

Choice, vouchers and the consequences for public high schools: lessons from Australia

June 2009

Louise Watson* and Chris Ryan#

Abstract

For over three decades, government subsidies have been a major source of funds for private schools in Australia and private schools now enrol over one third of all students. Analysing administrative and participation data, we find that Australian private schools have used government subsidies to increase the quality of their services (ie. to reduce student: teacher ratios) rather than to reduce their fees. As a consequence, the socio-economic composition of private schools has remained unchanged whilst a higher proportion of public school students now come from low socio-economic status (SES) backgrounds. The Australian experience suggests that weighted voucher schemes are not likely to facilitate access to private schools for low SES students, without significant government policy intervention.

***Dr Louise Watson**

Associate Professor, Faculty of Education
University of Canberra, ACT 2601
AUSTRALIA
Telephone: + 61 (02) 6201 5357
Email: louise.watson@canberra.edu.au

#Dr Chris Ryan

Director, Social Policy Evaluation, Analysis and Research Centre,
Research School of Social Sciences,
Australian National University, Canberra ACT 0200
Australia.
Telephone: +61 (02) 6201 5357
Email: Chris.Ryan@anu.edu.au

Introduction

This paper reveals what schools do and what parents do when voucher-style subsidies are provided for all private schools on a nationwide basis over a long period of time. In Australia, since 1974, every student who enrolls in a private school attracts a government subsidy worth between 15 per cent and 85 per cent of total student costs. The level of government per capita subsidy is determined on a needs basis and varies according to the school's total financial resources, which is primarily income from tuition fees. There is minimal government regulation over how the vouchers are spent ("for educational purposes") and minimal government influence over the fees charged by private schools. Australia therefore offers a unique opportunity to analyse the consequences of a large scale voucher-style system of subsidies which has enabled private schools to compete for students with fully-funded public schools, in a school education market.

In this paper, we provide a brief description of the Australian system for funding private schools since 1974 and illustrate broad trends in student participation since the funding scheme was introduced. The next section of the paper examines trends in the school enrolment data, changes in tuition fees and trends in student: teacher ratios in private schools since the introduction of government subsidies nearly four decades ago. In section three, we present data on the socio-economic background of private school students in the mid-1970s and in the late 1990s to assess how widely-based the increased enrolment share to private schools has been. The fourth section analyses changes in the average socio-economic composition of schools in both the private and public sectors and discusses the possible impact of the changed enrolment patterns on schools in each sector. Finally, in section five, we synthesise the research findings in terms of what parents do and what schools do when weighted vouchers are used to fund private schools.

The paper draws on several sources of data. We monitor changes in participation and in student: teacher ratios using administrative data from the Australian Bureau of Statistics. To monitor changes in the social background of students attending public and private schools, we look at two cohorts of students from two national longitudinal surveys – the *Youth in Transition Survey*, and the *Longitudinal Surveys of Australian Youth*. To examine trends in private tuition fees, we use unpublished administrative data collected by the Federal Department of Education.

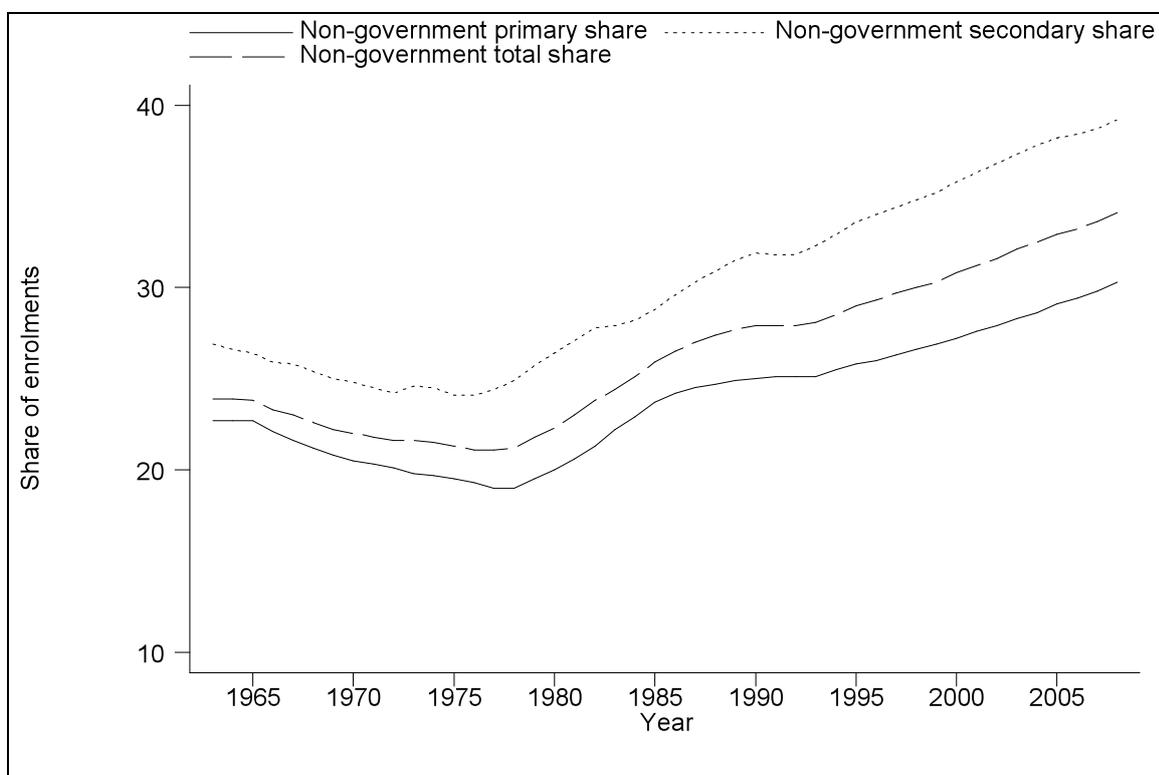
1. The Australian voucher system

In Australia, the federal government provides a weighted subsidy (voucher) to assist students to attend the school of their choice in the private sector. Federal grants to private schools are supplemented by state government grants to the value of approximately half the federal grant. Schools in the catholic system receive a combined (ie federal and state) grant per student that is worth approximately 85 per cent of school costs. Catholic system schools charge their students a relatively low fee and enrol 22 per cent of all students in high school. Students attending independent schools attract a federal voucher weighted according to the socio-economic status (SES) of their parents' home address ranging from 14 to 70 per cent of school costs plus a grant from the state government that is about half as much as the federal grant. The weighted subsidies are paid in a lump sum to the school and all students attending a particular school are charged the same fee. There are both high-fee and low-fee schools in the independent sector and all together, independent schools enrol 18 per cent of high school

students. Public schools are fully government funded and enrol 60 per cent of all students in high school.

The size of the private school sector in Australia has always been relatively large due to the high proportion of schools – traditionally at the elementary level – supported by the catholic church (see Figure 1).¹ During the 1960s, catholic schools came under financial pressure due to the impact of the post-war baby boom, increasing rates of secondary school participation and a decline in the educational contribution of religious orders. This meant that most catholic private schools were struggling to provide education services to the standard of public schools and the catholic system’s share of total enrolments declined from 19.5 per cent in 1965 to 17 per cent in 1973. The private sector’s enrolment share as a whole fell from 23.3 per cent in 1966 to a trough of 21.1 per cent in 1977.

Figure 1 Private school enrolment share: 1963 to 2008



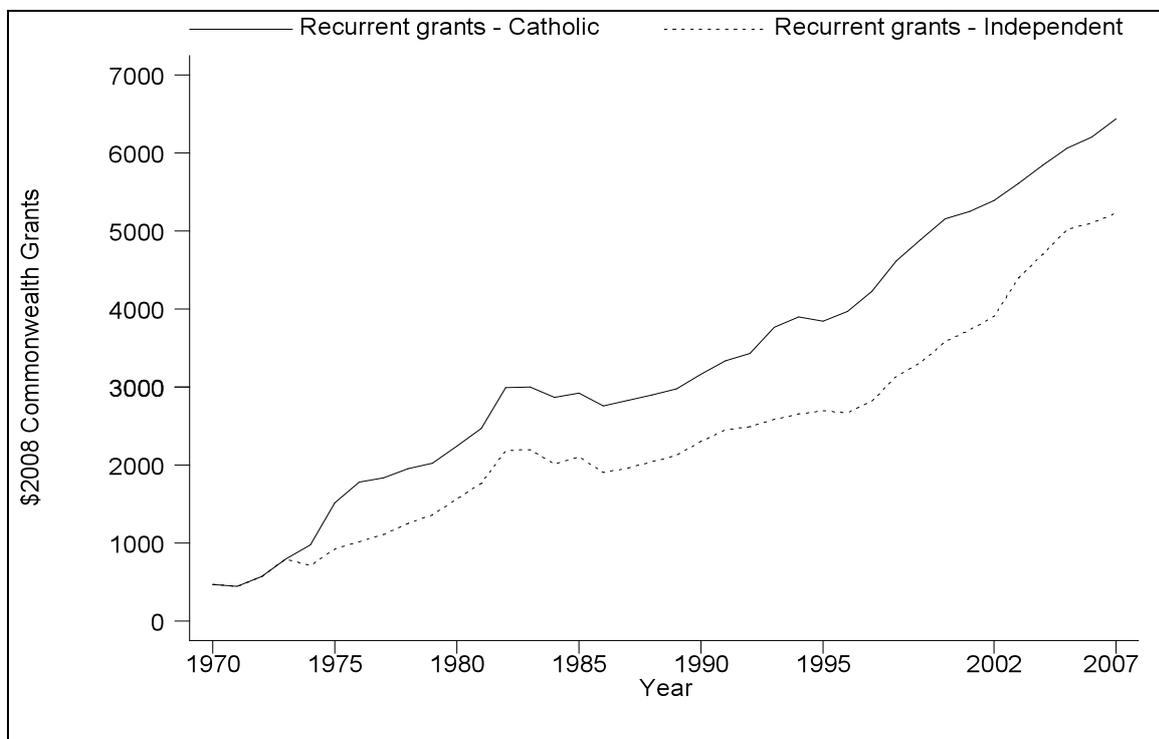
To arrest the declining enrolment share of catholic schools, during the 1960s, a successful political campaign was waged for the provision of government operating subsidies to private schools (Albinski, 1966; Hogan, 1984) that resulted in the flow of state and federal government funding by the end of the 1960s decade (Praetz, 1982; Smart, 1978). Prior to 1969, federal support for private schooling had been largely indirect through personal income tax deductions. The provision of federally funded vouchers saved the catholic schools sector from further decline and the weighted vouchers introduced in 1974 remain the centrepiece of federal funding for private schools today – accounting for 94 per cent of total federal outlays on private schools (Department of Education, Science & Training, 2004).

Between 1974 and 1999, the Australian government’s private school funding scheme allocated a weighted voucher per student to each private school or system on the basis of the financial “need” of the school or system, measured by its declared total level of private

income. As most private school income was sourced from tuition fees, schools that charged high fees (mostly independent schools) received a lower per student grant than schools charging low tuition fees, most of which were catholic schools (Watson 2003, 2004). Since 2000, the level of federal funding has been linked more directly to the financial means of individual student’s families, and is allocated to schools on the basis of the aggregated socio-economic status of the enrolled students, measured by the socio-economic status of the student’s home address (Watson, 2003).

The real value of federal vouchers for students in private schools has increased steadily since the 1970s (see Figure 2). Between 2000 and 2004, for example, the average federal grant per student in private schools increased by 6.3 per cent per annum in real terms – well above the rate of inflation and the average annual increase of 3.7 per cent in federal grants per student to public schools (Commonwealth of Australia, 2004; Australian Bureau of Statistics, 2004).

Figure 2 Federal real per capita funding to private schools for secondary students: 1970 to 2007 (\$ 2008)



This study focuses on high schools because the successful completion of high (secondary) school is a critical point for access to university. In Australia, formal schooling ends in 12th grade (at around 18 years of age). In most states, students leave elementary (primary) school after 6th grade. High (secondary) schools cater for students from 7th to 12th grade. Students must complete 12th grade in high school before being eligible for admission to university. Entrance to all university courses, such as law and medicine degrees, are offered on the basis of a student’s school achievement in 12th grade. A student’s results on completing 12th grade are standardised to give each student a university entrance rank score which is used to apply for admission to university courses nationwide. Thus the successful completion of 12th grade in high school is the principal means by which young people leaving school in Australia are offered university places. The fact that 12th grade of high school is a ‘high stakes’ transition

point in education contributes to the traditionally higher levels of private (non-government) school enrolment at the high (secondary) school level, as shown in Figure 1.

Since the late 1970s, the proportion of students in private schools has grown consistently, and in 2008 was about 12 percentage points higher than the trough of the late 1970s. The increase in the secondary school share over this period was higher – closer to 15 percentage points. The private sector's enrolment increase over the period was not uniform, and growth in its share of secondary enrolments stagnated twice, during the recessions of the early 1980s and 1990s – both periods associated with strong increases generally in high school retention in Australia, which was concentrated in public schools. However the growth in the private share of elementary enrolments also slowed in the late 1980s, which suggests some other factor may have been at work, such as the impact of a federal policy that restricted the growth of new private schools – the *New Schools Policy* – between 1985 and 1996 (see Ryan and Watson 2004).

2. Trends in tuition fees, student: teacher ratios and enrolments

The authors of this paper are interested in how private schools have used the vouchers they have received from government. Since most private schools in Australia are non-profit organizations, it follows that operating revenue is approximately equal to operating expenditure in the sector. Leaving aside fixed administrative costs, we surmise that increased income from government might be used by private schools for one of four purposes:

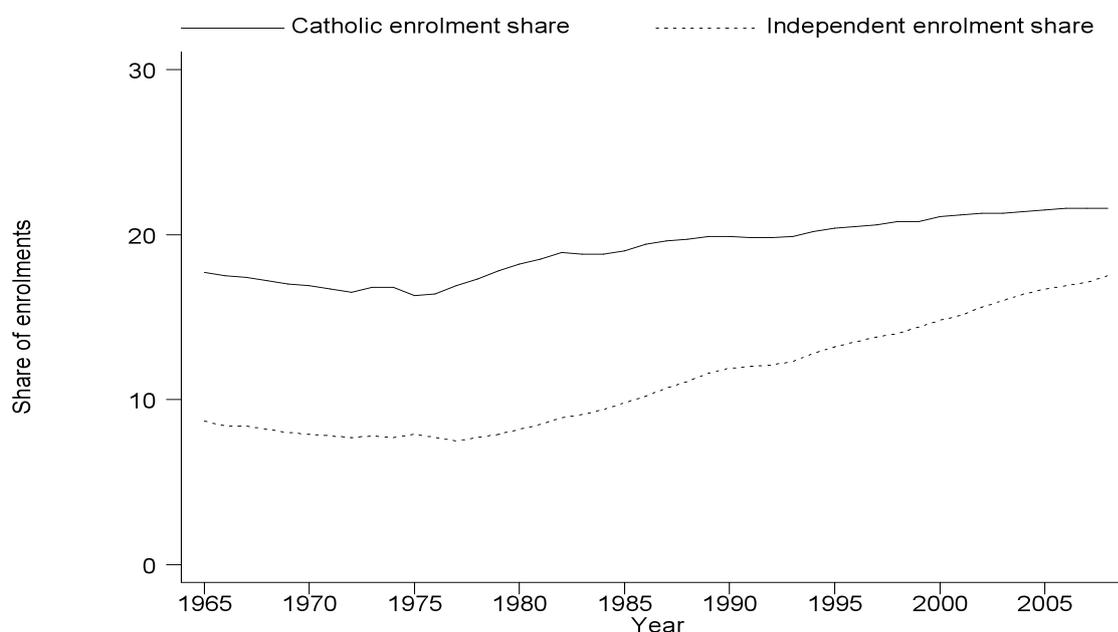
1. to reduce fees below what they would have been;
2. to increase the number of staff per students above what it would have been (reduce student: teacher ratios);
3. to increase the remuneration of teachers above what it would have been; and
4. to cover the loss of contributed services provided by non-remunerated teachers (especially members of religious orders in catholic schools).

Of course, the additional resources from government grants could have been used towards all of these purposes. Nevertheless, any use will affect the composition of demand for private schools from potential students. Strategies that reduce fees to their minimum would be likely to encourage demand from families who are the most resource-constrained (ie. those from lower socio-economic groups). Strategies that focus on improving student: teacher ratios and leaving fees unchanged might induce higher demand from parents who are relatively indifferent to fee levels but interested in the quality of the learning environment. A study by Williams (1985) suggests that the balance between fee reduction and quality improvement strategies adopted in private schools has influenced the type of student who has transferred from the public to private school sector since the 1970s.

Williams (1985) analysed the determinants of the private school enrolment share from 1963 to 1983 in Australia. He found that student: teacher ratios in the private sector had a positive effect on private schools' enrolment share, while increases in the public sector's student: teacher ratios had a negative impact on the private enrolment share. The private school enrolment share also rose with increased levels of government grants and contributed services. Williams found that improved student: teacher ratios in the private sector (funded by government vouchers) had a more positive impact on the private sector's enrolment share than increases in school tuition fees.

When the private sector's enrolment data are disaggregated by sub-sector, it would appear that charging high tuition fees is not a barrier to growth. As indicated in Figure 3, enrolments in independent schools, which generally charge higher fees, have grown at a faster rate than enrolments in catholic schools since 1977.

Figure 3 Private high (secondary) school enrolment share 1965 to 2008



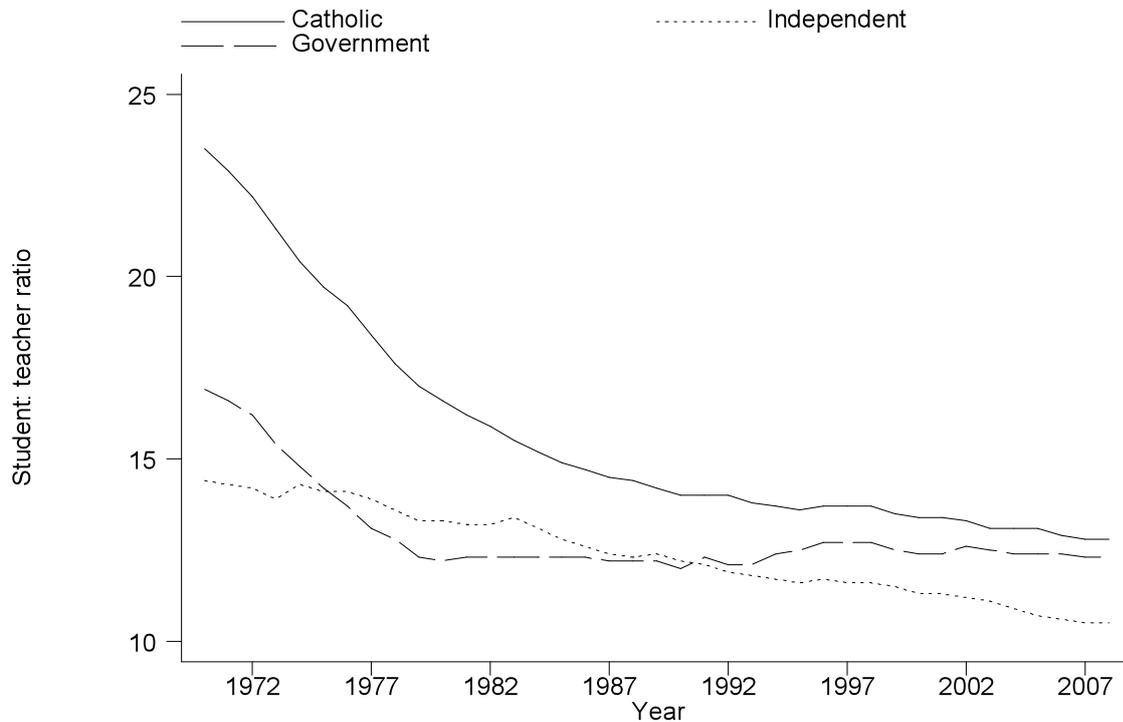
In 2002, average fees in the catholic school system were almost AUS\$2,500 per annum, compared with over \$6,000 in the independent sector. Fees in the catholic system have more than doubled from the early 1970s in real terms, with smaller growth evident in tuition fees in the independent sector (160 per cent increase in catholic tuition fees compared with 70 per cent in independent tuition fees).ⁱⁱ There has been substantial growth in real fees in both the catholic and independent sectors from the mid-1980sⁱⁱⁱ – around 5 per cent per annum in real terms in the catholic sector and over 2 per cent in the independent sector. The growth in real fees paused during the early 1990s, before returning to the previous rates after 1995 (Ryan and Watson 2004).

One consequence of the lower fees charged in the catholic school system is that the resources available for the education of students are lower in catholic schools than in independent schools. Student: teacher ratios are, therefore, higher in catholic schools than in independent schools, as shown in Figure 4.

As the student: teacher ratios in both public and private schools improved during the 1970s, the ratios in the private sector did not improve relative to public schools until the early 1980s, and demonstrated steady relative improvement thereafter. A number of factors influenced these trends during the 1970s. First, the decline in the membership of religious orders who taught in the catholic system meant that the costs incurred in that system increased. Known as 'contributed services', they accounted for about approximately half the operating costs of catholic secondary school education in the early 1970s, but only a quarter by the end of the 1970s and less than 10 per cent by the late 1980s. The lay teachers who took the place of members of religious orders had to be paid, which limited the extent to which the catholic

system could improve student: teacher ratios. Second, student: teacher ratios in public secondary schools decreased substantially in the 1970s, remained constant over the 1980s and increased slightly during the 1990s. The improvement in the ratios for the catholic and independent sectors from the late 1970s and early 1980s relative to public schools reflects the fact that reductions took place in those sectors but not in public secondary schools.

Figure 4 Student: teacher ratios in public and private high schools, 1970 to 2008



Private tuition fees have increased since 1972, in both Catholic and Independent schools but this has not affected demand for private schools, except during the economic recession of the early 1990s. Figure 5 depicts trends in private school enrolment shares and real fees jointly through time. In the independent sector, both fee increases and enrolment share increases were modest until the mid-1980s, but increased consistently thereafter. In the catholic sector, enrolment shares increased most during the period of fee stability in the early 1980s, but slowed once fees in that sector began to rise. When considered in the context of the steady improvement in student: teacher ratios shown in Figure 4, the 1980s period of fee stability and rising enrolment shares coincided with strong large absolute falls in student: teacher ratios in the catholic sector (but not falls relative to the public sector, where student: teacher ratios were also falling).

This relationship is illustrated in Figure 6, which suggests that improved student: teacher ratios in private schools relative to public schools after 1979 were associated with steady improvements in the enrolment share of both catholic and independent schools.

Figure 5 Private secondary school enrolment shares and real fees, 1972 to 2007

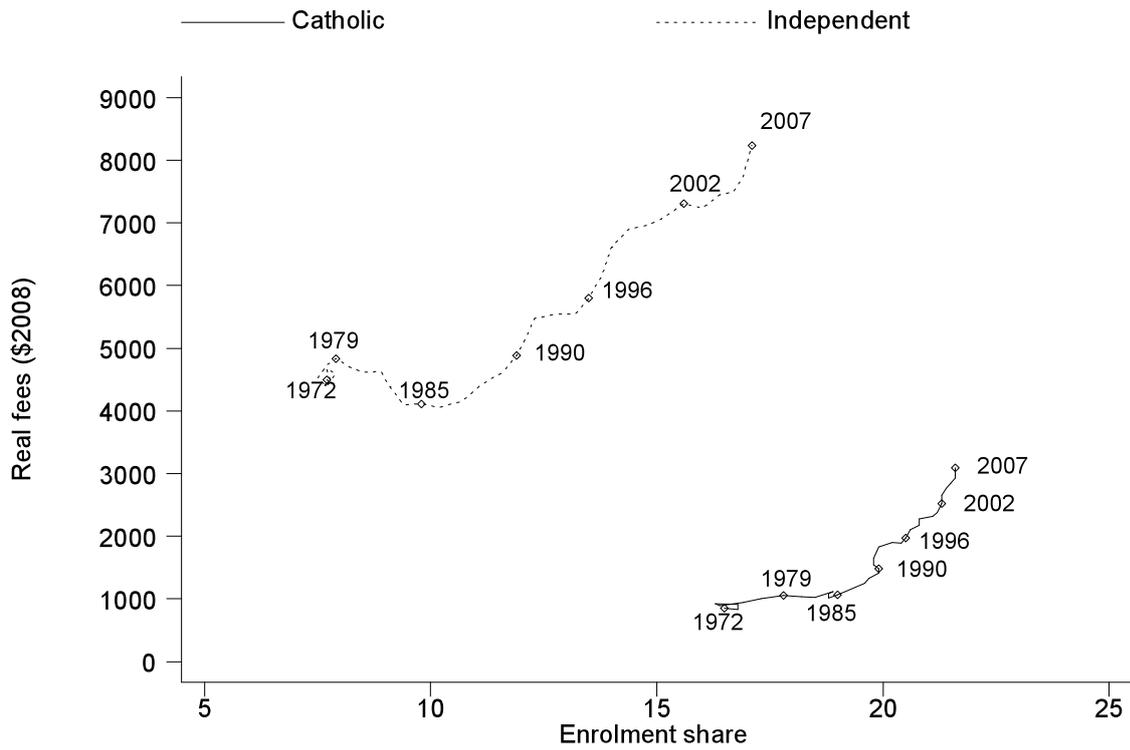
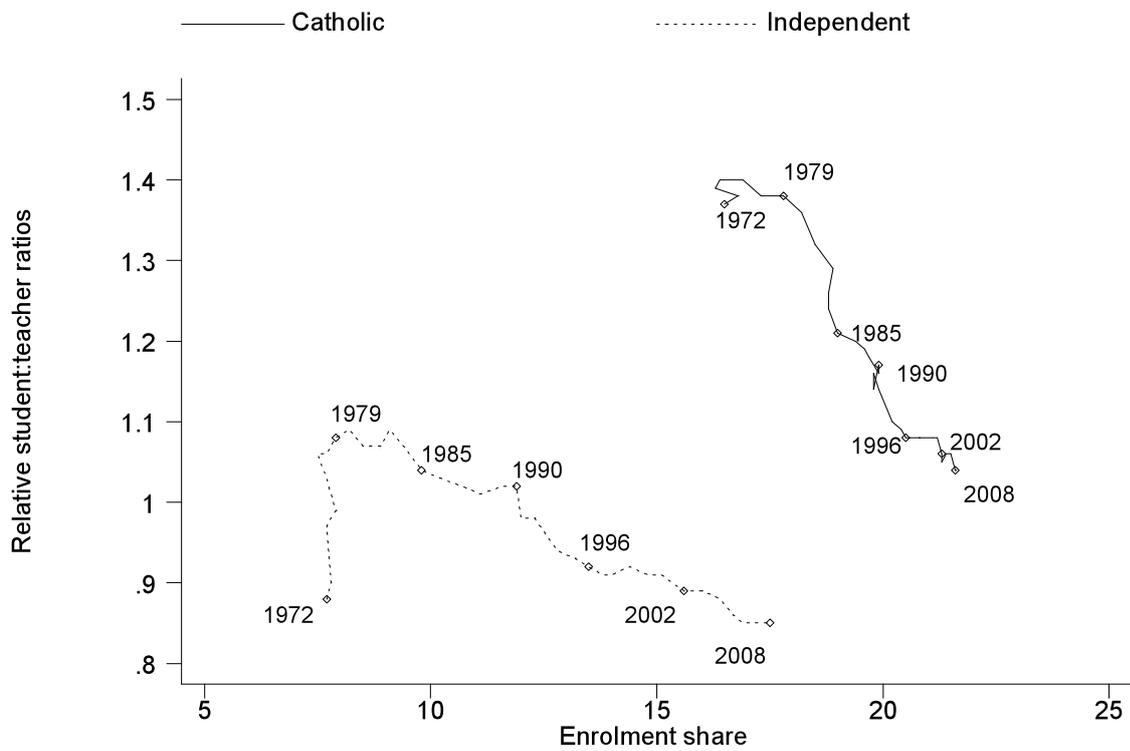


Figure 6 Private secondary school enrolment shares and student: teacher ratios relative to public schools: 1972 to 2008



The evidence presented above indicates that government vouchers have enabled private schools to improve their student: teacher ratios substantially since 1975, to a position where the student: teacher ratios in catholic schools are almost equal to public schools and the ratio in independent schools is better than in public schools. As the student: teacher ratio in public schools also improved between 1972 and 1980, the private sector's ratio improved relative to public schools only since the early 1980s. And this period marks the beginning of a steady increase in the enrolment share of private schools, implying that the improvement in the student: teacher ratios of private schools (relative to public schools) since the 1970s is associated with an increase in their enrolment share.

Although student tuition fees in private schools have increased in real terms from 1972, this has had no apparent negative impact on their enrolment share, except during the few years of the economic recession in the early 1990s. In normal economic conditions, improvements in student: teacher ratios in private schools relative to public schools, would appear to have a positive impact on demand for private schooling irrespective of increases in the tuition fees charged.

3. Changes in the social background of students in public and private schools

In this section we use data from two cohorts of students to assess changes in the social background of students who attend private schools. The cohorts were in school in 1975 and 1998, respectively. The data are drawn from the *Youth in Transition* 1961 birth cohort (the 1975 school cohort) and the *Longitudinal Surveys of Australian Youth* Year 9 cohorts of 1998 (the 1998 cohort).^{iv, v} The average SES scores of individuals who attended different school types in the two cohorts are presented in the lower panel of Table 1.^{vi} The upper panel of Table 1 shows the enrolment shares of the different school types and the way they changed between the cohorts. The enrolment share of private secondary schools increased by 13.5 percentage points between the cohorts, with catholic schools picking up just under half and independent schools over half of that increase.

Table 1 High school enrolment shares and average SES scores by school type in 1975 and 1998

School type	1975	1998	Change 1975 to 1998
Enrolment share (%)			
Public	77.7	64.2	-13.5
Private	22.3	35.8	13.5
• Catholic	15.1	21.7	6.5
• Independent	7.2	14.2	7.0
Average socio-economic status (SES)			
Public	0.463	0.434	-0.029
Private	0.630	0.619	-0.011
• Catholic	0.583	0.578	-0.005
• Independent	0.729	0.681	-0.048

The average SES of students is highest in both cohorts for those who attend independent schools, followed by catholic schools and public schools. The interpretation of these SES scores is as follows: in 1975, the average student at an independent school had an SES background that was higher than 73 per cent of students. The pattern of school type enrolment share by SES is similar for the 1998 data is confirmed by other studies, such as the analysis of enrolment shares by SES using the 1996 Australian Census in Mukerjee (1999) and by family income using the 2001 Census in Preston (2003).^{vii}

As indicated in Table 1, the average SES of students at public schools fell between 1975 and 1998 by 2.9 percentage points, while the average SES of students at private schools decreased by 1.1 percentage points. The private decrease was composed of a small decrease in the average SES of students at Catholic schools and a larger decrease in the average SES of students at Independent schools.^{viii} These changes suggest that the students who transferred from public schools were above average SES students for the public system (and hence tended to be from the top half of the SES distribution, given its 1975 average student SES of 0.463). At the same time, those who entered private schools tended to have lower SES backgrounds than the typical private school student in the first cohort.

These averages already tell us something about where in the SES distribution the transfer of students from the public to the private systems took place. In order to identify this a little more clearly, Table 2 shows the change in enrolment shares of the three sectors between the two cohorts by SES decile. The drift away from public schools to both the Catholic and Independent sectors is much more pronounced in deciles 5 to 10 than in the first four deciles. That is, the change in enrolment shares has been concentrated in the top half of the SES distribution.

Table 2 Changes in high (secondary) school enrolment shares by sector and SES decile between 1975 and 1998

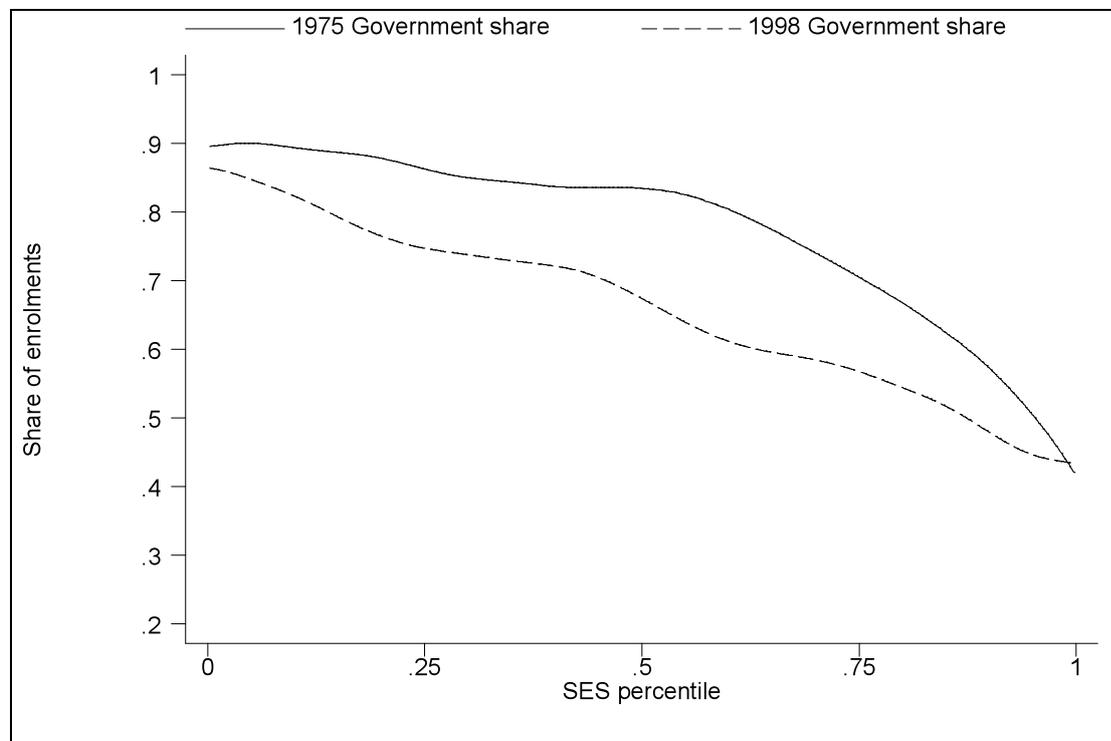
SES Decile	Public		Catholic		Independent	
1	-0.043	***	0.015		0.028	***
2	-0.084	***	0.023		0.061	***
3	-0.132	***	0.081	***	0.050	***
4	-0.064	***	0.037	**	0.026	**
5	-0.147	***	0.108	***	0.039	***
6	-0.239	***	0.157	***	0.082	***
7	-0.251	***	0.100	***	0.151	***
8	-0.116	***	0.026		0.090	***
9	-0.195	***	0.126	***	0.070	***
10	-0.120	***	-0.003		0.123	***
Total	-0.135	***	0.065	***	0.070	***

‘*’, ‘**’ and ‘***’ indicate significance at the 10, 5 and 1 per cent levels respectively.

To illustrate what these changes have meant for public school enrolments across the SES distribution, we present the figures in Table 2 in graphic form. Figure 7 shows the change in the enrolment share between the cohorts by individual SES ranking. Between 1975 and 1998, the enrolment share of public schools fell by 11.3 percentage points in the (smoothed) data. About 60 percent of that decline took place in the top half of the distribution in the smoothed data in Figure 7, and 70 percent in the actual data in Table 2. The public school enrolment share fell by about 20 percentage points between the 50th and 70th percentiles and in excess of

10 percentage points between the 70th and 90th percentiles. These estimates highlight the point made already in Table 2 – that the students who were lost from public schools tended to come from the top half of the SES distribution.

Figure 7 Probability of public high school enrolment by SES: 1975 and 1998



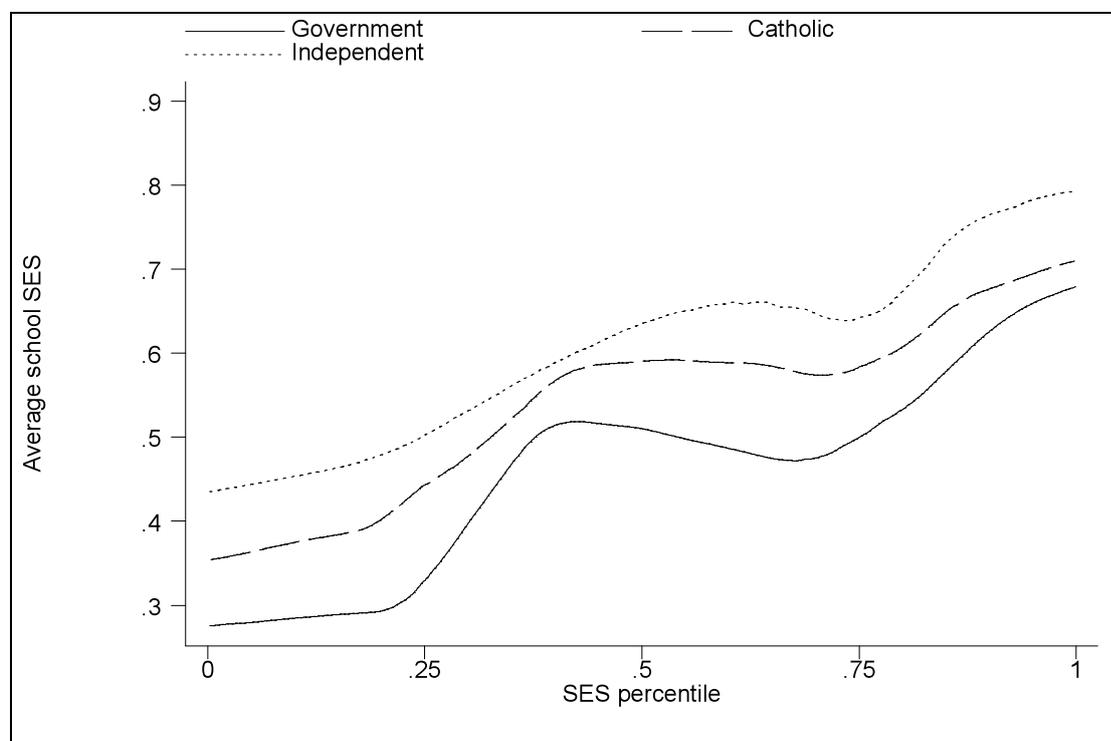
To summarise, the average SES of students in public high schools fell by 2.9 per cent between 1975 and 1998 while the average SES of students in private schools decreased by 1.1 percentage points. Thus although the estimated secondary enrolment share of private schools increased by 13.5 per cent over the period, the relative average SES of private school students barely changed compared to public schools. The average SES of private school students was about 17.5 percentage points higher than public school students in both 1975 and 1998. However, these figures mask important shifts in the compositions of the student bodies. The students who transferred from public schools to private schools over the period tended to be from the top half of the SES distribution. They were from above average SES backgrounds relative to the 1975 public school population, but below the average SES of the 1975 private school population. Around two thirds of the decline in public school enrolments between 1975 and 1998 occurred in the top half of the SES distribution.

4. The impact of private school vouchers on the average socio-economic status of public schools

As we noted in the previous section, the public school sector lost students from the top end of its SES distribution to private schools during the period, but these students were generally of a lower SES than the private school students of 1975. Thus the drift of students from public to private schools also had the effect of lowering the average SES of the private school sector, from 0.630 in 1975 to 0.619 in 1998 (compared to 0.463 in 1975 and 0.434 in 1998 for public schools).

But has the average SES of the schools in each sector changed? How much does it vary with an individual's own SES level? How much does it differ between the sectors? And have the relationships between individual SES and average school SES changed over time in the sectors? The first three questions are addressed with the aid of Figure 8. It shows the (smoothed) average SES of the school that students attended in each sector in 1998 at each level of the SES distribution. Generally, there is a positive relationship in all three sectors: in 1998 students tended to go to schools with other individuals from similar social backgrounds. That relationship appears to be similar across the sectors. In all sectors, an individual at the top of the SES distribution attends a school with an average SES level about 30 percentage points higher than an individual at the bottom of the SES distribution. But only individuals at the very top of the SES distribution in the public system tended to go to schools whose average SES was greater than 0.5 in 1998. That is, all but individuals from the top SES quartile in the public system tend to go to schools with students predominantly from below average SES backgrounds. This was less pronounced in the Catholic and Independent sector.

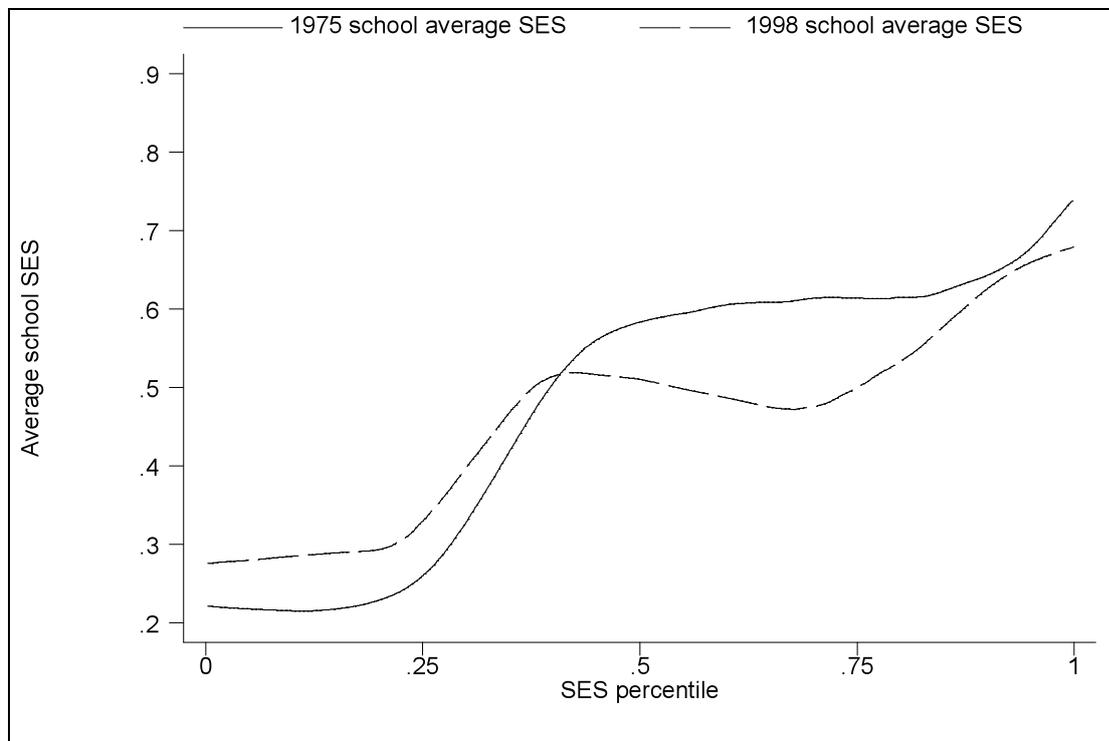
Figure 8 Average SES in secondary schools by sector by SES ranking in 1998



The last question above was whether the relationships in the sectors between individual SES and average school SES have changed over time. The changes in the position of the average school SES curves between 1975 and 1998 in the Catholic and Independent sectors are similar across the SES distribution. Essentially, the curves in both sectors in 1975 are similar to those shown for 1998 in Figure 8, except that they moved down between 1975 and 1998. In the public sector, as shown in Figure 9, for most public school students in the lower half of the individual SES distribution, the average SES of their school changed little between 1975 and 1998. The same was true for public school students at the very top of the SES distribution. However, for public school students between the 50th and the 80th percentiles, the average SES of their school fell by up to 15 percentage points between 1975 and 1998. In 1975, students from the 60th percentile in the public system tended to go to schools with students with similar average SES backgrounds to other students in the top half of the

distribution, other than those at the very top of the SES distribution. However, by 1998 that was no longer the case.

Figure 9 Average SES in public secondary schools by SES ranking, 1975 and 1998

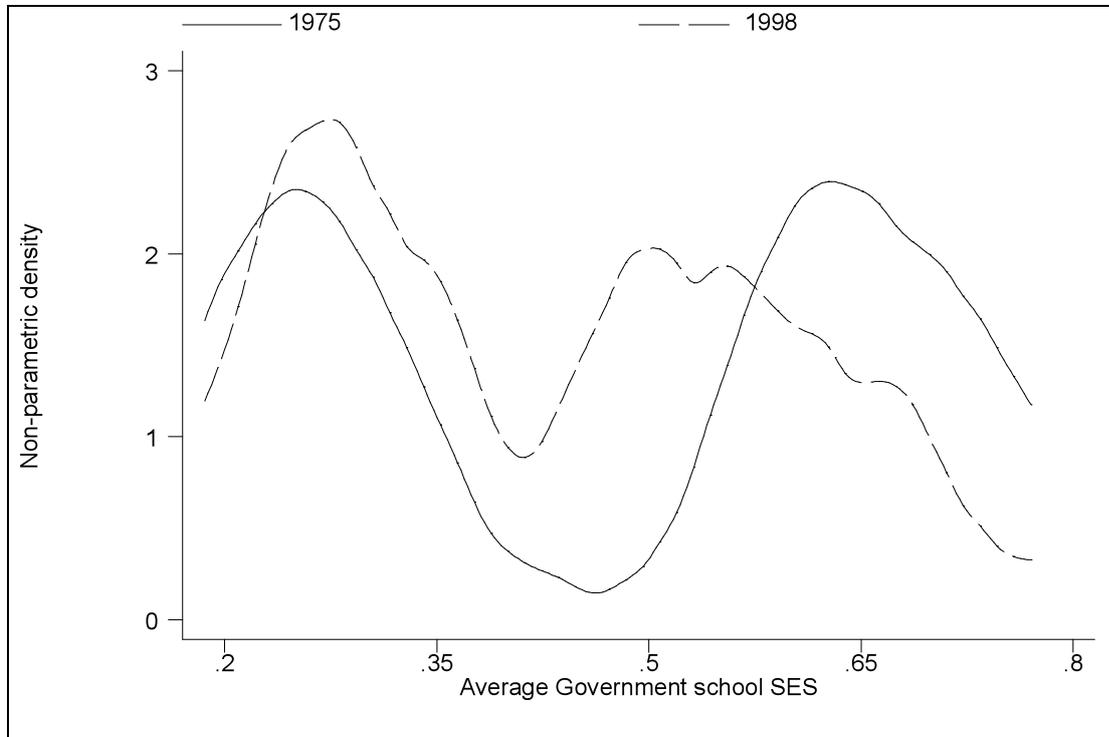


An explanation of this shift is apparent from Figure 10, which shows the distributions of public schools in 1975 and 1998 in terms of average student SES backgrounds. The 1975 distribution is clearly bi-modal (has two peaks). There were two common ‘types’ of public schools in 1975 – one with students with average SES backgrounds substantially below the average in the community and one just above the average. By 1998, a shift had taken place in the distribution of schools by their average SES background. The type of public schools with students with above average SES backgrounds had become less common and the once common ‘high’ SES public school was now only an average SES school. Consequently, students from the top half of the SES distribution, if they were to remain within the public sector, tended to go to schools with students who were predominantly from the lower half of the SES distribution. This had the effect of increasing the average SES of the now more common, ‘low’ SES type of public school.

These changes in the socio-economic composition of the student population in public schools should be a policy concern for three reasons. The first issue arises from the known impact of student socio-economic background on educational outcomes and the effect of increasingly high concentrations of students from lower socio-economic backgrounds in public schools. It is well established that individual students’ socio-economic background has a significant impact on their educational attainment (Averch, Carroll, Donaldson, Kiesling, & Pincus, 1972; Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966; Jencks, 1972; Rothman & McMillan, 2003). As low-SES students make up a higher proportion of public school enrolments, observed educational attainment levels in public schools can be expected to fall. Comparisons between schools and sectors become increasingly unreliable in the context of large differences in the socio-economic composition of student populations.

The publication of “league tables” of high school results is particularly unfair when the lower overall SES of students in the public school sector – and its impact on student attainment – is not acknowledged.

Figure 10 **Distribution of public secondary schools by average SES: 1975 and 1998**



Second, it is reasonable to expect that the average cost of educating a student in a public school to an agreed standard would be higher than in a private school because of the higher proportion of low SES students in public schools. Other factors that increase the overall cost of delivering public schooling – such as supporting small schools in rural areas and accepting all students regardless of their physical attributes, the circumstances of their families or their location, should also be taken into account when governments determine funding “benchmarks” for public and private schools. In other words, we should expect private schools to operate effectively at a lower level of resources than the average resources per student in public schools, as long as they enroll a lower proportion of low SES students and have fewer schools in remote locations.

A third issue for policy to address is the impact of peer effects on student performance in public schools with low average-SES student populations, which are now more common than they were in 1975 (Figure 10). Studies examining the influence of the socio-economic composition of a student’s peers on academic performance suggest that the aggregate of student characteristics such as ability, motivation and aspirations produces a dominant ethos that impacts on individual student achievement (Adler, Petch, & Tweedie, 1989; Fuchs, Fuchs, Hamlett, & Karns, 1998; Hanushek, Kain, Markman, & Rivkin, 2001; Henderson, Mieszkowski, & Sauvageau, 1978; McDill & Rigsby, 1973; Murnane, 1990; Summers & Wolfe, 1977). But as for any school input, peer group characteristics do not offer a complete explanation of differences in school quality and evidence that schools with similar socio-economic profiles can have different educational outcomes (see Lamb, Hogan, & Johnson, 2001) suggests that other inputs, such as high quality teaching, can compensate for peer

effects. Nevertheless, given that peer group effects do influence student attainment, all other things being equal, we should expect the decline in the average socio-economic status of public schools to have a negative impact on student academic achievement in many public schools.

In summary, the transfer of high SES students from public to private schools in Australia since 1975 has changed the average socio-economic composition of public high schools. The majority of students in public secondary schools now attend schools where the average socio-economic status of students is below average. The proportion of public secondary schools with concentrations of low-SES students (between the 20th and 40th SES percentiles) increased between 1975 and 1998. These trends have implications for both the delivery costs and educational outcomes of public schools.

5. Discussion

The causal determinants of the shift in enrolments to the private sector are complex and we do not claim to offer a complete explanation of the dynamics of the Australian market for public and private schools. However, our analysis of historical administrative and participation data reveal trends in tuition fees and the change in the socio-economic composition of student populations that indicate how schools and higher-SES parents have responded to the provision of weighted subsidies for private schools over a long period.

It is important to acknowledge the role of non-market factors that affect public and private schooling choices, such as parents' ideological (including religious) preferences and the capacity of schools to meet individual student needs. These factors may have contributed to the drift from public to private schools, but we think their impact may also be overstated in the public debate in Australia. We observe that private school enrolments were in decline in Australia during the decade before government vouchers were introduced and then increased steadily as subsidies from both federal and state governments increased.

Researchers analysing the impact of voucher schemes on student outcomes often refer to two factors that confound the stated intentions of such policy reforms: the strategies of schools to select more desirable students, known as "cream-skimming"; and different levels of motivation among parents to choose a school for their child (Levin, 1998). Thus, when governments create a market environment with the intention that schools will become more productive, schools may respond simply by selecting more high performing students, and higher-SES parents are more likely to be "choosers". The evidence from Chile suggests that this has happened under its nationwide voucher scheme (Hsieh & Urquiola, 2003).

What parents do

This study suggests that when weighted vouchers are provided to private schools, parents from higher socio-economic groups are more likely to choose private education than families from lower socio-economic backgrounds. Higher SES families appear to be less price sensitive than lower SES families and are willing to pay tuition fees to supplement the voucher provided by governments. We could assume that all parents choose between public and private schools according to their financial resources and how they weigh up the costs of private schooling in terms of the fees they pay, with their estimates of the relative benefits it provides. These benefits may include the perceived superior quality of the learning process, the school's final year results, the type and range of personal values developed,

characteristics of the student population or the nature of the personal contacts made through private schooling. If this assumption is correct, it may explain why families from higher SES groups have been the main “choosers” of private schools in Australia since weighted vouchers were introduced.

The evidence presented in this paper that parents from higher SES backgrounds are more likely to be “choosers” is borne out by studies in other countries. Reviewing the empirical literature on school choice in England, Scotland, Belgium, and the USA, Levin concluded, “those who exercise the choice option are more likely to be of higher SES and to have higher school achievement scores than those who continue to attend their assigned schools” (Levin, 1998: 379). Even when voucher programs are restricted to families of low socio-economic status, the families who exercise choice are more likely to be of higher SES than those who do not choose. Thus the activities of schools and the inactivity of some parents contribute to the apparent increase in socio-economic segregation between schools in an environment of choice (Levin, 1998). It has been suggested that if targeted voucher programs are to achieve their stated objectives of improving educational outcomes for disadvantaged students, they would have to randomly assign students to over-subscribed schools and address obstacles to choice such as transport costs and tuition fees (Ladd, 2002).

We should not assume that all parents from all socio-economic backgrounds weigh up the costs and benefits of private schooling in the same way. To suggest that the act of choosing a child’s school is purely an economic decision (ie. everyone buys the best that they can afford, and those who can’t afford anything, simply choose the public system) is too simplistic. Obviously families take many factors into consideration when they choose a school and many parents prefer characteristics such as cultural diversity, secular values and community-based education in choosing their child’s school. Nevertheless the trends reported in this paper suggest that families from higher socio-economic groups have gained the most benefit, in terms of enhancing their child’s educational achievement, from the government’s voucher scheme for private schools. Given the educational advantages of being enrolled in a school with an above-average SES student population, the provision of weighted vouchers has enabled a disproportionate share of higher SES families to access this benefit through placing their child in a private school. The empirical “story” of the growth in private school enrolments can also be told without any reference to changes in preferences. Government subsidies may simply have allowed the revelation of pre-existing preferences for private schooling among high-SES parents.

What schools do

Increased payments via grants by Australian governments have provided a major source of funds to private schools since the late 1960s, and especially since 1974. Private schools may have chosen to use those funds in a number of ways that would have had quite different effects on the social composition of their student populations. For example, private schools could have decided to reduce fees while maintaining their existing level of school quality *or* to maintain their fees at current levels while using the increased funding to improve school quality. The first strategy – to reduce fees and maintain quality – would be the one most likely to have opened up participation in private schools to students from low socio-economic backgrounds, who are more likely to face financial constraints.

As we have demonstrated, this is not how private schools in Australia seem to have responded to the introduction of weighted student vouchers in 1974. Instead, they have used

the weighted vouchers to improve the quality of the schooling they have offered and to maintain or increase their tuition fees. They have lowered student: teacher ratios, with a view to increasing the perceived quality of their schooling service. While this strategy meant that private schools could not reduce their tuition fees, it did not reduce demand for private schooling. To the contrary, it ensured that parents from higher socio-economic groups were the most likely to transfer from public to private schools.

Responsibility for this strategy does not rest entirely with private schools. In providing vouchers to private schools, the federal government stated that its intention was to improve the student: teacher ratios relative to public schools, particularly in the catholic school sector (Karmel 1973). Throughout the 1980s, the Federal government argued that private schools should not use vouchers to replace fee income and encouraged them to increase their tuition fees annually to reflect general price movements (Department of Employment, Education, & Training 1989). By the mid-1990s, after two decades of increases in both vouchers and tuition fees coupled with continuing strong demand for private schools, such exhortations were no longer necessary.

Conclusion

The Australian experience offers lessons to policy makers and researchers in other countries contemplating the introduction of weighted vouchers for private schools (eg. Gonzalez, Mizala, & Romaguera, 2004). Of particular note is our observation that private schools in Australia used increased government funding primarily to improve the quality of the learning experiences of students (measured here through improved student: teacher ratios), instead of reducing tuition fees. Not surprisingly, we found that the top half of the SES distribution was where most of the shift in students from the public sector to the private sector had taken place.

The loss of higher SES students appears to have affected schools in the public sector substantially, with a relative fall in the number of public high schools with students from above average socio-economic backgrounds. To the extent that the peers of students have an impact on their achievement and other outcomes, this matters for two reasons. First for retaining other above average SES students in public schools. Second, in terms of the educational implications for lower SES students who remain in the public sector. Both the drift of higher SES students away from public schools and the greater concentration of lower SES students in the public system is likely to contribute to rising costs in the provision of public schooling in the future.

Under current government policy, Australia can expect a continuing drift of above average SES students into the private school sector with the support of government vouchers. This is likely to intensify the problems posed for public secondary schooling associated with catering predominantly for students from lower SES backgrounds. The future viability of public secondary schooling in Australia, especially in relatively affluent metropolitan areas, is questionable in these circumstances.

Proponents of greater school choice often advocate explicit use of student vouchers to allow greater participation in private schools by students from disadvantaged backgrounds and argue that the value of these vouchers should be set at the level of resources per student provided to public schools (Buckingham, 2000; Neal, 2002). Among the questions supporters of vouchers need to address is what would happen to private school tuition fees in such

circumstances. There seems no reason to anticipate that private schools will not respond to the provision of such government subsidies as they have done over the past thirty years in Australia – they will leave their fees relatively unchanged and move to improve further the quality of their schooling. This would leave unaffected their affordability for students from low SES backgrounds. Our research suggests that stringent government regulations to both limit tuition fees and to control student selection are the minimum interventions necessary to ensure that equity of access for students from disadvantaged socio-economic backgrounds is protected under any voucher scheme for private schools.

Acknowledgements

We are grateful to the Australian Federal Department of Education, Employment and Workplace Relations for the provision of unpublished aggregate school fee data and the Australian Council for Educational Research for the student-based data used in the paper. Neither body bears any responsibility for the manner in which we have interpreted the data or results.

References

- Adler, M., Petch, A., & Tweedie, J. (1989). *Parental Choice and Educational Policy*. UK: Edinburgh University Press.
- Albinski, H.S. (1966). *The Australian Labor Party and the Aid to Parochial Schools Controversy*. Pennsylvania: Pennsylvania State University Studies No. 19.
- Australian Bureau of Statistics. (2004). *Schools Australia 2003*. Catalogue No. 4221.0. Canberra: Australian Bureau of Statistics.
- Averch, H. A., Carroll, S. J., Donaldson, T.S., Kiesling, H.J., & Pincus, J. (1972). *How effective is schooling?* Santa Monica, CA: Rand Corporation.
- Buckingham, J. (2000). School funding for all: making sense of the debate over dollars. Issue Analysis Paper No. 17. Sydney: Centre for Independent Studies.
- Coleman, J. S., Campbell, E.Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R.L. (1966) *Equality of Educational Opportunity*. Washington D.C: U.S. Government Printing Office.
- Department of Education, Science & Training. (2004). *Commonwealth Programmes for Schools Quadrennial Administrative Guidelines 2001 to 2004*. 2004 Edition. Canberra: Australian Government Printing Office.
- Department of Employment, Education, & Training. (1989). *Commonwealth Programs for Schools, Administrative Guidelines 1989*. Canberra: Australian Government Printing Office.
- Fuchs, L.S., Fuchs, D., Hamlett, C.L., & Karns, K. (1998). High-achieving students' interactions and performance on complex mathematical tasks as a function of homogeneous and heterogeneous pairings. *American Educational Research Journal*, 35(2), 227–267.
- Gonzalez, P., Mizala, A., & Romaguera, P. (2004). Vouchers, Inequality and the Chilean Experience. Research Paper. Center for Applied Economics, University of Chile. June.
- Hanushek, E. A., Kain, J. F., Markman, J.M., & Rivkin, S. G. (2001). Does Peer Ability Affect Student Achievement? *National Bureau of Economic Research Working Paper No. 8502*. Cambridge, MA: National Bureau of Economic Research.

- Henderson, V., Mieszkowski, P., & Sauvageau, Y. (1978). Peer Group Effects and Educational Production Functions. *Journal of Public Economics*, 10, 97–106.
- Hogan, M. C. (1984). *Public versus Private Schools; Funding and directions in Australia*. Ringwood, Vic: Penguin.
- Hsieh, C.T., & Urquiola, M. (2003). When Schools compete, how do they compete? An assessment of Chile's nationwide school voucher program. *National Bureau of Economic Research Working Paper No. 10008*. Cambridge, MA: National Bureau of Economic Research.
- Jencks, C., Smith, M., Acland, H. Bane, M., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. (1972). *Inequality: A reassessment of the effects of family and schooling in America*. New York: Basic Books.
- Karmel, P. (1973). *Schools in Australia. Report of the Interim Committee for the Australian Schools Commission, May 1973*. Australian Government: Canberra.
- Ladd, H. F. (2002). School Vouchers: a Critical View. *Journal of Economic Perspectives* 16(4), 3–24.
- Lamb, S., Hogan D. & Johnson, T. (2001). The stratification of learning opportunities and achievement in Tasmanian secondary schools. *Australian Journal of Education* 45(2), 153-167.
- Levin, H. M. (1998). Educational Vouchers: Effectiveness, Choice and Costs. *Journal of Policy Analysis and Management* 17(3), 373–392.
- McDill, E.L. & Rigsby, L.C. (1973). *Structure and process in Secondary Schools, The academic impact of educational climates*. Baltimore: Johns Hopkins University Press.
- Mukerjee, D. (1999). *Socio-economic status and school system enrolments*. Australian Centre for Equity through Education, paper available at:
><http://www.aeufederal.org.au/Publications/DMukherjeepaper.pdf><
- Murnane, R. J. (1990). Family Choice. In W. Clune & J. Witte (Eds.), *Choice and Control in American Education. Vol 1. The Theory of Choice and Control in Education* (pp.332–336). New York: Falmer Press
- Neal, D. (2002). How vouchers could change the market for education. *Journal of Economic Perspectives* 6(4), 25–44.
- Praetz, H. (1982). *Public Policy and Catholic Schools*. Melbourne: Australian Council for Educational Research.
- Preston, B. (2003). *The Social Make-up of Schools: Family income, religion, Indigenous status, and family type in government, Catholic and other non-government schools*, Paper prepared for the Australian Education Union, available at:
><http://www.aeufederal.org.au/Debates/bprestonsch.pdf><.
- Radford, W.C. & Wilkes, R.E. (1975). *School Leavers in Australia, 1971 – 1972*. Melbourne: Australian Council for Educational Research.
- Rothman, S. & McMillan, J. (2003). *Influences on Achievement in Literacy and Numeracy. Longitudinal Surveys of Australian Youth Research Report No. 36*. Melbourne: Australian Council for Educational Research.
- Ruby, A., Wells, L., & Wildermuth, C. (1995). *Choice, Market Theory and Education: What are we talking about?* Occasional Paper No. 19. Canberra: Australian College of Education.

Ryan, C. & Watson, L. (2004). *The Drift to Private Schools in Australia: understanding its features*. Discussion Paper No. 479, Centre for Economic Policy Research. Canberra: Australian National University.

Smart, D. (1978). *Federal Aid to Australian Schools*. Brisbane: University of Queensland Press.

Summers, A. & Wolfe, B.L. (1977). Do schools make a difference? *American Economic Review* 67(4), 639–652.

Watson, L. (2003). *A critique of the Federal Government's recent changes to private schools funding*. Lifelong Learning Network Discussion Paper No. 3. Canberra: University of Canberra.

Watson, L. (2004). *The total operating resources of Australian private schools in 2004*. Lifelong Learning Network Discussion Paper No. 4. Canberra: University of Canberra.

Western, J.S. (1983). *Social Inequality in Australian Society*. Melbourne: McMillan.

Williams, R. (1985). The economic determinants of private schooling in Australia. *Economic Record*, 61, 622 – 628.

ⁱ In 1965, 24 per cent of Australian school students were enrolled in the (then unfunded) private sector, of which 82 per cent were in Catholic schools (Australian Bureau of Statistics, 1970).

ⁱⁱ These increases in real fees exceed increases in real incomes over the same period. Per capita real household disposable income increased by 46 per cent between 1972 and 2002, while real male average weekly earnings increased by 26 per cent.

ⁱⁱⁱ Williams (1985) found that aggregate private sector fees fell initially after the increase in operating grants to the early 1980s. However, estimates attributed to him in Ruby, Wells, & Wildermuth (1995) include the same increase in fees from the mid-1980s as found here.

^{iv} The 1975 cohort involved 6260 students from 264 schools; the 1998 cohort 14117 students from 296 schools. These sample sizes represented about 2.5 per cent of fourteen year olds at secondary school in Australia in 1975 and 5.5 per cent of Year 9 students in 1998. In both cohorts, approximately 12 per cent of schools with secondary school students were surveyed.

^v Details of all data sources used are provided in the Appendix to Ryan & Watson (2004).

^{vi} The SES score of an individual was calculated as a weighted average of the education levels and occupations of their parents. The weights were based on the parameters of a regression equation where the dependent variable was the individuals desired or anticipated future occupation, identified when they were still teenagers. SES scores derived in alternative ways showed qualitatively similar changes between the two cohorts.

^{vii} In Preston's analysis of secondary enrolments in low, middle and high family income groups (categories that split secondary school students into groups of roughly equal size), the proportion attending Government schools in these income groups were 76, 67 and 48 per cent. The proportions in the other sectors were: Catholic: 15, 22 and 27; Independent: 9, 12 and 25. Splitting Mukerjee's analysis into three groups (lowest three SES quartiles, middle four quartiles, top three quartiles) provided the following enrolment shares: Government: 78, 67 and 50; Catholic: 17, 22 and 24; Independent: 5, 11 and 27. If we split our data into three groups of equal size, consisting of low, middle and high SES groups, we obtain the following enrolment shares: Government: 79, 65 and 58; Catholic: 15, 24 and 22; Independent: 7, 11 and 20. The enrolment share patterns across the three different data sets using three different SES or income measures are similar at this level of aggregation, other than for the highest SES group.

We have not found any directly comparable analyses for the patterns in the 1975 data. However, re-analysis of data contained in Radford & Wilkes (1975: 60) of the fathers' occupations of school leavers by school type suggest a similar pattern of school type enrolment share by SES in their data to the data we use here.

Specifically, the Catholic enrolment share did not vary much across the SES distribution; the Government school share was similar in the low and middle SES groups, but substantially lower in the high SES group, where the Independent school share was greater.

^{viii} All of these changes were significant at the five per cent level with the exception of the change in the average SES of Independent school students. Its *p*-value was 0.112.