

Australian schools: choice and funding

Chris Ryan

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FACULTY OF
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Elements of the recent Australian story

- Three elements
 - Joint work on school sector choice with colleagues at ANU, IFS (UK)
 - Long-term trends, policies supported them since 1970s
 - Incidence & determinants – historical & contemporary
 - School sector effects on student performance
 - The decline in student achievement in PISA
 - Recent developments – the funding environment since 2000 and its consequences

Elements of the recent Australian story

- Sectors: Govt (66%), Catholic (20%), Independent (14%)
- The private school enrolment share has increased from 21% in 1977 to 34% in 2009,[^] but tale of two sectors[&]
- Why? Incomes? Relative prices? Quality? Other factors?
 - Real fees increased,[#] relative student: teacher ratios fell[@]
- Government subsidies since 1970: now 70 % Catholic school costs, 15-70% of Independents (average 40%).^{*}
- Growth concentrated in low-fee Independent sector
- Incidence: low-fee schools – modest increase with income
 - High fee – concentrated at top of the income distribution^{\$}
- Evidence of private school effects on student outcomes[±]

The increase in private school enrolments[△]

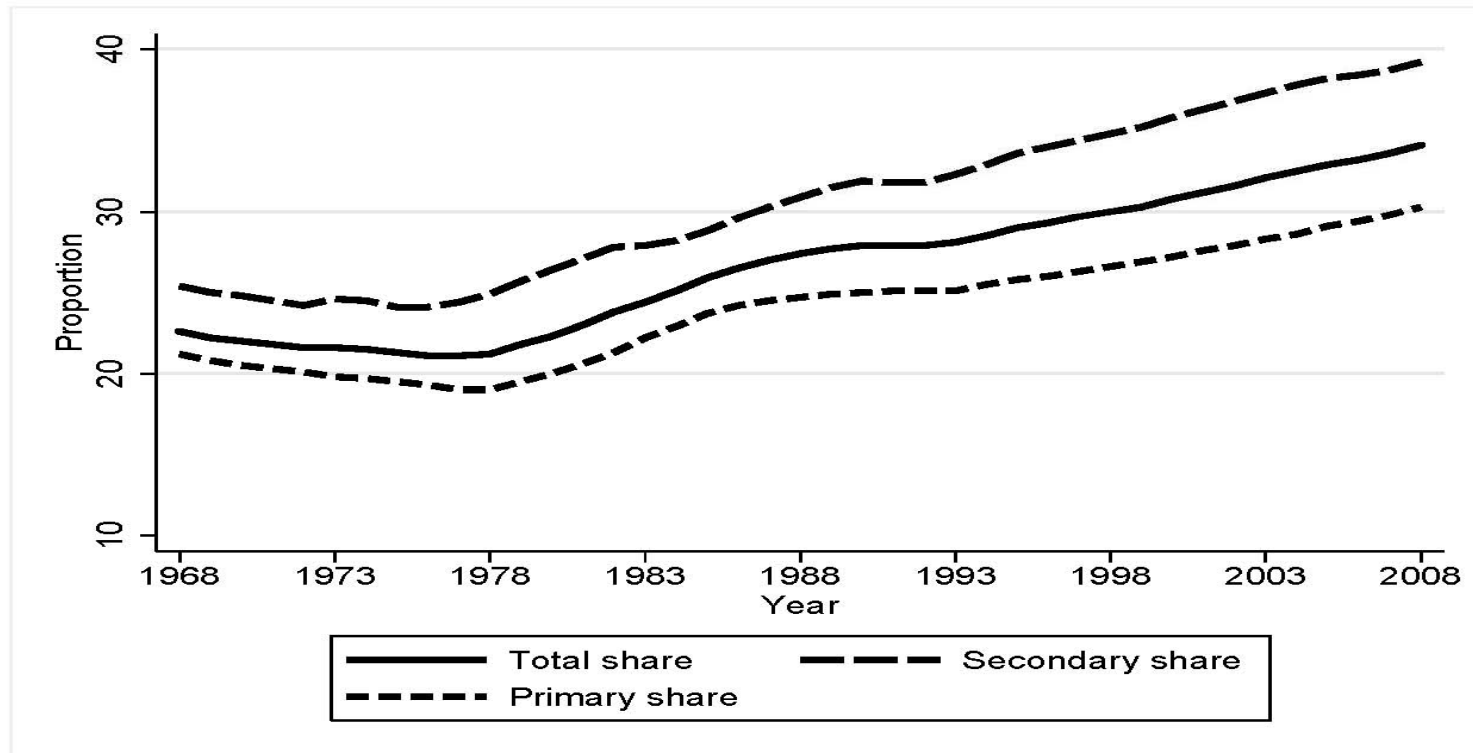
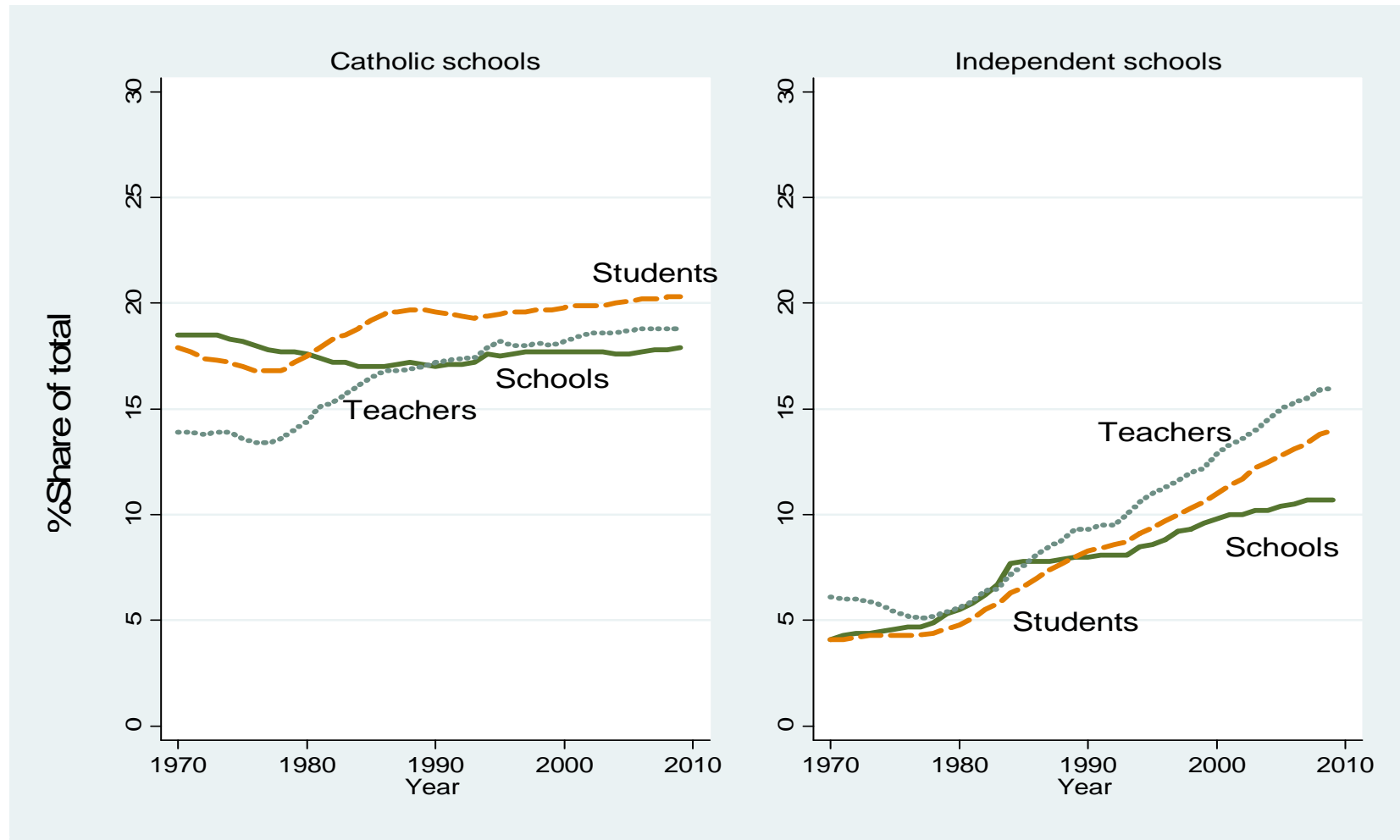
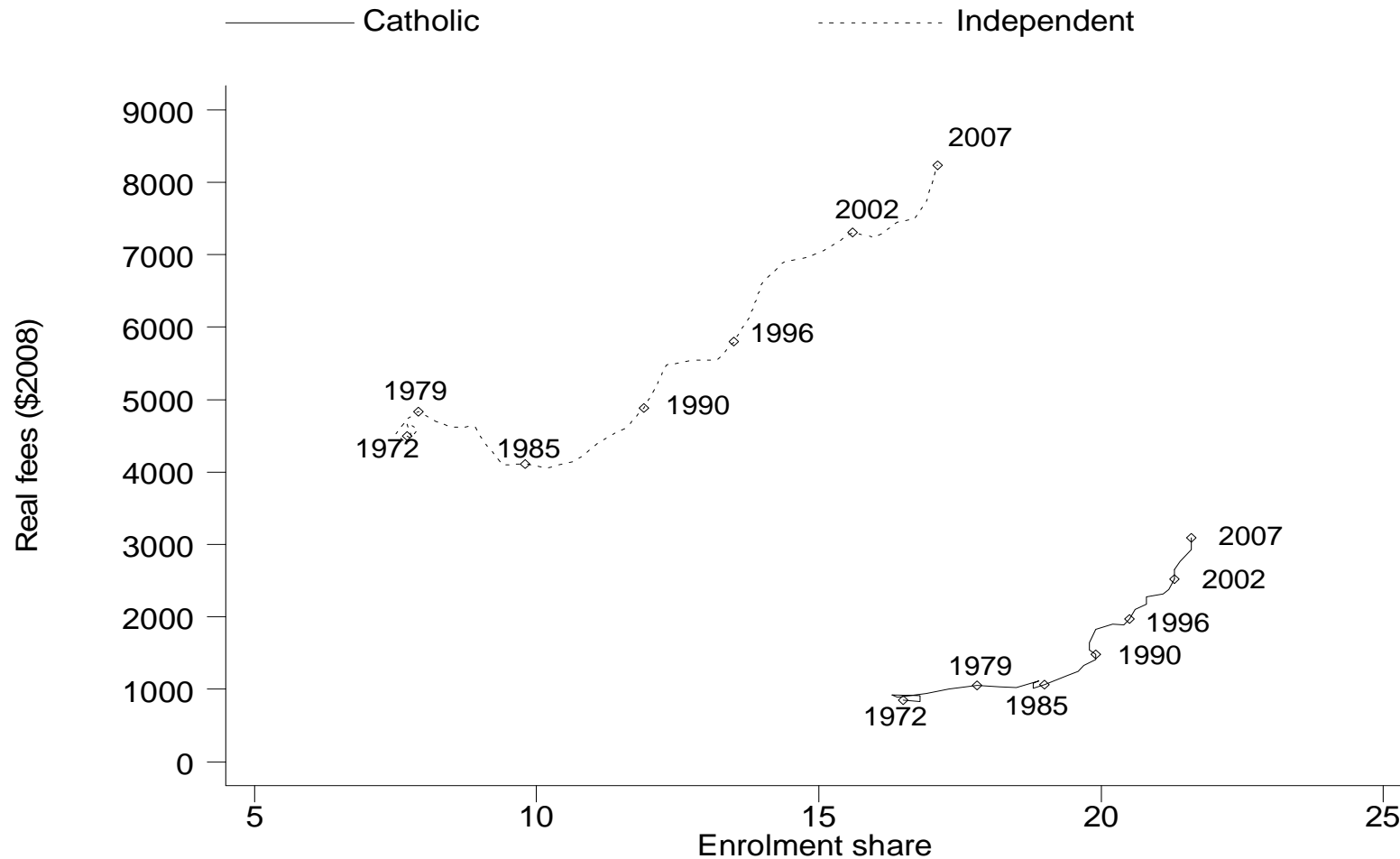


Figure 1: Australian non-government school student enrolment share — primary secondary and total — 1968 to 2008

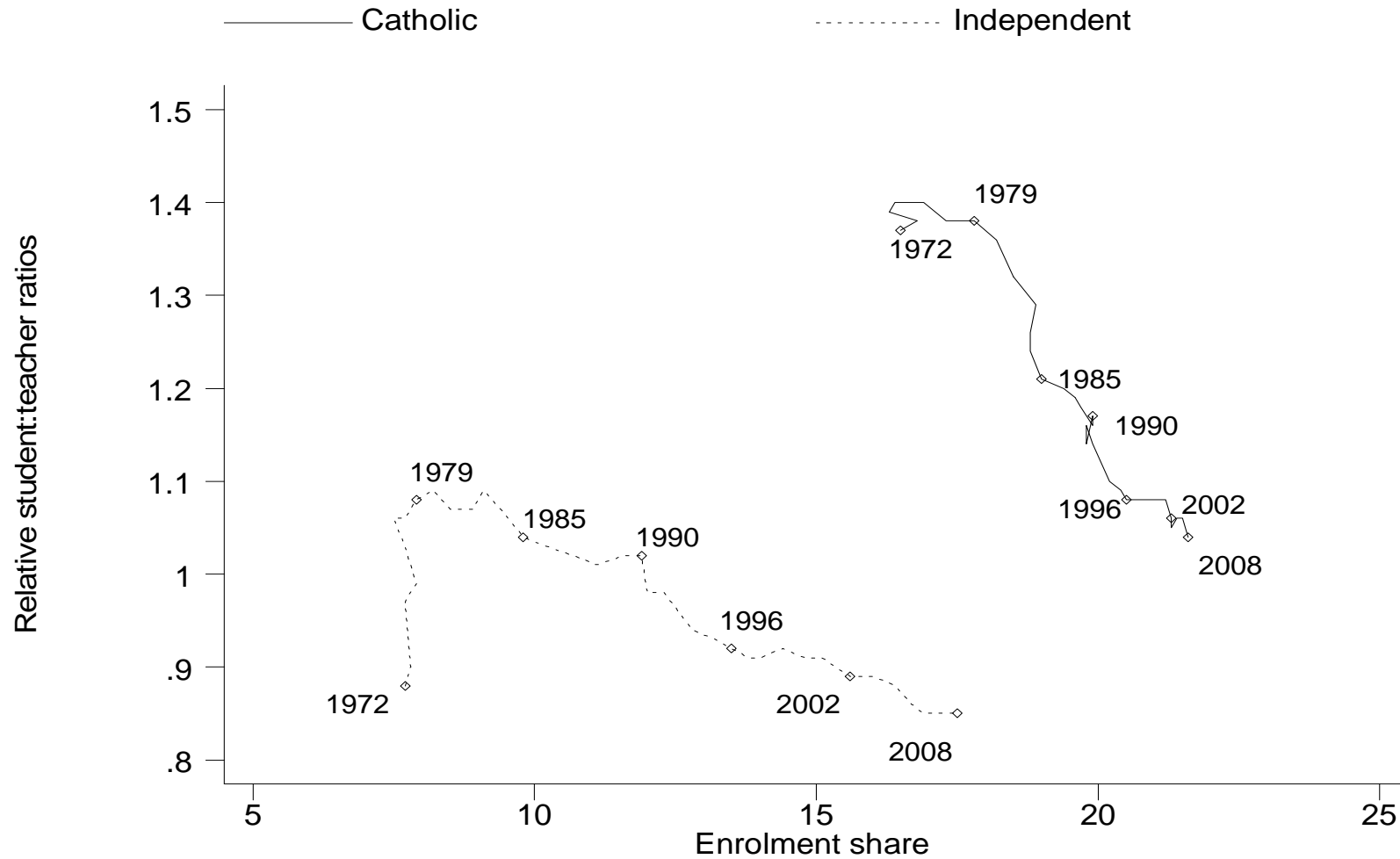
The increase in private school enrolments &



Private school enrolments and real fees#



Private school enrolments student: staff ratios@



Growth in government grants*

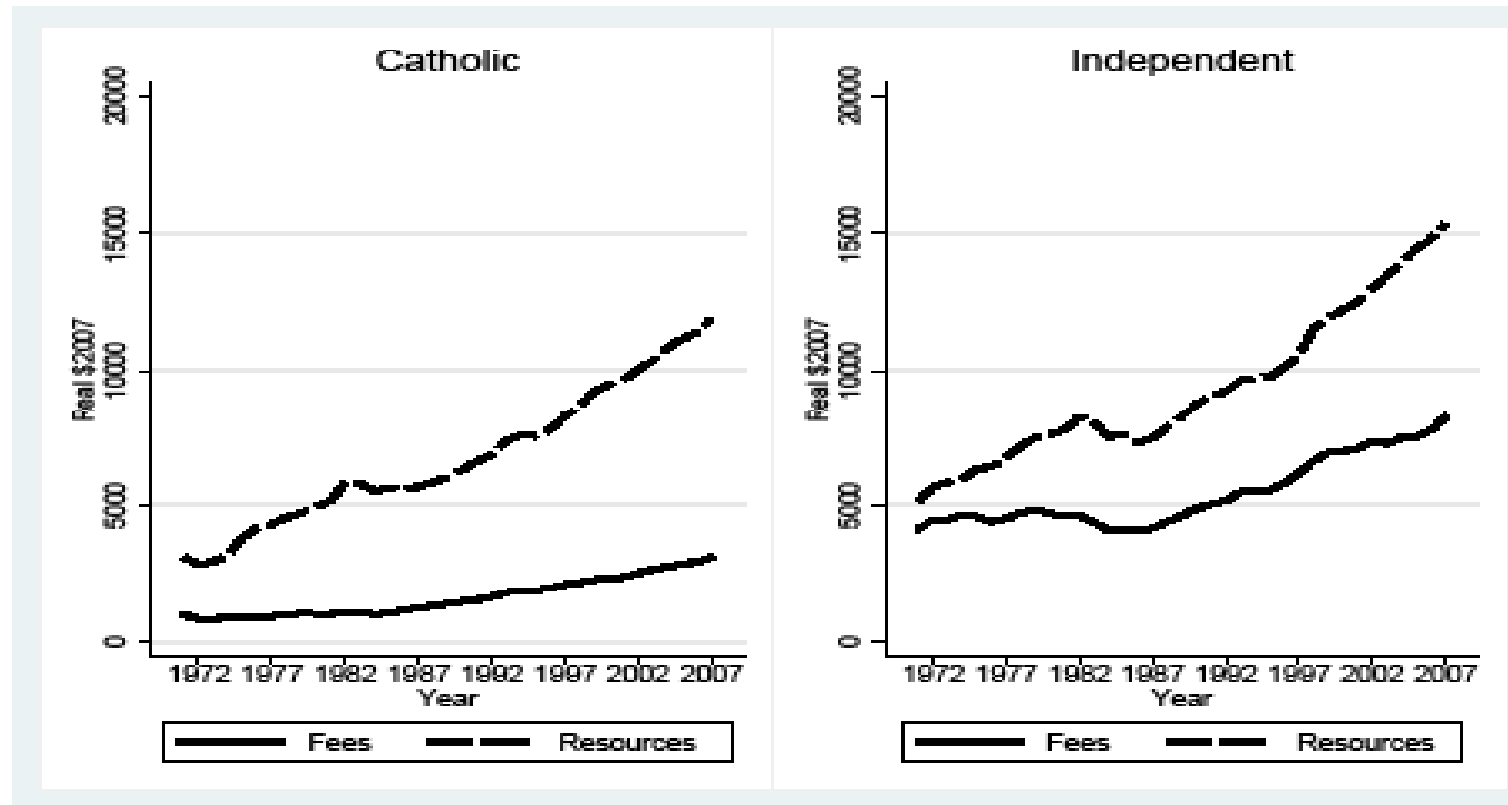
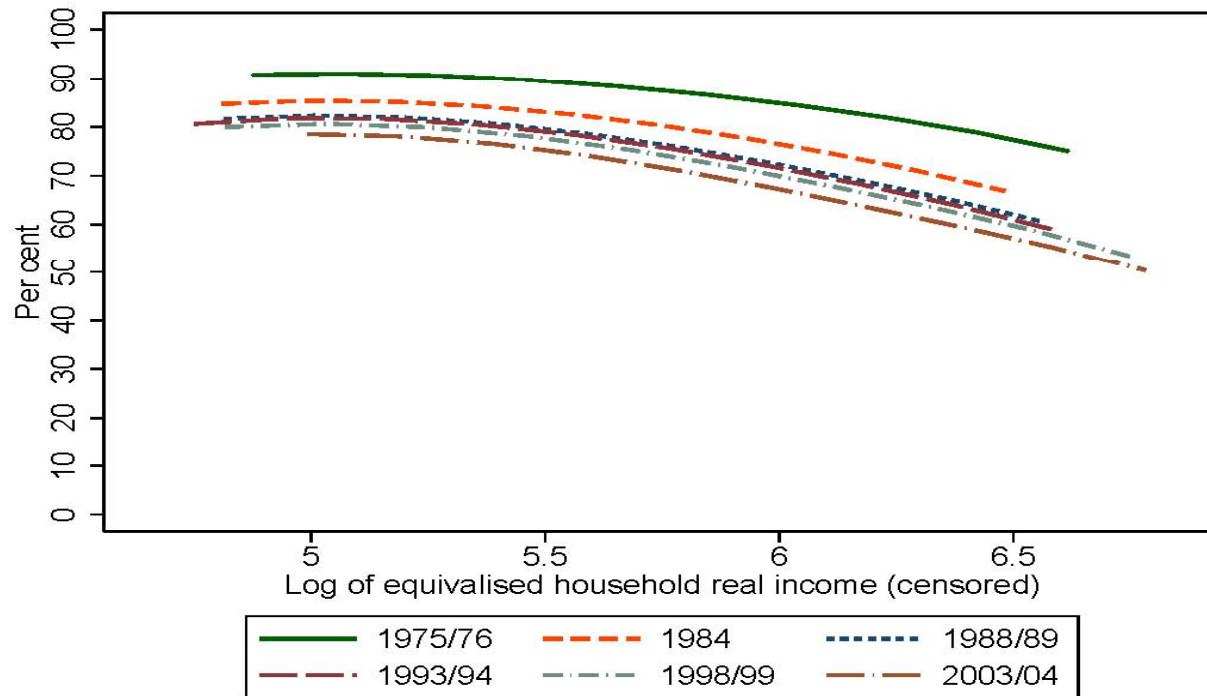


Figure 3: Non-government secondary school fees and per-student resources (fees plus subsidies), 1970 to 2007.

Government schools – incidence and decline^{\$}



Note: Unweighted regression sample.

Figure 19: Predicted proportion of households using no non-government school by log income (censored)

Evidence of private school effects

- Raw score differences in student outcomes
 - National tests, university entrance scores
 - 10 to 15 points difference in NAPLAN
 - Not experimental estimates
 - Non-experimental methods – differences remain
 - But Catholic effects are more fragile than Independent school effects
 - PISA 2009, no difference between sectors once take account of social background (ACER)
 - Likely decline for private schools since 2003

Australian PISA scores –domain and year

	Reading	Mathematical	Scientific
OECD Average			
2000 & 2009	493	496	501
Australia			
2000	528	533	528
2003	525	524	525
2006	513	520	527
2009	515	514	527

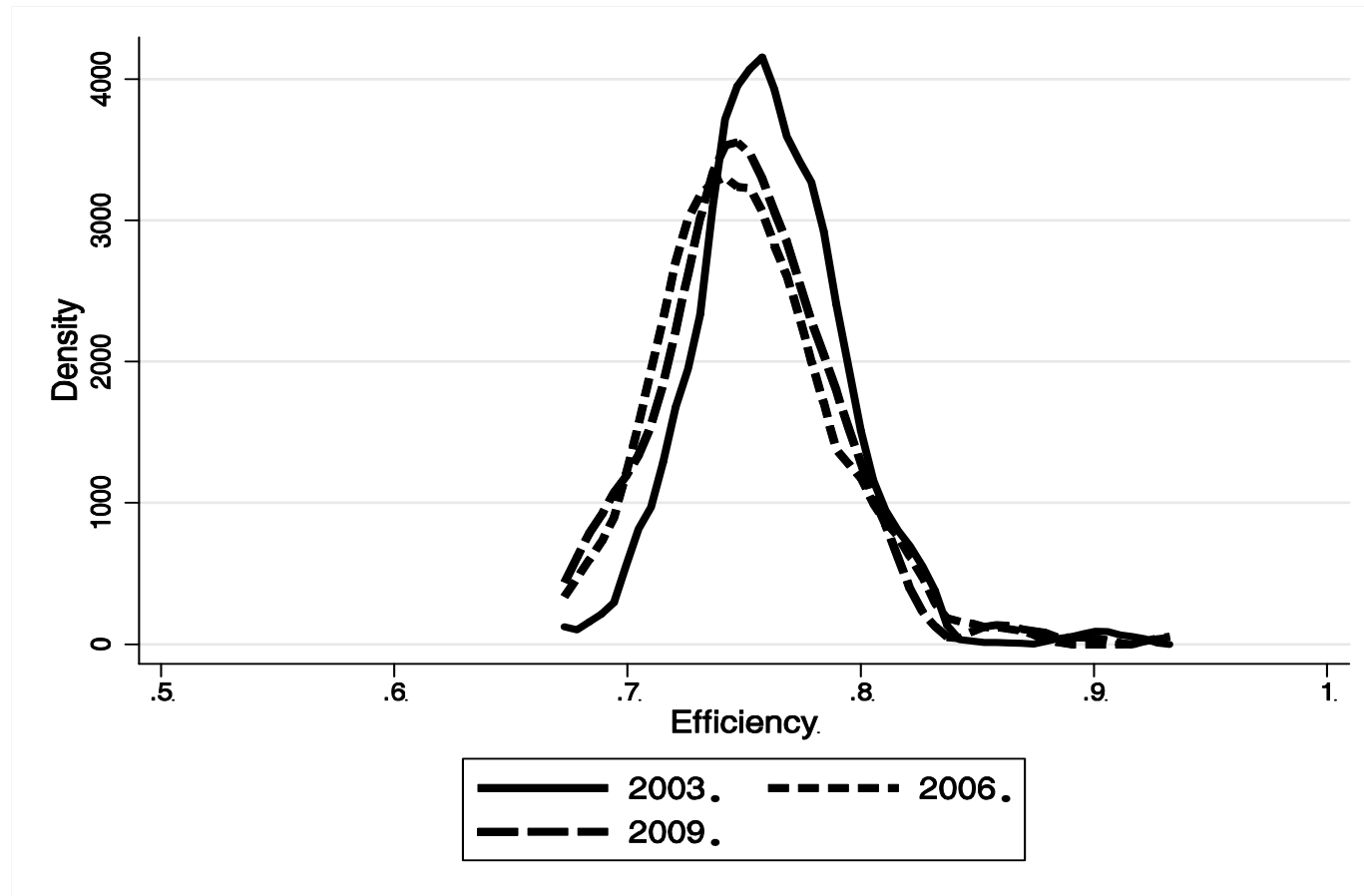
Motivation – research questions

- Declines across the entire student literacy distributions or specific parts of them?
 - **Varies between reading and mathematics**
- Declines same males as females, across social background distribution?
 - **Similar**
- Declines similar across schools? Or only for some with specific characteristics?
 - **Similar, except for sector**
- Declines in high performing schools? **No**

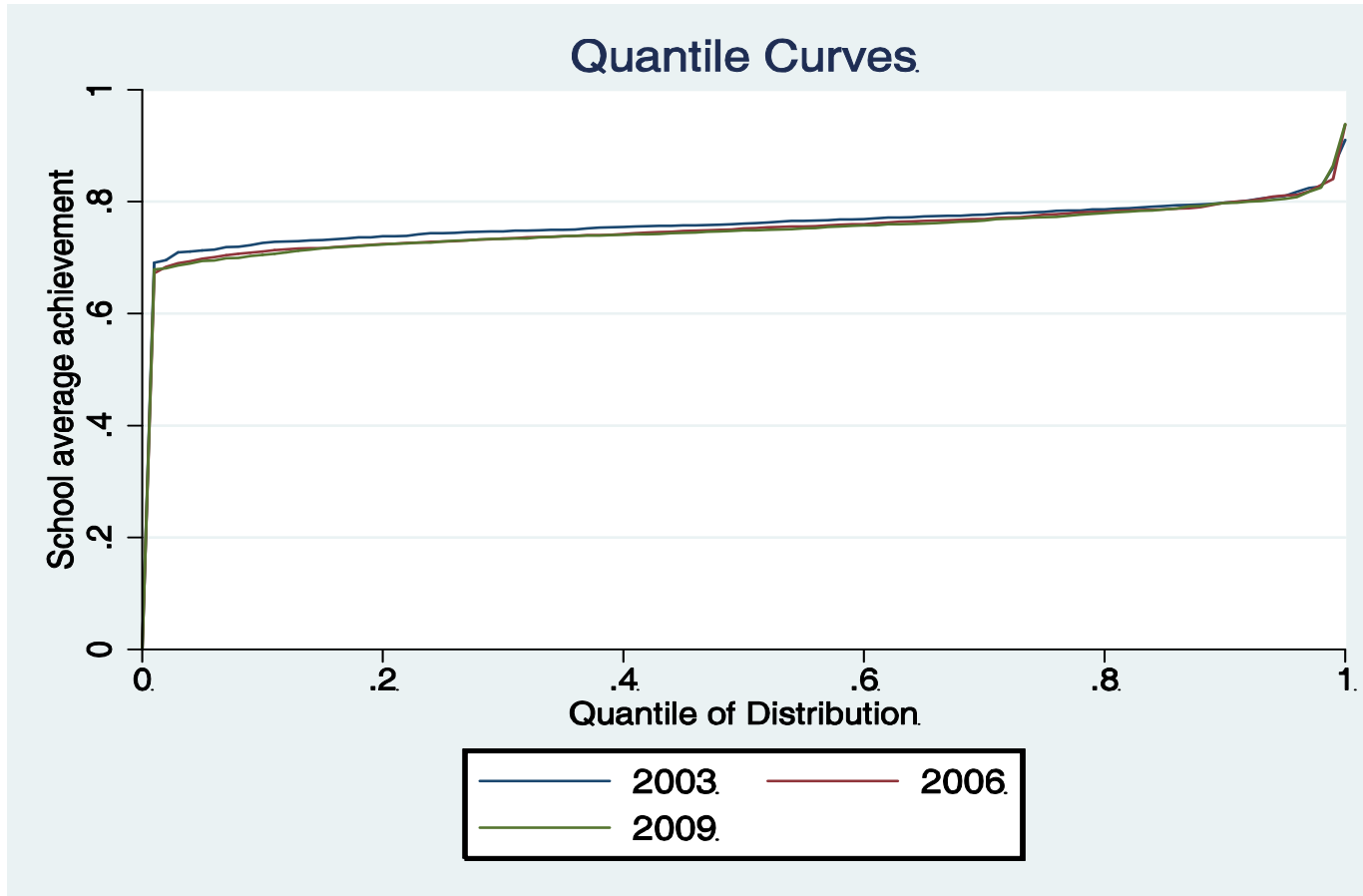
Methodology – analytical approach

- To estimate a first stage equation of student performance as a function of student characteristics, deriving an estimate of a school ‘effect’
 - Using the fact we have multiple observations per school
- Estimate a second stage equation explaining the school effect as a function of school characteristics

School mathematics



School mathematics—cumulative quantiles



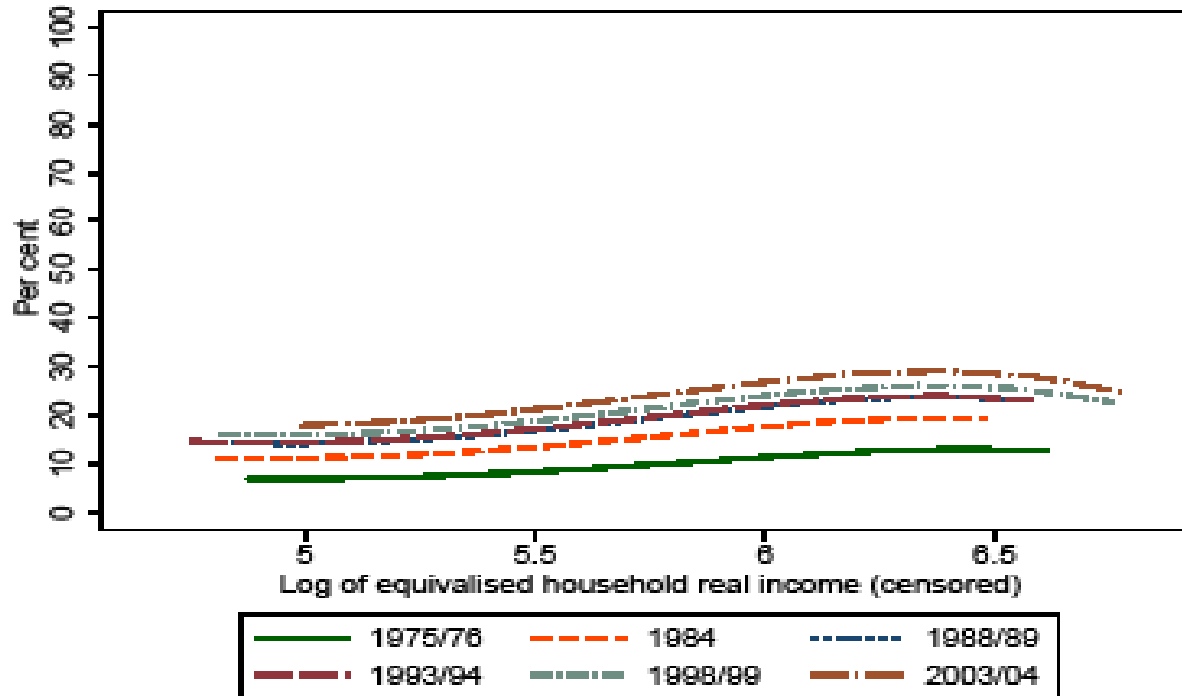
Resourcing Australian schools since 2001

- Big changes in the independent school landscape. Between 2000 and 2009
 - 35% growth in students
 - 90% in below 2001 independent average SES schools
 - 50% in below 2001 Catholic payment rate (2001-2008)
 - 15% growth in the number of schools
 - 90% in below 2001 independent average SES schools
 - 80% in below 2001 Catholic payment rate
- Costly for the Commonwealth (6-8% extra cost)

Policy lessons

- The fastest student growth area in private schooling, low-fee private schools, are also the high-grant schools, so this growth has led to substantial growth in government expenditure.
- Great expectations surrounding the current review of school funding.
 - And a great literature that increased resources/lower class sizes have at best a small positive effect on student achievement – teachers, curricula, teaching matter more
- My view is that the review will make a useful contribution to public debate if it sets out a coherent, contemporary rationale for public funding for private schools

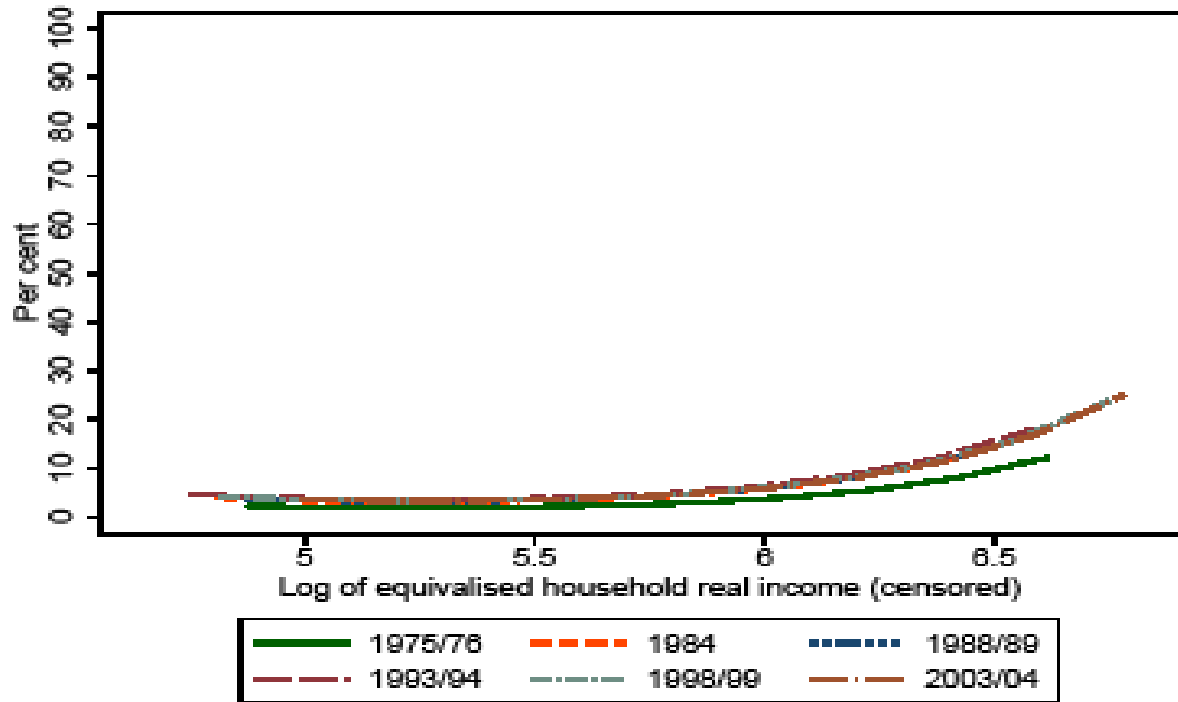
Low-fee schools – incidence and growth



Note: Unweighted regression sample.

Figure 18: Predicted proportion of households using some low-fee but no high-fee non-government school by log income (censored).

High-fee schools – incidence and growth



Note: Unweighted regression sample.

Figure 17: Predicted proportion of households using any high-fee non-government school by log income (censored).

Additional resources from government grants

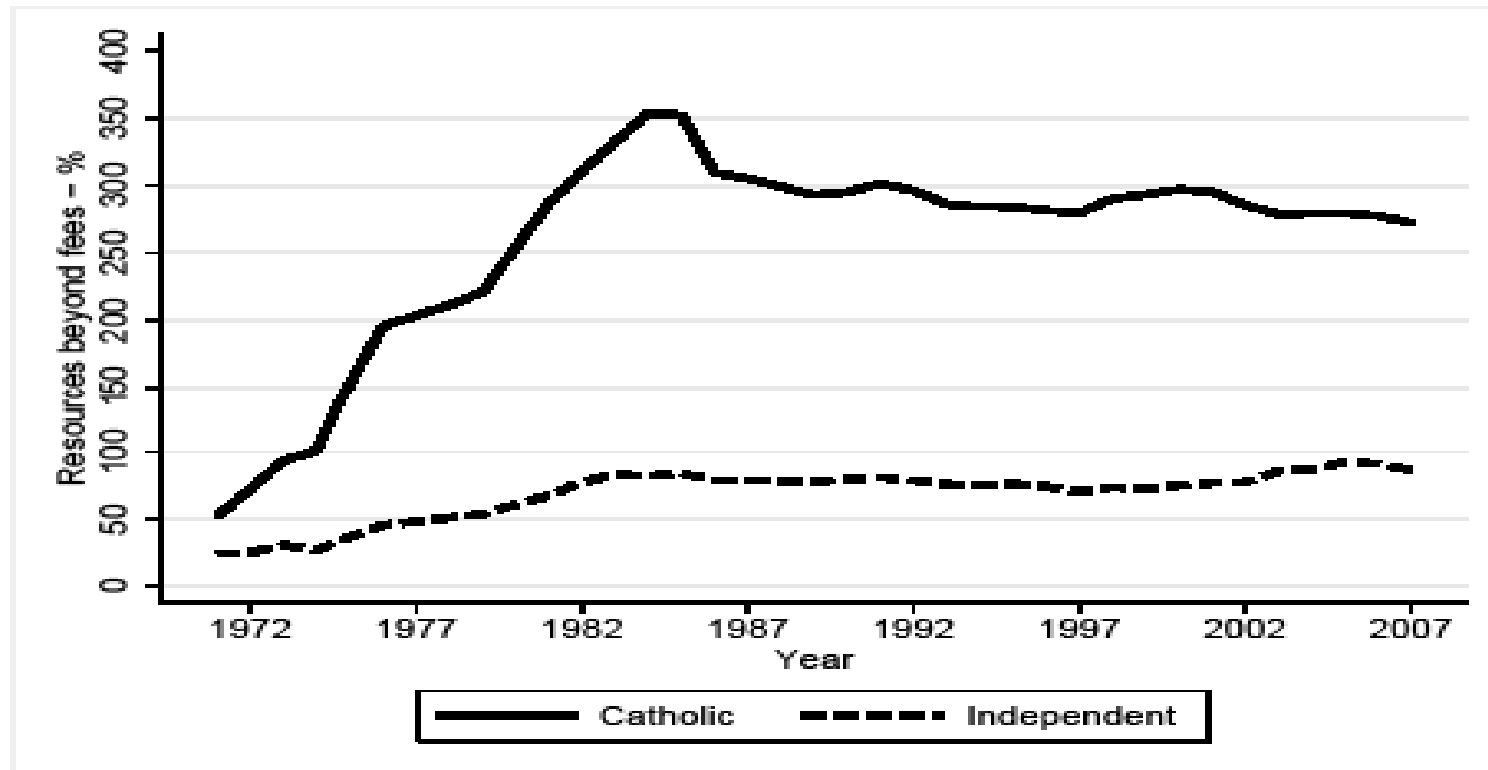
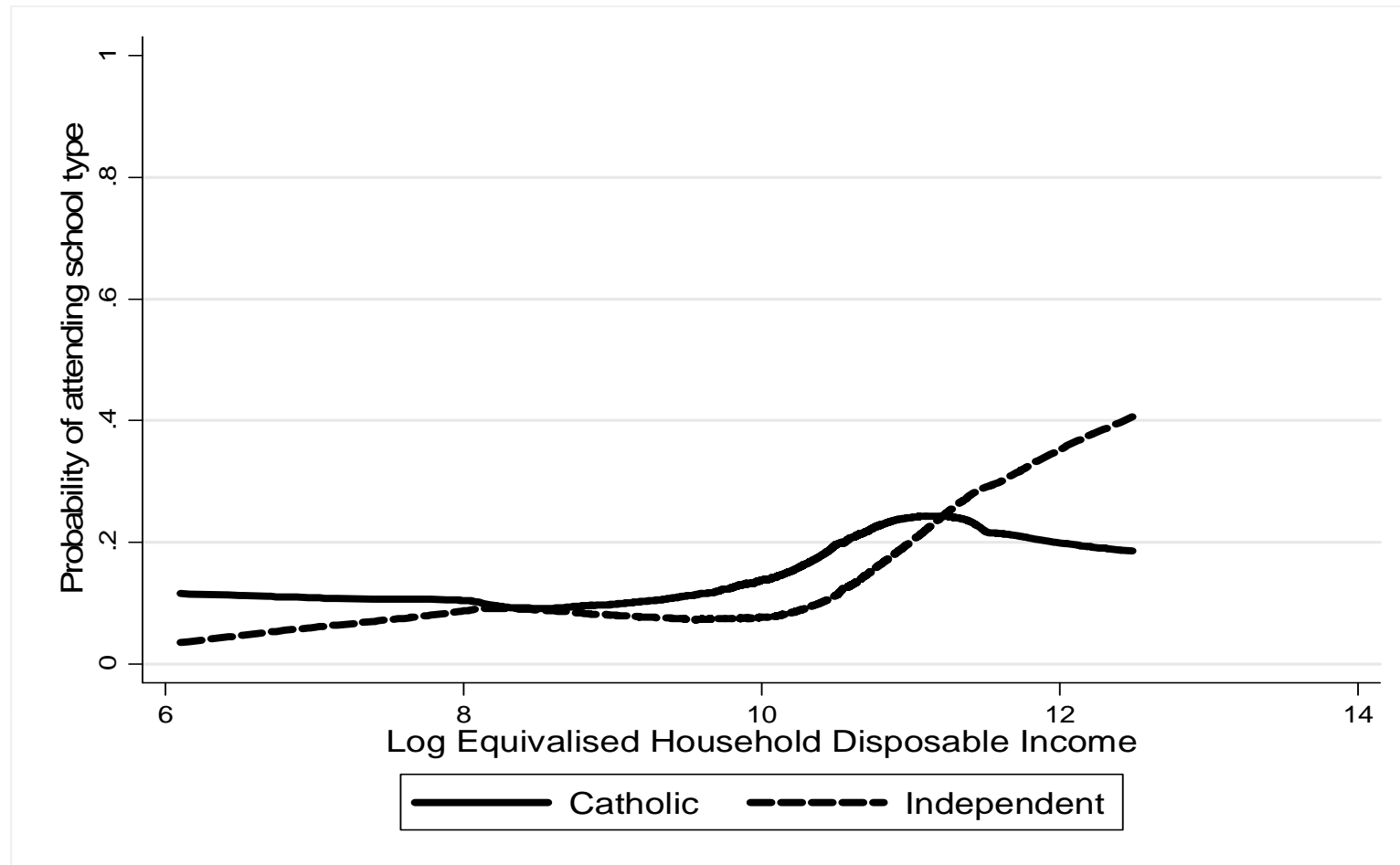


Figure 4: Per student, non-government secondary non-fee resources relative to student fees, 1970 to 2007 .

Catholic and Independent schools – incidence – HILDA data



Catholic and Independent schools – determinants

- Intergenerational patterns major component
- Siblings, household structure
- Parental SES, notably educational attainment
- Religious affiliation

Intergenerational patterns – regression^{\$}

Variable	Government	Catholic	Independent
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