing the wrong things. In trying to maximise profits, producers allocate capital where it has the greatest value. If an activity is highly profitable, it encourages existing producers to expand production and attracts new producers and investors. Competition is required. If a firm is protected from competition from rivals, it can increase profits by producing less and charging more.

Profits provide a reward for superior quality and innovation. They give an incentive for producers to improve their products and adopt the least costly methods of production. The producer's income is the difference between the revenue from product sales and the amount spent in producing it. The lower the cost for providing what consumers want, the greater the profit. For services of the same quality, the largest profits go to firms with the lowest cost of production – they expand at the expense of less efficient firms.

CRITICISM THAT MARKETS 'COMMODIFY' EDUCATION

Many in the education sector object to viewing education as a commodity in the market place on offer to individual consumers – a view that they describe as the 'commodification' of education.[15] Actually, most economists do not consider education as 'just another commodity' but view it as an important investment. (See chapter 2 'The human capital approach'.)

[14] Alchian and Allen (1977) pp 219–220.

[15] See, for example, Grace (1990) pp 3, 29, 30; Ainsworth *et al* (undated) p 23 and Matheson (1999) p 16.

One New Zealand school principal has declared that education should not be bought and sold in a market like cabbages.[16] But should the government provide it out of taxes like prisons or garbage collection?

It is not exactly clear what constitutes commodification. That education is bought and sold? It takes money to supply education no matter who provides it. Buildings must be built and teachers expect to be paid – they have even been known to campaign for increased pay. Arguments from teacher unions that teacher pay needs to be high in order to attract talent into the profession imply that the profit motive is even found in the ranks of teacher recruits. Further, government schools and universities happily accept money from fee-paying international students and even boast about the resulting contribution to exports.

One line of criticism is that the market approach"completely excludes the social and community functions of education. A school is not simply a centre for the generation of individual achievement (although that is part of its function). Its services are there to enliven and enrich community life and the sense of community in society".[17] It is asserted that market competition in education reduces "social understandings, trust, literacy and numeracy, emotional stability, and moral norms".[18] In fact, markets can actually provide a vehicle for communities to become more involved in their schools.

Putting aside whether zoning, compulsory schooling and taxation are examples of co-operative relationships, it is seldom explained how family choice in education will undermine community, trust and moral norms and destroy relationships between people – and evidence that it has done so is rarely presented. It is never established that centralised political decision making produces more co-operation, honesty, decency, community and toleration.

It is not true that only publicly provided services enrich and enliven community life or that a community must be a politically defined geographical area. The current private sector in education demonstrates that private schools can involve vital communities. In fact, they often do better than public schools because they have greater social capital. (See chapter 9 'Is the private school advantage limited to Catholic schools?' for a definition of social capital and evidence that Catholic schools' superiority comes from their creation and use of social capital.) Private schools often create a sense of community and maintain the interest and involvement of parents and alumni – and parents prefer them for that reason. Current private schools also give the lie to claims that a market

16 See *New Zealand Herald*, Letters to the Editor, 22 February 1995.
17 Grace (1989) pp 23–24.
18 Olssen (1999) p 8.

process in education means that institutions will be commercialised and lack academic rigor or scholarly values.

To criticise markets is to criticise their participants. Markets provide people with what they want. That is disconcerting to those who want to force their opinions and beliefs on others. Often, the objection is to what the masses may choose. For example, one critic writes that free trade in education will mean "No-one will force phonics reading on six year olds, but I bet that it will be the best advertised and the only one available in most places".[19] Only with public education can the whole language method, that apparently nobody demands, be imposed.

If community values are important to people, they will send their children to schools that emphasise community. If people do not, will the political process produce schools that emphasise community? It is not clear that politicians will perceive much pressure to do so – they are voted in by the same parents who do not demand an emphasis on community building in their own schools, plus, many voters do not have children in schools and may be relatively unconcerned about the matter.

Many policies in public education actually strip the family of its functions and reduce social capital. Central control from Wellington does the same to local communities. Vital communities cannot exist without having vital functions to perform. By usurping these functions the government undermines communities and families.

It is not clear that compelling students to attend particular schools based on where they live is the best way to develop communities. Community spirit is likely to develop when parents can choose to associate with like-minded parents – who do not necessarily live in the same suburb.

Many participants in the education system donate their own time and efforts generously – many teachers and parent board members provide examples. A decentralised system may also harness altruism more effectively than a centralised system – the personal touch and satisfaction from doing good may be stronger in an autonomous school than an impersonal bureaucracy. Many donors are motivated by personal relationships and local concerns.

Voluntary association promotes social capital and builds communities of engaged parents. When parents choose to have their children at a school it increases their sense of ownership and commitment to the community. The mere fact that parents must put in the effort to choose will promote parental involvement and co-operation.

Further, markets encourage virtues, like self-reliance. Markets are about mutually beneficial trade and co-operation. Markets reward honesty and

[19] Matheson (1999) p 16.

courtesy because people are more willing to deal with people who are honest and polite. In contrast, the political process often involves battles over a fixed pool of money – and encourages the denigration of others to get a bigger share.

DIVERSITY: NO-ONE KNOWS THE RIGHT ANSWER

An education system should allow for diversity so that the variety of preferences for education can be satisfied. Education has many purposes – academic, social, religious, vocational, cultural, custodial or, more realistically, some combination. The purposes are not mutually exclusive: for example, teaching academic skills may help vocational aims.

Opinions differ on the relative importance of objectives. What is considered a 'good education' differs from person to person. There are varying views on how education achieves any particular purpose. Even those who agree on the purposes and functions of education may disagree on how best to achieve them. Experts disagree, the majority opinion changes over time, and innovation will change available options.

Consider the role of education in indoctrinating religious beliefs. This has always been a function of education, but not all would agree with it. Because there is diversity of religious beliefs, even those who agree that education has a religious purpose disagree on what beliefs education should impart. Plus, even those who agree that education should indoctrinate religious beliefs and what beliefs should be conveyed may disagree on how best to teach those beliefs.

The wide range of abilities and needs of children means that different types of education suit different students. There is simply not one best education for everyone. What is successful for one student may not be for another. What is successful for most students need not be for all. Different instructional approaches and teaching methodologies may be appropriate for different types of children. For example, a more structured technique may be best for children from academically poor environments.

Views differ on the various ways to organise and run a school. Examples of matters that parents will judge differently include:

- the curriculum, which raises many issues such as: the age to start teaching basic academic skills; the amount of religious content; the values to be taught;
- the extent of direct parental involvement in the operation of the school;
- how children are assessed;
- whether classroom teaching methods should use whole class teaching or work in groups; strict discipline or laid back; child-centred or results-oriented teaching; whole language or phonics methods of teaching reading;

- school size – the broad curriculum of a large school or the more intimate atmosphere of a small school;
- whether the school should be single-sex or co-educational, and whether to have single-sex classes or single-sex schools;
- the role of new technology;
- class size;
- the length of school day and school year;
- the amount of after-school care and the activities involved;
- whether there should be school uniforms; and
- the optimal age grouping within a school.

Parents will have different opinions about the determinants of educational quality and the trade-offs between them and will value various educational packages differently. Their educational demands for individual children in their family may differ, depending on each child's aptitude and personality. Further, opinions on an issue may change with the level of schooling. A small school and small classes may be more important in the early years, a single-sex school in the later years.

The correct amount to spend, and the best way to allocate educational expenditure, will differ from parent to parent. There is a trade off between expenditure on education and other items, as well as a trade-off within education. Even if everyone agreed that smaller class sizes are better, they may differ in the size of class they could afford. Parents will also vary in the extent they are willing to trade off higher class sizes for other aspects of quality, such as better teachers or a smaller school or larger school grounds or better information technology.

As one author points out, "Government-run schools must adopt the same rigid solution to each polarizing question. By contrast, in the competitive education marketplace, parents answer those questions by choosing a school that reflects their values and priorities".[20]

Political decisions are all or nothing. One decision is imposed on all, and there is no scope for diversity. Even decisions that please a majority will not please everyone. On most issues there are many possibilities and opinions. There may be no majority view, and any one decision imposed on all may leave a substantial portion of the population disenchanted. The costs of change are large as the whole system lurches in one direction then another. Mistaken changes are disastrous.

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[20] Lips (2000).

In contrast, the market considers both minority and majority preferences in the allocation of resources. If 75 percent of consumers want white bread and 25 percent want brown, bread will normally be provided in those proportions.

The lack of diversity in the political process is particularly costly in education. The costs of determining and imposing a particular system on all, and managing conflict through the political process, increase with diversity, and there is much diversity in educational demands – often reflecting deeply held cultural and religious beliefs.

Market critics like to insist that "markets are created precisely to create winners and losers".[21] Actually, markets are created to allow mutually beneficial trade and to facilitate co-operation. The creation of winners and losers is a feature of the political process – it is an all or nothing contest between different policies. Someone must win and someone lose an election. In politics the winner gets to make policies that bind the losers, even on issues the party was not elected on. Further, rivalry does not stop with the election – the education sector must compete with other government budget priorities, and different parts of the education sector compete for funds from the education budget. It is not necessarily true that there must be losers in a market process – mutual gains from trade and specialisation may make everyone better off – but producers who do not provide what consumers want will lose. In a political process, those producers could very well end up winners.

THE NEED FOR A MARKET TEST

A market test allows consumers to choose from a range of alternatives. It is the best way to match school type, quality and cost with their individual requirements. Parents can choose a school with an ethos with which they are sympathetic. They can go somewhere else if they do not like what they get.

Experts making central decisions cannot obtain the vast amount of information required to produce an efficient outcome. Only a market test provides credible information on how parents value different aspects of educational quality and the relative importance they place on different educational objectives. Diversity in parental tastes and student needs means it is impossible to provide education efficiently unless there is a market test on what is provided.

In contrast, in the current system decisions about the provision of education are made through the political process. Without a market test it is difficult to judge whether changes in a centralised system are good or bad.

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[21] Smithfield Project (1994) Report One, p 13. See also Boston (2000) p 11; Fiske and Ladd (2000a) pp 306, 307.

Although test score statistics may give information on school academic performance, some parents may consider factors not measured by test scores to be more important. Is my child safe? Is there a suitable music programme? What if my child has a personality clash with a particular teacher? Only parents can weigh up the value of these different factors. For example, experts may all agree that single-sex schools are better for academic achievement than co-educational schools, but parents may consider co-education schools provide better socialisation.

It is difficult to determine objectively whether schools are cost efficient because it is difficult to measure the quantity and quality of educational inputs and outputs, and little is known about the relationship between them. The only way to ensure cost efficiency is by competition.

What if we were to ask 'are the supermarkets in New Zealand efficient'? How would we tell? As is the practice in education, we could collect international comparisons of various measures of supermarket productivity – like costs, quality, variety, availability, checkout operator qualifications, cheerful service and checkout waiting times – through the TIMSS (Third International Market Shopping Study) or PISA (Programme for International Supermarket Assessment).[22] As in education, any indicator would tell only part of the story. It would not tell us whether New Zealand supermarkets are providing what consumers want at minimum cost. Nor would the information help a consumer decide what supermarket to shop at.

In fact, most people are quite happy with their supermarkets. The quality of supermarkets does not vary much between rich and poor areas, and certainly does not play much of a role in deciding where to purchase a house. Supermarkets provide what people want, both rich and poor, without central planning of provision.

The reason we can be confident that supermarkets work efficiently is the presence of competition. A strong incentive for your supermarket to work well is the fact that, if you do not like it, you can shop somewhere else. Actually, not everyone can. Some people may not have cars and it may be too costly for them to get to other supermarkets. But they benefit because the supermarket makes efforts to keep those who can.

Competition can be relied on to keep supermarkets efficient – to provide what people want at least cost, adopt new innovations and keep prices down.

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[22] For details on how New Zealand fared in the educational TIMSS and PISA see chapter 3 'International test comparisons'.

Each supermarket is subject to a market test – and it gets feedback on whether it has made the right choices.

What if supermarkets were nationalised and run by the Ministry of Supermarkets? What if decisions about how many and the type of supermarkets to provide, and the amount of funding they are to receive, were made through collective political decisions rather than the market process of individual choices? What if pay, staffing and working conditions were centrally determined via negotiations with the unions? Would prices be lower and quality higher?

Or, would supermarket numbers, funding and policies be highly controversial political issues, with union opposition preventing the introduction of weekend and night opening hours and the introduction of computerised scanners? Would we get arguments over whether funding should be spent to increase the equipment budget to upgrade ancient shopping trolleys with wobbly wheels or on reducing customer–staff ratios to reduce enormous check-out queues – as well as proposals for more 'customer free' days. Would there be research and development expenditure on ways to increase labour productivity and reduce labour costs – or would union opposition mean the only research is conducted by academics for policy makers, with little of the research used by those operating supermarkets? Would customers be required to vote for and serve on supermarket boards and help implement central decisions?

INNOVATION AND NEW TECHNOLOGY

An important source of our high living standards is the scope our economic system gives to entrepreneurship: enterprise, invention and discovery that result in cost reductions, quality improvements and new products.

Competition in education, as in all markets, enables small-scale experiments and participation in them is voluntary. Any entrepreneur can offer new educational techniques – rather than having to convince a whole system, or a school board, to adopt it. The market rewards successful experiments and discards unsuccessful ones. Moreover, competition gives rise to pressure for continual improvement, to reduce costs and provide improved products – or lose market share to competitors who do these things. Successful practices are quickly copied. Firms have the incentive to experiment with and adapt new approaches and to replace ineffective approaches with better alternatives. Firms that do so will earn higher profits (through more students, increased fees or reduced costs). Firms that do not will earn lower profits, and ultimately their survival will be threatened. Even a monopoly faces capital market pressure to improve, or risk takeover by someone who can run it better. Competition can

force schools to adopt changes that benefit consumers, even if they make producers as a whole worse off.

In a market system, innovations must meet the market test. Innovations will only survive if they are better than the alternatives for at least some consumers. The market gives feedback on, and the incentive to respond to, how consumers value changes. The market involves continual testing against alternatives. It reacts to changing circumstances and permits incremental changes and trade-offs.

An innovation that questions whether current schooling arrangements are the best way to educate youth is accelerated learning from more intensive teaching, such as longer school days. Another way to increase instructional time would be to reduce the summer break, a move that may be popular in families where both parents work. It may also be beneficial to children from impoverished backgrounds, who can fall behind their peers during summer break.[23]

An increase in the length of the school year and reduction in the number of years of schooling with no loss of achievement would be a huge cost reduction – especially as the largest cost of schooling is forgone earnings. At the university level, unsubsidised private universities that compete against a subsidised public sector often reduce the cost disparity by offering three semesters of teaching a year to reduce the time it takes to get a degree.[24] Increased competition has led a few public tertiary institutions in New Zealand to do the same in some programmes.

In a competitive market, a school, or chain of schools could offer a longer school year. Presumably their annual fees would be higher because they would have to pay their teachers more to attract them to a school with a longer work year. Parents can weigh up the benefits from a longer school year against the extra cost. If the demand is there and schools that offer a longer school year are successful, it will spread.

Only parents have the information necessary to weigh up academic against non-academic objectives for their child. For example, the centre may be able to determine whether test scores improve with schooling that is more intensive. Only the parents can determine whether an improvement in academic achievement is worth the costs involved, which include the costs to the child from forgoing a summer break. The costs involved will vary with family circumstances. A family where both parents work may welcome the opportunity

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23 See Krueger (1998) pp 36–37.

24 For example, the University of Buckingham in the United Kingdom and Bond University in Australia. See West (1995) p 16.

for their child to gain academic credit in the regular schooling system over summer. Others may think long family holidays, work experience or home learning is a better way to spend summer.

GOVERNANCE AND ORGANISATIONAL FORM

In a market system, the appropriate organisational form for meeting consumer demands would be decided by open competition between different alternatives – which provides an incentive for efficiency and for diversity. A market arrangement will also give teachers choice between different central management techniques and arrangements – a choice they do not currently have.

Diverse forms of organisation would be free to spring up to meet diverse needs and to experiment with different ways of meeting common needs. A wide variety of organisational forms is likely to result – including listed companies, community trusts and even teacher co-operatives – and diversity of governance arrangements. Some may involve parents deeply in governance with elected school boards, others may prefer an owner-determined board to ensure a particular type of education is offered to parents. Others may be part of a chain or operate under a franchise arrangement.

Schools could be founded by:

- profit-making corporations;
- individuals;
- religious and ethnic groups;
- community groups;
- teachers;
- groups of parents;
- universities and teacher training colleges;
- the armed services;
- large employers for their employees; or
- cultural institutions such as fine arts or science museums.

For example, a university could start a school for its staff (just as many have started pre-school centres). Those universities with education faculties could also use it for teacher training and research into teaching practices.

There is also likely to be more diversity in the use of school sites. Possibilities include multi-campus schools and multi-school sites. In the education market place, degrees of centralisation are put to the market test. Consumers would choose between different types of providers. For example, school chains can

compete against stand-alone providers. Schools may also have different leadership arrangements and philosophies. Do we expect the principal to be a legal expert, fund-raiser, politician, negotiator, personnel director and curriculum expert?

There are costs and benefits from having a large company provide education. A large company can take advantage of economies of scale in research and development and in the purchase of inputs such as specialised expertise. Fixed costs can be spread over more schools, and services can be developed and marketed that would be too expensive for local operators. Other benefits include quality control, the use of reputation, planning and, when desirable, in-house service provision. The costs include agency problems, the information problem (the remoteness of central decision makers from relevant information) and a reduction in autonomy at the school level.

Franchising would be preferred where firms are geographically dispersed, costly to monitor and local control is important to keep costs down. Usually, the parent company provides the curriculum, instructional approach and school philosophy – the franchisee buys the right to provide a particular type of education. The franchisee has some flexibility within the overall approach, and can draw on local knowledge and satisfy individual needs. Competition between different franchise arrangements can test which method of provision is most effective.

Competition between different providers will determine what should be contracted out and what should be provided in-house. Stand-alone providers may be able to take advantage of economies of scale by purchasing from specialised firms. For example, firms can purchase services such as curriculum, assessment, property, research, training and market research.

Market forces will resolve the merits of different approaches – and consumer preferences may vary with the level of schooling.

INFORMATION PROVISION

Demand for information

The demand for information comes from many sources. Parents, students, employers and educators want to be informed about student ability and achievement in order to determine appropriate career and education paths. Parents and students demand information on the quality of schools that will enable them to compare schools. School managers need information to monitor teacher and school effectiveness, make decisions and evaluate programmes. In public education, voters and politicians require information on school and system performance to help determine school policy.

These demands create incentives for producers and others to generate information and provide credible quality-assurance mechanisms to convince customers to use them. A key question is whether a market system will produce sufficient information for students and parents to make efficient choices – the quality of education is difficult to measure.

If there were full information on the quality of education services offered by different institutions, then the low-quality services would sell for a low price. At the other extreme, if consumers have no information on quality and cannot distinguish high- from low-quality programmes, then both will sell at the same price. Because high-quality programmes are more costly to produce, they will be less profitable. The result is to lower the average quality of programmes. It is possible that high-quality programmes will be driven out of business.

Information provision by producers

Producer reputation constrains a firm from deliberately misrepresenting the quality of its product when consumers cannot assess quality before purchase.[25] A high-quality product receives a price premium. If a firm claims to sell a high-quality product but produces a low-quality product, it will gain current profits but will lose profits on future sales. A firm will produce a high-quality product if the possible loss of future profits discourages the firm from cheating consumers today. The brand name and reputation of providers becomes an important source of quality assurance. Use of a chain, franchise operation, or extending a brand name into related fields, adds to the cost of having dissatisfied customers and increases the incentive to behave honestly.

The issue is to what extent will cheating damage future profits. For example, although most students only undertake one tertiary qualification in their lifetime, and switching institutions is costly, universities can expect some decrease in future demand if they offer lower-than-expected quality to current students:

- Current students will be more likely to transfer to other institutions during their degree, drop out or pursue graduate studies elsewhere.
- Institutions may rely on repeat custom from particular high-schools, families and employers.
- Current students and their families share their experience with friends, co-workers and neighbours (I have been to dinner parties where nothing else is spoken about).

[25] See Klein and Leffler (1981). A good textbook treatment is in Pashigan (1995) chapter 14.

- Families considering where to enrol their children will seek out the opinions of others.
- Employers may be able to inform future students about the quality of education received by past graduates. Certainly, whether employers hire the graduates of an institution is an important part of an institution's reputation.

The reliance on alumni donations as a form of delayed tuition payment may provide schools and universities with the incentive not to cheat. Alumni will be less willing to donate if the school allows its reputation to deteriorate. Moreover, the fact that a school receives alumni donations is a sign that it has satisfied customers who are in a position to judge the value of the education they received.

Although consumers may be ignorant about many matters, they often seek specific knowledge about a particular issue. For example, parents need not know the best remedial education for all problems – just the options for the particular problem that faces their child. The consumer can often acquire relevant information at low cost. This can substantially reduce the relevance of information asymmetries between producers and consumers.

Producers have an incentive to pass on good information about themselves, such as favourable ratings by independent evaluators. For example, universities in Australia who receive a Good Universities Guide award advertise that fact. Producers can even hire independent evaluators and publicise favourable ratings – just as universities themselves certify students with degrees and transcripts that are broadcast by the recipients. Competitors have an incentive to expose dishonest rivals – even if only by insinuation – in advertising and marketing literature.[26] Schools have an incentive for voluntary disclosure because consumers think the worst – those who do not disclose will be considered to have something to hide.

Try-out periods, money-back guarantees and billing after some of the service has been delivered are ways of providing information about experience characteristics, and all are used in the private education sector. Another method is to encourage parental visits to the school – before and after enrolment – so that parents can observe the educational process first-hand.[27] But the usual remedy for uncertainty about quality, a warranty, will not work in education, because the student's own effort provides an important input into the education process and the success of the education experience.

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[26] Klein (2001).

[27] Jacobsen, Duncan and Hunt (1999) p 55.

One method to assure quality is for an institution to use external performance measures and release information about the results. It can use independent third parties or trade associations to certify, inspect, monitor, audit and test. Another way to inform consumers is through accreditation – a system where a body of experts certifies that a programme meets some standard of quality. Quality assurance relies on the reputation of the body that produces the information.

Schools will have an incentive to use independent measures of achievement to gain credibility and to use measures that are comparable across a range of schools to facilitate comparisons between schools and student mobility between schools. For example, schools may use a common system of examinations or a common inspection service.[28]

Testing in the market

There is great diversity in the information that can be provided. Whether the market will provide a particular type of test depends on its costs and benefits. A good test provides valuable information. At issue is the predictive ability (an empirical matter) and cost of a test.

Different tests involve different costs. For example, some would argue that multiple-choice tests discourage creativity. But devising a fair, credible and cost-effective alternative is no minor task. More detailed tests are more expensive and time consuming to administer, and are highly subjective. For example, the Ministry of Education's National Education Monitoring Project, which assesses the achievement of students at years 4 and 8, tested students, one-to-one with a trained teacher–assessor, with video taping.[29] That limits testing to a sample – meaning the test can only be used to evaluate the system, and not to provide information on all students. Tests that are easier to mark may be less accurate, but can have more questions and cover a broader content area. There is a trade-off between accuracy and breadth.

The critics of testing do have some valid points: there are better and worse tests; tests may distort behaviour; tests may fail to reflect a school's true objectives; and tests do not measure everything that is important. Criticisms of particular tests and testing procedures, however, do not mean all testing is invalid. It is preferable to improve bad tests and faulty procedures than to abandon a useful tool.

The market has advantages when there is diversity in methods and objectives. In a market, whether a test is offered depends on the benefits to consumers and

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[28] Jacobsen *et al* (1999) p vii.

[29] *National Education Monitoring Project* explanatory pamphlet put out by Educational Assessment Research Unit, University of Otago, Dunedin.

the costs to producers. The market can decide whether there is to be testing, what tests are to be offered and how the results are to be presented. Schools can decide what testing regimes reflect their objectives. Parents, employers and others can put whatever weight they deem appropriate on the test in making their choices.

The particular tests and testing procedures that have created problems have usually been imposed by government, and the problems are as much an argument that governments can make mistakes – and mistakes that survive – as an argument against testing. It is the government that is likely to introduce tests with large costs and small benefits and put too much attention on a limited set of indicators. In a centralised system, accountability of schools must be through external testing or inspection or some combination. One system of accountability is imposed on all schools, and there is no market test.

In contrast, in a market system there are incentives for schools to choose measures that will be helpful to parents, to fix up mistakes and to adopt improved alternatives. Competition between different school systems and testing regimes will help expose, and give an incentive to fix, problems. Schools can choose not to participate in testing programmes that they disagree with and could construct their own performance indicators. For example, in the for-profit sector, many companies pre-test entering students for diagnostic purposes and to facilitate measurement of students' learning gain. A large part of their success comes from testing whether they improve matters. In Britain, when league tables for high-schools were introduced, there was immediate pressure from secondary school principals for testing at the primary school level. They were not going to be held responsible for the poor performance of students who had not learnt to read and write in primary school. Measuring student performance in one part of the system led to pressures for accountability in other parts.

Any testing and presentation of the results is open to comment and criticism from other groups. The result will be to refine and improve information provision.

THE EFFECT OF A MARKET SYSTEM ON TEACHERS

A competitive market is likely to change the structure of pay and who is attracted to the teaching profession. Hoxby points out that economic theory:

> … predicts that schools that faced stronger competition would favor teachers who raised the schools' ability to attract students. These schools presumably would strive to attract and retain teachers who were especially talented or hard-working or who

> possessed rare skills. In turn, you would expect their tolerance for less-effective teachers to wane. You would expect, in fact, that teaching would be transformed into a true profession, where workers are rewarded not only on the basis of seniority but also on the basis of their skills and performance.[30]

The result from competition is likely to be wide salary ranges and increased rewards for good teaching – which in turn will encourage more good teaching. Competition between employers would determine the appropriate levels of pay for teachers and ensure that excellent teachers, and those in scarce specialties, can negotiate attractive compensation packages. Schools may also expand employment opportunities for teachers by offering extra services that parents want.

The effect of performance-related pay may work through encouraging talented individuals to join and stay in the profession, rather than by making teachers work harder. If allowed to do so, schools will draw on an increased talent pool by hiring teachers with high ability and strong subject knowledge but without teacher qualifications.

In a market system, teachers would work directly for schools and apply to those they want to work for. Every school (or group of schools run by the same company) hires, evaluates, rewards and dismisses teachers based on its own needs, and subject to the general law, to get the teaching team with the qualities it wants.

Open competition between various possible compensation arrangements would determine what is successful. Schools that offer the most effective compensation systems would do better.

- Some schools may offer various incentives, merit pay, bonuses and performance-linked supplements, even stock options.[31]
- Some schools may base bonuses on parental evaluations.
- Others may adopt mutual peer-group assessments, with annual bonuses determined by a vote by colleagues (as is done in many US university departments).
- Others may eschew merit pay, believing it creates disharmony.
- Some schools may prefer to contract out teaching to specialist firms and leave compensation arrangements to them.

Parents would judge on the basis of results – which schools produce efficiently what they want.

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30 Hoxby (2001).

31 In October 1998, staff in Edison's Reeves elementary school received stock options in Edison. The company made stock options open to any Edison school that requested them. Finn, Manno and Vanourek (2000a) p 9; Jacobsen *et al* (1999) p 56.

A competitive market assigns resources to where they have the greatest value, as judged by consumers and producers. For example, if teachers prefer professional autonomy and dislike parental governance, then schools that give teachers little autonomy or have parental governance would have to pay more to fill their teaching positions and reduce staff turnover. They would have to increase fees, which in turn transmit to parents the costs of their preferences. Further, this efficiently sorts teachers by taste. Teachers who have the least distaste (or even preference) for parental governance would be more likely to accept a position at a parent-governed school.

Specialist firms could sell teacher services to schools on a contract basis: the firms may employ the teachers or teachers may sell their services as sub-contractors. For example, a school could contract out mathematics teaching to specialist firms. The firms would be responsible for recruitment, professional development and compensation. They could even train their own teachers.

Specialist teacher firms would result in a more flexible teacher supply, increased specialisation and permit experimentation with different ways to ensure effective teaching.

- Teachers who work for the firm may teach at more than one school.
- The firms could promise higher pay for more teaching hours, making teacher supply more flexible.
- They may be attractive to people who prefer to stay in the classroom and are not interested in administrative positions or simply prefer to be self-employed.
- They could also utilise the services of teachers who only want to work part-time so they can study, work in other jobs, bring up their children or be in semi-retirement.

Successful firms would have their contracts renewed and expand their market share. The firms could tap markets such as adult education, employee education, teacher training and providing remedial services directly to parents, broadening career options for their teachers.

Specialist teacher firms provide more flexibility to schools and provide greater certainty about cost than employing extra staff. Schools could more easily fill temporary gaps and could offer specialised courses without the expense of employing full-time staff to teach them. For example, the demand for a course in a particular foreign language may not justify a full-time staff member.

Schools and teachers would act as buyers and sellers do in other markets. Schools would use their own judgements, experience and the services of independent information providers – such as teacher training institutions and

specialised teacher firms. The information providers would develop reputations for the quality of their teachers. Teachers can, in effect, hire independent evaluators and publicise favourable ratings. For example, they acquire qualifications and present their transcripts to signal their ability and training to schools. Teachers may also join professional associations that can ensure quality – a form of accreditation.

Schools, and teacher firms, may introduce their own methods of quality control. For example, school chains may develop their own testing of teacher applicant abilities, and even their own teacher training programmes. Alternatively, they may develop close relationships with particular providers.

The schools will have an incentive to supply parents with the services they demand. Teachers that supply services that satisfy consumer preferences will be more likely to be hired and paid more. For example, if parents demand academic achievement, pay scales will reward teachers who can best increase academic achievement. This will affect the type of people who enter the teaching profession and the type of training they demand – which in turn gives teacher training institutions the incentive to supply that training. The effectiveness of different teacher training methods and institutional arrangements will be decided by open competition.

One objection to performance pay is that teaching performance is difficult to measure objectively. Another is that it is difficult to disentangle the effects of previous education, other teachers and non-school factors. Most workers in the economy are evaluated subjectively, and rewards for good performance are used in a lot of firms where measurement of individual performance is difficult such as the health industry. In many firms, output is difficult to measure and reflects the contribution of a lot of individuals and interactions with colleagues are important. In these cases of team production, individual contributions to output cannot be easily identified. Nevertheless, most workers in these areas receive merit rewards, raises and promotions based on their bosses' subjective evaluation of performance – including teacher union officials. There is nothing wrong with subjective decisions, so long as the decision makers face the correct incentives.

The unions argue that performance pay saps morale by pitting teachers against one another. It could be argued that it is more demoralising for a hard-working and accomplished teacher to see a lazy and incompetent colleague getting the same pay – as is often the case under current arrangements.

In a competitive environment both management and employees at a school have an incentive to maximise productivity and adopt changes that improve productivity in order to survive against competitors or to share in the gains.

They must take account of the possibility that competitors will provide a better service at a lower price. Staff members must be concerned about the overall effectiveness of the school and the contribution of colleagues. For example, if performance pay improves the quality of the school's staff, the school improves its reputation, and the demand for its services increases – to the benefit of all staff members.

In contrast, in public education neither teachers nor management would benefit from an improvement in productivity. Instead, the main concern is about distributional rather than efficiency issues – the amount of spending and the share going to teachers. At the school level, poor performance may lead to additional resources.[32] Staff members may be more concerned that hiring a good teacher may make them look bad than with improving the overall performance of the school.

In the United States, private schools have different hiring and compensation policies from public schools. The differences reveal the effects of managerial autonomy combined with market accountability in a competitive environment.

- Private schools emphasise knowledge of subject matter and place more emphasis on the recruitment of faculty who have strong academic records.
- They are more likely to differentiate salaries on the basis of performance, to dismiss ineffective teachers, to use individual contracts and to set salaries at the school level.
- Non-religious private schools are more likely to use merit pay schemes than public schools, and pay larger bonuses, but religious schools are less likely to do so. Only a minority of schools pay on merit in any sector (a quarter or less).
- Private schools use informal mechanisms to reward good teachers with higher pay, and pay varies more with teacher attributes that cannot be observed from above in the private sector.
- They are more flexible with recruiting and compensating those who come to teaching from other careers.
- Private schools pay extra for skills in short supply – the relative pay of teachers of special education students and mathematics and science teachers compared with other teachers in the sector is higher in private than in public schools.

[32] Lieberman (1997) p 248.

- Teacher pay in private schools is less compressed and more closely relates to scarce skills than in public schools.[33]
- Private schools tend not to rely on extensive merit pay schemes but on intensive teacher selection procedures and on retention policies that link continued employment to classroom performance.[34]

The evidence is that private schools in the United States have better teachers than public schools despite paying less and not being unionised.[35] Either the good teachers prefer private schools, despite average salaries being 50 percent higher in the public sector, or they are rejected from the public system and so private schools provide them with an opportunity to teach. In both cases, private schools may keep the best teachers in the profession rather than taking them from government schools.

A detailed survey of teacher personnel policies in US charter schools comes to similar findings, although nearly half use merit or performance-based pay. In those schools that do, the merit payment typically amounts to 5–10 percent of base pay.[36]

For-profit schools in the United States mainly operate individual public schools under contract. When they are free to determine their own personnel practices, for-profit schools are:

- less concerned than government schools whether their teachers meet certification requirements;
- they hire for a fixed term and only renew the contracts of effective teachers;
- they use merit pay to reward teachers for subject specialisation, performance and improvement;
- they have more extensive career ladders for classroom teachers than government schools;
- some emphasise professional development and provide as much as three weeks' training a year for teaching staff;
- they give their principals more decision-making powers, especially over personnel practices; and
- they expect principals to select, hire and assess teachers.[37]

Teachers in private schools are more likely to express greater job satisfaction and strong, positive attitudes about their schools than teachers in government schools.

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33 Ballou and Podgursky (1997) chapter 6, pp 137–147, 164 and Ballou and Podgursky (2001).
34 Hanushek (1994) p 98.
35 See Ballou and Podgursky (1997) pp 129–133.
36 Podgursky and Ballou (2001).
37 Levin (2001).

- They are more likely to agree strongly that staff members are well treated by the administration, receive support from parents and co-operate with each other.
- They are less likely to regret becoming a teacher, feel putting effort into teaching is a waste of time and more likely to be 'highly satisfied'.[38]
- The evidence is that new teachers receive more help and on-the-job training in the private sector.[39]
- Surveys of charter schools also show their teachers are more satisfied with their schools and fellow teachers than those in traditional public schools.[40]

A number of US studies find competition has beneficial effects in teacher markets. Hoxby (2000b) uses a random survey of school teachers, data on traditional forms of choice (variations in the availability of public and private school choice) and a new survey of charter school teachers, and finds:

- Schools that face strong choice-based incentives have greater demand for teachers who: attended well-regarded colleges, majored in subject areas (as opposed to education), have mathematics and science skills, and who put in more effort and show more independence. These schools are more likely to hire such teachers, to pay them higher wages than they would earn in schools that face less competition and to retain them.
- In general, schools that face market pressures also have less demand for certification and master's degrees. They pay teachers who hold such credentials less than similarly educated teachers earn in schools that are less choice driven.[41]

She concludes that school choice would change the teaching profession in significant ways.

Hanushek and Rivkin (2001) find that more competition between public schools tends to increase teacher quality, particularly for schools serving predominantly lower-income students.

We know that competition improves school performance. (See chapter 9 'The effect of competition on school performance'.) It seems that it does so by promoting more productive use of spending to buy good teachers.

Other studies examine the effect of competition on teacher compensation in public schools. For example:

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38 See Ballou and Podgursky (1997) table 6.1, pp 134–135; Brouillette (2001) p 42; Farkas *et al* (2000) p 35.

39 Ballou and Podgursky (1997) pp 144–145.

40 See, for example, "Teachers Warm To School Choice", *Fraser Forum*, September 1998, pp 30–31.

41 See Hoxby (2001) for a summary.

- Vedder and Hall (2000), using Ohio school-district data, find that competition between public and private schools increases the salaries of public school teachers.
- Using national data, Hoxby (1997b) found some evidence that public schools react to increased competition from private schools by paying higher teacher salaries. Their per-pupil spending was unchanged, but their spending was reallocated towards teacher salaries.

As in other industries, increased competition reduces the union premium.[42] Because competition also raises teacher wages, it seems that it reduces the role of unions and makes many teachers better off. Unions are less powerful and less needed by workers when there is competition compared with a public monopoly.

Further, the effect of competition may quickly change the profession in areas where a growing number of choice schools offer a large share of the new teaching positions. For example, in Arizona where charter schools enrolled about 7 percent of that state's students in the 1998/99 school year, the great majority of the stock of teaching jobs were in regular public schools, not charter schools. Yet, charter schools provided approximately half of the flow of new teaching positions. The wages and job characteristics of teaching positions in charter schools had a strong effect on entrants to the profession.[43]

A MARKET SYSTEM WILL BENEFIT THE POOR

Would a market system result in the provision of high-quality education for students from poor backgrounds? It is likely to do so better than state schools. Even the defenders of public education in New Zealand admit that many disadvantaged students are trapped in failed 'sink' schools.

Unsuccessful 'sink' schools are unlikely to survive in a market. It is not profitable to run schools that no-one wants to attend. In fact, poor students present a market opportunity for many for-profit firms precisely because they are neglected by the public system. The market will cater to any group of students if it is profitable to do so, which, at most, only provides a financing role for government.

A market system would extend to all the kind of choices the rich take for granted, which will benefit the poor. Resources will be more useful to poor parents if schools are directly accountable to them.

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42 Hoxby (1998) p 55. For the evidence from other industries see Peoples (1998).
43 Hoxby (2000b) p 2.

Increased autonomy will encourage the development of successful schools that all children can attend, increasing the educational opportunities of the poor. A market system would improve matters for responsible poor parents. For others, it may expose their children to parental irresponsibility. Would they be worse off than at present?

One criticism of markets is that they are inequitable because they result in stratification by ability and low-income students without high ability would be isolated and concentrated, their problems exacerbated by adverse peer effects: the worst off become even worse off.

Peer effects, however, do not appear to be important in New Zealand. (See chapter 2 'A better class of students: peer effects, relevance for criticism of markets'.) There is little evidence that competition would result in greater segregation than under the current system. Zoning reproduces and reinforces segregation in housing and allows the rich to buy their way into good government schools by choice of residence. The evidence is that extending school choice to the poor would be likely to promote social integration and reduce social polarisation. Dezoning (choice amongst government schools) in New Zealand in the early 1990s reduced student segregation by socio-economic status. (See chapter 7 'Criticisms of dezoning'.)

The evidence from England and Wales is the same. Although there is some segregation under dezoning, it is less than with zoning. A major quantitative study using data from all the schools in England and Wales (23,000 schools, 8 million students) over a 10-year period found that:

- Segregation declined after dezoning – in every region, at both primary and secondary levels.
- Segregation decreased at every level of analysis – school, district, region or nationally.
- The decline in segregation was observed for all indicators of socio-economic status: eligibility for free school meals, ethnicity, first language and special education needs.
- The overall decrease in segregation was not at the expense of some particular schools – the most disadvantaged schools improved over this period. There is no evidence that a subset of schools went into a 'spiral of decline'.[44]

[44] See Gorard and Fitz (1998); Gorard (2001) and Tooley (1999a).

Likewise, the US evidence is that private and charter schools are less segregated than government schools:[45]

- The racial composition of individual private schools is closer to the racial composition of the broad community in which the schools are located (broader than school districts, which may be quite segregated).
- In US voucher programmes, students were less likely to be attending segregated schools than students remaining in public schools. The level of integration appears to be independent of whether the voucher programme is explicitly regulated to promote integration. Such regulations do not appear to be necessary.

Further, private school students in the United States are in less segregated classrooms. They are:

- twice as likely to be in classrooms whose racial composition is similar to the average racial composition of the nation;[46] and
- less likely to be in racially homogeneous classes.

More actual mixing occurs in private than public schools and race relations are better:

- private school students are twice as likely to sit in racially mixed groups at lunch;
- more likely to have inter-racial friendships (as reported by students); and
- half as likely to be in schools where racial conflict and fighting were problems (as reported by administrators, teachers, and students).[47]

Far from increasing segregation, expanding access to private schools is likely to reduce it. Greene (2000) points out that there will be less resistance to integration in a market system because parents may have greater confidence that integration will be better managed in private schools than in state schools. Surveys report much higher confidence in the safety and discipline offered by private schools and fewer racial conflicts.

Simulations in the United States find that a voucher scheme would promote housing desegregation by changing residential choices. A voucher programme would remove the need for high-income households to leave low-SES neighbourhoods in order to receive better schooling, and would reduce the

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45 See Greene (2000) for a survey. This paragraph is based on his paper.

46 Evidence on the racial composition of the school's broad community was not available for the classroom data.

47 See Peterson (1999); Greene (2000) and (1998).

difference in real estate prices between areas with good schools and others.[48] A voucher severs the link between the choice of where to live and where to send your child to school and so removes the segregating effects of 'selection by mortgage'.

A market system provides more diversity so that less emphasis is placed on socio-economic status and race. In fact, it helps bring together new communities. Parents will choose schools where other parents have similar tastes. To the extent they choose on the basis of shared values, special needs, educational philosophy, more or less formal discipline, religious denominational instruction, single-sex schooling, sports, music and so on, there will be more sorting according to these tastes and less segregation by income and ability. Specialised private schools will draw people from different backgrounds and neighbourhoods. Further, if parents care about social mixing and diversity, they will deliberately choose schools that offer a diverse student body and the opportunity for their children to mix with different types of students.

Even if competition from private schools did increase segregation, and peer effects were important, Ferris and West (2000) point to the evidence that private schools substantially reduce drop-out rates.[49] They argue that a reduction in drop-out rates from greater school choice will improve both equity and efficiency – and is likely to more than offset the adverse effects of a peer group on equity. Further, students will gain by gaining access to a wider variety of schooling opportunities that allows a better match.

The peer group effect is an example of an externality-based problem that is faced in any system. It does not necessarily give an advantage to public provision over a market system. If the government has the political will and information necessary to deal with these problems – vouchers can be set to internalise externalities. In fact, often vouchers have the advantage in dealing with the problem through prices and a market mechanism. It is simply a matter of voucher design.

Indeed, a focus on peers is encouraged in the public system, where all schools have a common organisation, a common curriculum, teachers who have the same training, the same opening hours and do not release information on academic performance. Parents will be more likely to choose on the basis of the composition of the school's student population. Moreover, the SES ranking and racial composition of a school is one of the few pieces of information released by the Ministry of Education that permits comparisons across schools.

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[48] See Nechyba (1998); Nechyba (2000) and Heise and Nechyba (1999). Nechyba (1998) estimates that in the United States, school district considerations are responsible for half of real estate price premiums (p 18).

[49] See chapter 9 'The private school advantage' for a summary of the evidence.

It may be that, because of the way public schools operate, peer effects would be smaller in a market system than under current arrangements. For example, parental governance may have contributed to the problems faced by low-SES schools and actually promoted segregation by making peers (actually, their parents) more important to the success of the school.

Peer effects depend on the school environment. For example, peer effects may only loom large when there is a lack of discipline so that there is a large cost to schooling with potentially disruptive students. The importance of peer effects may have been increased by policies adopted in public schools that reduce the incentive for children to learn, such as a downgrading of external assessment and lax discipline. A lack of discipline at school harms those who do not receive it from their families – and those who school with them.

PARENTAL INVOLVEMENT: OVERDUE HOMEWORK

A further benefit from choice is increased parental involvement and a strengthened role for families. Increased parental involvement in schooling improves their children's performance. The benefits to children from having their parents more involved is just as large from parents of low education and income as from parents with high education and income.[50]

- Parental involvement through parent–teacher associations has been empirically linked to student gains.[51] Chubb and Moe (1990) find that effective schools are more likely to have supportive parents. Differences in direct parent contact have little impact. Parents are equally likely to attend parent–teacher conferences, visit classes and phone about problems in effective and ineffective schools. High levels of direct contact may indicate parental interference rather than parental support. Parents who support a school's objectives and programmes help a school build an effective organisation. Parents who regularly challenge school priorities and decisions can cause real problems. Effective schools promote parental support or understanding, and are more likely to keep parents informed.[52]
- Whether parents attend school programmes for parents, watch the students in sports or activities, help choose courses, help with homework when asked and monitor school progress has been linked to improved grades. Increased involvement by parents of all races, income and education levels had the same benefits.[53]

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50 See Morse (2002) pp 161–164; Hoxby (1998); Nechyba (1998) and Smelt (1998) p 49 for surveys.
51 See Nechyba (1998) p 9, Chubb and Moe (1990) p 149.
52 Chubb and Moe (1990) pp 147–149.
53 Morse (2002) p 161.

- For children, having a parent who 'discusses school matters' improved their reading and mathematics test scores as much as having a parent with a high level of education. More parental interaction with other parents from the school increased children's test scores.[54]

Involvement for parents can include exchanging information with teachers and monitoring their child's progress, teachers and school administration. It can mean support to the school by letting their children know that they are expected to learn and to behave themselves.

Education is a partnership between family and school. Like any partnership, it works better if the parties choose each other. The evidence is that choice makes parents more involved in their children's schooling.

When parents choose to send their children to a school it implies a level of commitment. Seeking out a suitable school takes engagement. Further, paying fees encourages parents to monitor schools more closely. People pay for what they value and value what they pay for. Private schools often demand certain types of parental involvement and encourage parental volunteers. It is not viewed as taking away paid work from union members:

- Finn *et al* (2000a) find that charter schools are good at encouraging parental involvement. Some require parents to sign learning contracts for their children and to volunteer a certain number of hours per week, and they may use moral suasion, peer pressure and imaginative volunteer options. Almost half of charter schools were initiated and developed by parents or through the collaboration of teachers and parents.[55]
- Coleman and Hoffer (1987) found that parents of private school children were more involved in their child's education – but this may be because more involved parents are more likely to use private schools.
- More convincing evidence is from the voucher experiments that use randomised selection. (These experiments are described in chapter 9 'Evidence from voucher programmes'.) Parents of children in school choice programmes are more involved with their children's academic programmes, participate more in school activities, volunteer more in their children's schools, communicate more with teachers, and help more with homework than voucher applicants who missed out.[56]

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54 Morse (2002) pp 162–163.
55 Finn *et al* (2000a) p 10.
56 See, for example, Vassallo (2000).

- Hoxby (1999) examines existing school choice. She finds that increased choice also makes parents more interested in their child's school.[57]

Parental involvement does not necessarily mean parents should be active participants in activities at the school – such as shaping policy, running the school or engaging in classroom activities. For example, there is little evidence as to whether an increased role in parental governance, as required in state schools in New Zealand, has a positive effect. (For an analysis of the costs and benefits of boards of parent governors imposed by the Tomorrow's Schools reforms see chapter 7 'Parental voice at the school level'.) Many parents may not want 'participation' or involvement in the governance and management of schools – they do not want to devote time and energy to the process of voting and school boards. Many parents want their institutions to work so that participation is unnecessary.[58] Further, many parents may not have the skills to perform these roles successfully – they are better consumers than managers.

Increased parental choice would be one way to strengthen the role of families in the learning process and to take advantage of parents' valuable knowledge about their children's needs and abilities. The case for choice is more than about improving test scores and efficiency but has fundamental implications for the role of the family. Choice shifts authority from the government to parents and reinforces the sanctity of the family. It permits parents to raise their children according to their own values and enhances their dignity. It gives parents the opportunity to do their best, rather than assume they will fail. To deny choice to parents is to tell them they are not to be trusted.[59]

School choice increases parents' responsibility, self-sufficiency, independence and initiative rather than usurping their role. It enables people to set about solving their own problems and help themselves. There are advantages in allowing those targeted for benefits to make their own judgements about the alternatives on offer, rather than providing aid in the form of 'free' government schooling. If aid is given directly to parents it makes them more independent and self sufficient and gives them real power, real freedom and real responsibilities over decisions that affect them deeply.[60]

Choice involves family choice rather than parental choice. The family is the decision-making unit, and children's objections and feedback matter. Choice encourages communication within the family, and children are encouraged to

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57 See Hoxby (1999) pp 299–300 for details.
58 Lieberman (1989) p 150.
59 Coons (1993).
60 See Doyle (1982).

become involved in their education. The child gets a say – usually increasing with age and experience.[61]

There may be some parents who cannot, or will not, perform their role, but that is a reason for policies targeted at them, not for discouraging all parents from involvement in their children's schooling.

Morse (2002) proposes that the focus of education policy should not be on the delivery of resources to children but on assisting parents to build a relationship with their child.[62] Children need relationships more than they need resources.

Family relationships are an important source of social capital for children. The parental–child relationship is crucial for a child's development and to prepare children for other relationships. Schools cannot easily replace the benefits from parent–child bonds. Morse (2002) uses evidence from neglected infants, and on the effect of broken relationships on children (such as being in single-parent families), to show that even simple, everyday activities that parents carry out with their children can reap important and irreplaceable benefits. Institutions, no matter how well resourced, cannot replace the work of the family.

Parental involvement should be harnessed to improve their children's education rather than impeded. The evidence is that increased parental involvement in schooling improves their children's performance and that choice makes parents more involved in their children's schooling.

[61] Coons and Sugarman (1978).
[62] Morse (2002) p 147.

9
EVIDENCE ON THE EFFECT OF COMPETITION IN SCHOOLING

There is much evidence that the use of markets would improve the schooling system. Even the limited competition sometimes permitted under current arrangements improves performance, and private schools perform better than public schools because they are better organised and are subject to market incentives. Private schools solve the problems with New Zealand's government schools as identified in chapter 3: high dropout rates, ill-discipline, truancy, poor academic performance and low expectations for students from poor backgrounds.

Yet the problems with our school system run deeper. As leading education expert James Tooley writes, "It doesn't really matter whether or not state schools are failing and in crisis – although many probably are. What matters is whether or not we believe education should be immune to the type of improvements we take for granted in other areas of our lives". He wonders whether even good state schools "are really offering the best that we can offer our children today. The sense within them is of acquiescence and complacency. It is not clear they will bring happy, fulfilling and challenging lives to the children within them".[1]

In a competitive market, producers must improve to survive and are driven to satisfy the customers. Although a market system would include religious schools and schools similar to current private schools, as Murray points out:

> The private school system that currently exists is analogous to the private restaurant system that would exist if the government maintained mediocre but free restaurants – a shadow, in size and variety, of the system that would exist in the absence of the government product.[2]

Parents currently using private schools are likely to be those with a strong demand for what they offer – strong enough to make them willing to pay most of the cost themselves rather than attend a free government school. They either have strong preferences (usually religious) or high incomes. Their preferences may tell us little about the choices other parents would make if it were easier to choose a private school. A market system with widespread choice will cater to a broader range of tastes. Further, the behaviour of profit-driven providers may be different from current non-profit schools, especially when it comes to innovation.

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1 Tooley (2000) p 5.
2 Murray (1997) p 94.

It is difficult to predict what innovations and new products would emerge from a true free market in education. Markets draw on scattered knowledge and the imagination and creativity of many people. Even the most imaginative science fiction writers and futurists failed to predict now commonplace products that the market has come up with, particularly those that meet individual needs that are difficult to articulate or tacit. For example, nineteenth-century pundits predicted electric lighting but not electric guitars; supersonic jets but not hang-gliders; laser weapons but not laser surgery or compact discs; nuclear power but not nuclear medicine; computer databases but not video games; government surveillance cameras but not baby monitors.[3]

An insight into the diversity of parents' demands and likely market response can be gleaned from examining the US charter school and for-profit education sector. Both consist of non-religious providers subject to the market test – they can only survive if they provide what parents want and attract students. Both must compete with a free public system, and so tend to cater for groups neglected by the public system.

Charter schools receive reasonable levels of funding that allow them to more closely compete with traditional public schools and they show great organisational and educational diversity. The current for-profit sector in education illustrates how the profit motive results in diversity, efficiency, technological innovation and a customer focus. They provide real-world examples of how a market system deals with problems of quality assurance.

PRIVATE VERSUS PUBLIC SCHOOLS: ADVANTAGES OF A PRIVATE EDUCATION

> Those parts of education, it is to be observed, for the teaching of which there are no public institutions, are generally the best taught … The three most essential parts of literary education, to read, write and account, it still continues to be more common to acquire in private than in public school.[4]

The private school advantage

In 1981, leading education researcher, James Coleman, with others, analysed the data from the US 'High School and Beyond' data set. Collected in 1980, it contains information on the achievement, attitudes, activities and family background of some 60,000 students from years 10 and 12 in more than 1,000 private and public schools. The students were given a battery of standardised achievement tests on reading, writing, vocabulary, comprehension, civics,

[3] These examples are from Postrel (2000).
[4] Smith, Adam (1776) p 764.

mathematics and science. The private schools were mainly Catholic (Catholic schools had 80 percent of private high-school enrolments). It was found that private school students had higher achievement and attainment than students with the same characteristics at public schools, and the effect was greatest for minority and lower SES students. Catholic schools were better at producing equality than public schools. The achievement of disadvantaged students was closer to the achievement of students from advantaged backgrounds in Catholic than in public schools. Similar conclusions about other private schools, such as Lutheran and Jewish schools, could not be drawn because there were too few disadvantaged students in the sample from those schools.[5]

In 1982, the original High School and Beyond Year 10 cohort, now at the end of Year 12, retook the battery of achievement tests. Researchers could then control for prior achievement and focus on achievement gains. Coleman and his co-authors analysed the data and found that in verbal skills, mathematics and writing, Catholic school students scored about 0.1 standard deviations higher than students in public schools with comparable family backgrounds and prior achievement. That is, the difference between Catholic and public school students increased with extra schooling. On science and civics there was no significant Catholic school effect. The study confirmed that the greatest gains were for students from low-SES backgrounds and minority students. Further, those students who were suspended in Year 10 were more likely to be in the same school two years later in Catholic than in public schools. Not only does it seem that Catholic schools do not achieve their results by expelling trouble-makers, those with discipline problems showed above-average achievement gains in Catholic schools.[6]

Other studies that used the High School and Beyond and other data sets found similar results. Private schools have a significant positive impact on student test scores and wages. They also have a large impact on the probability of graduation, entry into college and graduation from college, especially for urban minorities.[7]

Examples of the studies include:

- Neal (1997) finds that urban minorities gain the most from attending Catholic schools because they face the worst public school alternatives. He finds Catholic schooling has large effects on high-school and college graduation rates for urban minorities – up to a 26 percentage point increase in the probability of high-school graduation. These effects translate into large gains in adult wage rates.

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5 See Coleman (1981); Coleman (1981b) and Coleman; Kilgore and Hoffer (1981).

6 See Hoffer, Greeley and Coleman (1985) and Coleman and Hoffer (1987).

7 The Catholic school advantage literature is surveyed in Neal (1998); Walberg and Bast (1998); Schwartz and Baum, Doyle (1996) and Shokraii (1997).

- Sander and Krautmann (1995) find that Catholic schooling lowers dropout rates and raises the test scores of minority students. Evans and Schwab (1995) find Catholic schooling raises college entry rates substantially. Witte (1996) finds graduation rates and subsequent enrolment in four-year colleges are higher in Catholic schools, and the improvement is at the lower end of the achievement distribution (the bottom quartile).
- Toma (1996) used an international data set that included New Zealand (the IEA Study of Mathematics II) and found that private control over school output generally increases student achievement, and the effects of private schools on school achievement were either independent of family socio-economic status or higher for the lower-status groups. The results did not seem to depend on selection bias. For example, Toma eliminated the top and bottom quintile of students, and the results were qualitatively unchanged.
- In Australia, the few studies that have the information required to control for differences in family background find that private school students have better examination performance than public school students, better performance on literacy and numeracy tests (and the gap increases with length of schooling), are more likely to complete Year 12, have greater participation in higher and further education, lower unemployment rates and higher tertiary entry scores and achievement growth.[8] They have higher tertiary entry scores and achievement growth from Year 9 to 12. The greatest gain for students who showed low-to-middle achievement levels in Year 9 was in independent schools.[9] This was despite spending per student being higher at public than at private schools, especially for Catholic schools.[10]

There is no doubt that students in private schools achieve higher test scores – the only debate is whether Coleman's 0.1 of a standard deviation is important or not. In the High School and Beyond data set this represented the average gain from one year in a public school. In other words, two years in a private high school gave the same achievement improvement as three years in a public school. Therefore, US Catholic schools must be more efficient than government schools. They spend significantly less per student (on average, half or less),[11] have higher pupil/teacher ratios and yet do better at promoting academic achievement and attainment, especially for the poor.

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8 See the studies summarised in Buckingham (2000) pp 4–6; James (1991) p 101 and Mark, McMillan and Hillman (2001) pp 24–25.

9 Mark *et al* (2001).

10 See Harrison (1996) part 2.

11 DeSchryver (1999); Peterson, Howell, Wolf and Campbell (2001) pp 33–34.

The fact that private schools outperform government schools and provide real benefits for their current students should come as no surprise. Why else would parents pay extra to send their children there? To attract parents from public schools, private schools must offer parents extra benefits at least as great as the extra tuition cost of using them. To imply otherwise is to argue that thousands of parents are making silly decisions – and they tend to be the wealthiest parents with the most interest in education (and include many teachers, politicians and education bureaucrats). Most private schools are religion based, and the extra benefits to parents may come from the private school satisfying their religious preferences. Religious parents, however, also care about academic achievement, and many non-religious parents send their children to religious schools. Survey results show that the most important matter for parents when they select their child's school is academic quality. (See chapter 2 'Should experts pre-empt parental educational decisions'.)

Although there is a private school advantage, there is strong disagreement over why private schools do better than public and what it implies for policy. The policy implication that Coleman and others draw is that there will be large benefits from allowing more students, especially those from poor backgrounds, access to private schools and that the financial penalties for choosing a private school should be removed.

Does selection cause the private school advantage?

Market critics claim that private schools do better than government schools because of selection: students who attend private schools are likely to be better students than those who attend public schools and are likely to benefit the most from what private schools have to offer, either through self-selection or selection by the schools. Critics argue that the superior performance of these students overestimates the gains from allowing additional students into private schools. For example, tardiness, absence and disruptive behaviour are lower in private schools. Is the better student behaviour caused mainly by school organisation (better discipline) or selection (those who attend are better behaved to begin with)?

Regression analysis attempts to isolate the effects of school type by measuring the other factors that might contribute to academic performance, such as race, parents' education and family income. The studies that find a private school advantage all control for family background, and some for prior achievement and ability. Some studies take sophisticated approaches to correct for self-selection.[12] The critics question whether these controls are adequate – measures,

[12] See Neal (1997) and Sander and Krautmann (1995).

like family income and parental education, are only rough proxies for parental involvement and attitudes that boost educational achievement. For example, the mere fact that parents are willing to send their children to a private school and pay tuition may indicate a strong family motivation and support for academic achievement.

On the other hand, parents may send a child to a private school because the child is not going well in a public school or needs extra attention. Certainly, in Australia, parents are sometimes informed that their disruptive child may benefit from extra discipline at a private school.

- Neal (1997) found negative selection into Catholic schools. The best students were concentrated in the elite public schools.
- In New Zealand, a study found that a majority of parents who sent their children to private schools did so because their children were 'average' or 'below average' and were at risk of being ignored in a state system.[13]
- A recent US study into the effect of religious schools on student behaviour, that used data from the National Education Longitudinal Survey, concluded that private religious schools reduce teenage sexual activity, arrests and cocaine use. The differences persisted even after family characteristics were taken into account. Most of the private religious schools were Catholic. It found that private religious schools do not achieve these results by enrolling better-behaved students. When the authors controlled for the possibility that parents likely to produce better-behaved children might also be more likely to enrol them in a private religious school, they found that parents were more likely to choose religious private schools for children who were at greatest risk for problem behaviour. The data suggest that poorly behaved children are more likely to be sent to private religious schools where they derive "substantial benefits" from attendance.[14]
- In the United States, Catholic seniors consistently outscored public high-school students on achievement tests, but scored lower on tests that measure ability more than achievement.[15]
- The Catholic advantage holds up even in countries (like Australia) where the proportion of students that attend Catholic schools is much greater than in the United States, so that selection effects would be less.

More evidence that private schools do better, at lower cost, than government schools comes from evaluation of voucher programmes in the United States.

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13 Duncan *et al* (1998) p 16.
14 See Figlio and Ludwig (2001). The summary here is from the *NBER Monthly Digest*, May 2001.
15 Doyle (1996) p 5.

These programmes often use randomised experiments that provide the best evidence that the private school advantage is not attributable to selection and that expanding access to private schools for students from low-income families will be beneficial.

Evidence from voucher programmes

In the United States, in 2001, about 89,000 children from low-income families used vouchers from three publicly funded programmes and nearly 100 privately funded programmes to attend private schools.[16] There are government voucher programmes, targeted at poor families, in Milwaukee, Cleveland and Florida. Nearly 10,000 students participate in the Milwaukee programme, 4,000 in Cleveland and only 56 students left the state school system for private schools under the Florida programme.[17] All of these programmes have been studied by researchers.

An interesting development has been private voucher (or pre-college scholarship) programmes. These have been set up by philanthropists and help low-income families pay for tuition at the school of their choice. Most programmes cap the subsidy paid to each student and pay, at most, half of tuition. In 2001, nearly 100 private scholarship programmes were providing aid to help 75,000 underprivileged children attend private schools, both secular and religious. Over a million students were on waiting lists.[18]

Some of these privately funded voucher schemes were specifically designed so their effects could be rigorously examined. Because there were an excessive number of applicants, and voucher recipients were chosen by lottery, a random experiment was set up. The performance of those who attended private schools with a voucher (the treatment group) was compared with similar students who applied for the programme but missed out (the control group). Detailed demographic and test score information was collected before the lottery and follow-up information was collected one and two years later. Because students were allocated to each group randomly, the treatment and control groups can, on average, be assumed to be similar, overcoming the selection problems that plague private and public school comparisons. But not quite, because about half the students who are offered the scholarship do not take it up, mainly because families are required to pay a share of the tuition costs. Those who use

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16 Finn and Amis (2001) pp 28–29.

17 Finn and Amis (2001) p 28; Garrett (2001) p 3. Florida also offers some students with disabilities scholarships to attend a private school. More than 1,000 students now use them to attend over 100 private schools.

18 Finn and Amis (2001) p 29.

the voucher and are willing to pay tuition, therefore, are likely to have higher incomes and greater family motivation than other applicants. A further problem is attrition in the follow-up data collection. The studies did consider these problems.

In a series of papers, Paul Peterson and others at the US Program on Education Policy and Governance, Department of Government and Kennedy School of Government, Harvard University have studied private voucher schemes in Dayton, Washington DC and New York.[19]

The evaluations, which exploited the randomised experiment and dealt with the data problems, demonstrate that the academic achievement (as measured by standardised mathematics and reading tests – the Iowa Basic Skills test) of the voucher students who attended private schools grew faster than the similar students who did not receive a voucher and attended public schools. Further, the private schools cost less than public schools. The voucher programmes increased overall achievement and reduced costs.

The test score advantage of private schools was limited to African-American students (who were 42 percent of the students participating in the second year of the evaluation in New York, 74 percent in Dayton and 94 percent in Washington DC) and was about one-third of a standard deviation after two years. The evidence is that a gain of one standard deviation in test scores will increase later in life that person's family income by over 20 percent.[20] If student test scores continue to rise at the same rate, minority students will close the test score gap with white students (from similar economic backgrounds) within five years.

The researchers also found high levels of parental satisfaction – voucher recipients were usually twice as likely as public school parents to be very satisfied with different aspects of their school.

An evaluation of a private voucher programme in Charlotte, North Carolina yielded even stronger results – a 0.25 standard deviation gain in test scores in one year, as well as much higher parental and student satisfaction, despite per-pupil spending at the private schools being less than half that at public schools.[21]

The private schools did not expel difficult students and did not 'cream' the best students from applicants. The programmes increased parental involvement and reduced segregation. Parents chose schools based on safety and academic quality.

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[19] See Peterson, Myers, Howell and Mayer (1999); Howell, Wolf, Peterson and Campbell (2000); Myers, Peterson, Mayer, Chou and Howell (2000); Wolf, Peterson and Howell (2000); Howell and Peterson (2000); Peterson, Myers and Howell (1998); and Peterson, Greene, Howell and McCready (1998). A detailed overview and summary of the research is Peterson, Howell, Wolf and Campbell (2001).

[20] Peterson (1999b).

[21] See Greene (2001a).

The evaluation of government voucher schemes confirms the private school advantage.

- Studies of the Cleveland programme found that it satisfied parents, improved test scores and reduced segregation – all at a lower per-pupil cost than at public schools.[22]
- The findings on the Milwaukee voucher scheme were similar (see Box 4: Milwaukee voucher scheme for students from low-income families). Parents were highly satisfied, there was no creaming, parental involvement increased, the programme targeted disadvantaged students successfully and reduced segregation.[23] Problems with the quality of the data meant the effect on students' test scores was more controversial. At worst, the voucher programme left the test scores of voucher recipients unchanged. Choice schools are therefore more efficient, because the voucher was for less than half the per-pupil cost of Milwaukee's public schools and could not be topped up by parents.[24]

Box 4: Milwaukee voucher scheme for students from low-income families

The Milwaukee scheme started in 1990. It allows children enrolled in Milwaukee public schools, whose family income is less than 1.75 times the national poverty line, to attend private schools within Milwaukee city. Private schools that agree to participate must accept the voucher as full payment and must accept whichever youngsters come their way. If there are more applicants than places, a lottery is used to determine entry. Religious schools were allowed into the scheme in 1995.

There have been a number of evaluations of the programme, which were based on data when it was restricted to secular schools.[25]

Some evaluations took advantage of the use of a lottery for selection into the programme and information on both successful and unsuccessful applicants. Rouse (1998) and (1998a) found significant test score gains for voucher recipients in mathematics; Peterson and Noyes (1997), Greene, Peterson and Du (1997) and Greene and Peterson (1996) in mathematics and reading.

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22 See *The Economist* (1997a) p 35; Peterson, Howell and Greene (1999); Greene (2000b); and Rees (2000).

23 See Fuller (2000), Center for Education Reform (2000) and Greene (2000b).

24 Peterson and Noyes (1997). In the 1999–2000 school year, the voucher was 58 percent of the average per-pupil spending in Milwaukee's public schools (Hoxby, 2001a, p 33).

25 See Greene (2000b); Rouse (1998); Wylie (1998) pp 54–59; Fuller (2000); Peterson (1999b) and Center for Education Reform (2000) for surveys of the studies of the Milwaukee programme.

These positive findings come despite restrictions that Peterson and Noyes (1997) say made it "a program designed to fail" (p 128). It was not a test of the workability of a good choice programme, but even such a flawed programme was a step forward.

The restrictions included:

- Students enrolled previously in private schools were excluded.
- When the number of applicants exceeded the number of places available, schools were forced to select among applicants by lottery.
- The size of the programme was limited to 1 percent of the city's public school enrolment, restricting competition with public schools (it was raised to 1.5 percent in 1993 and 15 percent in 1998).
- Funding was limited to less than half the per-pupil cost of Milwaukee's public schools.
- Parental contributions were banned. Together with the low level of voucher it guaranteed students would attend fiscally constrained schools and that there would be no financial tie between home and school.
- The vouchers could not be used at religious schools, which had 90 percent of the Milwaukee private school capacity and all of the high-school capacity (except for some specialised schools offering services to pregnant teenagers and other at-risk children). This restriction was dropped in 1995.
- No more than half of a participating school's enrolments could be voucher students, which made it difficult for new schools to set up in response to the programme and restricted expansion of participating schools.

Further, the Milwaukee voucher plan excluded for-profit schools and did not provide additional funds for students with disabilities, although it required schools to accept all voucher carrying students if space allowed or to choose between them by lottery, if not. These restrictions put significant constraints on consumers' choices, prevented economies of scale, limited competition with public schools and restricted entrepreneurship and innovation. The plan could not result in meaningful competition, particularly when its duration is uncertain.[26]

Greene (2000b) surveys the voucher scheme studies. He concludes that, despite disagreements among researchers, there is consensus that 'choosers' are much more satisfied with their children's schooling than 'non-choosers' and that the programmes have been positive developments that should be continued and expanded. Most studies find test score gains from attending a private school.

[26] Lieberman (1993) pp 11–13.

Private schools are more efficient than government schools, and their superiority is not because of selection of students. They offer higher quality education with fewer resources. The next question is whether this success can be replicated when the private sector is expanded.

Evidence on school characteristics

The relatively strong performance of students who attend private schools could be caused by the benefit from being with superior peers. For example, African-American children from poor families who win vouchers to attend private schools do better than equally talented children who remain in public schools – but that may be because their new classmates have higher ability and are more 'learning ready' than the children back in the public school. If so, the results from small choice programmes may not be reproduced in a large-scale choice programme that would reduce the differences between the characteristics of peers in private and public schools.

The studies that control for school mix still find private schools are superior, which suggests peer effects are not the source of the private school advantage, although private school critics would question whether the controls for the relevant family background are adequate.

Those who examine what goes on within schools establish that superior policies, school environment and different educational practices contribute to the private school advantage. Schools and teachers have important effects on student performance – education is not just a matter of getting the correct mix of students.

Effective schools, whether public or private, exhibit the same attributes. Private schools do better because they are more likely to have the characteristics of effective schools than their government counterparts. The effective schools literature identifies a series of characteristics associated consistently with success, such as:

- high expectations;
- a safe and orderly environment;
- strong leadership from the principal;
- caring and motivated teachers;
- a collegial atmosphere;
- regular evaluation of student progress; and
- an academic oriented curriculum.[27]

[27] See Chubb and Moe (1990) pp 99–100 and Murray (1984) pp 294–295.

Studies show that private schools have better teachers and different hiring and compensation policies than public schools.[28] Private schools place more emphasis on academics and the recruitment of faculty who have strong academic records. They are more likely to differentiate salaries based on performance and to dismiss ineffective teachers.

The importance of autonomy

In a landmark study, leading researchers Chubb and Moe explored why some schools were better organised than others and found that the strongest influence on overall quality of school organisation was autonomy. They examined economic resources, student bodies, parental involvement, bureaucratic influence and school board influence, and concluded "bureaucracy is unambiguously bad for school organisation".[29] Effective schools are subject to much less external administrative control from superintendents and central office administrators than ineffective schools. They found external control over personnel policies to be the greatest burden to effective performance.

Autonomy's importance comes from the nature of education, which is based on personal interactions; continual and immediate feedback; and on the knowledge, skills and experience of teachers. Autonomy in choosing and setting incentives for staff is vital because the most important requirement for effective education is good teaching. Good teaching involves many intangible qualities, and, at the school level, everyone knows who the good and bad teachers are. But good teaching is impossible to monitor from outside the school by those further up the hierarchy. Autonomy also gives principals the chance to build up a team and systematically recruit the kind of teachers they want and provide incentives to improve actual performance. Schools can develop their own identities, pursue goals and adapt, should those goals prove elusive.

In contrast, autonomy is deliberately denied to schools in the current system, which involves politicians and bureaucrats controlling schools and forcing them to meet various objectives. A centralised bureaucracy with little discretion at the bottom levels of the hierarchy will be unable to encourage good teaching and is unlikely to be an effective way to provide education. A central bureaucracy is unlikely to promote consumer satisfaction or respond to diverse needs.

A critical determinant of school autonomy is whether the school is private. Decentralised markets are the most effective way to organise a school system, and a centralised system is a poor way to organise education. Chubb and Moe

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[28] See Ballou and Podgursky (1997) chapter 6, and Hoxby (2000b) and (2001). See chapter 8 'The effect of a market system on teachers'.

[29] Chubb and Moe (1990) p 183.

emphasise the need to introduce a decentralised system, which gives parents the right to choose amongst autonomous schools, to attack the underlying cause of the problems with government schooling.[30]

Other evidence reinforces Chubb and Moe's results. For example, Woessmann (2001) finds that school autonomy in purchasing supplies, hiring teachers, setting teacher salaries and choosing instructional methods all improved performance on the Third International Mathematics and Science Study.[31] It seems that autonomy in these factors takes advantage of greater knowledge at the school level, compared with central administrators, about student needs and the performance of different teachers and allows schools to respond to the demands of parents and to retain effective staff.

Is the private school advantage limited to Catholic schools?

An alternative view is that the favourable private school effects arise from special factors associated with Catholic schools, not from the incentives associated with markets, and may not be able to be replicated with for-profit, or even secular, schools.[32]

For example, Coleman suggested that the Catholic school advantage arises from the use of social capital in the church-created community around a Catholic school. Coleman defines social capital in the raising of children as "the norms, the social networks and the relationships between adults and children that are of value for the child's growing up".[33] He emphasises the role of the family and church groups in making adult social capital available to children.

The reason Catholic schools do best with disadvantaged children is that non-family social capital is of greatest value for children without extensive social capital in the home. The crowding out of religious schools by government schools has prevented schools from making use of the social capital surrounding the church and has harmed disadvantaged children, especially those who do not get structure and stability from their home and communities.

Coleman distinguishes two types of communities: a value community (a group of people who share common values) and a functional community (people who regularly interact).[34] Government neighbourhood schools have a functional community, and secular independent schools tend to have a value community.

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30 Chubb and Moe (1992) p 9 and (1990) pp 216–229.
31 Woessmann (2001) pp 70–74.
32 Bryk and Lee (1992).
33 Coleman (1987) p 334.
34 Coleman and Hoffer (1987); Campbell (2000).

Coleman puts the Catholic school advantage down to the fact that they have both – parents and teachers who share common values and regularly interact at church. Often, religious groups constitute a closer functional community than do residential areas.[35]

The fact that the Catholic school advantage arises from a particular educational philosophy does not mean that no other type of school can be superior to government schools. The market would provide a test of the claim that only Catholic schools can provide effective education for children from poor families. A school would only be able to attract students if it could convince parents that it was superior to alternative schools.

If only religious schools can offer what parents want, these schools will thrive in the free market. The religious schools that provide good education can expand their market share. Catholic schools seem quite willing to expand to cater for additional students. In New Zealand, the Catholic sector is keen to build more schools to cater for growing demand, especially in Auckland.[36] The restrictions placed on the enrolments of integrated schools are an acknowledgement that the sector could expand more if permitted to do so.

For those who put more weight on academic studies than the choices of parents, there is evidence that secular schools that face market incentives can provide more effective education for children from poor families than public schools. For example:

- Disadvantaged students who attended private schools in the Milwaukee voucher scheme, which was limited to secular schools during the evaluation, showed test score gains higher than for similar students in public schools (see Box 4: Milwaukee voucher scheme for students from low-income families).
- Canadian data show that private school students in provinces with external examinations did much better than private school students in other provinces. Religious school systems run by bureaucracies were less effective than independent private schools (both religious and secular).[37] This implies that the effectiveness of private schools depends on how well student achievement is signalled and their independence, and not just on their religious character.

It is true that the current private sector may not be a good indicator of what would arise in a full market system, but that can mean the performance of current private schools may underestimate, rather than overestimate, the benefits

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35 Coleman (1981) p 247.

36 Personal conversation with Pat Lynch, Chief Executive Officer, New Zealand Catholic Education Office.

37 Bishop (1999) pp 271, 274–275, 277.

from a market system. Many of the voucher experiments fall far short of establishing a competitive market and have provisions that limit competition. For example, entry of new schools and expansion of over-subscribed schools are often restricted (see, for example, Box 4: Milwaukee voucher scheme for students from low-income families). The schemes are known to be temporary, and of uncertain duration (most faced court challenges), which reduces the prospects of significant entry of new schools or of significant residential mobility, reducing competitive pressures on existing schools.

Production of externalities

Do private schools do better than government schools because they focus on producing private benefits for their students, and spend too little time on education with external benefits, such as teaching values that promote social cohesion? Many externalities come from education, not only from government-provided education. Often, it is private learning that is the public benefit. Examples include universal literacy, economic growth, income tax payments and poverty reduction. For example, the evidence on growth externalities from education tends to be crude and focuses on aggregate measures of education, such as average years of schooling, and has little to say about public-versus-private education. To establish that education is good for growth does not establish that public provision is better for growth than the alternatives, nor does it provide a case for government control of schools.

If private schools are more efficient at producing human capital than public schools, they will also produce more of the associated externalities. Subsidies to private education are the most effective way to increase the production of these external benefits.

What evidence there is suggests private schools do a better job in producing external benefits, including social cohesion, than government schools. For example:

- West contends that state intervention has reduced the role of religious organisations in providing schooling, thereby reducing moral and religious instruction. This has reduced externality production and has been a social cost of state schooling.[38] Religion is one of the few forces in a modern society that encourages students to adopt the habits and attitudes that result in a long-term perspective.[39]

[38] See West (1970) pp 82–83.
[39] Lieberman (1993) p 155.

- There is no evidence that public provision of education reduces crime more than private provision. An empirical study on the matter found that, even after controlling for other factors, increases in the proportion of students attending public schools are associated with increased juvenile delinquency rates for both US time series data and Californian cross-sectional data by county.[40] If education discourages crime by increasing the recipient's income, private education may produce bigger increases in income than government schools. Private religious schools may do better at reducing crime by moral instruction.
- Greene (1998) found that private school students are more likely to participate in politics, more likely to vote, and that private school administrators were almost twice as likely to rate their schools as 'outstanding in promoting citizenship' (30 percent versus 17 percent for public schools). Seventy-one percent of private school administrators gave their schools high marks for teaching values and morals, whereas only 11 percent of public school administrators did.
- Private school students scored higher on the National Assessment of Educational Progress (NAEP) civics test than public school students, but the raw scores do not control for family background.[41] Coleman and Hoffer (1987) did account for family background and found students in private schools did better in the High School and Beyond civics test (but the difference was not statistically significant).
- Campbell (2000) uses the 1996 US National Household Survey to examine how schools affect civic objectives such as civic engagement, volunteering for community service, political knowledge and commitment to tolerance. He finds that private schools do better than government schools on each objective, even when he controls for other variables.
- Wolf, Greene, Kleitz and Thalhammer (2000) survey students at four US college campuses and control for important socio-economic and attitudinal factors. They find that privately educated college students are more politically tolerant, especially those educated in secular private schools. Those educated in religious schools were at least as politically tolerant as comparable students educated in public schools. They find that private schools enhance political tolerance in spite of, and not because of, the relative prosperity of private school families.
- Two other studies that show that those who had been educated in a private school were more likely to be tolerant, have greater political knowledge, are

[40] See Lott (1987b) and Lott (1987) p 514.
[41] Campbell (2000) p 7.

more likely to vote and more likely to join civic organisations are summarised in Greene (2000b).

Why are private schools superior at producing civic virtues, such as tolerance? It is often claimed that public schools produce tolerance through social mixing of people from different walks of life in the classroom.[42] If social mixing is important, the better performance of private schools should be no surprise. Private schools in the United States are less segregated than government schools and have less racial tension. (See chapter 8 'A market system will benefit the poor'.)

Private schools often put a greater emphasis on values, morals and character formation. For example, a detailed study of Catholic schools showed them to be more concerned than public schools with encouraging children to pursue the common good (peace, justice and human welfare) rather than self-interest, a stress on community service, a shared responsibility for a just and caring society, and a strong institutional purpose of advancing social equity. Although religion based, this purpose is consistent with basic democratic ideals.[43] Intolerance is not inherent in a religious education.

Or, perhaps private schools are simply better at teaching – whether cognitive skills or tolerance. Schools that cannot teach basic skills are unlikely to be able to do anything well. In addition, superiority in teaching cognitive skills may promote teaching of civic values. For example, political knowledge requires teaching some history and politics.

THE EFFECT OF COMPETITION ON SCHOOL PERFORMANCE

It appears that, as in other industries, the incentives associated with competition produce more efficient performance – even in public schools. Public schools respond to competition if there is a financial incentive to do so – that is, if they lose money when they lose students. An increase in choice allows parents to gain from using more effective, autonomous schools – whether religious or secular – and induces improved performance from existing public schools. Moreover, the response increases with the financial penalty attached to losing students.

Controlling for family income, race, per-pupil spending, and class size, Finn and Greene (2000) show that an increased range of viable education options improves learning for choosers and non-choosers alike. Students have higher test scores in states with:

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42 See, for example, Smithfield Project (1996) Report Four, p 1.

43 See Lee (1997) and Bryk and Lee (1992).

- a greater availability of charter schools;
- subsidies (such as vouchers and tax credits) for families choosing private schools;
- deregulation of home-schooling; and
- two kinds of choice within public education itself.

Designed precisely to create new incentives for the public system to improve, the Florida voucher scheme gives vouchers to children in schools that are ranked as failing for two out of four years, based on academic achievement, discipline, safety and graduation rates. The scheme did force improvement in schools that faced the prospect of having vouchers offered to their students. Schools receiving a failing grade from the state in 1999, and whose students would have been offered tuition vouchers if they failed a second time, achieved test score gains more than twice as large as those achieved by other schools.[44] Some express the more cynical view that the fact that all Florida schools found to be failing in 1999 were deemed to be passing in 2000 reflects a lack of political will to 'fail' a school, and raises questions about the criteria used to determine school failure.[45] Greene (2001), however, shows that the scores on the relevant state test were highly correlated with the results from a nationally recognised standardised test, which suggests that it is a reliable measure of student performance.

Hoxby (2001a) argues that the Milwaukee voucher scheme has only generated significant competition for public schools since 1998, because, prior to 1998, vouchers were limited to a small proportion of students. She finds that productivity (fourth grade percentile score divided by per-pupil spending) grew fastest in the public schools most exposed to voucher competition. The same was true for achievement growth, which suggests that the improvements in productivity in the schools subject to voucher competition occurred because achievement was rising in those schools, not because achievement was holding steady while per-pupil spending fell (in fact, per-pupil spending rose in public schools).

A source of evidence on the effects of competition on school performance is the effect of choice under current arrangements. Families can choose schools by deciding where to live or by paying to send their children to a private school. In a series of papers, Hoxby examines how existing competition affects the performance of schools.[46] These studies have the advantage of revealing the long-term effects of choice – which may influence teacher compensation, teacher quality, curriculum and information provision.

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44 Greene (2001).
45 See, for example, Lips (2000) p 16.
46 See Hoxby (1998), (1998a), (1997a), (1997b) and (1996b).

She examines whether increased competition from private schools forces government schools to perform better, rather than lose students and funds. It is difficult to isolate how competition from private schools affects public school performance. If an area's public schools are of low quality, then more families will use private schools. It would then appear that increased private school usage decreased public school performance. On the other hand, if an area's families are wealthy and well educated, both private school use and public school quality tend to increase. It would then appear that increased private school usage increases public school quality.

To deal with the first problem Hoxby uses instrumental variables that shift the supply of private schools and are unrelated to the demand for private schools that is generated by low public school quality. To deal with the second she controls for background factors that influence the demand for private schools and public school quality.

She finds that increased competition from private schools improves public school performance. If private schools in any area receive sufficient resources to subsidise each student by $1,000, the achievement of public school students rises. It would improve mathematics and reading test scores by 8 percentage points, the probability of graduation from high-school by 8 percent, the probability of getting a baccalaureate degree by 12 percent and wages at age 29–37 by 12 percent.[47]

Other studies find similar results.[48] It appears that competition from private school choice improves the performance of public schools and helps the non-choosers as well as the choosers. Voucher schemes would be beneficial, especially for children from low-income families, because they allow students to move into superior private schools and improve the public schools for the children that remain behind.

Hoxby also finds that competition between public schools raises their efficiency – student achievement increases while per-pupil spending falls – although the effect is much smaller than from competition with private schools.[49] In the United States, competition between public schools varies. Parents can choose between fiscally independent school districts and have greater effective choice in metropolitan areas with lots of school districts and when enrolment is more evenly spread over those districts. The sizeable differences between the number of school districts in metropolitan areas is partly because of historical accident and geography. Successful districts will, however, attract households

[47] See Hoxby (1998a), (1998), (1997b) and (1996b).
[48] See also Dee (1998) p 419 and the references he cites.
[49] Hoxby (2001a) pp 31–32.

with school-age children, increase their market share and reduce the observed degree of choice. It would then appear that reduced choice increased performance. Studies that do not account for the fact that public school quality affects the amount of observed choice are biased towards finding that competition has no effect. Hoxby overcomes this bias by identifying geographical factors that increase a metropolitan area's tendency to contain many small, independent school districts and lead to natural variation in the number of school districts in an area.

A substantial increase in the degree of choice between school districts improves student achievement by a small but significant amount (mathematics and reading scores increase by 2 percentile points, wages by 4 percent), but per-pupil spending falls 17 percent. She also finds that increased choice among school districts substitutes for choice of private schooling and increases parental involvement. Although per-pupil spending falls, an increase in public school choice actually reduces student/teacher ratios. A greater proportion of funds reaches the classroom level.[50]

Other studies find similar results, for example, Belfield and Levin (2002) survey the US research evidence of the effects of competition on educational outcomes, such as test scores, graduation rates, wages and teacher quality. They review over 41 empirical studies and report that most studies find increased competition improves outcomes and has the strongest effects for low-income students. Increased competition raises school quality, effectiveness and efficiency.

Analysing another kind of public school competition, Hoxby (2001a) examines the effect of charter schools in Michigan and Arizona (where charters have 3 and 5 percent of non-private school enrolments). It is more difficult to isolate the effects of charter schools on public schools because only some districts faced charter school competition – and charter schools were likely to be established in districts that had unproductive regular public schools. She looks for *changes* in productivity growth in regular public schools that are associated with critical levels of charter school competition for their students. In Michigan, Hoxby finds that when a regular public school faces charter competition at or above 6 percent of local enrolment, its productivity growth rises significantly, especially at the elementary school level where charter competition is strongest. Achievement growth displays a similar pattern. In Arizona, schools that face charter school competition respond with significant increases in productivity and achievement growth rates when charters reach between 3 and 6 percent of local enrolment.

[50] See Hoxby (1997a), (1998) and (1998a).

CHARTER SCHOOLS

Charter schools provide educational alternatives to traditional public schools. The charter school idea is to hold a school accountable through a contract, or a charter, to produce specific results. Charter schools are given more autonomy; they make their own decisions and determine how to spend their funds. They are held accountable for performance, rather than compliance with process. A charter school is given government funding and relief from some regulation in return for meeting specific performance outcomes.[51]

All charter schools must follow the principles of the US public education system: they must not teach religion, must be open to the public (no selective admissions), may not discriminate and may not charge tuition fees. Charter schools usually receive significantly less recurrent funding per student than other public schools in the same area, and little, or no, capital funding.

The states differ as to how much autonomy charter schools are allowed. States with strong charter laws exempt charter schools from many regulations that apply to traditional public schools. They make the schools legally autonomous (able to decide their own governance structure, employ teachers and hold property) and allow them to spend their money as they see fit. Weak charter laws impose regulatory constraints, such as teacher certification requirements, uniform salary schedules, collective bargaining agreements and a particular governance structure.[52]

In the United States, in early 2003, nearly 2,700 charter schools in 36 states enrolled over 684,000 students – only 12 years after the first charter school was opened.[53] Seventy percent of all charter schools are brand new schools, about 19 percent are pre-existing public schools that converted and 11 percent are pre-existing private schools that converted.[54] Charter school founders include parents, profit-seeking private enterprises, teachers, civic organisations, universities, or municipalities – even teachers' unions.

United States charter schools are often created by visionary founders or groups of highly motivated parents committed to:

- a particular need (for example, children who are disabled, deaf, gifted, bicultural, at risk of dropping out, or pregnant);
- values (for example, religious); or
- philosophy of education (for example, Montessori, Steiner, multiple intelligences, Core Knowledge, language immersion).

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51 Finn (1998) p 3.
52 Finn *et al* (2000a) p 3.
53 Centre for Education Reform, www.edreform.com.
54 Finn (2001) p 44.

Profit-seeking entrepreneurs may run charter schools and aim to operate a school at costs less than the revenues received from the state. Alternatively, they may provide education as a complement to another product. For example, a housing developer might either operate or subsidise the operation of a charter school in a subdivision in order to increase housing values.[55]

The charter school sector is a laboratory for educational innovation. It involves great organisational and educational diversity, reflecting diverse parental tastes and student needs.[56]

- They use varied grade configurations (some even eschew grade levels), organisational structures and governance arrangements. The majority have site-based governance. The length of the school day and year, as well as school and class size, may vary.
- Some emphasise a back-to-basics approach – they use phonics to teach reading and memorise times tables for mathematics. Others emphasise individualised learning, project-based and hands-on learning. Some stress traditional values, others the performing arts and there are charter schools with an Afro-centric curriculum. Charter schools that emphasise information technology and preparing students for the 'New Economy' have been set up, such as High Tech High in San Diego.[57]
- Charter schools involve parents and community members – using methods such as parent contracts, parents as instructors and courses for parents and community members. Many require parents to work a minimum number of hours at the school each year.

Studies on charter schools report several important findings:

- they satisfy their constituents (parents, teachers and students);
- they are in demand (the number is growing rapidly and most have waiting lists);
- parents report their children are doing better at academic achievement;
- they are more innovative and more consumer friendly; and
- they are good at encouraging parental involvement.

Hard achievement data is 'spotty' – there are no national data on which to base an evaluation of charter school success, although there are some state level data. Most state level studies are positive, although many show mixed results, with

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55 Solmon, Block and Gifford (1999).

56 The following examples are from Finn *et al* (2000a) and Manno, Finn, Bievlein and Vanourek (1998).

57 Symonds (2000); Finn *et al* (2000a); Manno *et al* (1998).

some charter schools doing well and others not.[58] Some charter schools certainly show outstanding test score results.[59] Most charter schools meet or exceed the performance goals specified in their charters, which are usually based on school performance in standardised tests, yet they cost much less than traditional public schools.

Their success does not appear to be because of selection. Charter schools often wind up with students who are having problems, because parents are unlikely to enrol successful children in new, unproven schools.[60] In the states that have charter schools, they have a greater proportion of minority, special education and students from low-income families than public schools. One-fifth of charter schools were set up to serve disadvantaged students.[61] One study found that "Arizona charter schools, particularly at the high school level, have become havens for students with special problems, returning former dropouts, and others 'referred' to them by traditional public schools".[62]

Comparisons between charter schools and ordinary public schools are fraught with the same problems as private–public school comparisons, such as selection bias. A further problem is that many charter schools are young and a change of school may cause a significant decline in a student's test scores, at least in the first year or so.

THE FOR-PROFIT SECTOR

For a long time, for-profit firms have instructed children – but mainly niche services, such as after-school tutoring, test coaching, college counselling, vocational training and the education of at-risk children. Now, in many countries around the world, they have become involved in pre-school care, running schools, post-secondary education and providing on-line courses.

The for-profit sector finds it difficult to compete with a subsidised public system, so it caters to new markets that the public sector has been slow to satisfy, such as the demand for adult education, alternative schools and using new technology. The fact that a for-profit firm stays in business demonstrates it is successfully fulfilling a need that the public system does not. It must be efficient to survive.

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58 See Finn *et al* (2000a) pp 15–17; Teske, Schneider, Buckly and Clark (2000); and Solmon, Paark and Garcia (2001).
59 See Finn *et al* (2000a) p 16.
60 Glassman (1998).
61 Finn *et al* (2000a) pp 6, 7.
62 Solmon *et al* (2001) p 3.

New Zealand's for-profit education sector

New Zealand has a substantial private tertiary sector. In 2000, there were over 800 registered private training establishments (PTEs).[63] Of these, information was collected on the 622 that received some government funding or income from international students. They enrolled 103,979 students – a quarter of all tertiary education students. Their overall income was estimated at $516 million, with over half ($267 million) from fees, $91 million from equivalent full-time student (EFTS) subsidies and $157 million from government contracts (mainly training opportunities programmes for the disadvantaged).[64]

Some PTEs are owned by private individuals; others by organisations. Some are for-profit; others are non-profit. In 2001, about two-thirds were limited liability companies, a quarter were trusts, and the remainder were incorporated societies. Governance arrangements varied.[65]

The PTEs serve diverse niche markets. They provide:

- Training Opportunities programmes under contract with the government;
- programmes for international students;
- trade apprenticeships;
- degrees and post-graduate degrees;
- courses in office technology, management skills, secretarial studies, hairdressing, interior design, beauty therapy, English as a second language, agriculture, cookery and so on – both short intensive courses and courses similar to those at polytechnics.

Only half of the registered providers offer courses longer than one week's duration. Others specialise in such areas as short course provision in industry training, corporate training and computer applications. Private tertiary providers emphasise linkages with employers and have higher proportions of teaching staff than government institutions and the lowest student/staff ratio in the tertiary education sector.[66] They save costs by reduced administration and intensive use of facilities through longer teaching days and years (they operate for 46 weeks a year on average).[67]

A 1995 study of competition between public tertiary education institutions (TEIs) and PTEs that were providing EFTS funded courses in hairdressing,

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63 To be recognised by the government, private tertiary providers register as PTEs under the Education Act 1989 – although some are not engaged in training.

64 Education Directions (2001) pp 3, 14, 23.

65 Ministry of Education (2001a) table 5.1, p 111.

66 Ministry of Education (2001a) p 111; Ministry of Education (2000j) p 21; Education Directions (2001) p 3.

67 Guerin and Baker (1997) p 14.

nannying, tourism and fine arts found that PTEs competed successfully, although they then received much lower subsidies (around a third of those received by TEIs or $3,000–$5,000 less per student).[68] The PTEs attracted students despite having much higher fees (around $2,000–$5,000 more) than the TEIs offering similar courses, and about the same total funding per student. The PTEs must be more efficient at providing what students want. The PTEs usually offered more contact hours and more tutor contact time. Their managers claim they offer more personalised tuition, better student support and generate better employment prospects. Their students have better than average post-course outcomes for employment and further education.[69]

There is also a vast unregistered for-profit education sector – including after-school tutors, computer training, music teachers, driving schools, speech therapists, time management and planning consultants, dance teachers and the like.

The US for-profit education sector

The United States provides an insight into the potential of for-profit firms and what the future could hold for New Zealand. It is likely to be a source of potential competitors, or potential partners, for providers in New Zealand. There are also for-profit providers operating at all levels of education throughout the world. For example, Nord Anglia owns a chain of private schools and operates state schools under contract in Britain. Japan has a thriving for-profit sector in after-school coaching. Tooley (1999) surveys a number of for-profit education businesses in developing countries like Brazil, India and South Africa.

In the United States, the for-profit sector accounted for 10 percent of the total spent on education (broadly defined) in 1998:

- just over a quarter of the expenditure in the sector was on corporate and government training;
- nineteen percent was on consumer products and services (such as books, tests and software);
- sixteen percent was on early education and child care;
- eleven percent on post-secondary education;
- the remaining quarter was in the kindergarten to Year 12 (K-12) education sector.[70]

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[68] The TEIs are statutory corporations under the Education Act 1989. There are currently four types: universities, polytechnics, colleges of education and wananga.

[69] Guerin and Baker (1997) pp 6, 41–52, 53–79; Education Directions (2001) pp 14, 20, 23.

[70] The spending data are from a graph that accompanies Walsh (1999).

For-profit schools

The for-profit schools sector involves charter schools, contract schools (run under contract from a local school board) and proprietary schools. Only the proprietary schools charge tuition fees – the others are government funded.

In 2003, there were 47 for-profit Education Management Organisations that run some 417 publicly funded schools, serving over 190,000 students. For-profit companies run about 12 percent of charter schools.[71] There are a number of for-profit school chains, such as Edison Schools (see Box 5: Edison Schools).

Box 5: Edison Schools

In early 2004, Edison Schools ran 130 schools in 20 states and served 132,000 students. The schools are a mixture of charter and contract schools. Edison aims to make money by running schools more efficiently rather than by charging fees. However, it is yet to turn a profit and has lost around $276 million from 1996 to 2002, with as much as $40 million going to curricula development. The schools have long waiting lists and good test score performance. Management believe that they will break even when they open more schools and take advantage of economies of scale. Usually, administrative costs are 20–30 percent of a school's budget; the figure is 16 percent at Edison and management plan to cut it to 8 percent, leaving a profit of 8 percent. Edison Schools was taken private in November 2003 and has abandoned its growth plans.[72]

School districts also contract out parts of instruction to for-profit operators, such as the education of children at risk of dropping out or being expelled. For example, by 2000, Ombudsman Educational Services Ltd operated in more than 200 US school districts and served 5,000 students. The cost for Ombudsman to educate an at-risk student averaged half-to-two-thirds of what a school district spent on the average at-risk student. The district also gains from the removal of disruptive students from regular classrooms.[73]

United States education companies

In early 2004, the 'schools' industry category of the Yahoo Finance service listed 26 traded for-profit education companies. They had a market capitalisation of

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71 Molnar, Wilson and Allen (2003) p 20. Mergers bankruptcies and start-ups mean the actual numbers are constantly changing. See also http://edreform.com/education_reform_resources/business_industry.htm.

72 Molnar *et al* (2003) pp 4–5; Greenwald (2000); Litvan (1998). Number of schools and students from Edison's web page at www.edisonschools.com/overview/ov0.html. For the early history of Edison Schools and the process of design and philosophy that underlies its schools written by an insider see Chubb (1997).

73 Source: www.ombudsman. com; Harsh (1999); Hentschke, Oschman and Snell (2002) p 14.

$38.5 billion and a price–earnings ratio of 51. Further, a significant portion of for-profit education companies are privately held – perhaps half.[74]

Sylvan Learning Systems Incorporated is a prominent for-profit education company with a proven business model and has been consistently profitable.[75] Like many education companies, it is now adopting global strategies, extending its brand name to different levels of education (see Box 6: Sylvan Learning Systems).

Box 6: Sylvan Learning Systems

In January 2004, Sylvan's market capitalisation was US$1.4 billion. Sylvan had revenue of $493 million in the year to September 2003, when it was the largest provider of after-school tutoring in the United States and a growing provider of contract remedial education services in public schools catering for children with learning disabilities or who struggle in traditional education programmes.

Sylvan started off in 1979 providing individualised mathematics, reading, writing and study skills tutoring services sold to families. Sylvan Learning Centres are for-profit franchises that tutor thousands of students in storefronts and shopping malls. In 2004, there were over 970 Sylvan Learning Centres in North America and over 900 in Europe operating under the Schülerhilfe brand. In 2002/03, Sylvan Education Solutions provided services to 20,000 students in 900 urban schools.

In the early 1990s, Sylvan was turned into a worldwide education and training conglomerate. It added computer-based testing, accredited courses, and programmes for academically talented students to its tutoring services. Sylvan branched out into online provision, adult education, teacher training and corporate training. It developed online versions of its tutoring services (see www.esylvan.com) and has a strong distance-learning business in providing corporate training over the internet. Since 1999, Sylvan has operated a global network of post-secondary institutions. In 2004, it had seven campus-based universities and 100,000 students. In July 2003, Sylvan sold its tutoring and other K-12 business to Educate Incorporated. It now concentrates on running universities overseas and on the internet.[76]

Higher education

The for-profit higher education sector has grown rapidly in the United States. A survey of the for-profit higher education providers concluded that their

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74 Source: http://biz.yahoo.com/ic/school.html; Vedder and Hall (2002) p 577.

75 Its web page is www.sylvanlearning.com.

76 Source: http://finance.yahoo.com/ic/school; www.Educate-inc.com; http://sylvanlearning systems.com; Bradley (2000); Walsh (1999) and (2000); Glassman (2001); *The Economist* (1999) and *The Education Gadfly* (2003).

strength is concentrating on doing a few things well to service defined market segments. The fastest growing market segment is in adult education through flexible provision of services. They reduce costs by not engaging in any research or providing many traditional expensive university trappings. Instead, they emphasise accredited career oriented courses in convenient locations (near where students live and work) and at convenient times (night and summer classes), using flexible property strategies. The result is to economise on students' time and reduce their forgone earnings cost. They have moved their offerings online to reduce costs further and increase convenience.[77]

For-profit universities tend to be more customer-focused than other universities because they derive most of their income directly from student tuition fees. In contrast, public universities receive most of their income from government and private non-profit universities get a good portion from donors.

Two prominent US public companies that provide higher education services are the Apollo Group and DeVry Incorporated. Apollo has the largest market capitalisation of any for-profit education firm, US$12.6 billion in January 2004, with net income of US$247 million on revenue of US$1.34 billion in the year to 31 August 2003. DeVry had a market capitalisation of US$2.03 billion in January 2004 and made net profits of US$60 million on revenue of US$705 million in the year to 30 September 2003.[78]

The Apollo Group is the largest private institution of higher education in the United States. It operates the University of Phoenix chain of campuses (including University of Phoenix Online), as well as subsidiaries, the Institute for Professional Development, the College for Financial Planning Institutes Corporation and Western International University Incorporated. It is listed on the NASDAQ (APOL). In November 2003, it had 74 campuses and 122 learning centres in 38 states, with a combined enrolment of 211,000 students.[79]

In November 2003, the University of Phoenix operated at 47 campuses and 87 learning centres in 28 states, Canada, Puerto Rico and the Netherlands. It specialises in educating working adults in the corporate economy, sites its classrooms near busy freeways and ensures there is plenty of parking. The university offers accredited degree programmes in business, information systems and technology, nursing, counselling, education and other fields. It provides teacher training, and wants to provide online professional development for teachers. It enrols 186,169 degree-seeking adult students with an average

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77 Global Alliance (1997) pp 12, 68–69.

78 Source: http://biz.yahoo.com/ic/school – the Yahoo Finance 'school' industry category.

79 Source: www.apollogrp.com. See also *The Economist* (2002).

age of 35.[80] Older students tend to put less emphasis on the socialisation aspect of universities and have a greater forgone earnings cost.

Many staff are chosen for vocational experience rather than academic distinction.[81] The university employs just 140 full-time faculty members; the other 6,200 'practitioner faculty' members are professionals who work full-time in the fields in which they teach.[82]

DeVry Incorporated operates DeVry University (which includes the Keller School of Management) – technical training institutes that focus on vocationally oriented courses. The company seeks corporate advice on appropriate course content. DeVry offers bachelor's and master's degrees in management, business administration and electronic and computer information technology. It was established in 1931 and completed an initial public offering in 1991 (it is listed on the New York Stock exchange: DV). In 2004, it had 25 undergraduate campuses and 42 adult learning centres across North America, including DeVry University Online, serving more than 52,000 students. Tuition fees account for over 90 percent of its income, and it is reported to be able to provide a Bachelor of Science degree for half the cost of many state universities.[83]

Innovation

For-profit education firms have seized on possibilities opened up by new technology and been in the forefront of education innovation. In 1999 and 2000, $5.1 billion of private venture capital was invested in education businesses in the United States, although new investment slowed to US$800 million 2001 and US$300 million in 2002.[84] For examples of the type of projects that are financed, go to the web site of Eduventures.com, a Boston firm that tracks education related business.

Distance learning has been a dynamic area. It has benefited from the development of new information and communication technologies such as cable and satellite transmissions, audio and video conferencing, PC software and CD-ROMs, and the internet. Such advances have the potential to cut costs for and increase globalisation pressure on New Zealand providers.

Online education lowers cost and makes university more affordable and accessible, especially for non-traditional students (such as mothers caring for

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80 Source: www.phoenix.edu and Bradley (2000). Full company profile at http://biz.yahoo.com/ic/school.

81 *The Economist* (1999).

82 Bradley (2000).

83 Full company profile at http://biz.yahoo.com/ic/school and www.devry.com. Buckeye Institute for Public Policy Solutions (1999).

84 Source: Eduventures.com's The Education Investor at www.eduventures.com.

children and the disabled) by giving flexibility and convenience. Students can complete course-work without entering a classroom. Traditional university timetables do not help those who must work their way through university.

Online education does not offer the same benefits as face-to-face teaching (but it is cheaper). Current practices in traditional universities, such as large lecture groups and giving out typed lecture notes in advance, mean the university experience often does not involve much face-to-face discussion or personal contact, yet is expensive because the teaching time saved by academics is used to engage in research rather than to cut costs.

The market for online education can be divided into three: schools, universities and business/commercial training.

At the school level, online services include:

- course provision (for example, apexlearning.com);
- non-career training and education (for example, Learn2.com);
- provision of education focused portals (for example, bigchalk.com); and
- web-based distribution channels, 'e-tailing', for educational products (for example, Dedicatedteacher.com).[85]

Further, there are a number of virtual schools. In 2003, over 14 states in the United States have state-wide, state-sanctioned virtual high-schools, usually run by a university (sometimes a for-profit arm) or state board of education.[86] Some are just web versions of traditional correspondence courses.[87] There are a number of for-profit providers, William Bennett's k12.com was launched late in 2001, offering a full curriculum online.[88]

In tertiary education, there are numerous online providers – taking advantage of the huge potential market of people with computers, internet connections and the ability to undertake computer-based courses. Leading the way are the for-profit providers. The first totally virtual university to be accredited is the for-profit Jones International University.[89] The University of Phoenix offered an online degree programme from 1989, one of the first offered by an accredited university.[90] It had 37,600 students enrolled online in 2002 and is one of the few online education businesses to thrive after the dotcom crash.[91]

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85 Newman (2000) pp 13–14.
86 See http://distancelearn.about.com/cs/highschoolged.
87 See, for example, www.class.com.
88 Glassman (2001).
89 Clayton (2000).
90 Lips (2000) p 13. Its web page is www.uoponline.com.
91 See www.phoenix.edu and *The Economist* (2002). Apollo has a separate class of stock to track the economic performance of its online division (NASDAQ: UOPX).

Tooley (1999) discovers a large, thriving and highly innovative private sector serving large portions of the population in developing countries like Brazil, India and South Africa. He surveys a number of successful for-profit education businesses and finds they are concerned with quality control and have a desire for expansion in spite of financing difficulties. Tooley identifies "many instances of extensive innovation, including growth of large school chains, vertically integrated education systems, application of innovative technology and teaching and learning systems, and use of distance learning".[92] The companies make extensive use of computer, satellite and internet technology – some are far ahead of Australia and New Zealand in using these technologies to teach at the university level. They conduct research and development to enhance learning further and to cut costs. Many employ dedicated researchers to consider better ways to use existing resources and to develop and integrate the curriculum, new teaching methods and cost reducing technologies.

Quality assurance in for-profit education

Real world for-profit education providers assure quality in exactly the way predicted in chapter 8 'Information provision by producers' – they use brand names, reputation and external measurement. Education companies have used chains, franchise operations and their good reputation to extend their brand name into related fields – all of which adds to the cost of having dissatisfied customers and increases the incentive to behave honestly. For example, many education conglomerates, such as Sylvan, started as providers of after-school tutoring and expanded into other education levels and fields.

Tooley examines successful education companies that have grown substantially – often using franchising at the school level. Brand names were especially significant for school chains, which might spend 10 percent of turnover on advertising and employ marketing staff.

The schools provide information based on objective measures of achievement to demonstrate performance. Some use external tests. It is no accident that many education companies started out as test preparation services – the test provides an external, objective standard to measure performance.

For-profit firms often introduce performance measures to monitor other important educational outcomes and then publicise the results to convince customers to use them. For example, DeVry measures its results by job placement rates and offers an employment assistance programme for its graduates, with full-time placement officers. It boasts that, for the past 10 years, more than

[92] Tooley (1999) p 12.

90 percent of its graduates who pursue employment have a job in their chosen field of study within 180 days of graduation.[93] This success is used as a key selling point.

For-profit schools emphasise customer satisfaction as well as test scores. For example, Edison Schools commissions an independent market research firm to survey their parent customers.

Successful educational institutions must offer respected and recognised qualifications – and often seek external accreditation or prepare students for examinations offered by independent third parties (such as the International Baccalaureate, Cambridge International Examinations) and examinations offered by professional bodies (such as computer industry certification tests).

Provision for the poor

The argument expressed by some in the New Zealand public education lobby that a market system will only provide for the highest performing students has been refuted by the US experience.[94] Charter and for-profit schools in the United States serve students who are disadvantaged. Many deliberately target poorly performing students. For example:

- The single largest group of for-profit schools in the United States actually serves students with disabilities and at-risk students – usually under contract.[95] That is, public schools do not teach the most difficult to teach students but outsource them to private schools.
- Sixty-five percent of Edison School's students come from below the poverty line, double the national average. Seventy percent are minority students.[96]
- Half of charter schools are in urban districts. Forty percent serve dropouts or children at-risk of dropping out.[97]
- Most charter schools reflect the ethnic composition of surrounding districts – over half of charter school students belong to minority groups, more than 10 percentage points greater than in conventional schools.
- Charter schools have a greater proportion of students in poverty than the public schools in their states. One-third of charter students come from low-income families.
- Charter schools have slightly more students with limited English proficiency, and a lower rate of special education students than traditional public schools.

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93 Lips (2000) p 12, www.devry.com/inc/about.html.
94 See, for example, Smithfield Project (1994) Report One, p 65.
95 Coulston (1996).
96 Snell (2000); Tooley (1999b).
97 Finn *et al* (2000a) p 3.

They do not receive extra funding for special education students and are less quick to classify students into that category: "many parents seek charter schools precisely because they seek to give their child a second chance, free from the 'special education' label".[98]

- For profit tutoring firms, such as Sylvan, enrol anyone willing to pay for their services. Their very business is helping under-performing students. Sylvan offers free tuition if students fail to meet specified targets.[99]
- Religious schools are often willing to enrol problem students, and take pride in their history of helping them.

At the tertiary level, the for-profit sector in the United States demonstrates how the market will provide for those who have to work their way through university. For example, they offer night classes and convenient locations. The public sector often does not cater for those from poor backgrounds who need to study and work.

In New Zealand, the private tertiary providers enrol a higher proportion of people from lower socio-economic backgrounds than do government-owned tertiary institutions. For example, they are almost three times as likely to serve minority students. Maori and Pacific Islands students are over-represented in private training establishments, where they make up 31 percent and 10 percent respectively of enrolled students. The pattern is the reverse for public tertiary institutions: Maori (11.6 percent) and Pacific Islands students (3.6 percent) have much lower participation rates at these institutions than the general population.[100]

Not all schools will try to serve the high achievers. Some schools will specialise in educating low achievers. The market will cater for low-SES students if it is profitable or if there are groups motivated to do so. If it is not profitable, government funding can make it so.

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98 Finn *et al* (2000a) p 17.

99 *The Economist* (1999).

100 Tertiary Education Advisory Commission (2001a) p 11.

10
CHOICE POLICIES: A REFORM PLAN

The key to improving the education system is to move away from public provision to a decentralised competitive market – where families can choose between competing autonomous suppliers. A competitive market requires free entry and exit, the price mechanism and the profit motive. A market system would shift decision making from government agencies to the family and to the school level – where the incentives and information are superior.

Parents would control the ends of education, but control over schools would be in the hands of producers. Schools would have both the autonomy and incentive to do a good job. Schools must attract students to survive, and their viability would depend on seeking out and satisfying market demands, giving better incentives to serve their clients, the parents and students, and to adopt improvements. Parents would have their own preferences, interests and judgements respected – they would get what they want, not what the political process produces. That is, the whole system would operate as the private sector does currently, with schools running themselves and being directly accountable to parents.

The reforms are not about how schools should be run on a day-to-day basis – that is for professionals. The task is to give the professionals the incentive to decide correctly and keep decisions under constant review.

There is a role for government in a market arrangement. The most convincing reason for the government to intervene in schooling is to achieve equity objectives – to combat poverty, ensure universal access and enhance educational opportunities for the disadvantaged. Intervention may increase efficiency through overcoming capital market imperfections. Other important objectives for government include protecting children, and perhaps consumers.

The current system does none of these terribly well. Appropriate intervention in a market system would provide for all of these objectives more effectively and more efficiently. The government could better achieve social aims if it regulated and financed education rather than provided it. The government's child and consumer protection roles are best achieved through explicit regulation. Government finance can be used to achieve equity objectives – for example, through subsidies to ensure educational opportunities for children from low-SES families. The subsidies should be tied to education so that they

benefit children and ensure access to a quality education. Unrestricted cash payments to parents will not necessarily do so.

The reform plan involves introducing a decentralised market system through changes to school finance, new regulations for child and consumer protection and supply side deregulation. In the following sections, each of these tasks will be considered in turn.

A number of decisions must be made. For example, the government must decide how large to make subsidies, whether to target them at families who are poor, whether parents should be able to supplement them, which schools to subsidise and what regulations to impose on recipients. Intractable trade-offs are involved. For example, giving private schools the same subsidies as government schools currently receive increases consumer choice and competitive pressure on government schools, but also increases expenditure and churning. Targeting subsidies better achieves equity aims, but involves large costs and limits the development of a private education industry.

Whether a truly decentralised market-based education system can arise depends crucially on the extent of government intervention. State funding of private schools may be followed by state control, reducing their autonomy, quality and efficiency. For example, if all schools are subject to central determination of personnel matters and student discipline, it will be difficult for any school to provide effective education.

Attention needs to be given to the supply of schooling to ensure freedom of entry and exit and to address issues such as fiscal risk, the need to de-politicise and poor ownership incentives in the government sector. Many current parental choice programmes do not introduce a market system. They do not involve genuine competition for government schools and do not introduce many of the incentives and mechanisms that permit markets to work.

A PRIVATE EDUCATION FOR ALL: FINANCING SCHOOLING

Vouchers: a voucher by any other name

> If the government would make up its mind to require for every child a good education, it might save itself the trouble of providing one. It might leave the parents to obtain the education where and how they pleased, and content itself with helping to pay the school fees of the poorer classes of children, and defraying the entire school expenses of those who have no-one else to pay for them.[1]

[1] Mill (1859) p 176.

Government financing in an education market is often labelled a voucher system.[2] A voucher is an annual grant for each student's education. In a voucher system the government can finance and regulate education, while the system is run in a decentralised way and not provided by the government.[3]

Three basic principles for government finance of education to introduce the mechanisms and incentives of a market system are that:

- Government funding must be attached to the student, per-head funding, so that schools are financed according to the number of pupils they attract and parental preferences determine how the funds are spent. The money should follow the child so that it benefits the child.
- Government financing should be neutral between different types of schools – government, non-profit and for-profit. The key is that the voucher recipients choose which school their children attend so that their decisions determine resource flows.
- There should be scope for the price mechanism to operate by allowing parents to top up government funding with their own contribution.

Voucher schemes do not necessarily satisfy the three basic principles. A voucher programme, even one that includes private schools, does not automatically give the benefits of a competitive market.

The term 'voucher' can cover a wide variety of arrangements with different economic and social consequences. They can vary on several critical issues such as school eligibility, student eligibility, the amount of the voucher and the regulation of voucher schools.[4]

- A voucher scheme can refer to per-student subsidies for private school attendance, per-student funding that can be used to attend state or private schools (which I will call a neutral voucher) or per-student funding limited to state schools.
- Vouchers may be targeted on the basis of financial or educational need. For example, the amount paid may be related to family income. The former Targeted Individual Entitlement (TIE) scheme in New Zealand was, and many US voucher programmes are, restricted to students from low-income families.

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2 Wylie (1998) p 8 claims that 'vouchers' is a shorthand way of referring to a market approach to education. But a pure market would not involve any government funding. Indeed, there is a debate as to whether government funding of education is compatible with a market system.

3 Milton Friedman proposed the voucher idea in Friedman (1955). Edwin West has traced it back to Thomas Paine, see West (1967).

4 Lieberman (1986).

- Parents may or may not be allowed to supplement the voucher with payments out of their own pocket in order to send their children to schools that charge fees greater than the value of the voucher.

It is not a matter of whether to have vouchers or not, but how best to give out funding. What matters is the effect of the voucher programme, which will depend on its characteristics.

Vouchers are extremely flexible, which is a strength (it is almost impossible to oppose the voucher idea, because a scheme can be devised to meet any objective) and a weakness (there is endless controversy over which scheme to adopt). A voucher scheme could be designed to duplicate the current system exactly. To call something a voucher scheme does not automatically make it good or bad. It should be judged on its merits.

Vouchers are certainly not some new and untried idea. Per-head funding of private schools by government occurs in countries throughout the world, including New Zealand and Australia (in effect, both countries have a supplementable voucher scheme for private schools).[5] Some funding for government schools in New Zealand is distributed on a per-head basis, as is funding for tertiary and pre-school education.

A decentralised funding system can provide funding in many ways:

- Parents could be given a voucher (a coupon with prescribed purchasing power) that must be spent on education at approved schools. The recipient gives it to the education provider who then redeems it for cash from the government. Alternatively, the government may issue a two-party cheque that must be endorsed by both the parent and the school.
- Payments could alternatively be made to parents through a refundable tax credit. A tax credit gives parents a dollar-for-dollar reduction in taxes owed, up to a specified limit, for tuition paid at approved schools. For example, if a private school user has a tax liability of $5,000 and a tuition tax credit of $4,000, they would pay only $1,000 in tax. A refundable tax credit is where the government refunds the difference if the tax liability is less than the tax credit. If the tax liability was only $1,000, the taxpayer would receive a $3,000 refund. That ensures that low-income families, who have little or no tax liability, receive the full benefit of the credit. A tax credit differs from a tax deduction, which reduces taxable income, in effect a subsidy to education spending at the recipient's marginal tax rate, and is more valuable to those on higher marginal tax rates.

[5] See West (1996) for a summary of international voucher schemes.

- A final voucher funding method is to make payments directly to approved schools on behalf of parents.

There is little difference, at first glance, between the effects of these methods of funding education. For example, if the government decided to fund private schools at $4,000 per student, the economic effects are similar whether it directly gives the schools $4,000 per student, gives the parents a $4,000 voucher or sets a $4,000 refundable tax credit for each child at a private school. The form in which the voucher is given out does not affect churning. (See chapter 5 'Churning' for a discussion of churning.) The cost to taxpayers and the taxes required to finance it will be the same under each method. The choice between these policies depends on issues such as administrative convenience, parental incentives and political incentives.

It may be administratively simpler to distribute payments to hundreds of schools rather than hundreds of thousands of families. It may be necessary to pay schools directly if the per-student amount was to vary by school. On the other hand, payments to parents can more easily be extended to cover non-tuition educational expenses. A tax credit scheme would facilitate targeting subsidies on the basis of income, because it can be integrated with the tax system, which gives a measure of (taxable) income.

Direct payments to schools may pose a greater threat to their independence than payments to parents. If the government pays schools directly, politicians become directly involved if the schools waste the money or if there is fraud. If the money is given to parents, there is a less direct line of accountability and less risk of regulatory intervention.

Some writers claim that the chances of regulatory encroachment are less with a tax credit than other voucher methods.[6] A non-refundable tax credit involves only parents spending their own money, and no government funds flow into private schools. It can be interpreted as "an accounting device that permits people to keep at least some of their own money that they would otherwise pay for the government-assigned school they are not using".[7] In other words, it is equivalent to the government offering a money back guarantee – if you are dissatisfied with your public school you can take your money elsewhere.

The disadvantages of a tax credit are that it would add to the complexity of the tax system, create cash flow problems for low-income families and reduce the transparency of government activities because tax expenditures are less visible than explicit expenditure, hiding the true size of government.[8]

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6 For example, Brouillette (2001) p 28; Coulston (2001) pp 4–5.
7 Reed (2001).
8 Humphreys (2002).

Parents would be more aware of their powers and responsibilities and the effect of their decisions when vouchers are placed directly in their hands. A bureaucratic distribution of funding directly to schools separates payment from consumption and encourages undesirable incentives, such as fraud. For example, New Zealand school principals have been found guilty of fraudulently inflating enrolments to receive extra funding from the government. Parents are unlikely to hand over the money unless their child is actually enrolled. The Ministry of Education certifies a school's enrolment for per-pupil funding on 1 March. Schools may suspend or encourage unwanted students to leave after that date, yet still keep the funding. The students may end up at other public schools that are obliged to teach them without extra funding.[9] Parents are unlikely to pay for the entire year in advance or fail to seek a refund for unused tuition payments.

Neutral treatment of different types of schools

Whatever funding scheme is introduced, it should be neutral between different types of schools. Ideally, government schools should not receive higher subsidies than other schools. Instead, the subsidy should be attached to the child so that parents make the purchase decisions and decide where resources flow.

Neutrality in funding would increase choice for consumers and increase competition between schools. Students would receive education from whatever source suits them best, rather than from a particular form favoured by subsidies. Efficiency requires that resources be used by whoever can supply what consumers want at the lowest cost. Laws that give an advantage to one organisational form over another reduce efficiency and make consumers worse off.

Private schools will need to be included in a market system

Choice among government schools falls far short of what is generally understood as a market system. A market system requires choice among different types of schools run by autonomous suppliers. It is not a market to tell consumers that they can buy anything, so long as the government designs and produces it.

Schools cannot be fully autonomous when they are government owned – because of the poor ownership incentives and the huge fiscal risk that full autonomy would bring. When the government owns schools and is the residual income claimant, it will keep some control over what schools do.[10]

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9 Fiske and Ladd (2000a) p 234.

10 See chapter 2 'Fiscal risk' and chapter 7 'Delegation of powers to the school level'.

Government schools often face muted incentives to respond to consumer desires, especially with central control over entry, exit and expansion and few rewards to school management for doing a good job. An excellent government school has limited incentives or opportunity to expand or take over other schools. It is usually limited to a single site and must rely on the central department (which also owns competing schools) for access to capital.

It is not clear how much competitive pressure government schools can put on each other. If the inefficiency is at a system level or is common to all government schools, competition between them will not solve it.

An essential reform, therefore, is to open up the public system to competition from private providers. Neutral funding for private schools will reduce public sector monopoly power. The evidence is that competition from private schools improves the performance of public schools. Competition from private schools, therefore, would be beneficial for both those who switch to what they consider a better school and those who remain behind.

The idea is not necessarily to privatise schooling, but to allow private competition to improve performance. The private sector will thrive only if it is superior. If public schools are efficient they will have nothing to fear. If public schools can offer parents the schooling that is demanded, they will endure – but for the right reason, because parents prefer them.

There is no evidence that public schools produce more externalities than private schools. In fact, what evidence there is suggests the opposite is true – that private schools do a better job in producing external benefits, including social cohesion, than government schools. There is no reason why public schooling should be more heavily subsidised than private schools.

Private suppliers provide a source of diversity. Only a system that included private schools could respect the full range of parental values, such as religious beliefs. Diverse schooling comes from diverse sources of supply and the standard state system is unlikely to provide great diversity of choice. Diversity within the current system is provided by kura kaupapa Maori and integrated schools; neither are standard public schools.[11]

Reform to public education and competition from private schools are not substitutes. Indeed, competition from private schools will encourage reform in government schools, and enduring reform to public education is unlikely without it. In the absence of outside competition, the government system has little incentive to adopt desirable reforms and is subject to political pressures not to. Further, competition from private schools puts public sector reforms to the market test.

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[11] Smelt (1998) p 69.

The need to include for-profit schools

A major problem in the current education system is the lack of the profit motive and personal gains from efficiency for managers in the public sector. For-profit providers have sharper incentives to provide what consumers want in an efficient way.

The earlier section on innovation emphasised how the profit motive drives innovation and the need for a market test on the results. A competitive market system is better able to develop, adopt, respond to and judge new technology than a centralised system. (See chapter 8 'Innovation and new technology'.)

For-profit schools have greater incentives to be innovative and entrepreneurial.[12] For example, the profit motive gives an incentive for expansion – to try to duplicate success at other sites. There are large rewards for management if successful. For example, the teacher who founded Sylvan expanded his company by franchising the successful Learning Centres that offer tutoring services. He sold out in 1985 for US$5.3 million.[13]

Non-profit schools are intermediate between public schools and for-profit providers. Many of the problems that reduce incentives for government-owned firms to minimise costs, such as the lack of a residual claimant and capital market pressures, also apply to non-profit firms. Those who run non-profits may pursue ideological objectives at the expense of efficiency. They have limited incentives to innovate for the same reasons as public schools, including lack of ownership incentives, lack of a profit motive and lack of equity capital. (See chapter 4 'Innovation and public ownership'.) Indeed, a non-profit organisation is often set up to ensure that a particular donor's wishes are implemented without change.

Non-profit schools are mainly religious oriented and have limited incentives to expand or compete on the basis of non-religious criteria. They often respond to increased demand with waiting lists. In contrast, managers of for-profit schools would openly and explicitly assert claims of superiority on secular criteria and generate comparisons of results and reasons for differences on the basis of these criteria.[14]

On the other hand, support for non-profit firms remains voluntary. Non-profits must achieve operating surpluses to service borrowings and finance their assets. Non-profit schools must attract donors and students to survive, which may force them to be efficient, especially when they face competition. Non-profit schools

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12 Hoxby (2001a) pp 9–15 provides a theoretical analysis that shows that for-profit providers will have stronger incentives to enter new markets and gain new enrolments because extra surplus is more valuable to those who run the school.

13 Sylvan is a for-profit education company. It is described in chapter 9 'United States education companies'.

14 Lieberman (1986).

that must raise most of their revenue from fees in competition with other schools will behave more like for-profit schools and must offer what parents want. To the extent that they are protected from these pressures by an endowment or donations, they are more like government schools, and can be cost inefficient and not provide what parents want. West (1995) suggests schools will have the incentive to be efficient if they raise at least 50 percent of revenue from fees.

Any funding regime should include for-profit schools. The arguments used to justify family choice apply equally to for-profit and non-profit schools. In addition, competition from for-profit firms will help ensure efficiency in the non-profit sector.

Many market critics oppose for-profit firms providing education. Some object to investors making a profit from education – believing that profits come at the expense of those at the school level and taint the service. Many people believe that making profits from provision of educational services is distasteful and would make education too commercial.

Markets provide people with what they want. It will only be 'commercial' if that is what people want. What some revile as commercial, others welcome as business-like and professional. To recognise commercial realities is not to impose narrow economic ends, but to prevent waste and get the most out of the resources used.

Just calling it for-profit education commits, what Sowell terms, the naming fallacy: "the fallacy of defining a process by its hoped for results rather than by its actual characteristics".[15] Many so-called profit-making firms fail to make a profit and go out of business. A better description is that the owners of the firm are the residual claimants to the firm's income – they receive what is left after employees, suppliers and others have been paid. The residual may be positive or negative.

Those who run non-profits often receive high salaries and job benefits – there are senior education bureaucrats and vice-chancellors who earn six-figure salaries. It is not clear what the difference is between them and others whose earnings are called profit.[16] Indeed, one reason for the hostility to for-profit firms is that they threaten the income of existing producers. Non-profits often generate large surpluses, unlike for-profit firms they do not pay dividends on equity capital or income tax on their surplus.

It is not true that non-profit firms save costs. If anything, they have less incentive to keep costs down and respond to consumer demands. No-one is forced to buy from a for-profit company. Parents can choose which schools to patronise, and they have the option of sending their children to a non-profit

[15] Sowell (1980) p 65.
[16] Sowell (1993a) pp 69–70.

school or a government school. For-profit schools will only survive if they offer consumers a better deal either with an improved product or with a similar product at a cheaper price. For example, what if for-profit firms can keep quality constant and cut administrative costs by more than their profit margin? This is the strategy of the for-profit Edison Schools in the United States. (See chapter 9, Box 5: Edison Schools.) Profits do not come at the expense of learning. Providers will not make money running bad schools.

The bottom line should be whether children profit from their education. Many other services, as well as food and shelter, are provided on a for-profit basis. There is a substantial for-profit component in the current education system – much profit is made from selling textbooks, computers, software and chalk to government schools. For-profit firms are involved in niche instruction, such as after-school tutoring. In many countries they have become involved in pre-school care, running schools, post-secondary education and providing online courses. (See chapter 9 'The for-profit sector'.)

Targeting

General problems with targeting

The main rationales for the government to be involved in financing education – to combat poverty, ensure universal access and enhance educational opportunities for the disadvantaged – all favour targeting subsidies at children in need to get the largest benefit for money spent. Targeting subsidies can limit programme costs and reduce churning.

Unfortunately, there are costs in targeting assistance, and they need to be weighed against the benefits. The problems with income targeting are the difficulty in measuring need and the adverse incentive effects that result. A major dilemma is how to help those in need without undermining the incentives for effort and success. Often, programmes for the needy reward failure and encourage dependency. There is an intractable trade-off between programme costs, adequacy of help, targeting and providing incentives. The targeting of assistance allows increased help to the poor for given programme costs, but reduces incentives.

The problem is that if subsidies are reduced as annual income rises, that will increase effective marginal tax rates for the voucher recipients and discourage their work effort. If a family loses 30 cents of an education subsidy for each dollar that it earns, then 30 percent is added to its effective marginal tax rate. The effective marginal tax rate measures the percentage of a one dollar increase in private income that is lost to taxes and reductions in government payments. An effective marginal tax rate of 60 percent means that if a family earns an extra

dollar, 60 cents is lost to taxes and reduced government payments and the family is better off by 40 cents.

If the voucher is targeted in such a way it will reduce costs, which will lower general tax rates. The net effect will be a large increase in the effective tax rate on families with school-age children that still receive a voucher, thereby reducing the family's incentives to increase its income. In attempting to help the truly poor, others may be discouraged from efforts to increase their income and become trapped in poverty.

There is a trade-off. The use of targeting will lower the general tax rate, which will increase incentives for taxpayers that do not receive a voucher, but it will substantially increase effective tax rates on voucher recipients – increases much greater than the cuts elsewhere. For example, assume the programme is financed by a flat income tax rate. When the voucher is phased out at Y percent, programme costs fall by less than Y percent of total household income earned by households with school-age children. The phase out may start at a positive income level, so some households receive the full voucher and there are no savings from them. Other households earn too much to receive any voucher help – the amount saved is less than Y percent of their income. Therefore, the fall in the income tax rate required to finance the programme must be less than Y because the programme cost savings are an even smaller proportion of the total income tax base. Therefore, the effective marginal tax rate on voucher recipients must rise.

Already in New Zealand, many low-income families face effective tax rates of 40–51 percent from income taxation, the low income rebate and the phasing out of Family Assistance.[17] Welfare recipients often face effective marginal tax rates of 70 percent or more.[18] These figures do not count the GST or ACC (accident compensation) levy, which raise effective tax rates even further. If effective marginal tax rates are increased still further by phasing out educational assistance it is likely to destroy work incentives.

Investment in a child's schooling occurs over a long period (10–13 years). Over that period, a family's annual income can be expected to fluctuate and increase.[19] Ongoing means testing of education subsidies would have large adverse effects on incentives. It is difficult to distinguish those families who are temporarily poor – because they are having a bad year or are in a low earning part of their lifecycle – from those families who are permanently poor.

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17 The Treasury (2003b) p 1. For a family with one wage earner it is 40 percent from an annual income of $20,000 to $27,500 and 51 percent from $27,500 until family assistance phases out. Above $38,000, the effective marginal rate is 63 percent.

18 See Green (2001) pp 57–61.

19 See chapter 5 'Churning' for more detail on how income changes over the lifecycle.

Moreover, measures like taxable income are open to manipulation. Some people with good accountants, or black-market income, may appear poor but be well off. Income-targeted aid encourages behaviour to reduce measured income and results in inequity and resentment when the wrong people receive subsidies.

Targeting in a voucher scheme for private schools

A common practice with limited voucher schemes for private schools, tacked on to full state school funding, is to award vouchers to students with a family income below some defined level. This is done in US voucher programmes (public and private) and was done under the TIE scheme in New Zealand. The vouchers are targeted at the poor without affecting incentives too much – once the voucher is awarded it is guaranteed for a number of years, and families can earn more income without being penalised. A cost is that the targeting may be imprecise because annual income is an imperfect indicator of need. Some families may receive aid who are only temporarily poor and poorer families (from the multi-year perspective) may miss out. It may also reduce the incentive to earn income when applying and qualifying for the voucher.

These problems may be overcome in a small scheme where recipients are selected from many applicants, especially in a decentralised scheme (such as those administered by private charities) where those giving out the vouchers may have personal knowledge of the circumstances of the recipients and incentives to seek out the truly needy.

In a large-scale voucher programme administered by a central bureaucracy, where applicants who meet the criteria are entitled to a voucher, these problems are likely to be severe and unacceptable. For example, providing a voucher for those who earn less than a specified level of income will have strong adverse incentive effects for recipients earning just above that level of income. If, for example, a $4,000 voucher was available for anyone with one child who earned less than $38,000, then families with one child would face an effective marginal tax rate in excess of 100 percent in the range $38,000 to $43,970 (if the marginal income tax rate was 33 percent). A family in this range would be worse off than if they earned $38,000, because they lose a voucher worth $4,000, less than their additional after-tax income. If instead, the voucher is phased out – that reduces the effective marginal tax rate to the phase out rate plus income tax rate, but it will apply over a broader income range.

Other possible methods of targeting vouchers at the poor do not use family income and so do not affect incentives to earn income. One is the method used

to allocate Targeted Funding for Educational Achievement (TFEA) in New Zealand state schools, and by the Australian Commonwealth government to fund private schools. The average SES status of students in each school is estimated using their residential addresses and census data. Per-student grants given to each school are inversely related to the average family SES of students at the school. It is not as well targeted as a scheme that uses individual students' family income – a poor child in a rich school will get less than a rich child in a poor school.

This scheme may make sense as an add-on to other funding in a public system, as done in New Zealand. A rationale for using average student SES income is that it tries to take account of peer effects, and the scheme gives extra resources to students with poor peers. There is little evidence, however, that peer effects are important.

It makes less sense as a method of financing private schools or as the sole government financing in a market system. First, it is less likely to be an accurate measure of average family income within a school because the richer families within each census area are more likely to be at high fee schools (the others cannot afford it). Second, there is less likely to be stability in a school's SES composition – especially when they can influence it with fees. Thirdly, it encourages segregation. High-SES schools get less funding from the government. They have to rely more on parental funding and charge higher top-up fees. This discourages poor children from attending, because they receive no help in meeting these higher fees. Further, a rich school would have more of an incentive to admit poor students if extra funding was directly tied to them.

Conclusions on targeting

If the government finances all schools on the same basis, it may or may not be a good idea to target education subsidies to low-income recipients. If the voucher programme is to finance private schools as an add-on to a system of free government schools for all, there is a strong case for a universal voucher – untargeted and available to all.

The case against a universal voucher is that it will give to rich families already in private schools, which would be expensive and of little social benefit. But, only about 4 percent of students are in private schools, and not all are rich. Most rich students, therefore, are in public schools. If it is believed rich families should not receive a voucher, why should they receive free public education?

A universal voucher plan would offer more benefits than would targeted vouchers. Although targeting is worthy, neutrality in funding and establishing a market are higher priorities – especially when subsidies for those attending

government schools are untargeted. If targeting subsidies to the poor is desirable, it should be neutral between public and private schools.

The targeting of assistance reduces the development of the private sector and the competition it can provide for government schools. A universal voucher would create an increased demand for private schools and a real incentive for entrepreneurs to enter the industry.[20] In contrast, the limited nature of the TIE scheme (160 new students per year) did not provide an incentive for new schools to enter the market. The government spends more than $4 billion annually on schooling in New Zealand. If the private sector captured only a quarter of the market, private schooling would be a billion dollar industry.

A voucher targeted at the poor would provide benefits to the recipients – but would not introduce a competitive market. An increase in competition would improve schools and provide further benefits – to poor students and others.

A universal voucher would build a bigger constituency for reform and is more likely to overcome political obstacles. A targeted voucher would receive less support from the middle class. The fate of the TIE scheme suggests that targeting at the poor does not guarantee political success. Indeed, the pressure in the political system is to extend programmes to the middle class, as happened with the TFEA scheme and with public education itself.

An additional argument against income targeting is that an untargeted voucher scheme would generate a greater decrease in residential segregation – because it removes the need for high-income households to leave low-SES neighbourhoods in order to receive better schooling. An untargeted scheme would reduce the difference in real estate prices between areas with good public schools and others and would promote desegregation.

Students with special needs

The cost of providing educational opportunities for some children may be higher because they have special needs. The voucher provided for these children should be higher than for others. This is uncontroversial for students suffering easily identifiable disabilities, such as blindness and deafness. Indeed, the Ongoing and Reviewable Resourcing Scheme (ORRS) in New Zealand is essentially a voucher scheme, which can be used at public or private schools, for students with very serious, verified special needs.

The financing of students with behavioural and learning difficulties is more controversial. It is important not to reward schools for poor performance or to give them an incentive to have children wrongly classified as special needs in order to receive more funding. This problem will be present under any funding

[20] See Friedman (1995).

scheme, and is not limited to vouchers. In the United States and Britain, student disability rates have risen by 50 percent over the past two decades.[21] The diagnosis of a disability can be very subjective, and classifying a child as special education is often the only source of help for children who need extra attention and the only remedy for disruptive youngsters. The line between below-average students and those with moderate special needs, such as 'learning disabilities' is difficult to draw with precision. Cullen (1999) estimates that funding formulas that reward local school districts for identifying additional students with special needs explain over 35 percent of the recent growth in student disability rates in Texas. The Special Education Grants scheme avoids this problem.

Current Special Education Grants give per-head funding based on the school's decile ranking. This minimises adverse incentive effects but is poorly targeted. Although the Special Education Grants recognise that low-SES schools are likely to have more special needs students, the does not account for the fact that the proportion of special needs children is likely to vary across schools with the same decile. Schools actually have a financial incentive to discourage special education children from attending – because they receive the same funding and avoid the costs.[22] The programme does not ensure that money is actually spent on the special needs students. It is probably better to move to an arrangement that rewards schools for performance in teaching difficult-to-educate children, something that would be naturally done in a market system.

Parents demand good education for their children, not necessarily special education programmes and extra funding. Researchers in the United States have found that many minority parents resist placing their child in a special education programme because they fear that the child will experience academic isolation, that the other disabled students will have a negative effect on their child's behaviour and that their child will be stigmatised by the special education label.[23] Further, it is not clear that public school special education programmes benefit the children placed in them. It was found in one survey that compensatory (remedial) programmes for such students are designed to slow down instruction on the grounds that students at-risk are less capable than others. Children at-risk are put into less demanding instructional settings, which adds to their educational disadvantage over time. The lower expectations for these students become self-fulfilling.[24]

The evidence is that the market can cater for students with learning difficulties without the need for extra funding. Appropriate curricula and teaching are more

21 See Cullen (1999) and *The Economist* (1997b).
22 Fiske and Ladd (2000a) pp 145–146.
23 Ladner and Hammonds (2001) p 99.
24 Levin (1993).

important than funding. Many private and charter schools in the United States specialise in catering for disadvantaged students and are highly motivated to meet their needs. (See chapter 9 'Provision for the poor' for more details.) Parents often use these alternative schools because their child is not going well in a public school.

Topping up: should vouchers be supplementable?

A non-supplementable voucher means recipients cannot add their own money to the voucher but must attend schools that accept the voucher as full payment for tuition. It places a ceiling on per-child expenditure on education, as well as a floor. The US charter school approach, where schools receive per-head funding but cannot charge fees, is, in effect, such a voucher scheme. The New Zealand TIE scheme provides another example.

Although such a scheme gives families increased choice and competition, and would be an improvement on current arrangements, a non-supplementable voucher would keep many of the faults of public provision:

- It results in some families spending less on education than otherwise – and perhaps even less than they would in the absence of the scheme. For example, some parents may be induced to send their child to a charter school rather than pay for a higher quality and more expensive private school.
- Price signals, which give information on consumer valuation of extra quality, are removed. The amount of per-student resources becomes a centrally determined political decision.
- It limits consumer choice. Suppliers cannot add improvements no matter how much customers are willing to pay for them. Parents can spend money on gambling, alcohol and cigarettes – but not on improving their child's schooling.[25] It affects work incentives – a prime reason to earn more money may be to advantage your children.
- Schools can only receive extra funding from the government and would be encouraged to cater to government demands and become less responsive to parents. Total funding is centrally determined through the political process. Producer groups must engage in political action to increase resources rather than by offering improved or more cost-effective services.

When parents top-up their voucher they spend more on their child's education. They benefit from the extra choice and their child benefits from a better quality education. To justify restricting top-ups, there must be harm to others that

[25] Friedman and Friedman (1979) pp 202–203.

exceeds these benefits. Yet extra education is generally considered to produce positive rather than negative benefits to the rest of society.

Presumably proponents of non-supplementable vouchers believe they would help increase equality and check stratification – by preventing some, but not all, better off families from purchasing higher quality schooling. But that will not necessarily reduce inequality because parents can still purchase extra education for their children after school – such as after-school tutoring, computers and books. Further, parents are permitted to buy more years of education for their children to go to a university – they are even given subsidies to do so.

Besides, there is evidence that many poor families are willing to top-up out of their own pockets:

- In the United States, every privately sponsored choice programme, which usually require recipients to contribute half the cost of their tuition, is over-subscribed. Despite the fact that families had average incomes of less than $22,000 and had to pay an average of $1,000 a year to supplement the partial scholarships, in 1999, one private voucher programme received more than 1.25 million applications for 40,000 available scholarships. Application rates were high in some cities – 44 percent of the eligible population in Baltimore.[26]
- In Australia, many poor people use private schools, despite the need to pay fees out of their own pockets. For example, 30 percent of students in private schools are from families with an income of less than $41,600, and 14 percent receive less than $26,000.[27]

Parents should be allowed, even required, to contribute to financing. If schools were to receive at least some funding directly from parents, the parents would have a greater say in the education their children receive and schools would be less subject to political control and to the vagaries of the political process. Individuals can increase educational expenditure directly out of their growing incomes without having to wait on the political process.

If parents supplement government funding, there will be direct price signals to give information on the value placed on various alternatives. Further, direct payment by parents increases funding for education without taxes – reducing churning and the accompanying excess burden of taxation.

If parents are allowed to pay for, and schools to add on, extra features it will facilitate innovation. "As in all cases, the innovations in the 'luxury' product will soon spread to the basic product."[28] Often initial innovations are expensive

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26 Rees (2000).
27 Figures from unpublished 1996 census data summarised in Buckingham (2000) table 2, p 4.
28 Friedman (1995).

and only the rich can afford them. They provide the funds to develop the product, which eventually becomes cheaper and more widely available. That is what happened with cars, televisions, video recorders, DVD players, home computers, microwave ovens and mobile phones. Further, quality improvements and new features, such as colour televisions and anti-lock car brakes, often started as expensive options for the rich.

When parents bear some of the costs of education directly, there is more pressure for cost efficiency. When you take a car in for a quote on repairs, the first question the panel beater asks is whether it is an insurance job (in other words, who is paying?).

A direct payment would increase parental involvement. When parents pay something from their own pockets, they will be more likely to monitor and insist on performance from their children and from educational producers. Most private voucher programmes in the United States expect families to contribute because sponsors believe it makes parents more involved in their child's education. (Private voucher programmes are discussed in chapter 9 'Evidence from voucher programmes'.)

Vouchers: size and effect on expenditure

The case for a voucher scheme is not that it will reduce government spending, but that it will achieve social objectives better than current policies at any level of government spending. Funding can be better, and more equitably, targeted with a voucher scheme. Parents will get better value from the spending by having increased choice. It also gives parents greater flexibility to top-up education spending if they think the government level is too low. Government spending on education can be set at any level the government desires. A voucher scheme allows the government to reduce its education spending and increase the private contribution (which would reduce taxes and churning), but does not require it. Vouchers could be used to increase government education spending.

A voucher that must be spent on education is a subsidy in-kind and guarantees every child receives a minimum expenditure on his education. To ensure that all children receive educational opportunities, the voucher should be large enough to cover the costs of a private profit-making school offering a high-quality education. The voucher should cover both recurrent and capital costs: it needs to be sufficient to encourage new schools to be set up. A subsidy to education spending, rather than a flat per-person subsidy, may be desirable if the objective is to increase externalities associated with education rather than ensure adequate opportunities for the poor. However, the externality justification for intervention is weak.

Low subsidies to private schools make it expensive to buy private schooling. A small voucher would suffer from the same faults as current funding arrangements for independent schools. Only the rich can afford to supplement the voucher on top of the taxes they have to pay to finance public schools. Other voucher users are condemned to attending schools with a low level of resources. A small voucher helps mainly the rich and those already in private schools and would encourage little entry into the education market by new schools. A larger voucher would encourage greater use of private schools by poor families.

The effect of a voucher scheme, and of an increase in the level of the voucher, on government spending on education is ambiguous. Although more is spent by the government on those who would have chosen private schools anyway, less will be spent on those who are induced to switch from public to private schools if the voucher is less than the government school marginal cost per student.

In 2002/03, grants to cover recurrent costs in government and integrated schools were $4,625 a head. Capital subsidies bring per-student spending in government schools to $5,720. Private school funding was $1,394 per head (see chapter 5 'Government spending on schools'). These figures can be used to give a rough guide to the effect of different voucher sizes on total government education spending.

If a uniform per-head voucher for all independent school students of $3,766 was introduced (two-thirds of the full funding, or 80 percent of recurrent funding, received by each government school student), the total cost would be the same if 10.5 percent of students switched from public or integrated to private schools – even if capital spending on government schools remained unchanged. The $859 saving on recurrent spending on each of these students would balance the extra $2,372 spending on each existing private school student (3.8 percent of students). Integrated schools have 10.5 percent of students, so if they all became independent schools the government would break even – and expenditure would fall with each government school student who switched. Because the extra subsidy is likely to reduce private school fees substantially, large numbers may switch. It would fall even further if fewer state school students reduced the amount of capital spending on state schools. It is likely that integrated schools would find the extra freedom from becoming independent private schools would more than compensate them for the $859 per-head funding cut.

These figures are indicative because funding is not evenly distributed between schools, and schools that get above-average amounts per head are the least likely to switch. Certainly, these figures suggest that even a quite substantial private school voucher would not increase government spending, even if recurrent funding per government school student remained constant.

The voucher would not necessarily be a constant amount for each level of schooling, because the costs of senior secondary schooling are greater than primary schooling. The voucher amount could rise with the level of schooling, but average two-thirds of the expenditure on each government school student at each level.

Even a universal voucher for private schools equal to the recurrent grant per government and integrated school student would only increase education spending by 2 percent.

Some argue that when many parents send their children to private schools, particularly the politically influential middle and upper classes and those with a preference for high-quality education, there would be less political pressure for public school expenditure.[29]

Even if the middle class were that politically powerful and self-interested, it is not clear that forcing them to stay in public schools would benefit students from low-income families. Why wouldn't the middle class use their political power to benefit themselves, rather than public schools generally, by directing resources towards middle class schools? Are the poor better off relying on middle class self-interest spilling over to them, or on market incentives from competition and for-profit providers trying to satisfy them directly?

In any event, the evidence is that increased funding of, and competition from, private schools does not reduce per-head spending in the public sector:

- In the United States, variations in competition from private schools do not have a significant effect on public school spending per pupil.[30]
- In Australia, increased funding of private schools and an increase in their market share has been associated with an increase in per-pupil funding in government schools.[31]

The adoption of a voucher programme would not require that other reforms to public schools be abandoned. Indeed, the idea is that competitive pressure will encourage government schools to reform and improve performance as they seek the means to respond to competition.

A move to a neutral voucher – a single system that finances students and treats all schools, government and private, in a neutral manner – is an important step to maximise the benefits from competition and market incentives. There are a number of possible paths to neutrality in financing among all types of schools. One would be to introduce immediately a voucher for attendance at private schools equal to total per-pupil expenditure in government schools. This approach would increase expenditure and churning. It would increase

[29] See, for example, James (1991) p 105.
[30] Hoxby (1998) p 54.
[31] James (1991).

total government spending on schools by over 5 percent. Further, it would discard one of the major benefits of competition and privatisation – the increased efficiency of the private sector allows costs to be cut while maintaining the same quality.

A better approach would be to introduce a voucher for private schools at the government's desired long-run level of per-pupil subsidy and then bring government schools into it. The voucher should be less than the government now spends per pupil in government schools – but the greater efficiency of the private sector would mean that lower funding is consistent with providing a higher quality of education than, and competition for, government schools.

School boards in state schools could decide whether the school opts into the voucher funding system and be funded in the same way as private schools. That is, they receive per-head funding from the government and can charge top-up fees. They could be called Independent Public Schools.

Once neutrality is achieved, and all schools are funded on the same basis, then some targeting may be possible. It should be based on a measure of lifetime income, such as wealth. For example, perhaps families with a net worth of $1 million dollars or more should not receive subsidies. The targeting of schooling subsidies could be tightened if it is considered the benefits exceed the costs.

Load shedding: should the government be involved in financing?

The government currently purchases, controls and provides as well as finances education. A system of per-head financing, neutral between public and private schools, would be a vast improvement. Yet problems would remain. The level of school funding would be politicised, inviting lobbying from producer interests. There would still be much churning – it is costly to impose taxes on families to raise money to give back to them as education subsidies. There would still be few price signals and no incentive to cut costs below the voucher.

Whether further improvements can be made on a neutral voucher system leads to consideration of what has been called 'load shedding'.[32] That is, whether the government should withdraw from financing education and leave the whole business up to the market. The government shifts the burden of financing to parents, and simultaneously cuts taxes.

If we had a pure education market, with families spending their own money on education, supplemented by philanthropy for the poor, would there be a case for government involvement in financing? The argument that the private sector will not help the poor is wrong. The United States evidence is that autonomous private schools are not only willing, but do a better, and cheaper, job at helping

[32] Lieberman (1989) pp 272–309.

low-SES children (see chapter 9 'Provision for the poor'). The issue is whether the poor would be able to finance access to high-quality education? There may be a safety-net role for government if it was believed that private charity did not provide enough poverty alleviation and educational opportunities for the poor. It is arguable whether these benefits from intervention would outweigh the costs. For example, if a voucher scheme is introduced, there is a substantial cost imposed by the taxes needed to finance the subsidies. If targeting at the poor is difficult, then the voucher scheme would involve near universal funding, which raises the cost substantially.

It is possible that a free market would provide greater equity and educational opportunities for the poor than currently provided by state schooling. The historical evidence is that poor families did finance schooling in the absence of government financing, and that was at nineteenth-century income levels. Further, entrepreneurs may offer low-cost alternatives for low-income families, especially with the use of new technology, and arrange financing solutions (such as loans or cross-subsidisation).[33] If the government did not finance education, then taxes could be reduced, increasing the number of families that could afford to pay for schooling (See chapter 5 'Churning' for an estimate of how much taxes would fall).

The fact that hundreds of thousands of New Zealand students, including many from poor backgrounds, have paid substantial fees to take courses from private tertiary providers over the past decade indicates that many New Zealand families are both willing and able to finance their children's education – even when government subsidies are low. Half of the 800 private tertiary providers in New Zealand were set up before 1990, when PTEs did not receive government subsidies and their students could not access student allowances and loans.[34]

Whether load shedding is a good idea or not depends on many factors that are difficult to judge under current arrangements – such as how successfully parental choice and private charity would work in providing education for poor children. A movement to a voucher system would answer some of these questions and make subsidies more transparent and their cost more explicit, which in turn makes judgement about their effects more informed.

Load shedding from current arrangements involves knotty transitional problems. The current system redistributes from the childless to large families, and across the lifecycle. If education subsidies were dropped and taxes cut, that would raise the cost of having children considerably. Those with school-age children would have to pay for their children's education – even though they

[33] For a brilliant exposition of these points, see Tooley (2000) pp 62–101.
[34] Guerin and Baker (1997) p 10.

paid substantial amounts of tax towards educating the children of other people when they were single. Older taxpayers would gain, even though they had their children's education paid for by other taxpayers when they were younger.

If load shedding is desirable, it would probably occur through an incremental approach, by targeting the voucher and reducing its size.

Scholarship tax credits

An alternative way for the government to help finance the education of students from poor families is a so-called scholarship tax credit. It is a tax credit, up to some limit, to any taxpayer (including businesses) for donations to approved education charities that help students in need. For example, private scholarship-making organisations could be established by schools, companies, churches or community groups. The scholarship granting organisations would then use donations to provide tuition assistance to low-income families. If the amount of tax credit needed to fund students to switch from a public to a private school is less than the marginal cost to educate them in a government school, then the scheme will save the government money.

A full tax credit reduces taxes dollar-for-dollar with donations and provides a strong incentive to help poor children directly. In effect, taxpayers can give a portion of their taxes directly to their favoured educational charity at no cost to them.

A scholarship tax credit uses private charity to help the poor. This has a number of advantages:

- One is to harness the benefits of competition to help the poor – and to provide better value to philanthropists and government. Charities will be in competition with each other, and with the government. This provides incentives to keep costs down, to provide the kind of assistance that donors want and to develop improved ways to help the poor. There is likely to be more experimentation and variety in ways of matching the different needs of the poor and the diverse preferences of donors.[35]
- Private charity displays a willingness to find out and implement what works. For example, in the United States the owners of the Gap clothing chain are trying to replicate on a wide scale the Knowledge Is Power Programme, proven to work for low-income students.[36]
- Private charity also provides alternatives for the recipients and reduces the power of the provider to dictate what is taught and to usurp parental rights

[35] For more on the benefits of private over public charity see Green (1996).
[36] Finn and Amis (2001) pp 81–83.

and responsibilities. The scholarship credit offers low-income parents more choice, freedom and control over their child's education than any alternative assistance mechanism. They would be more insulated from direct regulation of their educational decisions by the state than if they were directly receiving state subsidies.[37]

- Resources are directed in a decentralised way rather than by the state. Increased personal contact, knowledge of personal circumstances and less bureaucracy mean that help is more likely to go to the truly needy, to be suited to the requirements of the recipient, to avoid incentive effects and to encourage self-reliance. For example, institutions that grant scholarships in the United States insist on a co-payment or time commitment at the school in order to increase parental involvement.[38]

In the United States, Illinois, Iowa and Minnesota have tax credits or deductions for private school fees.[39] Florida allows corporations to donate funds for private school tuition assistance (for low-income students), and the donors receive the funds back dollar-for-dollar at tax time. Each corporation can donate up to 75 percent of what it owes in state taxes up to $100,000 annually. The programme is capped at $50 million a year. It supports 12,000 children. Pennsylvania has a similar scheme.[40] In Arizona, a tax credit of $500 for donations to scholarship organisations or public schools has raised $14 million for scholarships from 30,000 individual taxpayers in 1999, which helped 7,000 low-income students attend independent schools.[41]

In Canada, in 2001, Ontario introduced a more far-reaching scheme that offered parents who sent their child to a private school a tax credit, planned to rise over five years in steps of C$700 a year to C$3,500, or half the cost to the province of keeping a pupil in a public school. Private schools do not have to follow the official Ontario curriculum, their teachers are not officially licensed and their pupils do not sit provincial tests.[42] A new government abolished the scheme in 2003.

It would be desirable to introduce a scholarship tax credit as an experiment in a voucher system. If successful, there is less of a case for the government to finance education directly and the system could move towards a full market system, with parents purchasing education directly and government

37 Coulston (2001).
38 Coulston (2001).
39 Rees (2000) pp xvii, xxii and "School Choice Plans Across the Nation" available at www.friedmanfoundation.org. The Iowa and Illinois programmes apply to only 25 percent of eligible expenditures, and Minnesota's is limited to non-tuition expenditures. Finn and Amis (2001) p 32.
40 Finn and Amis (2001) pp 86–87, 33.
41 Olsen and Brouillette (2000) pp 1, 5, 8. Finn and Amis (2001) p 33.
42 *The Economist* (2001).

intervention limited to a scholarship tax credit to encourage private charity and provide opportunities for the poor.

It would be less desirable to introduce a scholarship tax credit as an alternative to a universal voucher programme. Although it would benefit scholarship recipients, it would not be the best way to introduce a market system. Limited to poor students and reliant on continued donations from philanthropists, it may not encourage much entry. The benefits of enlisting private charity to help the poor may make a scholarship tax credit better than a targeted voucher scheme for the poor.

Regulatory encroachment: will government shackles follow government shekels?

All voucher proposals involve some government regulation. For example, the government must decide which schools are eligible to receive funding. Regulation can impair the performance of private schools by reducing their autonomy and incentive to cater to parents. Regulations may force private schools to conform to government-determined curricula, teaching and testing methods, admission policies, employment and compensation policies, ceilings on fees, and school board composition.

When the government subsidises private schools, it has a legitimate reason to regulate how that funding can be used – to protect taxpayers' interests and control fiscal risk. Regulation can, however, also be used to achieve political objectives (such as protecting producer interests).

Studies of the international and historical evidence conclude that government funding of private schools leads to government control of private schools, which may worsen education rather than improve it.[43] The regulations that accompany subsidies restrict private school decision-making powers and can negate the superior performance of private schools. A voucher programme may result in the government regulating the private schools to become more like government schools, rather than encouraging government schools to operate more like private ones. For example, Toma (1996) conducts an analysis of the performance of public and private schools in countries with different regulatory regimes. She compares privately funded and controlled schools, publicly funded and privately controlled, decentralised public control and centralised public control. The absence of political control is a determining factor of private school effectiveness. When private schools were heavily regulated (for example, curriculum, teacher qualifications and salaries), their performance was not superior to state schools.

[43] See, for example, Dewey (1996); Coulston (2001); James (1991) p 102 and Toma (1996).

The case of integrated schools in New Zealand shows that government intrusion into private schooling is not an idle concern (see Box 7: Integrated schools). The trade-off between autonomy and extra funding is quite explicit in New Zealand. Independent schools can receive additional funding if they are willing to integrate and be subject to the extra restrictions that entails. Some schools choose to remain independent, which indicates these restrictions are costly.

Box 7: Integrated schools

After 1975, private schools could apply to become integrated into the state school system. The move was driven by the financial problems faced by Catholic schools from the decline in the number of low-cost teaching staff from the religious orders. All Catholic schools are now integrated.[44]

Integrated schools are subject to the same regulations and accountability requirements as state schools but are privately owned and retain their 'special character', usually religious instruction (the majority are Catholic schools). They receive full government funding of recurrent costs on the same basis as state schools. The owner is responsible for capital costs, and integrated schools may charge attendance dues to cover them.[45] An integrated school, therefore, loses control over its level of resources.

An integrated school must establish a charter with the Minister of Education and meet the National Education Guidelines, which require the national curriculum be taught. It is inspected by the Education Review Office to check compliance with the Guidelines and charter. Its governance arrangements are dictated (an elected parent board with owner representatives).[46]

The integration agreement may set maximum roll limits, as well as a limit on the maximum number of students that may be enrolled outside the school's specific target group. For example, a Catholic school may have only 10 percent of its enrolment capacity from non-Catholic backgrounds.[47]

The possibility of excessive regulation of private schools is a real concern that should be addressed. Plans to subsidise private schools should include provisions to protect their independence. The body responsible for regulating private schools should not be the same body that runs government schools, with a vested interest in hobbling competitors. Minimum quality requirements should be based on objective output measures, and preferably put the onus on parents rather than schools.

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44 Birtwistle and Guerin (1998) pp 28, 37, 39.
45 Birtwistle and Guerin (1998) p 41.
46 Birtwistle and Guerin (1998) p 45.
47 Wylie (1998) p 110.

Fear of government regulatory encroachment over private schools has meant some authors oppose any government funding of private schools on principle.[48] The integrated school sector in New Zealand is, however, already heavily regulated. The independent private sector is small, already receives government funding and is regulated. Independent schools must be registered, employ registered teachers and are subject to Education Review Office inspections every three years.[49] A voucher scheme that explicitly addresses the issue of school autonomy may well improve matters.

Regulation may be used to benefit producer interests, and may be demanded by them. For example, schools may lobby to create entry barriers, to prevent competition from for-profit schools, or to pressure the government for subsidy increases. At least one author argues that private/public school collusion is to be feared more than government regulation of private schools.[50]

- In Australia, funding of private schools was followed by entry restrictions. For many years the Commonwealth and state governments decided which new proposed schools would be allowed to operate, set minimum and maximum enrolment levels and used this power to protect existing schools, private and government, from competition. For example, the Commonwealth funded new schools at a lower rate and proposals for a new school had to be vetted by a local panel, which considered the potential impact of a new school on existing schools. In 1991, the Commonwealth rejected 12 proposed new schools as "not considered to be consistent with the planned provision of education in the proposed location. These new schools would be located in areas of significant enrolment decline and likely to have a detrimental impact on the educational programs and services in existing government and non-government schools".[51]
- In New Zealand, new kura kaupapa Maori schools must report, in their application for establishment, on their potential effect on other schools already operating in the area.

Political pressures to regulate in favour of established producer interests will always be present. They can be reduced by separating the government's provision and regulation roles – a provider should not be deciding whether its competitors should be allowed to operate. If the government were to drop its provision role, then it would have less incentive to look after producer interests and an increased incentive to focus on its consumer and child protection roles and maintain free entry.

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48 See, for example, Dewey (1996) and Coulston (2002).
49 Birtwistle and Guerin (1998) p 53.
50 Lieberman (1997) p 252.
51 Australian Education Council (1992) p 171.

A voucher scheme may reduce the inevitable demands for more government money by making the subsidies involved more explicit and visible. Resistance to increased government spending comes from taxpayers. The political pressure for more government spending on education will be reduced by anything that makes the link with increased taxation clearer.

GOVERNMENT OBLIGATIONS: REGULATION

New Zealand schools would still be subject to the general regulation applicable to all industries such as consumer protection laws, anti-fraud laws, health and safety laws, antitrust, anti-discrimination laws, employment regulation and so on. There may still be a case for extra education-specific regulation.

Government finance of parental decisions in a market arrangement would be the best way to achieve most social objectives, such as equity and equal opportunity. Three other roles of government may justify regulation of consumer decisions:

- to manage externalities – there may be a case to direct where and how subsidies are spent in order to increase positive, and reduce negative, externalities;
- to protect children – when parents have failed in their duty to educate their children;
- to protect consumers – such as to prevent fraud and provide information to improve parental decisions.

The government may regulate who can provide schooling through licensing or certification. Under a licensing arrangement the regulation is mandatory. Only schools that obey the regulation are allowed to operate, or perhaps have access to subsidies. Under certification, the government may certify that the school has complied with specified requirements, but that does not prevent uncertified schools from operating.[52]

Regulation should only be imposed if the benefits from intervention outweigh the costs. The potential costs are greatest with licensing, which restricts entry. Producer interests may use it to obtain a monopoly position. The costs of certification are lower because competition from uncertified providers constrains the monopoly power of certified producers.

Licensing should only be imposed when there are significant effects on third parties from the activity the regulation is seeking to control. That is, mandatory regulation is only justified in the case of externalities or child protection (where the child is a third party affected by decisions made by parents).

[52] See Friedman (1962) pp 144–149 for a discussion.

In general, regulation to protect consumers should involve certification rather than licensing. Certification puts a market test on the value of the regulation. Consumers can weigh up whether the benefits of measures allegedly for their advantage exceed the costs. Private certification arrangements are possible and can compete with government certification to help determine the best standards and allow for variety and innovation. Competing suppliers have a greater incentive than a government monopoly to provide what schools want and to reduce compliance costs. Private agencies are less likely to become politicised.

Further, funding for, and decisions about, services to schools that are meant for the consumers' or schools' benefit should be decentralised rather than provided in-kind by the centre. In-kind provision favours the particular model of service supplied by the government and crowds out alternatives. Instead, the funding should be devolved to the school level. The Ministry of Education could sell certification, inspection, advice, maintenance, recruitment, staff development, assessment and curriculum services to schools, but schools would not be obliged to buy them. They should be free to purchase them from other organisations or provide them themselves. Many could be provided by independent third parties and trade associations. Some schools would use a franchise arrangement or company form.

Externality arguments for regulation

The alleged benefits from regulation of school admission policy, such as restricting a school's right to decline students, insisting that schools ration excess demand by lottery or admit a quota of disadvantaged students, come from vague and indefinite peer externalities, which we know little about and may or may not be important. (See chapter 2 'A better class of students: peer effects'.)

The costs of such student selection policies are high. A policy of restricting selection of students by schools will require intrusive regulation if it is not to be evaded. There will need to be limits placed on internal school policies, such as expulsion and streaming, to ensure they are not used to select or re-segregate students. Restrictions on selection decrease efficiency, and interfere with school autonomy and specialisation. If the government removes the right to select students, it hinders a school from developing its own priorities, a school ethos and catering for children who will benefit the most from what the school has to offer. It reduces the gains from appropriate matching of schools and students and may force schools into expensive extra provision for students for whom they would not normally cater. Policies such as lotteries also reduce the incentives on students to achieve selection and for schools to attract students. There is

little reason for regulation of admissions policies additional to the general anti-discrimination laws applicable to all.

Social cohesion externalities may provide a rationale for the government to intervene to influence the curriculum to ensure children are indoctrinated with views, such as tolerance, that will support a stable society.[53]

The social cohesion and child protection roles of government are extremely controversial. There is an inherent conflict with liberty, religious freedom and the rights of parents. People disagree over whether the government should perform these roles, what they imply for practical policy, whether actual government policy achieves them and whether government is likely to misuse its powers to promote particular ideologies.

There is disagreement about the extent to which education should be concerned with character, attitudes and values, the values that should be imparted and how best to impart them. If the government sets the curriculum to inculcate attitudes and values it must override some parents' decisions. If everyone agreed on the appropriate curriculum, there would be no need to impose it.

Social cohesion does not give the government carte blanche to control everything that is taught in schools. It is one thing to regulate the curriculum to promote social cohesion, but another to dictate from central office the way the education system and labour market must interact. The issue is whether the benefits exceed the costs from the curriculum regulation the government actually implements.

There may be a case for regulating the curriculum, but that does not mean the government should provide it. The current curriculum crowds out private curricula that should not be rejected on externality or child protection grounds. There are reasonable alternatives to the current orthodoxy about curriculum and assessment. Parents should be free to adopt alternative approaches that do not undermine society.

A better scheme would be for the government to specify prohibitions and only ban a private curriculum if it were shown to breach them. Schools would be free to adopt any non-banned private curricula and still receive full funding. That is, the government would ban objectionable curricula rather than impose one. For example, there would be no reason to turn down a solid grade-by-grade, carefully sequenced and cumulative curriculum, as used in the best performing school systems of Europe and Asia, that instils in all children an ethic of toleration, civility, orderliness, responsibility and hard work.[54]

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53 This argument is set out in chapter 4 'The case for public provision of education'.

54 This is the Hirsch curriculum approach. See Hirsch (1996) p 62.

Given the dominance of progressive educational thinking in the education establishment, that would be the only way for a rigorous, content-based curriculum to be available in New Zealand. Moreover, competition from alternative providers would constrain the government curriculum from getting too ridiculous. Bad ideas can flourish in the current public sector because it is a monopoly – both economic and intellectual – protected from alternatives.

A further benefit would be a reduction in conflict over the contents of the common curriculum. It may be more socially cohesive to permit diversity and pluralism, especially in a heterogeneous society like New Zealand. The political process has often introduced ideological warfare into educational issues. Even technical issues, such as the most effective way to teach young people to read, have become politicised.

One way to prevent undesirable curricula, while maintaining some diversity, choice, innovation and competition, is to adopt a system along the lines of the strong charter laws in the United States where a number of agencies can charter new schools. The government could require mandatory approval of the school's curriculum to operate, but authorise a number of bodies to license schools, such as the Education Review Office, universities and private curriculum providers'– and even the teachers' unions and employer groups. Each could set their own academic, financial and operating requirements. Schools could advertise their approver. Organisations could set up to approve, and help, home-schoolers.

Child protection

When to interfere with parental choices is a difficult issue with intractable trade-offs. Strict regulation to mandate what schools can and cannot do may reduce the risk of mistakes, but would limit school autonomy, diversity and experimentation. If the government gives parents more freedom, it runs the risk of producing more neglected children. If it provides extra resources for children or schools that do badly, it helps those in need but also rewards failure.

Although it is hard to come up with a perfect solution, it is difficult to do worse than current arrangements. Compulsory schooling laws require all New Zealand residents between the ages of six and 16 to attend a registered school regularly. A school can become provisionally registered if it satisfies the Secretary for Education that it has suitable premises, staffing, equipment and curriculum. A provisionally registered school is not entitled to funding.

During the first year of operation, the Education Review Office reviews the school and reports to the Secretary of Education. If the secretary is satisfied that the school's hours of operation and teaching methods enable the efficient

provision of compulsory education, the school is fully registered. The school must provide tuition for nine or more students between five and 15 years of age and give students tuition of a standard no lower than that given to students enrolled at a state school of the same class. Private schools are not legally required to teach the national curriculum or use national assessment (although most do).[55]

The current system is input based and focused on institutions. It ensures that the child spends a certain number of years at school and that the school follows a specified process. It is based on attendance not achievement. It does not ensure that the children emerge educated – and the data show that many do not. (See chapter 3 'Examining the system'.)

The following reforms should be made. The current system for determining which schools satisfy compulsory schooling laws should continue to operate, but the government should authorise a number of bodies to license schools in competition with the Ministry of Education. The criteria for granting permission to operate should be made explicit – that the curriculum is not damaging to New Zealand and that it does not constitute neglect of the child's educational needs. These bodies will be able to give immediate permission to operate, without a one-year waiting period.

If a school is approved to operate, it should be eligible to receive subsidies under the voucher programme (for example, if a tax credit is used, parents can claim tuition payments at approved schools). The minimum standard to receive subsidies should be the same as for compulsory schooling so that parental decisions determine where the subsidies go. There is little case for varying the subsidy paid between different types of school. Although it is claimed that accountability is "minimal" for private schools, they are directly accountable to parents.[56]

In particular, the extra restrictions imposed on integrated schools should not be the basis for granting voucher funding. Once approved, private schools should be free to determine their own governance arrangements, select students, charge top-up fees, determine their own curriculum (subject to approval), determine their own enrolments, and still receive government funding. Only then will a school have control over its reputation, character and quality, and be free to provide the programme it wants.

Any school that attracts fewer than nine students and is approved by an authorised body would be eligible for funding. Nine is the current minimum school size. Schools with less than nine students raise issues of home-schooling that will be dealt with later in this section.

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55 Birtwistle and Guerin (1998) p 53.

56 See for example, Wylie (1998) pp 102, 110.

Approval of schools is not enough to protect children. The child protection focus should be on individuals rather than schools and on compulsory education rather than compulsory schooling – and the distinction will become more important with technological developments, such as virtual schools and software-based learning.

A market-based system gives parents choice and the freedom to spend subsidies. In return the parent has increased responsibility and the obligation to make sure their child learns. There should be a number of carrots and sticks to ensure that children are not neglected. There is a case for ensuring that all children learn basic skills, the foundation for everything that follows, either to protect them from parental neglect or to ensure that society functions smoothly. A student who does not obtain fundamental academic skills by age 10 has a very poor outlook for later success in school or life, and it is difficult to remedy failure to learn basic skills at later ages.

One way to approach it would be to institute (and make a requirement for school licensing) systematic testing to ensure all children reach a minimum level of education, and to take action if they do not. The government should take seriously its goal that "every child turning nine would be able to read, write, and do maths for success" by testing whether every child does meet specified standards in basic skills.[57] The test could be administered at the end of Year 6 (when children move from Standard 4 to Form 1 – Year 7) at age 10.

This requires that standards be set. The purpose of these standards should be made clear – a child who fails to meet them is considered neglected and there is a case for intervention to oversee the child's schooling. Although it is difficult to measure many educational outcomes, whether minimum standards in basic skills have been met can be measured. Minimum standards do not require the effects of different non-school factors to be disentangled. The idea is to identify and remedy a failure to bring children up to a minimum acceptable standard, not to allocate blame. The child protection role requires that students can be brought up to an acceptable standard without support from their parents.

There should be consequences for not passing the test. Students who did not pass would have to undertake compulsory remedial work before proceeding. The remedial classes would be fully government funded and involve small classes. The government should contract the remedial work out, preferably basing payments on success. They could be run within regular schools or by dedicated providers. The students could be in the programme for a year and then restart in Year 7 once they pass the required standard. Students could have

[57] Ministry of Education (2000b) p 66.

the option of taking the remedial classes over summer – especially students who only show weakness in one subject or are close to the standard.

The extra resources should go to the students and schools that are successful in helping them – not to unsuccessful schools that failed to teach them in the first place.

The test would also provide a method of monitoring home-schooling and for checking on the performance of schools. The pass rates for each school on the test would be publicised to give parents information. It need not be the only information provided on schools, but would be useful for those parents seeking schools that ensure the basics are taught. It need not be the only testing conducted – both the government and independent agencies can provide additional testing and assessment services. Many providers will want annual testing to demonstrate progress to parents and ensure classroom accountability. They will set higher standards than those used to identify neglected children.

More frequent mandatory testing to ensure students are being adequately educated is possible – but is likely to be more controversial, with increased disagreement about appropriate achievement in each grade level and the increased likelihood of the government dictating school objectives.

One problem is that the test could be used to impose the progressive education agenda – with forced schooling for those who do not agree. For this reason the testing should be taken out of the Ministry of Education's hands.[58] Testing should be formulated and conducted by an independent body, say a Schools Qualification Board, not those being monitored.

Another round of testing later in the student's career would provide a carrot. It would be a set of examinations that entitles anyone who passes them to finish compulsory schooling. Again, it would require that standards are set – this time the objective is to specify the level of education that compulsory schooling is meant to instil. At the minimum, it would require testing of English, mathematics, science and history.

The examinations would be an alternative to the current requirement that students attend school until age 16. Students would not be required to pass the examinations to leave school, because that would give the education establishment the power to trap children in school for life. Schools would be free to publicise the results of the tests, but it would not be required.

The demand for this test would be low – already 80 percent of students go on past compulsory schooling. But, for the 20 percent who leave as soon as they can – often with low achievement – this offers them an escape hatch and an incentive to achieve and to seek out a school that will get them through the test.

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[58] The Ministry is responsible for assessment up until the end of Year 10.

Further sticks and carrots could be introduced for those on welfare to ensure their children are not neglected. Welfare payments could be restructured so that more money is directed at children and the behaviours that help them. For example, a good school attendance record could be rewarded. These further requirements should not be placed on self-supporting families.

If students have basic skills, they can recover from 'early leaving' by returning to school later in life or by learning in non-school settings. If mechanisms are in place to ensure basic skills are learnt, the compulsory schooling age should be reduced to increase competition for schools from non-school alternatives, such as workplace training. Children should not be forced to stay in schools not suited to them.

The whole rationale for a voucher, rather than a cash grant, is to ensure the parent spends a minimum amount on the child's education. This could be to help ensure a minimum standard is obtained, or because it is believed that parents may spend too little. (See chapter 2 'Capital market imperfections'.) There may be a case for regulation to ensure that the voucher is being spent on schooling and that the school is not fraudulently rebating part of the voucher back to the parent.

The case for ensuring a minimal expenditure would be weaker if credible output measures were developed and whether a minimum standard has been obtained could be directly measured. If parents did not have to spend the whole voucher on education, there would be increased pressure for schools to reduce costs.

How should home-schooling be treated? In July 2003, there were 6,437 students from 3,627 families being home-schooled in New Zealand.[59] Government expenditure on each was around $550.[60] Parents must satisfy the Education Review Office that home-schooled children are taught at least as regularly and well as in a registered school.

The US evidence is that home-schooled students score higher on standardised tests than public and private students in every subject and at every grade level, even those taught by mothers who never finished high school.[61] Many use the internet – a number of firms, such as www.childu.com and www.schoolexpress.com, offer advice, specialised bookstores and complete courses. Some use virtual schools, operated by private companies, school districts and universities.

Home-schoolers should be subject to the same requirements as registered schools (except for the minimum enrolment). That would not be too different

[59] Ministry of Education (2003h).
[60] Education Review Office (2000).
[61] See Hill (2000) and Brouillette and Davis (2001) for a summary of the evidence.

from current arrangements – although parents should be able to seek approval from certified agencies, other than the ERO, that may be specialised in dealing with home-schoolers.

Should parents who home-school receive the voucher for doing so? If they did, that would create competitive neutrality in funding between home-schooling and private schools. The drawback is that full funding for home-schoolers may encourage some parents to keep their children at home to get the voucher money but not educate them – and this will be difficult to monitor.

A compromise may be to allow home-schooling parents to claim, up to the value of the voucher, their expenditure on home-schooling materials purchased from approved suppliers. For example, they could claim textbooks and tuition fees at virtual schools. Although this does not guarantee a minimum expenditure on the child, neither does the current system, which only ensures that a certain amount is spent on those in public schools. Less is spent on those who are home-schooled or who attend low-fee private schools.

Consumer protection

Information provision

> We have State regulation of drugs and medicines because of consumer ignorance but everyone realizes that different arguments are necessary to justify nationalization of the pharmaceutical industry.[62]

An important element in any education system is the information that is produced, and not produced, and who uses it and for what purpose. It is often said that if parents are to be given school choice, they must also be given information on which to base that choice. For example, when parental choice drives the system, academic achievement cannot improve unless parents have information on it.

The fact that parents need information does not mean that a government monopoly on information provision should be established. In New Zealand, the government's subsidised, in-kind information provision has been exercised to favour producer interests (as discussed in chapter 3 'Assessment'). A combination of ideology and self-interest has led to poor information provision, such as a lack of comparative information.

The child protection measures recommended in the previous section would result in the mandatory provision of information by schools on minimum achievement. Further information provision will be necessary. The information

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[62] Blaug (1970) p 104.

requirements of parents may be different from those of educational policy makers. A suitable minimum competency test is unlikely to be satisfactory as the basis for measuring school performance. Minimum standards do not motivate most students and give those in the high end of the ability distribution little to work for.

The demand for information and quality assurance in a market system would create incentives for producers and others to generate information and quality assurance that is useful to parents. Schools would provide information about the quality of the services they provide in order to attract students and would have to convince parents to use them by working out credible quality assurance mechanisms. Information could be collected to certify students and identify school and teacher performance, and could include use of external testing and external inspection (see chapter 8 'Information provision').

It is likely that there would be a demand for external curriculum-based examinations. These could be provided by groups of schools, by universities (such as entrance examinations) or by specialised companies or non-profit foundations (such as the Educational Testing Service in the United States). For example, independent curricula and examination providers could create curriculum brands that could be adopted by schools, along the lines of the International Baccalaureate. There could be chains of schools, centrally owned by a public company, offering a particular curriculum. Schools could conduct their own testing and rely on their reputation, as universities do currently. Other schools could be operated under a franchise arrangement whereby the individual schools are independently owned and the franchiser provides curriculum, assessment and inspection services and maintains the reputation of the brand. Specialised testing agencies could be used by schools, universities, parents, employer groups and professional bodies. The agencies would rely on reputation and be insulated from political pressures.

Information has characteristics of a public good. As a result, specialised providers may produce too little information. One problem is non-excludability (for example, students can pass their university guide onto their friends). That is, production of information confers external benefits. The producer of the information cannot capture all of the benefits that result, so may not find it profitable to produce information for which the benefit exceeds the cost.

Another problem is non-rivalry. Once information is produced, it can be supplied to others at very little extra cost. The result is the 'natural monopoly' problem. In order to cover the fixed costs of producing the information, consumers have to be charged. This charge, however, may be above the marginal cost of providing that consumer with the information. Even if exclusion were

possible, it may be that too few consumers are informed, and it may not be profitable to provide all the information that is socially valuable.

Informed consumers also provide externalities for other consumers by raising the average quality of schooling provided. That could mean that consumers do not invest enough in gathering information, because they do not take account of the externalities accruing for others. On the other hand, those consumers who have the private incentive to acquire information provide benefits to other consumers and this may result in the market working quite well. A small proportion of knowledgeable parents can have a large influence because schools compete for them. If there are enough well-informed consumers to affect suppliers' financial viability, schools will cater to them and offer good-quality products to the benefit of all consumers, including the uninformed.

In exercising a consumer protection role, the government should provide information for which the benefits are likely to exceed the costs. The benefits are not high if the government provides information likely to be provided by the market. The market will provide information when the benefits are privately captured (for example, it may add to school reputation). The non-excludability problem does not matter so much for information that is highly individualised.

It is difficult to judge the costs and benefits of information provision. The costs include not only those of collecting and disseminating the information, but also compliance costs imposed on others. Compliance costs include the direct administrative burden (such as those of preparing submissions and supplying information) and the indirect costs of delays.

A further cost is imposed if the provision of information distorts behaviour and focuses effort on outcomes that are easily measured to the neglect of important outcomes that are more difficult to measure and control from above.

The government may very well provide information for which the cost exceeds the benefit. The government should provide information only if it has some advantage over the private sector in doing so. In practice, a government agency suffers from a number of disadvantages. Political motives, empire building and other objectives will play a role. The result may be little incentive to behave efficiently, to provide information consumers want and to minimise costs. For example, regulators have an incentive to be conservative, because the costs of a wrong approval are visible, whereas the costs of rejecting a suitable applicant are often hidden. The use of industry norms reinforces the conservative bias.

The result may be producer protection rather than consumer protection. For example, producer interests may use minimum standards to restrict entry and innovation, curb competition and restrict choice. Incumbent producers may be favoured over new entrants.

The government can impose standards on its own schools. It could provide further information on private schools, through testing, accreditation or inspection, but participation should not be mandatory and should be subject to the market test to ensure that the costs of intervention, such as compliance costs, do not exceed the benefits (the value consumers place on the information produced).

An accreditation process applies a particular set of standards, which may not be appropriate for all students and all employers. To give incentives for the accreditation process to be performed economically, setting standards to maximise benefits less costs, the government should allow institutions to choose not to participate and allow students to choose non-accredited providers. Producers have better knowledge of compliance costs (including loss of autonomy) than regulators and can balance costs against benefits. Consumers have better knowledge of their own preferences and can weigh up the value of the information. The right to operate outside the accreditation process also facilitates innovation.

Funding for information provision services, such as assessment, inspection or accreditation, should be devolved and schools allowed to choose where to purchase them from – providing competition and incentives for efficiency in supplying the service. For example, inspection and advisory services could be purchased from teacher professional associations, unions, the New Zealand School Trustees Association or independent providers. Government agencies that provide these services should be self-funding from fees levied on schools, to make them accountable. For example, the NZQA would face competition from independent providers – which could include for-profit companies and universities running entrance examinations, as well as international bodies (such as the International Baccalaureate Organisation or Cambridge International Examinations) and independent professional bodies offering vocational certification.

In 2000/01, $14.7 million was spent on the NZQA (about $32,000 per secondary and composite school), including $4.7 million for the development and registration of standards and qualifications and $6.4 million for the assessment of secondary school qualifications candidates.[63] The Ministry of Education has spent over $300 million on curriculum development over the last several years.[64] A system where the funding is devolved to schools subject to market incentives would give better value from expenditure from the point of view of parents and students.

Teacher certification

> It would be giving too dangerous a power to governments were they allowed to exclude anyone from professions, even from the profession of teacher, for alleged

[63] The Treasury (2001c) pp 41, 48, 52.
[64] See Ministry of Education (1998b) p 115.

> deficiency of qualifications ... degrees and other public certificates of scientific or professional acquirements should be given to all who present themselves for examination and stand the test, but that such certificates should confer no advantage over competitors other than the weight which may be attached to their testimony by public opinion.[65]

Licensing of teachers should be limited to a background check (for a criminal record and so on). Schools would be free to hire any licensed teacher. Alternatively, people with criminal records could be prohibited from holding teaching positions and schools would be authorised to check whether their teachers or applicants have a criminal record.

Professional bodies would be free to have their own requirements for membership (such as teaching qualifications), but it would not be required that teachers belong to these bodies.

In particular, schools should be free to hire teachers who have not been trained in education faculties and colleges. Teacher qualifications have little relevance for success as a teacher – ability and subject matter knowledge are much more important determinants of student learning. (See chapter 6 'The effect of teachers'.)

It is not true that good teachers can only come from teacher training programmes. There are many people without teaching qualifications who have the desire to teach, subject knowledge, teaching ability and perhaps even the experience of teaching adults. Well-educated people who have retired or are seeking a new career would have a lot to offer students – such as a retired cabinet minister, an army officer or a research scientist.

Further, holding a teaching qualification does not guarantee someone is an effective teacher. Good teaching takes individual effort and group teamwork – and there is no guarantee that even someone capable of teaching well will always put in the effort or fit into the particular school ethos and get on with colleagues. Moreover, the quality of courses in teacher training colleges has been strongly criticised. (See chapter 6 'Teaching faults: teacher education and training'.)

It was shown earlier that there is a plausible case to be made that requiring aspiring teachers to undertake education-specific courses makes teaching less attractive to people choosing between careers, especially to those with high ability, and reduces the pool of good applicants. Further, it also means that increased teacher pay across the board may have little effect on the quality of new teachers. (See chapter 6 'Attracting and keeping high-ability teachers'.)

In New Zealand, all schools are required to use registered teachers, so it is difficult to determine the usefulness of requiring a teaching qualification. In

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[65] Mill (1859) pp 178–179.

most US states, private schools are not required to hire certified teachers. Private schools attract higher quality teachers than public schools despite paying less. (See the evidence in chapter 8 'The effect of a market system on teachers'.) One reason is that they have a larger pool to draw on and can hire talented people who are discouraged by teacher certification. In the non-Catholic private schools only about half the teachers are certified – 35 percent in the sectarian secondary schools, which pay the highest salaries.[66]

If free to do so, schools that face market incentives hire educated teachers with strong academic preparation and subject-matter mastery, whether or not they possess a teaching certificate. So do universities all over the world.

Fewer private school teachers in the United States have teaching certificates, but more have a degree in the subject they teach and more come from selective, prestigious universities, factors that are more highly correlated with student achievement than certification.

In states where it is permitted, charter schools recruit significant numbers of uncertified teachers. Many charter school administrators identify the ability to recruit uncertified teachers as an important source of recruitment flexibility.[67]

Other evidence that being able to teach without attending courses on pedagogy is attractive to talented students is the success of 'alternative certification' programmes in the United States. For example, the 'Teach for America' programme uses alternative certification to place top liberal-arts graduates without formal education credentials into troubled rural and urban public schools. They receive a brief training programme and on-the-job mentoring. Teachers with alternative certification are more likely to have bachelor's degrees in mathematics and science, two fields with chronic shortages of qualified teachers. The few studies of alternative certification that have been done find that students of such teachers perform at least as well as students of conventionally licensed teachers.[68]

Many private school teachers in Australia do not have teaching qualifications. For example, more than half the teachers at Sydney Grammar, usually New South Wales' most academically successful school, do not have teaching qualifications – but do have doctorates and masters degrees in academic disciplines.[69]

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66 Ballou and Podgursky (1997) p 141.

67 Podgursky and Ballou (2001).

68 Finn and Kanstoroom (2000a). See for example, the study by Raymond, Fletcher and Luque (2001) on Teach for America teachers in the Houston Independent School District. It found they did as well as, or better than, other teachers at promoting student learning and that two-thirds of the principals who hired Teach for America recruits had rated them superior to their overall staff.

69 See *Sydney Morning Herald*, 27 October 1998.

The New Zealand Teachers Council does not require teachers at kura kaupapa Maori schools to register.[70] This exemption recognises the limited number of teachers who are fluent in the Maori language and knowledgeable about Maori culture.

Yet there are equally compelling reasons why other schools may wish to hire teachers who have not been through a formal teacher training programme. Uncertified teachers may be demanded to teach vocationally oriented courses, to help with new technology and to provide specialised education.

In areas of teacher shortage, a school may prefer a mathematician with no teaching qualification to teach a mathematics course to a registered teacher with little or no maths background. Sometimes the alternative to hiring an unregistered teacher is going without. An unregistered teacher may be needed so the school can offer senior students courses at the polytechnic and university level. Certainly, it is inconsistent to insist these courses be taught by registered teachers at the school level when soon the students will be taught at the tertiary level by teachers without teaching qualifications.

There is diversity in appropriate teacher training. Schools will demand teachers with different types of skills – reflecting diversity in children and their parents' demands. It is not true that the same preparation is suitable for all types of teaching. Further, even for a particular type of teaching, not all potential teachers will have the same training needs. They will differ in skills, experience and aptitude. There should not be a single path into the profession – good teachers come from diverse backgrounds and experiences.

The decision about whether the teacher is suitable to hire should be made at the provider level – where the teacher's training can be matched to school needs and the relevance of different types of training judged. In general, the principal will decide who will teach at the school in order to build up a team. Principals are most familiar with the idiosyncratic needs of their schools and should be free to hire whomever they consider best and be able to compensate them according to market conditions and individual performance. The broader the pool of applicants, the more likely the principal will hire a suitable teacher.

RESPONSE AND RESPONSIBILITY: SUPPLY SIDE DEREGULATION AND PUBLIC SCHOOLS

Insufficient supply

The most compelling argument against voucher reform is that it will not result in competition because the supply of private schooling will not expand. Some

[70] New Zealand Teachers Council (2003a).

argue that current schools have little incentive to increase their size (especially religion-based schools) and there will be little entry of new schools (especially in low-income areas).[71] For example, the chance of dramatic changes in government policies towards the funding and regulation of private schools when a new political party comes to power may deter long-term investments. Inelastic private school supply would mean that subsidies to private schools would mainly go to existing schools.

This concern contradicts the claim that a voucher system will destroy the government system and leave it a residual system only for the poor.

Concerns about an insufficient supply of private schools appear overstated. Supply is likely to be responsive to increased demand – the inputs required to open a school are not in short supply. Schools can, and do, operate in shopping malls, office buildings and universities.

- In the United States, over 2,000 charter schools have opened up in a decade, many targeted at children from low-income families. Over three-quarters of these schools are start-ups – entirely new schools.[72] In Arizona, a state with a strong charter law, charters are 20 percent of all schools.[73] In the cities with large-scale choice programmes, new schools have been founded directly in response to the demand generated by choice.
- In Australia, subsidies to private schools have attracted much entry into, and expansion of, the private sector. In the five-year period from 1981 to 1986, private school enrolments grew by 3 percent per year after the Fraser Commonwealth government increased capital grant funding for new schools. One-third of entrants were non-denominational or secular, the fastest growing group. The Hawke government restricted funding for private school entrants from 1983, which slowed the growth. Private school enrolments have grown by over 2 percent (around 20,000 students) per year since the Howard government dropped the entry restrictions in 1996.[74]
- In New Zealand, subsidies to private tertiary and pre-school providers resulted in a substantial expansion in private supply. For example, when PTEs could access government funding from 1990, almost half of the 800 providers set up between 1990 and 1995. The Catholic school system is seeking to expand and enrol more of the 50–60 percent of Catholic students who attend state schools.[75]

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71 This argument is made by Wylie (1998) p 113; Smelt (1998) p 69 and Lieberman (1989) pp 158–169.
72 See Center for Education Reform (2000).
73 See http://nces.ed.gov/nationsreportcard/states/profile.asp. The figures are for 2003.
74 Australian Bureau of Statistics (2003).
75 Wylie (1998) p 109.

- A voucher-like scheme for youth training in England resulted in an elastic response with 4,000 providers appearing 'from nowhere' to supply new courses.[76] Similar responses in the private training sector have occurred in New Zealand and Australia once funding was extended to private providers.
- In the United States, critics expressed similar concerns that colleges could not handle the increase in demand likely to flow from the GI Bill, which provided vouchers for war veterans that could be used in private and public institutions. Yet, supply increased and the number of students enrolled in colleges nearly doubled in the two years after the end of the war.[77]

Further, if a voucher scheme prevents the existing private sector from going out of business, it will increase competition compared with what would otherwise have happened.

Concerns about supply side responsiveness reinforce the need to include for-profit schools in any financing system. They have a greater incentive to expand than non-profit providers (extra surplus is more valuable to those who run the school).

Non-profit schools currently dominate the private sector – but that is to be expected when subsidy levels relative to government schools are low. The first private schools to operate will be those with 'missionary' goals (for example, religion-based schools) – because they are willing to operate at a loss or if costs are covered. As per-student subsidies increase, for-profit schools would enter if they believe they can run schools so that revenues exceed costs. Once this point is reached, the potential supply of schools from the for-profit sector is likely to be large.[78]

A choice system may increase the number of schools and school buildings. This may be desirable and would not necessarily cost the government any more. The current school sizes and numbers are not necessarily optimal. The extra buildings provide more flexibility and options for parents. They increase competition, which improves performance.

The government should not provide direct up-front funding to private schools for capital costs but should only fund through per-head subsidies intended to cover all costs. Otherwise, the result could be excessive amounts of capital spending and all the problems with a centralised system of capital distribution – such as politicisation and insufficient information to allocate capital efficiently. Capital funding for new private schools shifts some of the risk of their failure to the government and gives the government an interest in

[76] Seldon (1986) p 23.
[77] Friedman (2002).
[78] Solmon *et al* (1999).

keeping the school afloat – which can lead to an existing flaw, a willingness to keep bad schools open. Instead, entrants should face market incentives so that they would only enter if they can attract enough students away from existing schools to cover all their costs – including capital costs.

The current distribution of property is inequitable, with wide variations between schools serving comparable age groups in the quality, costs and appropriateness of Crown-owned school property.[79] Cash grants are more efficient because schools can decide how much and what type of capital they need to acquire.

On the other hand, the problem with per-head capital subsidies is policy uncertainty. The risk that future governments may cut subsidies discourages entrants from building new schools or committing to large investments.

The total number of children to be taught does not increase when a new school enters, so it is not necessarily the case that more school buildings are needed. A mechanism for shrinking or exiting schools to sell their buildings to expanding or entering schools would reduce the extra capital required.[80] In the United States, charter schools often lease their space from the public school district. To the extent that parts of buildings can be sold or leased, the increase in buildings required would be even less.

The government currently owns the bulk of the capital stock in the schools sector and its decisions about capital stock use will have an important effect on the responsiveness of the supply side. For example, the government can facilitate entry through ensuring poorly performing government schools are taken over or shut down. It can bring new entrants into the industry through contracting out.

Privatisation by choice: government school property ownership and management

The Ministry of Education is the policy maker, regulator and purchaser as well as the residual claimant and property owner for government schools. Performing all these roles leads the Ministry to conflicts of interest. For example, the Ministry's regulatory role is used to ensure that it does not end up with under-utilised government schools. Parental choice is restricted to benefit its ownership interests.

These roles do not necessarily have to go together. For example, a school is different from the building it occupies. The owner of a school can rent school property from someone else.

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[79] Taskforce on the Development of Long-Term Policy for School Property (1993) p 38; Smelt (1998) p 67.

[80] Hoxby (2001) p 16.

The provision and ownership of school property can be separated from the other roles by having an independent entity manage it – say the School Property Management Board.[81] The Property Board would be a separately constituted Crown entity answerable to its own minister or the Treasurer. It would be a limited liability company, with a board of directors. Its objective would be to manage the school property portfolio to promote efficiency and to achieve any other objective that underlies the government owning school property – such as ensuring adequate education supply.

It could be given a duty to promote or facilitate competition (but not inefficient competitors) – which the United Kingdom has found alters the incentives of regulators, and makes them less prone to empire-building and more inclined to resist the expansion of regulation sought by other interested parties. A duty to further competition allows regulators to take the initiative in promoting the entry to markets needed to transform an industry from monopoly to competition.[82]

A property board is not part of an ideal system – it is still a government agency with no private ownership incentives. It is part of a transition to an improved arrangement. Its existence is necessary because the government owns a lot of school property.

A dedicated property manager would improve the management of the current government property portfolio. It would provide specialist skills and be more accountable for performance through setting clear objectives for the use of school property and monitoring whether they are achieved. There would be an increased focus on issues associated with managing a large property portfolio – such as clarifying the rights and responsibilities of the users and suppliers of school accommodation.

How could the Board move from current arrangements, where the government dominates provision and purchase, to a market system, with parents as purchasers and a number of competing providers.

A number of authors suggest that the best approach to privatising the education sector is simply to auction off all government schools to the highest bidder or to make them publicly listed for-profit companies and issue tradeable shares. Another suggestion is to turn each school into a non-profit trust with school property vested in the board of trustees.[83]

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81 The form of the board and its advantages draws on the suggestions of the Taskforce on the Development of Long-Term Policy for School Property (1993) pp 66–73.

82 See Blundell and Robinson (2000).

83 See Fane (1984); Allen and Toma (1998); Vedder (2000) pp 27–35 and Sexton (1990).

There are a number of problems with these proposals:

- Selling off the schools immediately is unlikely to raise much revenue because of fear of continued politicisation and policy risk – a newly elected government may introduce regulation that can destroy the value of investments. Further, there is not a fully developed education market, and it is not clear whether there would be enough bidders for a successful auction.
- The optimal shares of for-profit, non-profit and government schools cannot be decided *a priori* and the extent of each should be determined by open competition. For example, some parents may prefer to use a government-owned school.
- Some of the proposals dictate and lock in the governance structure for all government schools.
- Simply converting schools into private non-profit trusts gives free capital and a huge competitive advantage to those schools.

My proposal is to let individual decisions determine the extent of privatisation and the industry structure through allowing parents and schools to opt out. Parents can choose to move their children to a private school and government schools can choose to become independent. The shares of different sectors, the form and sizes of schools would be determined by people voting with their feet. Privatisation would only occur if people at the school level think it is an advantage.

Privatisation can occur in one of two ways. First, if parents leave public for private schools, there would then be excess school property in the public sector that can be rented or sold to the expanding private sector. Second, individual schools can elect to become more autonomous, and eventually private.

The traditional public sector would survive if it successfully competes with other organisational forms so that parents choose to send their children there.

An adequate voucher would likely create such competition from private schools (especially if for-profit schools enter) that there would be pressure on government schools to privatise in order to get the autonomy to respond. For example, private schools offering a traditional curriculum and teaching methods will attract parents from government schools that are forced to offer a progressive curriculum and teaching methods, especially those serving (or not serving) low-income students.

If parents prefer what is currently offered in government schools and those schools are efficiently organised, or if they change to offer efficiently what parents want, they will not lose enrolments and there will be no privatisation. Nothing will have been lost by providing extra options to parents – and the opportunity for parents to exit may have forced change in government schools.

The Property Board would therefore have three main functions:

- to provide property to schools;
- to manage the privatisation of failing government schools; and
- to oversee the conversion of government schools that elect to become independent schools.

Provision of school property

The Property Board would provide property to government schools that wish to continue to receive property in-kind. It could lease property to private and independent government schools.

Independent schools could also acquire property from private providers, which would create competition for the Property Board and provide an increased incentive for it to focus on school needs.

When schools occupy property on a fee-paying basis, they face the cost of capital and have an incentive to take it into account in their decision making. They face the true costs of land and buildings, and could trade them off against more teachers, improved equipment and so on.

Privatisation of failing government schools

The Ministry should try to turn around poorly performing government schools. If it cannot improve the schools, there should be some process for their takeover or closure that is independent of the Ministry and based on clear criteria. An independent property agency could de-politicise the exit of government schools.

There should be some limit on inefficiency and the current practice of giving out large hidden subsidies through the wasteful use of capital. The money spent on keeping failing schools open could be better spent.

The government's lack of success in fixing failing schools means it may be best to privatise and get someone better (or not subject to political pressures from producer interests) to fix up a failing school. Privatisation has a number of advantages – it provides incentives for efficiency, promotes de-politicisation and reduces risks borne by taxpayers.

The Property Board should lay down financial requirements and monitor whether schools meet them. For example, it could determine minimum viable student numbers for each and step in if enrolments fall below that.

A number of options can be pursued. The Property Board can force the declining school to give up property or share it with others. It can rent part of the school building to another user and create a 'school within a school'. This will decouple the link between one board and a school site and increase choice.

This system worked well in Harlem where parents were free to choose among autonomous schools set up by teachers within public school buildings. Having many schools within each building sharpened competition, increased quality and spread good ideas.

> If a school on the fourth floor is having interesting field trips, outside performers coming in, and other exciting things happening, it is unlikely that the students and teachers on the third floor will say 'that's fine for them, but not for us'.[84]

Alternatively, the school can be closed and all of the school grounds rented or sold to another user – which could include a takeover by a successful school seeking to expand.

Another option is for the Ministry to bid to continue using the site for its current school – that will make the cost of doing so explicit and the expense can be compared with other ways of helping the students.

Conversion to independent school status

A successful government school could elect to have more autonomy and ultimately become privatised, and be funded, regulated and treated as a private school. It would be voucher funded on a per-head basis and could rent land from the Property Board or from private providers and purchase property in its own name. It could raise capital and buy land and buildings from the Property Board.

Each independent government school would be established as a separate entity where the government is no longer the residual claimant. The school would have a hard budget constraint and would shut down if it could not attract enough students and restrain costs. These entities could have a variety of ownership forms such as educational trusts, private companies, teacher co-operatives, parent co-operatives and university schools. The final form could be determined on a case-by-case basis according to the circumstances of the school and the wishes of parents.

One possible form is for each school to be a free-standing corporation, that is, a company limited by guarantee. They would be able to buy property and borrow money but must adhere to the purpose for which they were set up – they cannot close the school down and go into an alternative business. This form was used in the United Kingdom for polytechnics when the Education Reform Act of 1988 took them out of local control.[85]

The movement to full independent status may take a number of steps to ensure there are the skills and management structure within the school to

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[84] Fleigal (1993) pp 189–90.
[85] West (1995).

compete successfully when independent. While the school is still owned by the government, there will need to be some controls on school decisions.

The decision whether to seek independent status would be made at the school level – for example, by the elected parent board.

A further option would be to introduce a mechanism to implement the Picot Taskforce proposal to allow a group of parents representing at least 21 students to withdraw from existing arrangements and set up their own state-funded school.[86] That is, parents could opt out and convert to an independent school status.

Another advantage of the opting out scheme is to create competition between different regulatory regimes for schools. They can choose whether they want to be an ordinary government school or an independent school.

Dealing with fiscal risk

The government needs to clarify its relationship with each type of school. The issue is, who bears the risk of failure by the school? If the government does, then it will limit the school's autonomy to reduce the risks it bears. A school's autonomy will necessarily remain limited so long as the state remains its residual claimant. (See chapter 2 'Fiscal risk'.) For example, the government will restrict the school's ability to borrow money. Privatisation is needed for the state to shed its provider role.

Suggestions have been made for reforms to move from in-kind to cash provision of capital to government schools.[87] That would appear to be problematical when schools are governed by parent boards with little incentive, or even expertise, to manage capital effectively with little fiscal risk to the government. Smelt argues that the devolution of responsibility for property to schools and any form of capital charging:

> . . . would create large windfall gains and losses at the school level with which the school boards would be ill-equipped to deal. Similarly, the lumpiness of investments would pose challenges to school boards and require long-term planning and financial arrangements.[88]

One possible way to deal with these problems is to have Ministry delegates on school boards to represent ownership interests. This approach is about funding government schools in a different way. A better approach is to move towards funding students rather than schools and to rely on privatisation to reduce the risk the government bears and allow full autonomy at the school level.

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[86] See Taskforce to Review Education Administration (The Picot Taskforce) (1988) pp 77–78.
[87] See, for example, Taskforce on the Development of Long-Term Policy for School Property (1993).
[88] Smelt (1998) p 67.

Even privatisation will not necessarily solve the problem of fiscal risk. There will be political pressure to bail out incumbent schools in trouble, and so the government still bears financial risks from school failure. These pressures need to be recognised and addressed.

The best way is to make explicit the degree of guarantee and accompanying regulation and monitoring. For example, prudential regulation of independent schools could operate through certification. The government would make it clear that only students at schools with prudential certification would receive government aid in the event of financial collapse. In return for certification, the government would impose regulations – such as representation on school boards. It could charge for the guarantee. If schools accept the conditions for a government guarantee they become certified and can advertise the fact.

Schools would be free not to be certified – but it should be made clear that their students cannot expect any government assistance in the event of insolvency. Schools can adopt alternative protection for their students – such as private insurance (where they will be regulated by their insurer though a contract) or some self-protection in concert with other schools.

In this way the different degrees of guarantee and regulation are put to the market test. If excessive regulation impairs performance, schools in that regime will lose market share – but that is because it is a poor way to provide education.

Determining the value of school property

When the Property Board leases or sells land to independent schools, it is important that it gets the price correct. Public assets should not be sold cheaply. If the rental price is set too low for some schools, they will have an unfair competitive advantage.

Ideally, the prices would be set by competitive bidding. The education market may not be sufficiently developed for that to occur immediately. If so, the Property Board should lease the land, which will limit the extent to which privatisation would unfairly enrich anyone. There are a number of potential ways to value the school property, although subjective judgement will be required in the absence of a market determined price.[89] For schools converting to independent status, the rental price should assume the land is restricted to use by a school. The Property Board needs to determine whether the land and buildings of failing schools should be kept for use as a school in the light of its objective to ensure supply.

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[89] See Taskforce on the Development of Long-Term Policy for School Property (1993), Annex IV, pp 104–106 for a review of the different methods and their feasibility.

Down the track, if the market is working well, there would appear little case for continued ownership of school land and buildings and they can be sold off.

Contracting out

Contracting out is where the government pays private providers to deliver a specified service. It can be used as an alternative or as a complement to family choice. It privatises provision, but does not introduce a market system. The government retains the purchaser role – it sets objectives, judges performance and determines whether the contract is renewed. Decisions about what is to be produced are still centrally determined through the political process and subject to the information problem. There are no price signals to students or providers and the conflict between accountability and autonomy remains. Uncertainty about contract renewal limits capital investment.

The rationale for contracting out is not based on family choice but the superior incentives of a private residual claimant to increase cost efficiency. Its drawback is that contractors may reduce non-contractable quality. (See chapter 4 'The make or buy decision'.) Contracting out requires accurate measures of performance, yet that can be difficult to measure from above.

Advantages of contracting out to private providers include:

- By shedding the provision role, the government can focus more on its consumer and child protection roles.
- Contracting out may be used to facilitate the entry of private providers and increase competition when the market has not developed. It may play a role in establishing for-profit private education companies that can expand. A contractual arrangement gives them some security from policy shifts. Contracting out can provide a demonstration of private sector superiority and that government provision is not necessary for high standards.
- The Ministry can use contracting out as an alternative way to fix up failing schools or to manage new schools. The operators would be free from many of the current restraints that inhibit the successful operation of low-SES schools (such as teacher regulation and parental governance). Some companies may specialise in supplying expertise to turn around failing schools.
- Contracting out can be used to introduce competition and private ownership incentives when the government has a purchase interest – for example, when buying schooling for children under its child protection role.
- Government schools could be directly reformed at the school level by giving school boards the option to contract out various aspects of school governance. If boards are considered capable of hiring teachers, then surely they are

capable of hiring contractors. For example, they could contract out school management to approved private education companies or contract with independent companies to provide teaching services. Accountability is likely to increase. If a board did not have to hire the teachers, it could focus more on evaluation of the contractor's services. It is also more likely to sack a contractor for poor performance than get rid of its own teachers.

Rural schools

One-third of state schools in New Zealand are in rural localities (with a population of less than 1,000). These schools cater for around 10 percent of New Zealand students, with an average school roll of 81. By comparison, 68 percent of students attend the 48 percent of New Zealand state schools in main urban localities. These schools have an average roll size of 374.[90]

Competition between schools may not be feasible in sparsely populated rural areas. That is no reason to shun competition in urban areas, where it is feasible and the majority of students live.

There may be a case for measures targeted at the problem of local natural monopoly in rural areas, but they should still involve the use of competitive pressures. For example, contracting out can be used by parent boards, and schools within schools may be feasible.

Voucher funding for parents would increase their options. For example, parents can use them to send their children to boarding schools. Home-schooling will also provide competition for schools and will become a better alternative with new technology. Voucher funding will encourage private providers to develop and supply services to rural parents. Extra funding for those in rural areas can be granted by topping up their vouchers.

Incremental privatisation

As alternatives to the above recommendations, there are a number of incremental measures that experiment with competition and privatisation that could be adopted, and extended if successful.

One suggestion is mini-vouchers that could be used for subjects or activities that do not require a change of school.[91] For example, at-risk children can be given vouchers to buy after-school coaching, rather than spending more on public schools that have proved incapable of helping them. Existing schools, private operators and free-lance teachers can compete for custom. This proposal

[90] Ministry of Education (1999d) p 28.
[91] See Lieberman (1989) pp 252–254, 295–296.

recognises that what is most important is often choice of teacher rather than choice of school. It enables teachers to top up their income, which allows good teachers to earn more and splits opposition to the proposal. It may help establish private education companies and demonstrates to parents and teachers that there are opportunities outside of state schooling. The scheme could create a constituency for change and an extension of the scheme to regular schooling.

Next time a government school is closed down, the families in its zone could be given a voucher for each child, equal to the average government school expenditure, that can be used at any government or private school. This gives parents the extra option of attending a private school and partly compensates them for the loss of their local school. If the scheme attracts parents into the area, that would help reverse any fall in land prices from the school closure. The school should be auctioned to the highest bidder, which would give information on the value of school property and how keen private schools are to enter voucher markets.

In areas where the population is expanding, the government could provide parents in a new suburb with vouchers instead of a public school. Whether the suburb attracts parents and private schools would provide information on whether private schools are likely to enter a voucher market and whether parents value vouchers.[92]

CHANGING THE SYSTEM

These policy recommendations are about increasing choice and competition to improve the education system. Their thrust is to decentralise decisions to the school level and allow parental choice to determine what schools do, because that will, in general, lead to the best results for children. Choice is about abolishing restraints on families and increasing their options – options that families will only take up if it makes them better off.

The reform plan outlined above is not conservative – the status quo, a centralised public system is questioned. Although it is wise to respect the customs and institutions of society that represent the wisdom of many people and generations of experiments, the thrust of this book is that decision-making mechanisms that do exactly that should be set up. The recommendations are to suggest processes and institutions under which change will only happen if people want it and will only survive if it does a good job. The results will be conservative, if that is what people want. But small groups will be able to implement radical changes for themselves. The idea is to introduce a system

[92] These two experiments were suggested by Fane (1984) pp 45, 49.

that seeks improvement. That is not true in a centralised system run through the political process, where what survives often depends on the power of special interest groups.

Moreover, it is not conservative to maintain the current centralised system. A combination of self-interest and ideology leads producer interests to favour policies that increase centralisation and reduce accountability. Although those who run the system strongly resist changes that reduce their monopoly power, they impose major educational changes on all with disregard for, and often in opposition to, the views of many parents and teachers. The costs of mistakes are higher when they are imposed on all.

In fact, only a market system offers hope of reversing damaging curricular and assessment changes. Progressive ideology thrives in the public system insulated from parental demands and accountability for results. Other reform approaches have failed because of poor incentives to boost productivity and ensure children are well educated in the current system. There is little feedback on whether changes improve matters and few incentives to systematically seek out and keep only beneficial changes. The political power of producer interests often limits reform.

The reform ideas are not new or untried. Private education, including home-schooling, privately financed schools and education for profit, existed long before there were government-owned schools, as did government subsidies to private schools. Public education should mean the education of the public, and a monopoly for government-operated schools is not necessarily the best way to educate the public. Government-owned schools are an invention of the nineteenth century. It may be that there was justification to introduce free, compulsory and secular schools 100 years ago. The question is whether it is justified now. The costs and benefits of centralised provision have changed over the past 100 years. The following factors either raise the costs of, or reduce the benefits from, public provision and make the case for it weaker today than when it was introduced.

- Parents are more affluent and educated. Today's society is richer, financial markets are more developed and so capital market imperfections are less important. Parental ignorance is less likely.
- When education is publicly funded it must compete with other calls on the public purse. Changes in the broader society mean expenditure on education is likely to be held down as other expenditures have political priority. Social trends such as declining birth-rates, smaller family size and the ageing of the population have reduced the political clout of families and meant less political pressure for education spending. At the same time, many of the trends, such as smaller families, rising income levels, new technology and

an increasing premium for skill, increase the demand for quality from parents. Parents may wish to spend more per child just when the community wants to spend less, increasing the chance that government provision, given as a subsidy in-kind, actually reduces the amount spent on a child's education below what the parents would have spent. For more and more parents, public provision is inferior to what they would buy in a free market or with a supplementable voucher.

- Advances in communications and information technology have made innovation in educational practice more important. The cost from poor incentives in a publicly owned system is greater in times of fast-paced technological change and vast opportunity.
- The fall in transport costs over the century (for example, the invention of the motor car) has reduced natural monopoly problems and made the education sector potentially more competitive. It is feasible for students in urban areas to have a choice of schools. The fall in transport costs has increased residential stratification and increased the costs of policies that restrict children to neighbourhood schools.
- The increase in the return to schooling and importance of human capital favours private over public schools, because they are more efficient producers of private human capital. Further, policies that neglect the education of the poor are now more costly and risk creating a permanent underclass and social conflict.
- The political process has changed. The professionalisation of politics and the movement in decision making away from those directly accountable to the public, and towards bureaucrats, have meant special interests in education are a lot better organised, have more power and have become more adept at using the political process. For example, teachers have become unionised. Although public provision may have been introduced for public benefit reasons, helping special interests may now play a larger role.
- There has been a vast increase in the cost of cycling money through government. Government has a much bigger share of the economy – around 40 percent compared with around 10 percent a century ago. Not only does that mean less time for politicians to focus on education issues, it also means the cost of taxation is much greater. The cost imposed by taxation rises by the square of the tax rate. If the average tax rate rises from 10 percent to 40 percent, the cost of raising a dollar of revenue goes up sixteen-fold. Having the government raise taxes to spend on education, rather than parents spending themselves, is much more costly.

- The tax-transfer system is more advanced. There are large-scale tax-funded transfer payments to the poor that did not exist 100 years ago. Further, the administrative costs of a decentralised funding scheme are much lower now than 100 years ago.
- Universal literacy is a relatively straightforward goal that can be achieved through schooling and success at it can be measured from above. Public education, however, now undertakes other roles that are more complex and more difficult to do in a centralised system. For example, to undertake successfully a vocational training role requires information on local job markets and employers. State schooling may not be the best way to achieve these new objectives, especially because it is so difficult to measure success at many of them from above.
- When public education was introduced, New Zealand was a more rural society than it is today. That meant competition would not work so well. There were few alternative uses for school buildings, and teachers in rural areas had little alternative employment in the area. Competition is now more effective, and new technology will increase it further by providing alternatives for those in rural areas.
- A possible rationale for the government to provide schooling is to ensure those compelled to attend school receive a minimum quality of education. Yet 80 percent of students stay on past the age of 16.[93] Compulsory schooling laws are simply no longer relevant for the great majority of students.
- Teaching was one of the few professions open to talented women, ensuring a high-quality teaching force despite limited rewards for talent. Increased opportunities for women have increased the cost of poor remuneration policies in the schooling sector.
- Society is more heterogeneous, with less agreement on educational matters, which increases the cost of political conflict over how public education is to be run. This makes universality less, and diversity more, desirable. Fewer will be satisfied with the one-size-fits-all offered by the public sector. The cost is not only the resources used in political battles but also the quality of the educational programme that results.

> As 'diversity' increases, the public school curriculum reflects more compromises between various interest groups. These compromises result in programs and

[93] Ministry of Education (2003a) table A.8, p 72.

> courses that lack coherence or unity of purpose. Instead they are a mishmash reflecting the politically feasible, no matter how pointless they may be educationally.[94]

- Public education no longer actively promotes social cohesion. Indeed many of the policies in public schools may be socially divisive. Modern curriculum policies eschew an assimilation role in favour of allegiance to the students' own cultures and politically correct social engineering. Maori students are even encouraged to separate into their own schools.

The problems with implementing market reforms are political – the opposition of special interests and the lack of a constituency to campaign through the political process for market reform. It is difficult to get the main beneficiaries – consumers and taxpayers – involved. There is the free rider problem – it is not worth any individual's while to put in the effort to conduct a political campaign with an uncertain outcome. Most of the benefits will go to others who do not contribute. Further, there is no organised producer interest to help. Current private providers are non-profit and often have little interest in expansion.

A further problem is the fact that public provision is the status quo, which gives it a huge advantage. The costs of change are clear to the losers, whereas the benefits are in the future, and it is often difficult for potential gainers to identify themselves or evaluate how much they may gain. The advantage of the status quo is magnified in the case of education where government schools have literally taught many voters how to think.

Yet we could do better. The current system is inefficient, neglects the poor and discourages good teaching. Public provision has failed, and it has been demonstrated that competition is as beneficial in education as it is in other industries. A market system is driven to satisfy consumers and to improve, something no amount of tinkering with a public system will provide.

There is a role for government, but the best way for the government to carry it out is not to provide schooling, but to finance and regulate it. The largest benefits will come from a full market system, with free entry and exit to maximise competition and choice. Entry should encompass for-profit schools and exit should include unsuccessful government schools.

Financing should be on a per-head basis so that schools are accountable to parents. The best way to move from public provision to a market system is for the government to introduce a universal voucher available to all students and neutral between different types of schools. It should be large enough to cover the costs of a private profit-making school offering a high-quality education.

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[94] Lieberman (1993) p 165.

A universal voucher for a substantial amount would give all families the choice of private schooling and would encourage the development of the private sector. It will place competitive pressure on public schools and give them an incentive to improve. In the absence of outside competition, the government system has little incentive to adopt desirable reforms and is subject to political pressures not to.

Parents would be able to supplement or top-up the voucher. A parental contribution to financing would give parents a greater say in what the school does, give schools increased independence from political control, place increased pressure on schools to minimise costs, promote parental involvement, reduce churning and provide price signals.

Not only would a market system be more efficient – with higher productivity and consumer satisfaction – it would also fix up many of the problems with current arrangements by encouraging good teachers, boosting innovation, involving parents and benefiting the poor.

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