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What determines private school choice? A comparison between the UK and Australia

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What Determines Private School Choice? A Comparison between the UK and Australia

IFS Working Paper 10/22

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What determines private school choice? A comparison between the UK and Australia¹

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Abstract

This paper compares patterns of private school attendance in the UK and Australia. About 6.5% of school children in the UK attend a private school, while 33% do so in Australia. We use comparable household panel data from the two countries to model attendance at a private school at age 15 or 16 as a function of household income and other child and parental characteristics. As one might expect, we observe a strong effect of household income on private school attendance. The addition of other household characteristics reduces this income elasticity, and reveals a strong degree of intergenerational transmission in both countries, with children being 8 percentage points more likely to attend a private school if one of their parents attended one in the UK, and anywhere up to 20 percentage points more likely in Australia. The analysis also reveals significant effects of parental education level, political preferences, religious background and the number of siblings on private school attendance.

1. Introduction

The type of school a child attends is known to impact on educational attainment and later-life outcomes. But there is very little persuasive empirical evidence (although widespread and varied anecdotal evidence) on why parents opt to take their children outside the state system. As part of an international collaboration funded by the Economic and Social Research Council and the Australian Research Council, we have sought to address this question by comparing the determinants of private school choice in both Australia and the UK. The experiences of the two countries have been very different over the recent past. Whilst private school attendance has remained largely flat in the UK at around 6–7% of children, it has risen sharply in Australia, with about a third of children currently attending a school outside the government sector. The levels of

¹ The authors would like to thank the Australian Research Council (ARC) and Economic and Social Research Council (ESRC) for funding this research under their ARC-ESRC collaborative bid framework (Ref: RES-000-22-2524). The authors would also like to thank Susan Dynarski and other conference participants who attended the IFS event on “Determinants of Private Schooling” on June 17th 2010 for constructive comments and suggestions.

public subsidies are also very different in the two countries, with large public subsidies on offer in Australia and no direct subsidies in the UK.

In the UK, much descriptive evidence is available on the relative success enjoyed later on in life by pupils educated at private schools relative to those educated at state pupils (Sutton Trust 2005a, 2005b, 2006). Dolton and Vignoles (2000) and Dearden et al (2002) provide evidence on the economic returns to private school attendance. Green et al (2010) investigate the changing economic returns to private schooling over time using the NCDS, BCS and BHPS, as well as the mechanisms that generate economic returns and their changing importance over time. They find that the education and earnings differentials between children educated in the state and private sectors have risen comparing children born in the late 1950s (NCDS) with those born in the 1970s (BCS). A large part of the increase in the earnings differential in later years can be attributed to the increased differential in educational attainment. Although they further show that private school attendance is strongly correlated with household income, they do not focus on the determinants of private school choice in any great detail. Grady and Stevens (2003) investigate the effects of education inputs within the UK private sector and find that the pupil-teacher ratio has a strong effect on attainment. Green et al (2008) investigate the competition between the state and private sector for teachers, examining differentials in wages, other benefits and job satisfaction.

In terms of the determinants of private school attendance, there is widespread anecdotal evidence suggesting that the use of private school is predominantly a choice made by the richest families with children. This is unsurprising given the high level of fees such private schools tend to charge. It is also known that private school attendance tends to be higher in London and the South-East of England, and lower in the North of England, Scotland and Wales, ISC (2010). However, up until recently, there has been surprising little systematic evidence of the determinants of private school attendance in the UK. Some recent papers do examine the demand for private schooling in the UK in detail. A recent paper by Blow, Blundell, Machin and Sibieta (2010) using the UK Family Expenditure Survey shows that household demand for private schooling is positively related to income, but also positively related to regional inequality. Blundell, Dearden

and Sibieta (2010) use administrative data to construct a dynamic model that relates private school attendance across different ages to past levels of attendance, fees and measures of local school quality in the state and private sector. In this paper we make use of the British Household Panel Survey (BHPS) to examine the relationship between household income and private school attendance in further detail, as well as the effect of other household characteristics such as size of families, parental education, whether parents attended private schools and political preferences on the likelihood that children attend private schools. We also contrast and compare the determinants of private school attendance in the UK and Australia.

Australia has a large low-fee Catholic private school sector and a smaller, but growing Independent sector. While schools in the Independent sector have traditionally charged higher fees, much of the recent growth in the sector has been of low-fee schools. Australian studies have also found that the incidence of attending a private school increases with the social background (based on parental education and occupation, or indicators of household wealth) of families (Vella, 1999, Le and Miller, 2002, Ryan and Watson, 2010a, Ryan and Watson, 2010b), but that the effect was more pronounced for enrolments at Independent schools than Catholic schools, where enrolment rates are more evenly spread across the distribution. Mavisakalyan (2009) found that the private school enrolment rate increases with family income, average regional income and, at least for primary enrolments, income inequality.

Other Australian studies of the incidence of private school choice have reflected the focus of studies from other countries. For example, both Vella (1999) and Le and Miller (2002) found that the actual or likely Catholic background of families had a positive impact on whether or not children attend Catholic schools, while Mavisakalyan (2009) found a more general effect for religiousness on attendance at private schools. Le and Miller (2002) found that the number of siblings an individual has is a determinant of the type of school they attend, essentially allocating individuals between Catholic and Independent schools (as the number of siblings increase the incidence of attending a Catholic school rises and the incidence of attending an Independent school falls). Graetz (1990) found that the children of parents who attended Catholic or

Independent schools were more likely to attend the same type of school and Mavisakalyan (2009) found evidence that high immigrant populations in urban locations induced 'native flight' into private education.

Studies have also looked to explain the growth in private school enrolment shares since the late 1970s.

Williams (1985) pointed to the importance in changes in the 'quality' of education provided by the public and private school sectors on the private school enrolment rate in Australia. Williams (1985) suggested that the balance between fee reduction and quality improvement strategies adopted in private schools influenced the type of student who has transferred from the public to private school sector between the 1970s and mid-1980s. Williams (1985) found that improved student: teacher ratios in the private sector (funded by government grants) had a more positive impact on the private sector's enrolment share than increases in ratios funded by school tuition fees. Results in Ryan and Watson (2010b) suggest that private schools continued to use increased public funding to lower student: teacher ratios, rather than lower fees, after the mid-1980s and this had indeed tended to induce 'quality-sensitive' relatively high SES students into the private school system.

In a US context, more evidence is available on the determinants of private school choice, particularly in the context of school voucher programmes and charter schools. Stiglitz (1974) investigates the determinants of equilibrium in the market for education under different institutional settings (public, private, mixed) and assumptions about the nature of education as a good. Long and Toma (1988) conclude that private school choice is influenced by family income, religion and supply constraints. They also conclude that gaps in private school attendance by race and income narrowed considerably in the 1970s. Witte and Thorn (1996) analyses the determinants of school choice within the context of a school choice programme in Milwaukee. Epple and Romano (1998, 2002) and Nechyba (2003) construct general equilibrium models of school choice to study the effects of voucher design.

Neal (2002) asks how vouchers would change the market for education and notes that there is considerable evidence on the effect of private school attendance on student outcomes, but remarkably little evidence on

price responsiveness. This is unsurprising given that simple estimation of the price elasticity of demand is often confounded by supply side shocks. In an attempt to get round this problem, Dynarski et. al. (2009) estimates the price elasticity of demand for private schooling by using variation in private school tuition that arises through sibling discounts within-neighbourhoods and show that price does affect demand. However, Buddin et al (2008) find that the propensity of families to choose private schools is insensitive to out-of-pocket tuition costs.

Our paper proceeds as follows. In section 2 we describe the structure of private schooling in the UK and Australia. In section 3 we describe the data and sample selection procedures using the BHPS and HILDA. In section 4 we describe our empirical results for the UK and Australia, including a comparison of the similarities and differences. Section 5 concludes.

2. Structure of Private Schooling in the UK and Australia

In this section we describe the structure of private schooling, as well as recent trends, in the UK and Australia

Structure of Private Schooling in the UK

In the UK, only a small proportion of pupils attend private schools (or Independent schools, as they are more commonly known). According to the Independent Schools Council (ISC), the umbrella body representing the majority of Independent schools in the UK, there are currently about 2,600 Independent schools in the UK, educating around 628,000 pupils, or about 6.5% of the total.² This proportion is slightly higher when we consider England only, where just over 7% of children attend Independent schools. Both figures are much lower than current private school participation rates across Australia.

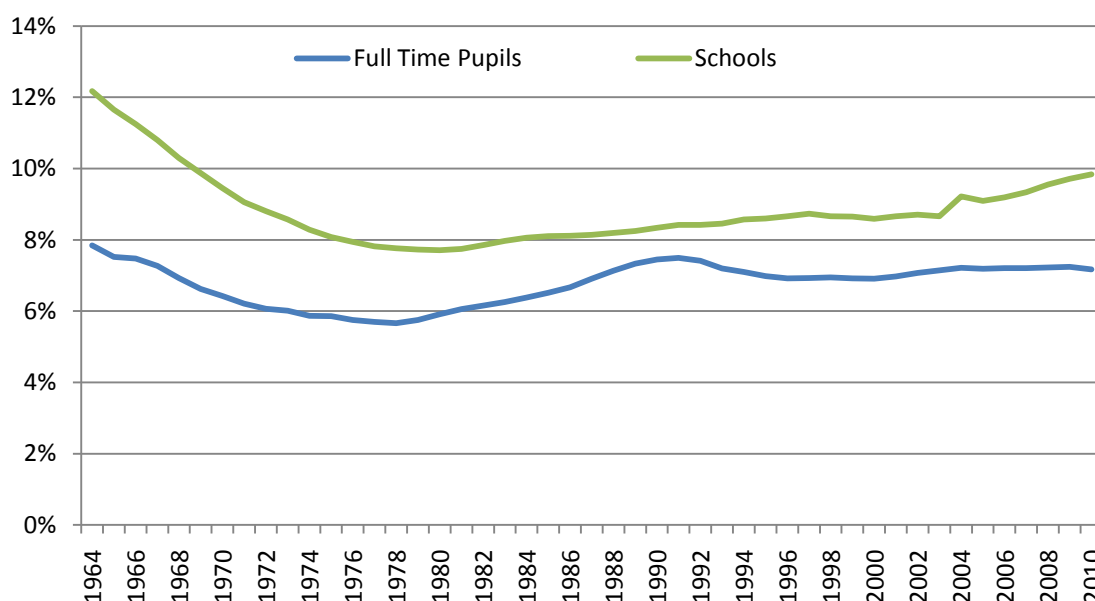
As Figure 1 shows, the proportion of pupils attending Independent schools in England is currently 7.2% (considering full-time pupils only). This is slightly below the level seen in 1964, at the start of the time series,

² http://www.isc.co.uk/FactsFigures_PupilNumbers.htm.

when around 8% of pupils attended Independent schools. However, there has not been a gradual fall over time. Between 1964 and the late 1970s, participation fell from a little under 8% to reach a low of 5.7% in 1978. During the 1980s, participation rose, reaching 7.5% by 1991. Over these 13 years, participation in the Independent sector increased by 1.8 percentage points or by just over 30%. The changes since 1990 have been less dramatic, with participation falling to 6.9% by 1996 before increasing very slightly after 2000 to reach 7.2% as seen at present.

Figure 1 also shows the number of Independent schools in England as a proportion of the total number of schools. As can be seen, and as one would expect, this series largely follows the same trends as the number of pupils. However, it is worth noting that the proportion of schools rose at a slower rate during the 1980s than did the proportion of pupils, meaning that the average size of Independent schools must have risen relative to the state sector. Since 2000, the proportion of Independent schools has risen at a faster rate than has the proportion of pupils, suggesting that private schools have become smaller relative to the state sector (though schools in both sectors have increased in average size over this period).

Figure 1- Proportion of Independent Schools and Full-Time Pupils at Independent Schools in England, 1964-2010

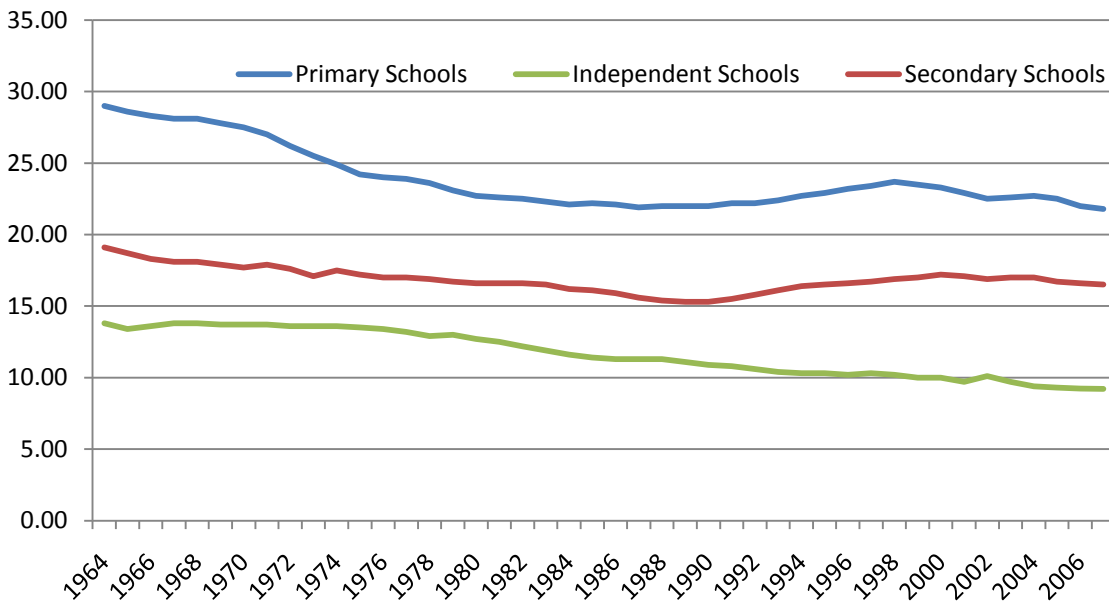


Sources: Department for Education and Skills (2003), <http://www.dcsf.gov.uk/rsgateway/DB/SBU/b000384/b01-2003.pdf>); 2003-2010 (<http://www.dcsf.gov.uk/rsgateway/DB/SFR/s000925/index.shtml>).

Generally speaking, the pupil–teacher ratio tends to be much lower at Independent schools than at state schools. Figure 2 shows the pupil–teacher ratio amongst state schools (split by primary schools and secondary schools) and Independent schools between 1964 and 2007. It can be seen that the pupil–teacher ratio has been on a long-run decline in the Independent sector, falling from just under 14 in the 1960s to just over 9 in recent years. By way of contrast, the pupil–teacher ratio was 16.5 in state secondary schools and 21.8 in primary schools in 2007. Both declined between the 1960s and late 1980s. However, during the 1990s, pupil–teacher ratios in the state sector increased slightly, before falling back again a little during the 2000s.

Independent schools in the UK currently receive no direct government funding, although if the school has charitable status (which the majority of Independent schools hold) it receives substantial tax exemptions. Private schools receive the majority of their income in the form of fees. According to the recent ISC census, the average annual fee in 2010 was £10,100 for day pupils (considering day schools only) and £24,000 for boarders (the latter fee being higher to cover the cost of accommodation and food during term time). These average fees (focusing on day schools) are much higher than those charged in Australia, where the public subsidies to Catholic and Independent schools are substantial.

Figure 2- Pupil Teacher Ratios in State and Independent Schools, 1964-2007



Sources: Department for Education and Skills (2003), <http://www.dcsf.gov.uk/rsgateway/DB/SBU/b000384/b01-2003.pdf>; 2003-2007 (<http://www.dcsf.gov.uk/rsgateway/DB/TIM/m002005/index.shtml>).

Figure 3 shows the average level of Independent school fees over time in real-terms, both for boarding schools and day schools. Panel (a) shows their level between 1984 and 1991 (indexed to 1 in 1984), whilst panel (b) shows their level between 1992 and 2008 (indexed to 1 in 1992). Figures are shown in separate panel due to a significant change in the ISC methodology for calculating fees in 1992. In order to provide some comparison to gauge changes in affordability, these figures also illustrative trends in average and top incomes amongst families with children. Specifically, they show the median level of household disposable income amongst families with children together with the 90th and 95th percentiles.

During the 1980s, Independent school fees grew rapidly. Average boarding school fees rose by 37% in real terms and day-school fees by 45% between 1984 and 1991. Both increases are far in excess of the 18% real-terms growth in median disposable incomes observed over the same period. However, the growth in top incomes amongst families with children was similar to the growth in fees: the 90th percentile grew by 38% in total in real terms and the 95th percentile by a little under 50% between 1984 and 1991. The fact that top

incomes grew by more than the median reflects the large increase in income inequality observed over the 1980s among all households.

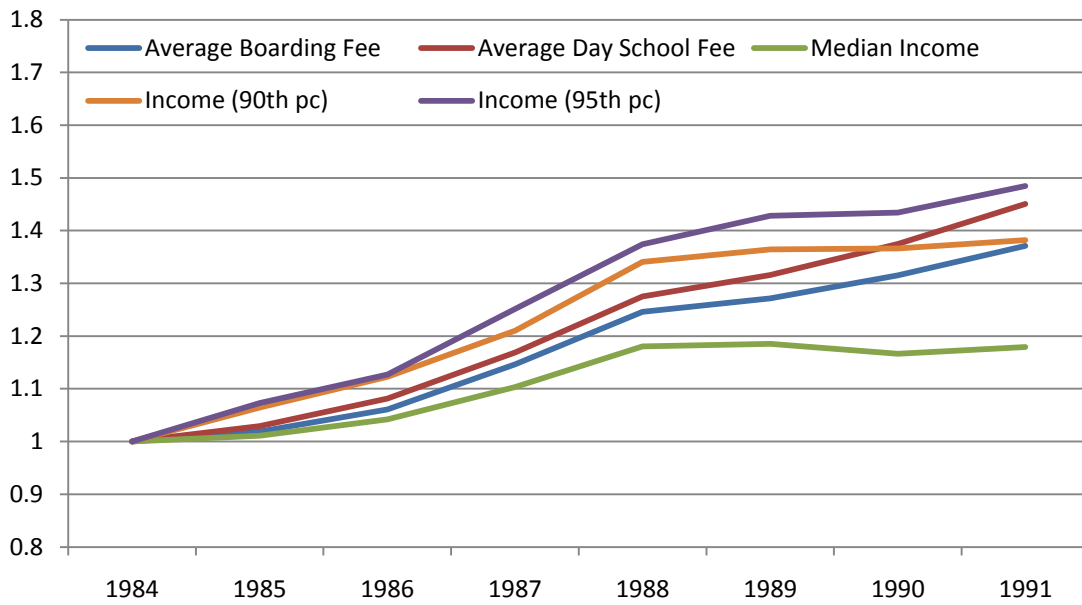
Between 1992 and 2008, median income amongst families with children grew by a slightly smaller amount (31%) than did the 90th and 95th percentiles (36% and 33% respectively). However, the differences are clearly much less stark than those observed between 1984 and 1991. Average school fees have grown by a much larger amount, with average day-school fees growing by 83% in real terms and average boarding fees by 65% over this period. It can be seen that much of the excess growth in average school fees over and above that in household incomes seems to have occurred from the early 2000s onwards.

Being outside the state sector, Independent schools in the UK naturally possess a substantial degree of autonomy. They own or rent their own premises, and are free to set their own terms and conditions for staff. They also set their own curriculum and admissions policies. A number of Independent schools are faith-based and some follow particular pedagogical styles, such as Steiner–Waldorf and Montessori schools.

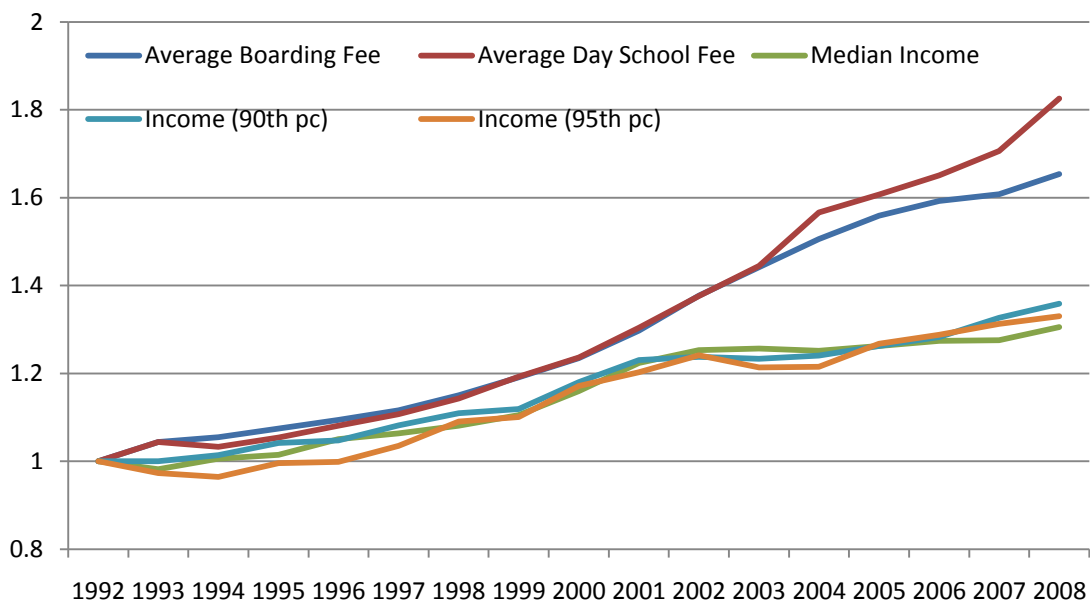
Although they do not generally participate in national Key Stage tests or assessments up to age 14, most pupils at Independent schools do sit national GCSE examinations at age 16, as well as AS/A level examinations at ages 17 and 18 (and their equivalents in Scotland). However, in recent years, a number of Independent schools have chosen to offer other qualifications, including the international GCSE, the International Baccalaureate or just going straight to A levels.

Figure 3- Average School Fees and Household Disposable Incomes Amongst Families with Children, 1984-2008

(a) 1984-1991 (relative to level in 1984)



(b) 1992-2008 (relative to level in 1992)



Structure of Private Schooling in Australia

The public school system in Australia is administered at the state government level, so there are eight separate public systems, with slight variations in how they are structured. The public systems now educate around two-thirds of Australian school students, with the balance educated in Catholic schools (20%) and other non-government or Independent schools (13%).³

The Catholic schools are also organised via state-level Catholic authorities, while the other non-government schools are known as 'Independent' because they have traditionally not belonged to school 'systems'. State public education authorities are responsible for determining educational policies in the areas of curriculum and state-wide student assessment, final-year assessment and certification, as well as the registration of private schools.

Independent schools are traditionally non-Catholic in religious affiliation (for example, Anglican and Protestant denominations) and include many community-operated schools and schools based on a particular educational philosophy such as Montessori or Steiner education. Traditionally, Independent schools have been concentrated in urban areas at the high-school level and focused on the preparation of students for university. However, the Independent school sector is now the fastest-growing sector of private schooling in Australia and has gained an increased share of the student population over the past decade, in part through growth in low-fee schools in non-urban areas.

The Australian government provides some funding for public school education (most public school funding comes from the states), but it provides more money directly for the operation of private schools. These payments commenced as small per-capita, flat-rate payments to all schools in 1970. They have increased substantially in real terms since then and they effectively provide a weighted subsidy (voucher) for all

³ Australian Bureau of Statistics, *Schools Australia 2009*, Cat. No. 4221.0.

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.

The Australian government will spend very close to \$7 billion in 2010–11 on private schools. This amount is to increase at a rate of 7–8% real each year in financial years covered by budget estimates (or just over half a billion dollars per annum). The \$7 billion figure is close to 2% of anticipated Commonwealth expenditure in 2010–11.⁴

Schools in the Catholic system receive a combined (i.e. federal and state) grant per student that is worth approximately 80% of school operating costs. Students attending Independent schools attract a federal voucher weighted according to the socio-economic status (SES) of their parents' home address, ranging from 70% to 14% of school operating costs (plus the grant from the state governments). The weighted subsidies are paid in a lump sum to the school and all students attending a particular school are charged similar fees (these vary by grade).⁵

Figure 4 shows how the shares of schools, students and teachers in the Catholic and Independent school sectors have changed since the 1970s. The trends in these aggregates are shown for the Catholic sector in the left panel and the Independent school sector in the right panel.

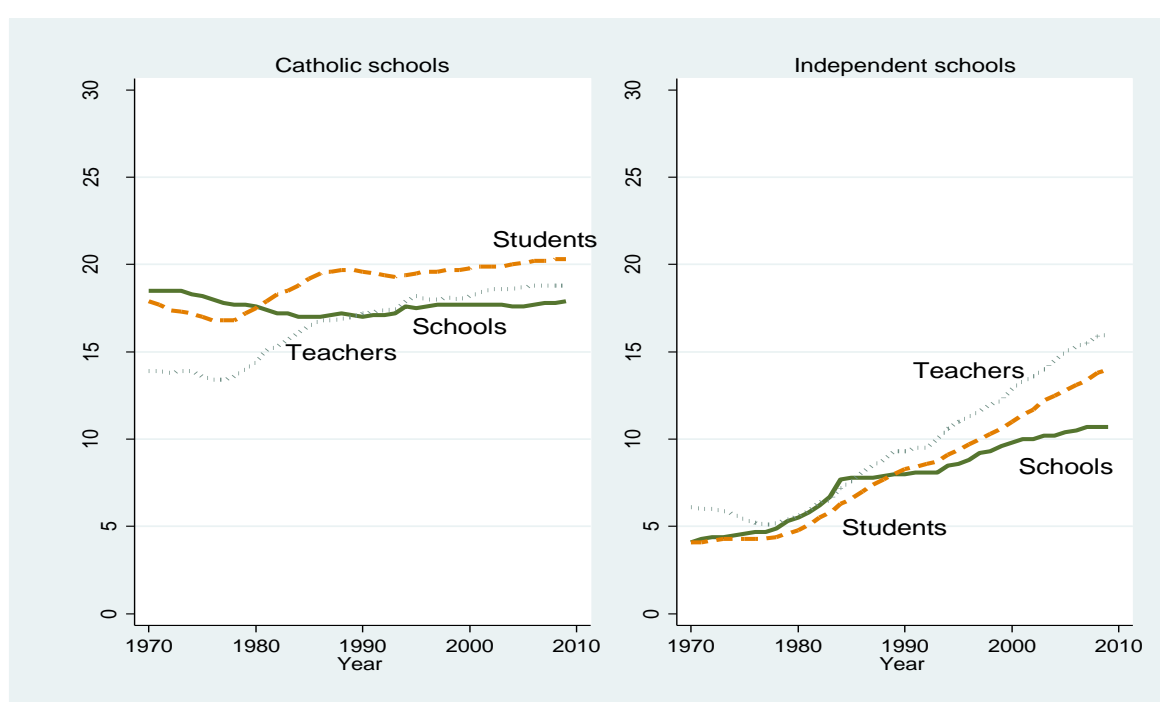
The Catholic system has traditionally been the larger sector, though its shares show little growth since the late 1980s. In contrast, student, school and teacher shares of the Independent school sector have been growing strongly since 1980 and the growth shows no sign of abating. In both sectors, schools are above average in size (the share of students exceeds the share of schools). In the Independent sector, student–teacher ratios are lower than average (the share of teachers exceeds the share of students), while they are above average in the Catholic sector.

⁴ Australian Government Budget Papers, 2010-11, accessed at <http://www.budget.gov.au/>

⁵ Funding to schools in the Catholic system also occurs on the basis of the SES of students. However, the money is paid to the Catholic education authorities, which have their own mechanisms for allocating the funding between schools.

Despite increased government funding, average real fees have increased substantially in both the Catholic and Independent sectors since the late 1970s, as well as compared with average household incomes. In the Independent sector, this has occurred despite most of the student growth occurring in low-fee schools. Trends in both real fees and real government grants to each sector are shown in Figure 5. With the growth in government funding since the 1970s, real per-capita resources available to private schools have increased by substantially more than the increase in fees.

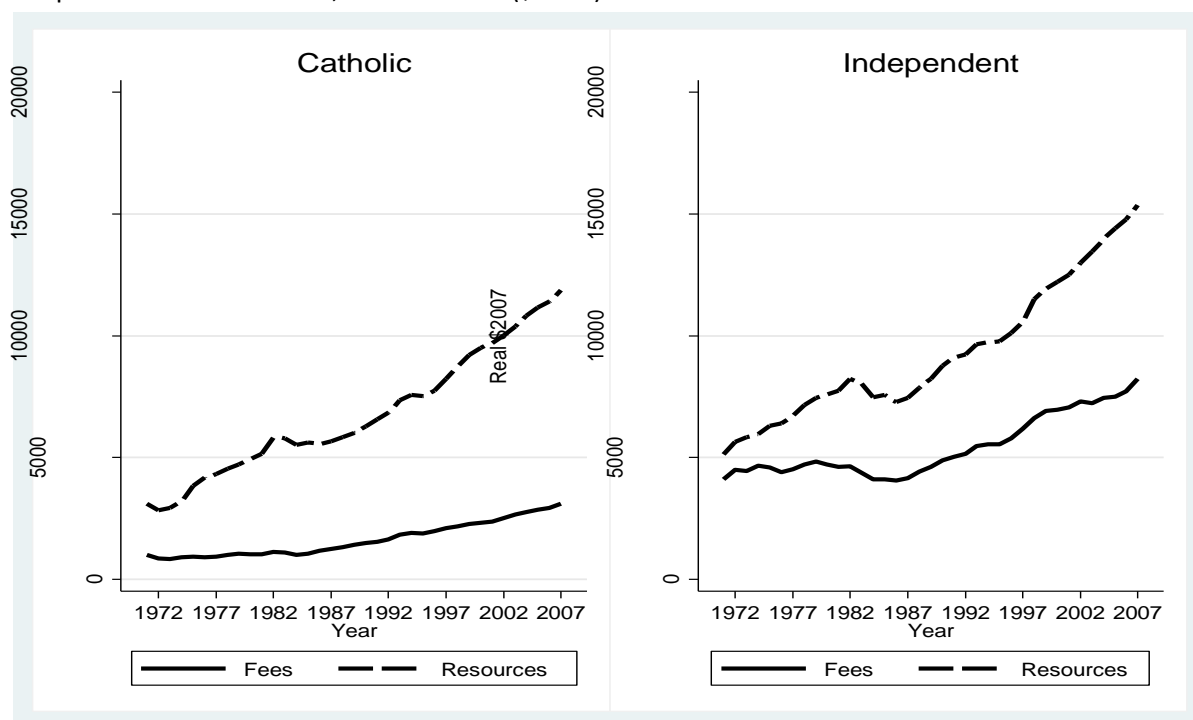
Figure 4. School, student and teacher shares of total: Catholic and Independent school sectors, 1970 to 2009



Source: Australian Bureau of Statistics, Schools Australia, Cat. No. 4221.0, various years.

Private schools used the increased government funding they received after 1970 to lower student–teacher ratios substantially, rather than to lower fees (Ryan and Watson 2010b). The improvements in student–teacher ratios are apparent in Figure 4 and the increase in real fees can be seen in Figure 5. Student–teacher ratios fell relative to those in the government system over the period shown in Figure 4.

Figure 5. Real secondary-school fees and per-capita resources (fees plus government grants): Catholic and Independent school sectors, 1970 to 2007 (\$2007)



Sources: Education Ministers Council, National Report on Schooling, various years; Schools Commission, Triennial Report, various years.

3. Data and sample selection

In this section we describe the difference data sources and sample selection procedures for our UK analysis and Australian Analysis.

Data description for UK

We use the first 16 annual waves of the British Household Panel Survey (BHPS), from 1991 to 2006, to study the determinants of private school attendance in the UK. The BHPS started with 5,500 households in 1991 and, except for panel attrition, all of these have been followed for the duration of the survey. Other individuals have been added to the sample along the way - sometimes temporarily - as they formed families with original interviewees or were born to them. Additional low-income and regional booster samples have also been created. From 2009, the BHPS forms part of the new and much larger 'Understanding Society' survey. Interviews are conducted with all individuals in a sampled household who are aged 16 or over. Most

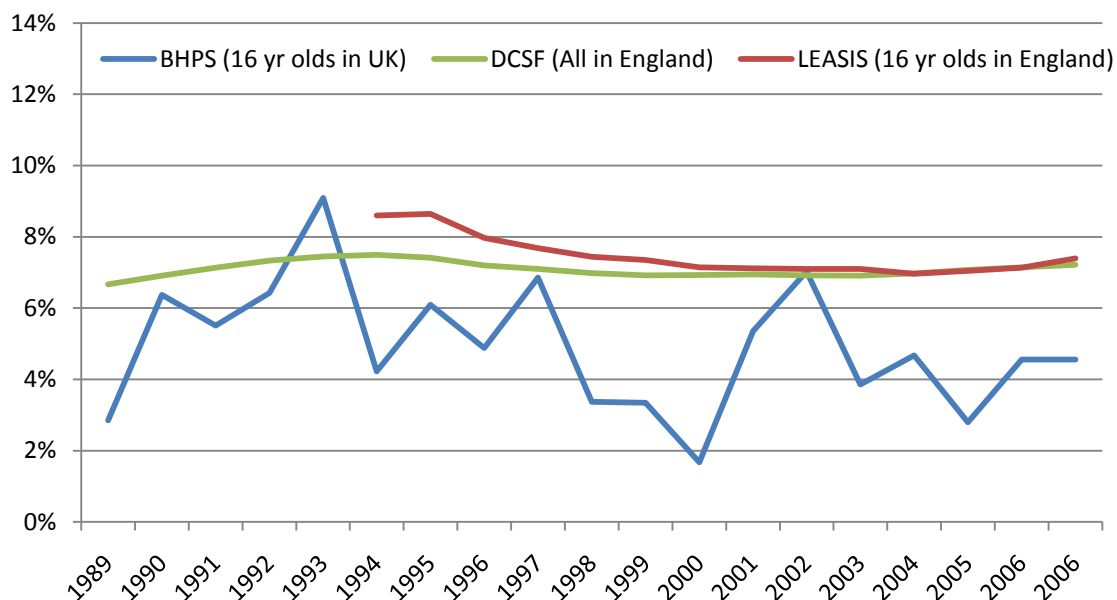
fieldwork is conducted in the autumn and early winter. A great deal of information is collected on demographic characteristics, employment, income and benefits.

In our analysis, we focus on private school attendance during year 11 (the last year of compulsory schooling in England, when children are aged 15 or 16) as our measure of private school demand. In their first adult interview, individuals aged 16 or over are asked what type of education institution they currently attend, or last attended. This is taken to be an indicator of what type of school they attended during year 11. This will produce an error in cases where the interview is conducted during year 12, *and* where individuals have changed sectors between year 11 and year 12 (likely to be a relatively small number of individuals). To increase the sample size, we also include individuals up to the age of 18 in the first wave of the BHPS, new entrants in later waves (such as the low-income and regional booster samples) and cases where an individual's first adult interview is late by one or two waves. We restrict these individuals to cases where we can identify their mother and/or father (i.e. we exclude new entrants living on their own at age 16).

This gives us a sample of about 4,100 16-year-olds in the UK between 1989 and 2006 (about 25% of which were first interviewed when they were aged 17 or 18). Figure 6 shows the (weighted) proportion of this group estimated to be in private school across each year of the sample. Unfortunately, there is no directly comparable series based on administrative data for the UK as a whole. However, we are able to show the proportion of all full-time pupils who attended private schools in England between 1989 and 2006, as well as just 16 year olds between 1993 and 2006. Except for the early 1990s, these two series based on administrative data track each other relatively tightly. However, in most years they are both well above the series for the UK based on the BHPS. Some of this difference is to be expected, as private school participation is generally lower for the UK as whole than in England – ISC estimates that in 2010 the former was 6.5% and the latter 7%. However, the magnitude of the difference leads us to conclude that the BHPS seems to systematically underestimate the proportion of pupils at private schools in the UK. The average difference between the BHPS series and that for all full-time pupils in England is over 2 percentage points. Moreover, the series for the BHPS is highly volatile from year to year, much more so than trends in

administrative data. The BHPS series ranges from under 2% in 2000 to over 9% in 1993. It will therefore be important to include year fixed effects in any regression analysis.

Figure 6 - Proportion of Pupils at Private Schools in England, 1964-2010



Sources: Department for Children Schools and Families (2003, 2010); Authors Calculations using BHPS and LEASIS.

As part of our analysis, we seek to relate private school attendance to a number of household. In particular, we examine the role played by:

- **Household Income and Economic Status**

The measure of income we used is the log of net household, equivalised income. Blundell, Dearden and Sibieta (2010) show that prices and school qualities prevailing when parents chose which school to send their child have the greatest explanatory power (i.e when children are in Year 2, 6 or 8). We would thus ideally include long lags of our measure of income. However, this would severely restrict the sample size and income is not measured in all waves for households either. As a proxy, we thus use household income when individuals were in year 11⁶. One would naturally expect higher income families to be

6 In the small number of cases where the first household interview is after individuals were in year 11, we use current household income, but only if individuals still live with their parent(s). This latter condition removes a potentially

more likely to choose a private school, given the high level of fees. However, given that income is likely to be measured with error, particularly at the bottom of the income distribution, we would not expect a linear relationship with log income. We thus also include a quadratic term⁷.

We also control for the number of workers in the family, and whether any of them were self-employed.

- **Family Background**

We investigate the role played by the number of siblings in the household during year 11 and whether children were in a lone parent family when they were in year 11. We also asked whether children born outside the UK are more or less likely to attend private school.

- **Parental Education**

We use the highest qualification of parents to measure parental education. The categories are: GCSEs or less; A-levels or equivalent; vocational or other higher qualifications; university degree or higher. We also measure whether one of more of the children's parents went to a private school themselves, which should provide some guide as to the level of intergenerational correlation, over and above the effect via higher incomes.

- **Political Identification**

We measure whether parents identified with one of the three main political parties (Labour, Conservatives or Liberal Democrats) or another political party.

- **Time and Region Effects**

We also control for time and region effects. In our regressions that follow we show the results before and after using the cross-sectional weights available in the BHPS.

serious problem with the estimation if we had instead included individuals who had left their parental home. As it is, we are still including a number of cases based on current income, which is likely to create an attenuation bias given that current income is likely to be an imperfect proxy for year 11 income with error. Other biases could result if incomes change systematically between year 11 and later waves differentially for parents whose children have attended private schools.

⁷ We have tried including higher orders of log income, but these were insignificant.

Table 1 shows summary statistics for these variables, with means shown before and after weighting. As can be seen, the proportion of the sample who have attended a private school in year 11 is 4.2% in both cases, which is unfortunately well below the current UK average of 6.5% and likely to be below the UK average over the period covered by the BHPS (given that the English average over this period is around 7%). The main change before and after weighting is the proportion living in different regions. This is unsurprising given the booster samples came from Scotland, Wales and Northern Ireland. The effects of weighting also makes the sample slightly richer, more educated, less likely that one of their parents went to a private school and more likely to support one of the three main political parties.

Table 1: UK Summary Statistics.

	Mean (unweighted)	Mean (weighted)	Min	Max
Attended a Private School	4.4%	4.9%	0	1
Log Equivalised Net Income	9.706	9.737	5.867	12.919
Couple Family	72.5%	76.7%	0	1
Siblings	1.4	1.4	0	8
Born Outside UK	2.3%	2.6%	0	1
One Parent Works	38.1%	36.7%	0	1
Both Parent Work	44.8%	48.9%	0	1
One or more parents self-employed	15.7%	15.7%	0	1
Parental Education: GCSEs	18.7%	18.2%	0	1
Parental Education: A-levels	10.1%	9.4%	0	1
Parental Education: Vocational or higher	30.1%	33.9%	0	1
Parental Education: University of higher	14.0%	14.3%	0	1
Parent(s) attended private school	8.0%	9.5%	0	1
Parent(s) are Labour supporters	33.1%	37.2%	0	1
Parent(s) are Conservative supporters	20.5%	25.2%	0	1
Parent(s) are Lib Dem supporters	8.5%	10.2%	0	1
Parent(s) are Other Party supporters	4.4%	4.9%	0	1
Lives in North	3.8%	4.8%	0	1
Lives in Yorkshire and Humberside	6.2%	8.7%	0	1
Lives in East Midlands	6.6%	8.4%	0	1
Lives in East Anglia	2.8%	4.0%	0	1
Lives in South-East	13.9%	20.0%	0	1
Lives in South-West	6.4%	8.2%	0	1
Lives in West Midlands	6.5%	8.9%	0	1
Lives in North-West	7.1%	10.5%	0	1
Lives in London	5.3%	8.6%	0	1
Lives in Wales	14.0%	5.8%	0	1
Lives in Scotland	14.8%	9.3%	0	1
Lives in Northern Ireland	12.4%	2.8%	0	1

Data description for Australia

The Australian data are taken from the Household Income and Labour Dynamics in Australia (HILDA) Survey. It is a household-based longitudinal survey, which aims to track members of an initial sample of households, and individuals who join those initial households, over an indefinite life. The initial sample of 7682 households was drawn in 2001 as a sample of households from 488 non-remote Census Collection Districts in Australia. The sample was intended to be nationally representative of the Australian population aged 15 years or more living in non-remote regions at that time. Some 13969 respondents from those 7682

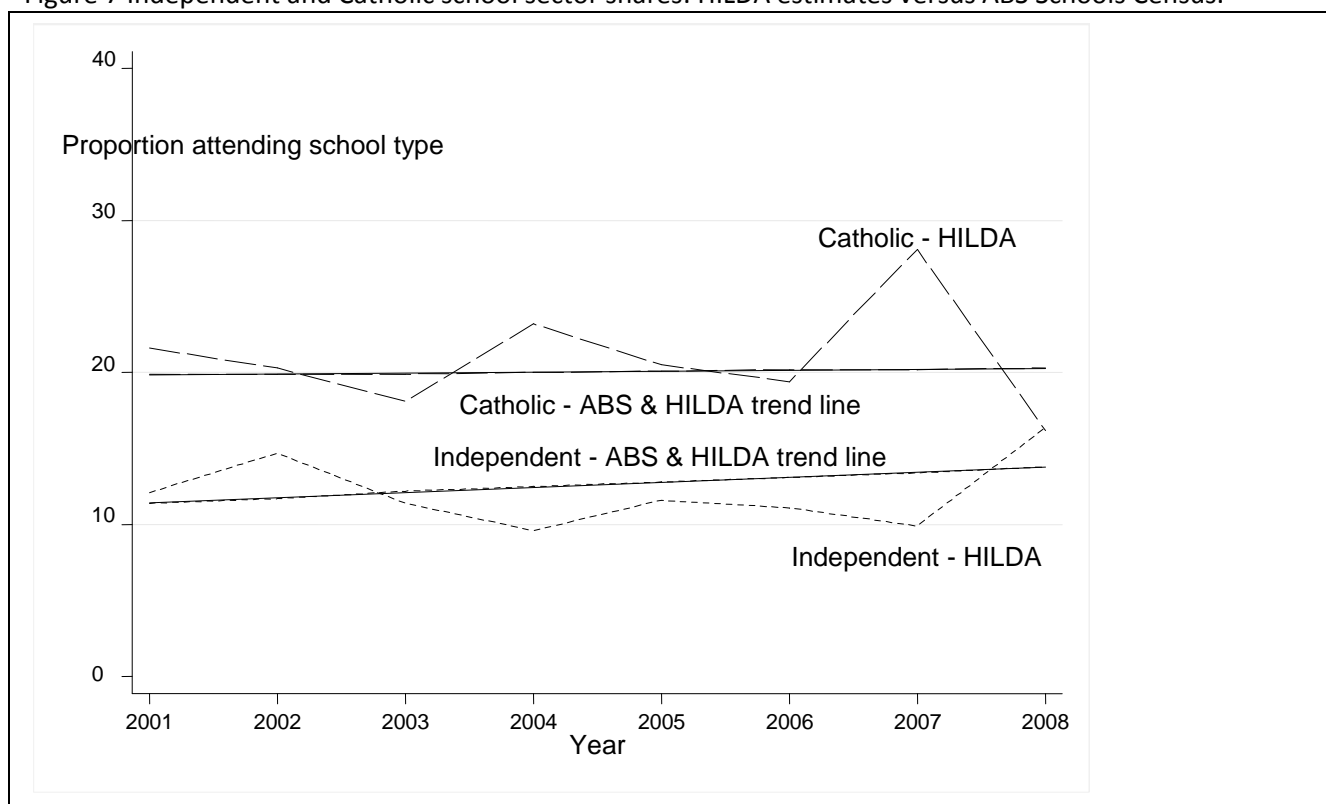
households were interviewed in the first wave of HILDA. Those interviewed were asked detailed questions about: their current and past family arrangements; and current and previous labour market participation; current income; and their participation in other activities, including education. Children in surveyed households become survey subjects and are interviewed annually once they turn 15 years of age. Interviews are concentrated in the period from August to November each year. Data from the first eight waves of the survey, from 2001 to 2008 are used in the analysis undertaken in this paper. The HILDA survey is described in more detail in Watson (2010).

Like the analysis of the BHPS data, we predominantly use responses from subjects who were still at school when first interviewed. These individuals were asked about the type of school they attended at that time. The fifteen year olds interviewed from wave 2 have most commonly been in Year 10 (about 50% of them), with most other students being in Years 9 or 11. The observations of young people still at school in wave one included students who were in higher grades. Just less than 30% of the observations used here come from wave one, with other waves each contributing around 10% of the observations analysed. Values for parental or household measures such as (real) income come from the same wave of the data where the student's school sector choice was observed.

This gives us a sample of about 2,100 school age young people in Australia between 2001 and 2008 Figure 8 shows the (weighted) proportion of this group estimated to attend either a Catholic or an Independent school in each year of the survey, along with trend lines for each attendance type and the proportion of students attending different types of schools from official data for all school students from the Australian Bureau of Statistics Schools Census. The latter two sets of lines lie almost directly on top of each other for both sectors, indicating that the HILDA data capture broad school attendance patterns in the Australian population. In fact, it seems likely that HILDA data underestimate enrolments in private schools, since the share is known to be higher at the secondary school level than primary school level, so the ABS figures for the most comparable group should be a little higher than those shown in Figure 7, especially for the

Independent schools sector. Nevertheless, the broad orders of magnitude from the HILDA data are not far from those in the wider population.

Figure 7 Independent and Catholic school sector shares: HILDA estimates versus ABS Schools Census.



Source: Australian Bureau of Statistics, Schools Australia, Cat. No. 4221.0, various years and HILDA data

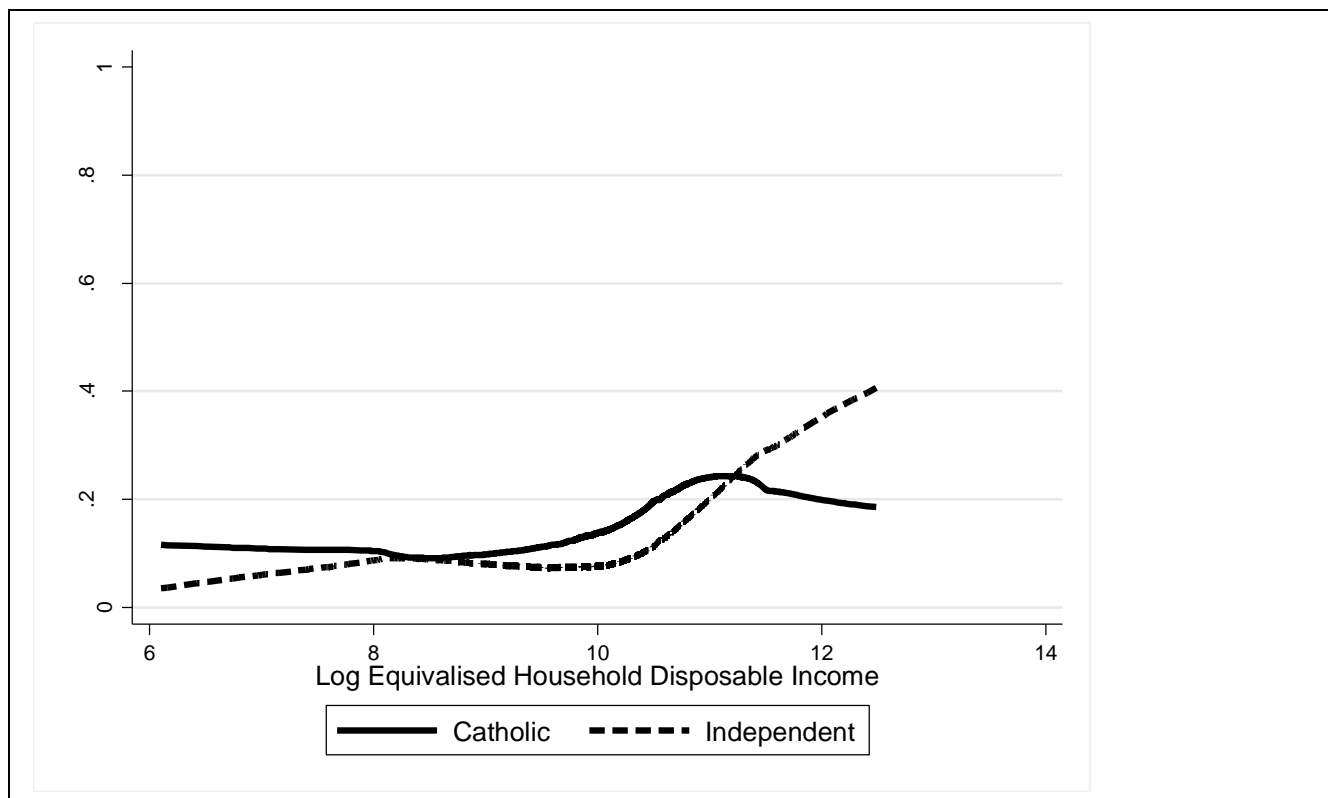
Other features of the HILDA data, in terms of available variables and their various definitions, are very similar to those already described for the BHPS. We use a similar specification for the regression equations to those used for the BHPS data. There are a number of exceptions to this statement, however. First, since there are three school sectors analysed here rather than two, we need to use an estimation technique that accommodates the three choices. We report results where we analyse choices between Government, Catholic and Independent school sectors using a multinomial logit estimation procedure, and report only estimated marginal effects, rather than parameter estimates that can be difficult to interpret. Second, since it is possible that intergenerational effects may differ between the Catholic and Independent sectors, we allow a slightly richer specification of the role of parental education histories on their children’s school sectors. Hence, we distinguish all possible pairs of parental school choice possibilities (both Government,

one parent Government - one Catholic and so on). In single parent households, we combine those responses with households where both parents had the same school type background (that is both Government, and both Catholic or both Independent). Three, data about voting tendencies are not collected in HILDA, so we cannot take parental politics into account in estimation using the Australian data. Four, religious affiliation, however, is collected, so we summarise results where we included variables that captured whether either parent indicated they were followers of Catholic, other Christian or other religions. The omitted category is obviously where parents separately indicated they were not followers of any religion. Five, we distinguish between individuals born outside Australia in predominantly English speaking and non-English speaking countries. Previous research has found this to be an important feature in determining many aspects of educational participation in Australia (showing higher participation rates for those from non-English speaking backgrounds than either the native population or those born in other countries) and may also influence school choice. Six, the parental educational attainment variable is specified slightly differently to reflect Australian institutional features. The measures used here reflect an ordering of educational attainment, from early leavers who completed no further post-school qualifications through to those with postgraduate university qualifications.

A final difference in the specification used for the Australian data relates to the income variable. Like the BHPS data, we use a measure of equivalised household net income, based on estimates for the previous financial year. The condition mean of attendance at Catholic and Independent schools given this measure of income is shown in Figure 8. Across the bottom two thirds of the income distribution, attendance is more common at Catholic than Independent schools, with both figures effectively constant across the bottom half of the distribution (the median value of log equivalised household income is 10.3). However, the incidence of attending an Independent school increases much more strongly in the top section of the income distribution than does the Catholic school attendance. In estimation, these features of the data were not captured effectively by the quadratic specification used for the BHPS data. Consequently, we use a linear spline with a

knot point at 10 for log equivalised household net income for both sectors, so we allow the probability of attendance to change differently with income above that value than it does below it.

Figure 8 Non-Parametric Locally Weighted Estimates of Probability of Attending a Private School in Australia by Log equivalised net income.



The descriptive statistics for the Australian data are shown in Table 2. They are broadly similar in many respects to those for the weighted UK data. Similar proportions of respondents come from couple-headed households, with similar proportions of one, two and self-employed workers, as well as comparable proportions of university-educated parents. More Australians were born in another country than is the case for those in the BHPS, and more Australian parents attended private schools.

TABLE 2: Australia Summary Statistics

	Mean	SD	Min	Max
Attended a Government school	0.668	0.471	0	1
Attended a Catholic school	0.211	0.408	0	1
Attended an Independent school	0.121	0.326	0	1
Log, equivalised household disposable income	10.280	0.494	5.7	12.3
Couple family	0.778	0.416	0	1
Number of siblings	1.643	1.552	0	11
Born overseas, Main English speaking countries	0.021	0.145	0	1
Born overseas, Non-English speaking country	0.063	0.244	0	1
One worker family	0.336	0.473	0	1
Two worker family	0.540	0.499	0	1
Self-employed	0.151	0.358	0	1
Parental Education: No Year 12 but vocational qual	0.272	0.445	0	1
Parental Education: Year 12 but no vocational qual	0.117	0.322	0	1
Parental Education: Year 12 & vocational qual	0.127	0.334	0	1
Parental Education: University or higher	0.167	0.373	0	1
One parent attended government, another Catholic	0.131	0.337	0	1
One parent attended government, another Independent	0.071	0.257	0	1
Parent(s) attended Catholic school	0.073	0.260	0	1
One parent attended Catholic, another Independent	0.015	0.122	0	1
Parent(s) attended Independent school	0.023	0.149	0	1
At least one parent Catholic	0.342	0.474	0	1
At least one parent Other Christian	0.227	0.419	0	1
At least one parent Other Religion	0.039	0.195	0	1

4. Empirical Results

Results for the UK

Table 3 shows our estimates of the determinants of private school attendance using an OLS linear probability model. In column (1), we only control for household income, adding other possible determinants in column (2). This order is repeated in columns (3) and (4) where we also weight observations using the BHPS cross-sectional weights. Table 4 then repeats all the analysis using a probit model, reporting marginal effects.

TABLE 3: OLS Estimates of the Determinants of UK Private School Attendance (BHPS).

Variable	(1)	(2)	(3)	(4)
Log, equivalised income	-0.282***	-0.146	-0.497***	-0.273*
	[0.00257]	[0.115]	[0.00504]	[0.0922]
<i>Squared</i>	0.0163***	0.00856*	0.0274***	0.0154*
	[0.000824]	[0.0781]	[0.00360]	[0.0771]
Couple Family		0.00862		0.014
		[0.318]		[0.206]
Number of Siblings		-0.00697**		-0.0101**
		[0.0193]		[0.0262]
Born Outside UK		0.0154		0.0341
		[0.460]		[0.415]
One Worker Family		-0.00388		-0.0152
		[0.693]		[0.277]
Two Worker Family		-0.0226**		-0.0495***
		[0.0497]		[0.00329]
Self-employed		0.0172*		0.0352**
		[0.0543]		[0.0200]
Parental Education: GCSEs		-0.00621		-0.00346
		[0.515]		[0.761]
Parental Education: A-levels		0.0111		-0.000989
		[0.350]		[0.946]
Parental Education: Vocational or higher		0.0121		0.00828
		[0.182]		[0.439]
Parental Education: University of higher		0.0286**		0.0194
		[0.0147]		[0.306]
Parent(s) attended private school		0.123***		0.126***
		[0]		[1.18e-07]
Parent(s) are Labour supporters		-0.0228***		-0.0225***
		[0.00264]		[0.00205]
Parent(s) are Conservative supporters		0.0411***		0.0539***
		[6.51e-06]		[6.71e-05]
Parent(s) are Lib Dem supporters		0.00354		-0.00313
		[0.766]		[0.842]
Regional Controls	Yes	Yes	Yes	Yes
Time Controls	Yes	Yes	Yes	Yes
Weights	No	No	Yes	Yes
Observations	4,146	4,146	4,146	4,146

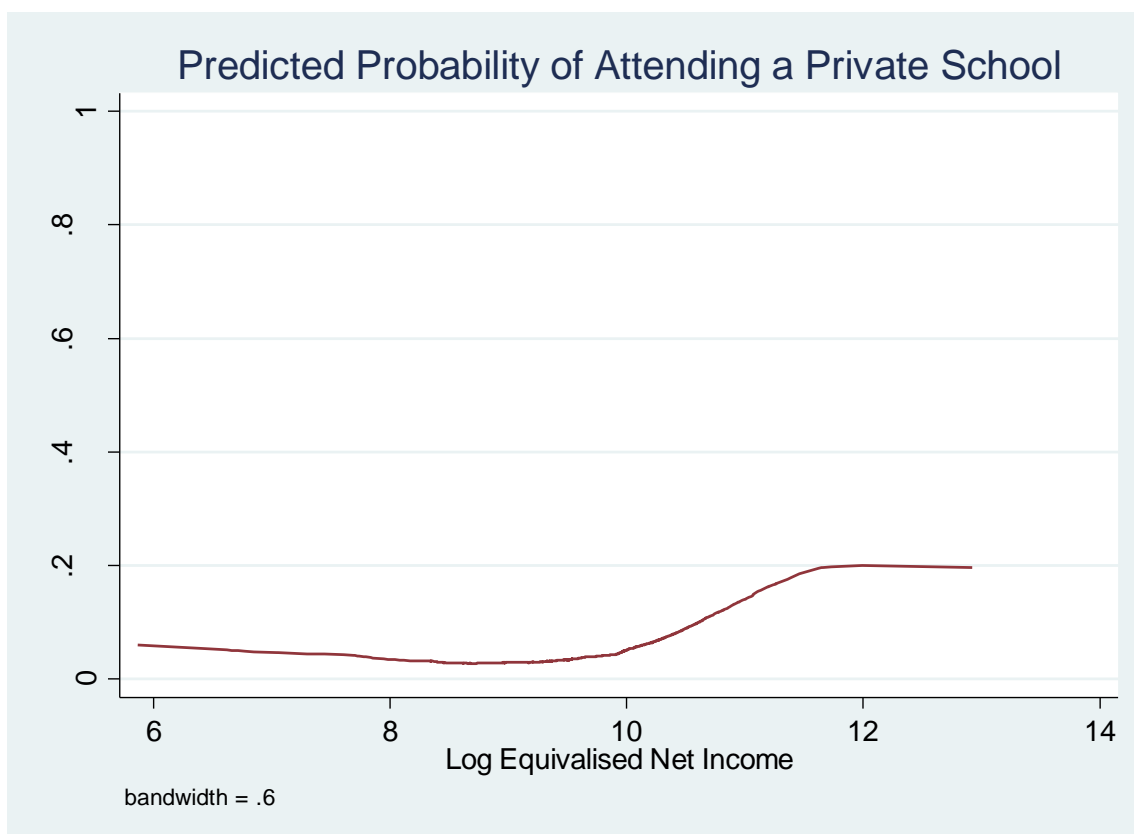
TABLE 4: Probit Estimates of the Determinants of UK Private School Attendance (BHPS).

Variable	(1)	(2)	(3)	(4)
Log, equivalised income	-0.157**	-0.034	-0.313***	-0.078
	[0.0487]	[0.587]	[0.000442]	[0.190]
<i>Squared</i>	0.00955**	0.002	0.0175***	0.005
	[0.0193]	[0.469]	[0.000201]	[0.136]
Couple Family		0.00558		5.36E-03
		[0.350]		[0.380]
Number of Siblings		-0.00449**		-0.00549*
		[0.0394]		[0.0741]
Born Outside UK		0.00527		0.0152
		[0.690]		[0.375]
One Worker Family		-2.69E-03		-0.0123
		[0.719]		[0.144]
Two Worker Family		-0.0154*		-0.0335***
		[0.0706]		[0.00158]
Self-employed		0.0107*		0.0190***
		[0.0821]		[0.00973]
Parental Education: GCSEs		-0.00532		-0.00478
		[0.470]		[0.567]
Parental Education: A-levels		0.0134		3.10E-04
		[0.168]		[0.972]
Parental Education: Vocational or higher		0.0119		0.00575
		[0.103]		[0.448]
Parental Education: University of higher		0.0299***		0.0197*
		[0.00333]		[0.0786]
Parent(s) attended private school		0.0806***		0.0812***
		[0]		[0]
Parent(s) are Labour supporters		-0.0190***		-0.0185***
		[0.000687]		[0.00170]
Parent(s) are Conservative supporters		0.0265***		0.0355***
		[0.000178]		[3.95e-06]
Parent(s) are Lib Dem supporters		0.00528		0.00113
		[0.504]		[0.893]
Regional Controls	Yes	Yes	Yes	Yes
Time Controls	Yes	Yes	Yes	Yes
Weights	No	No	Yes	Yes
Observations	4,146	4,146	4,146	4,146

As can be seen in both Tables 3 and 4, before controlling for other factors there is a strong non-linear relationship between log, equivalised income and likelihood to attend a private school (with or without weights). There appears to be a U-shaped pattern. Based on the weighed LPM results in column (3) of Table

3, the estimates suggest that the likelihood to attend a private school falls as equivalised net income increases up to about £8,000 per annum, and then increases as income increases. This U-shaped pattern appears to be driven by a small number of individuals with very low recorded incomes who are highly likely to attend private schools. Figure 9 plots the predicted probability of attending a private school by income using a non-parametric locally weighted regression. As can be seen, those towards the bottom of the income distribution are slightly more likely to attend a private school than those towards the middle of the income distribution (hence the importance of the quadratic specification. However, for the most part, in both the parametric and non-parametric estimates, higher household income increases the probability of attending a private school.

Figure 9 Non-Parametric Locally Weighted Estimates of Probability of Attending a UK Private School by Log equivalised net income.



With and without weights, controlling for other factors apart from income weakens the relationship with income. In the case of the probit model, the point estimates on the income variables cease to be statistically

significant. Going through these factors individually, we find no significant difference between those from couples and lone-parent families in terms of likelihood to attend a private school. However, children with more siblings are significantly less likely to go to a private school. This result is likely to be the net result of a combination of effects. Firstly, a number of private schools offer sibling discounts on school fees, which on its own would clearly lead to a positive effect of number of siblings on likelihood to attend a private school. However, working against this is the fact that many state schools operate sibling preference rules for school admissions, such that the siblings of existing pupils are given priority over most other pupils. Therefore, given the present system of admissions, it may be cheaper for some large families to pay the house price premium to live near a 'good' state school than to pay school fees for all their children (even with sibling discounts). Thirdly, there could be a resources effect if the OECD equivalence scale does not fully capture the extra income needed to maintain the same standard of living in a family with one extra child. However, this could work in the other direction if the equivalence scale over-compensates. The estimates suggest that the admissions effect dominates the sibling discount effects, and any resource effects work in the same direction or are also dominated.

There is no significant effect of being born outside the UK on likelihood to attend a private school. Children from two-worker families are, somewhat surprisingly, significantly less likely to attend a private school, whilst if one or more parents are self-employed, children are significantly more likely to attend a private school.

If one or more parents have a degree level qualification, children are significantly more likely to attend a private school at age 16 (controlling for income), though this is not true in the case of the unweighted LPM model. However, if one or more parents attended a private school, children are estimated to about 12-13 percentage points more likely to attend a private school in the LPM model and about 8 percentage points more likely in the Probit model. Given that only 4.2% of the weighted sample attend a private school, there appears to be very strong intergenerational correlation, even controlling for income and parental qualification levels.

Finally, as one might expect, political preferences also seem to play a role with Labour identifiers significantly less likely to send their child to a private school than unaffiliated voters, and Conservative identifiers significantly more likely.

Results for Australia

Marginal effects of the explanatory variables on Australian school sector choice decisions for the multinomial logit model are shown in Table 5. The first three columns show results for the Government, Catholic and Independent sectors respectively, where unweighted data are used in estimation. The remaining three columns show the estimated marginal effects where weighted data are used, where the weights are designed to weight the HILDA respondents to match the Australian population. The key results do not depend much on whether weighted or unweighted data are used.

The regression results confirm that income has a positive impact on attendance at private schools in the top half of the income distribution, but not the bottom, where the incidence of attending a school in either private sector does not change with income. These income effects in the top half of the income distribution are not large compared to some effects discussed below. For example, in the top half of the distribution, a 10% increase in income is associated with about a 1 percentage point increase of attending a Catholic school and a 1 to 1.5 percentage point increase of attending an Independent school. Hence, attendance at Government schools falls by between 2 to 2.5 percentage points for each 10% of additional income in the top of the income distribution. While not shown, the marginal effects on the income variables where no other explanatory variables are included are higher than those presented in Table 5, more markedly for Independent schools than Catholic schools, where the effects are about 80% higher than those where other variables are included.

TABLE 5: Marginal effects of a Multinomial Logit regression of the Determinants of Australia Private School Attendance (HILDA). ^(a)

Variable	Unweighted results			Weighted results		
	Government	Catholic	Independent	Government	Catholic	Independent
Log, equivalised household disposable income	0.026	0.002	-0.027	0.044	0.000	-0.044
	[0.045]	[0.042]	[0.027]	[0.050]	[0.042]	[0.028]
Inoecd_hifdip_10s	-0.199***	0.089*	0.110***	-0.249***	0.099*	0.150***
	[0.06]	[0.054]	[0.038]	[0.066]	[0.056]	[0.039]
Couple family	0.007	-0.007	0.000	0.007	-0.001	-0.006
	[0.032]	[0.029]	[0.023]	[0.038]	[0.035]	[0.025]
Number of siblings	0.028***	0.001	-0.029***	0.027***	0.004	-0.031***
	[0.008]	[0.007]	[0.007]	[0.009]	[0.008]	[0.008]
Born overseas, Main English speaking	-0.157**	0.064	0.092**	-0.136**	0.06	0.076**
	[0.062]	[0.055]	[0.037]	[0.061]	[0.054]	[0.034]
Born overseas, Non-English speaking	-0.003	0.052	-0.048	-0.013	0.049	-0.037
	[0.047]	[0.038]	[0.037]	[0.055]	[0.043]	[0.041]
One worker family	-0.094**	0.087**	0.007	-0.06	0.045	0.014
	[0.041]	[0.039]	[0.031]	[0.051]	[0.048]	[0.033]
Two worker family	-0.123***	0.124***	-0.001	-0.094*	0.092*	0.002
	[0.046]	[0.043]	[0.033]	[0.056]	[0.053]	[0.036]
Self-employed	-0.087***	0.041*	0.045**	-0.067**	0.033	0.034*
	[0.026]	[0.022]	[0.018]	[0.030]	[0.026]	[0.020]
Parental Education: No Year 12 but vocational qual	0.050*	-0.002	-0.048**	0.055*	-0.006	-0.049**
	[0.026]	[0.023]	[0.020]	[0.029]	[0.025]	[0.022]
Parental Education: Year 12 but no vocational qual	0.021	0.002	-0.023	0.014	-0.008	-0.006
	[0.033]	[0.029]	[0.025]	[0.040]	[0.035]	[0.027]
Parental Education: Year 12 & vocational qual	-0.021	0.028	-0.006	0.016	-0.001	-0.015
	[0.031]	[0.027]	[0.023]	[0.032]	[0.028]	[0.024]
Parental Education: University or higher	-0.050*	0.011	0.038**	-0.046	0.014	0.031
	[0.028]	[0.024]	[0.018]	[0.031]	[0.028]	[0.019]
One parent attended government, another Catholic	-0.129***	0.176***	-0.047*	-0.134***	0.195***	-0.060**
	[0.028]	[0.021]	[0.024]	[0.030]	[0.023]	[0.025]
One parent attended government, another Independent	-0.077**	0.017	0.060***	-0.048	0.014	0.035
	[0.038]	[0.035]	[0.022]	[0.044]	[0.042]	[0.022]
Parent(s) attended Catholic school	-0.288***	0.291***	-0.002	-0.277***	0.293***	-0.016
	[0.036]	[0.024]	[0.029]	[0.038]	[0.026]	[0.032]
One parent attended Catholic, another Independent	-0.182***	0.177***	0.004	-0.205***	0.192***	0.013
	[0.067]	[0.050]	[0.05]	[0.073]	[0.053]	[0.051]
Parent(s) attended Independent school	-0.338***	0.152***	0.186***	-0.323***	0.153***	0.171***
	[0.064]	[0.053]	[0.031]	[0.068]	[0.058]	[0.033]
Observations		2121			2121	

(a) Regression equation includes state and time period dummy variables.

Other features of the results are also qualitatively similar to those presented for the UK: self-employment in Australia is also associated with increased attendance at private schools; more siblings with less attendance, at least for Independent schools; couple-headed households are no more or less likely than sole parents to send their children to private schools; and there may be some small parental educational attainment effects.

Further, like in the UK, parental attendance at private schools has a substantial impact on the school sectors their children attend. However, these effects are very large in Australia. These intergenerational effects are considered in more detail with the assistance of Table 6. The top panel of Table 6 contains the broad patterns in the data – three quarters of the children of parents who both attended Government schools themselves attend a Government school; while just over (under) half of the children of parents who attended Catholic (Independent) schools attended such schools. Hence, there is considerable correlation in school sector choices across the generations. The proportions who attend Government schools from parents with combinations of school sectors other than both from Government schools are substantially lower than the 75% for that group, more like 30% for those whose parents both attended Catholic or Independent schools.

The bottom two panels of Table 6 show the intergenerational differences remaining after taking into account the variables included in the regression equations. The second last panel shows the unweighted regression results from Table 5, with the bottom panel containing the results where the religious backgrounds of parents were also taken into account.

TABLE 6: Choice of school sector by school type attended by parents - Australia

Variable	Government	Catholic	Independent
Raw data			
	(per cent)		
Parent(s) attended Government school	75.4	13.4	11.2
One parent attended government, another Catholic	50.9	41.9	7.3
One parent attended government, another Independent	61.3	16.6	22.2
Parent(s) attended Catholic school	36.6	55.3	8.1
One parent attended Catholic, another Independent	43.1	43.2	13.6
Parent(s) attended Independent school	29.7	24.1	46.1
Difference from parent(s) attended Government school			
One parent attended government, another Catholic	-24.5	28.5	-3.9
One parent attended government, another Independent	-14.1	3.2	11.0
Parent(s) attended Catholic school	-38.8	41.9	-3.1
One parent attended Catholic, another Independent	-32.3	29.8	2.4
Parent(s) attended Independent school	-45.7	10.7	34.9
Base (unweighted) regression estimated differences from parent(s) attended Government school			
One parent attended government, another Catholic	-12.9	17.6	-4.7
One parent attended government, another Independent	-7.7	1.7	6.0
Parent(s) attended Catholic school	-28.8	29.1	-0.2
One parent attended Catholic, another Independent	-18.2	17.7	0.4
Parent(s) attended Independent school	-33.8	15.2	18.6
Regression estimated difference taking account of parental religious background			
One parent attended government, another Catholic	-7.4	10.4	-3.0
One parent attended government, another Independent	-8.2	2.7	5.5
Parent(s) attended Catholic school	-22.5	20.9	1.6
One parent attended Catholic, another Independent	-14.4	12.8	1.5
Parent(s) attended Independent school	-32.7	13.9	18.8

An extremely strong intergenerational Catholic school effect comes through quite clearly in the data – children from otherwise similar families whose parents both attended Catholic schools were almost 20 percentage points more likely to attend a Catholic school than children whose parents attended Government schools, even after taking account of religious identification. Other parental choice combinations – Government-Catholic and Independent-Catholic were also associated with increased attendance at Catholic schools of the order of 10 percentage points. Attendance at Catholic schools was also higher among children whose parents both attended Independent schools. In contrast, the effect of close to 20 percentage points for children at Independent schools comes for the group who parents both attended Independent schools, with other attendance types exhibiting much smaller effects.

While not reported in Table 5, there is evidence of substantial religious effects on school choice, particularly in relation to parental Catholic identification. If at least one parent identified with the Catholic religion, the probability of their child attending a Catholic school increased by 16 percentage points, predominantly at the expense of attendance at Government schools. At the same time, those whose parents identified themselves with either another Christian religion or another religion are less likely to attend a Catholic school, with the children of both of these groups more likely to attend Independent schools, though the magnitude of these effects are much smaller at around 5 percentage points. Children born overseas in English speaking countries are less likely to attend Government schools and more likely to attend Independent schools.

Comparing the results

In general, the results for the UK and Australia point to more issues of similarity than might be expected, given the differing institutional settings of the two countries, especially if we compare the results for Independent schools in Australia with those for private schools in the UK. Household income, number of siblings, having a self-employed parent, parental attendance at the same type of school, and having a university-educated parent all seem to work in the same direction on attending private schools in the two

countries. The main difference is that the magnitude of the effects, like the school sector share of students, appear to be substantially larger in Australia than the UK.

The Catholic system as a separate private school system in Australia clearly provides a different dimension to school choice in that country. As well as a religious dimension and an intergenerational component that increase the likelihood of attending a Catholic school, it seems that most often heterogeneity in parental school sector attendance tends to be resolved in favour of attendance at a Catholic school in Australia. This likely reflects a combination of price effects and cultural factors, so it will be of interest to see the extent to which this patterns remains evident if low-fee Independent school growth continues. Income seems to matter less for attendance in Catholic schools, which makes sense since the fees are so much lower, while family background factors such as parental education seem to play less of a role in attendance at Catholic schools compared with attendance at Independent schools. However, in the UK in recent years, there has been a large increase in the proportion of children attending religious state schools. These schools generally set their own admissions criteria, despite being fully state funded so can be viewed to be very similar to Catholic private schools in Australia. Unfortunately, we cannot identify the type of state school a child attended in the BHPS.

5. Conclusion

There are substantial institutional differences between Independent schools in the UK and Independent and Catholic schools Australia, especially in terms of the level of public funding available. There are also predictable differences in terms of participation, with a relatively small Independent sector in the UK staying roughly constant across time, and a growing proportion of pupils in Australia attending schools outside the government sector, particularly in the low-fee Independent sector.

Despite these differences, there are strong similarities in terms of the detailed predictors of attendance at Independent schools in the UK and Australia. Families with higher household incomes are more likely to send their children to Independent schools in both countries. Others predictors of Independent school attendance

in both countries include having a self-employed parent, having a university-educated parent and fewer siblings. The magnitude of these effects appears to be substantially larger in Australia than the UK, which is unsurprising given the differences in participation. The determinants of attendance at Catholic schools in Australia are slightly different, with less of an income effect, a positive effect of the number of siblings and a strong religious dimension (as would be expected).

However, the most striking predictor of private school attendance in both countries is whether one or both of your parents attended such a school, with children being 8 percentage points more likely to attend a private school if one of their parents attended one in the UK, and anywhere up to 20 percentage points more likely in Australia. The fact that these effects remain strong even after controlling for household income and other characteristics points to some other source of intergenerational correlation that is not included in the model. For instance, we do not control for family wealth or assets. It is also possible to imagine that in some families private schooling is a social or cultural norm passed down through generations, or possibly a habit formation model where one's attendance at a private school creates a taste for private schooling.

Dearden et al (2010) already point to the importance of taking account of the long lag structure in the decision process in the UK. The strong level of intergenerational correlation remaining even after controlling for income suggests that there could well be important dynamic effects even going back to when children's parents were at school.

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