

The Special Deal of a Lifetime

SES scores, school fees and school funding

November 2017



Summary

Socio-Economic Status (SES) scores, which were introduced in 2001, are the most important measure used by the Australian Government to fund Catholic and independent schools.¹ In the 'Gonski 2.0' model, small changes in SES scores can change the funding received each year by schools by millions of dollars.

The evidence presented in this report shows that funding Catholic and independent schools based on their SES score delivers large, windfall funding gains to high-fee, wealthy schools. Almost all of these schools are independent schools. Conversely SES scores disadvantage inclusive, lower-fee schools. Most of these are Catholic schools.

The windfall gains for high-fee schools arise from how SES scores are estimated. SES scores are derived from where school students live. They judge families from their neighbourhood. They assume that all families from the same neighbourhood can afford to pay the same school fees. There is assumed to be no difference in the families that Catholic and independent schools attract from within each neighbourhood.

The evidence shows this is a fantasy. Non-government schools certainly do attract different families from within each neighbourhood corresponding to differences in their school fees. High-fee, wealthy independent schools tend to attract the most affluent families. Catholic schools tend to attract families with lower incomes. This difference is not recognised in SES scores. As a result SES scores misallocate large sums of funding to high-fee, wealthy independent schools. Catholic schools are short-changed.

Funding schools based on their SES score is a costly policy mistake. Next year this will overfund wealthy independent schools by hundreds of millions of dollars. Since 2001, SES scores would have overfunded these schools by billions. It would not be an exaggeration to call SES scores 'the special deal of a lifetime' for these schools.

Wealthy independent schools have been the main supporters of the 'Gonski 2.0' model. This report shows why. If the Government is truly dedicated to needs-based funding, then these schools should expect significant funding cuts. Conversely, Catholic and low-fee independent schools should receive increases. Whether the Government has the courage to do this will be a true test of its commitment to needs-based funding.

Further details about this report may be obtained from the contacts listed below.

Contacts	
Stephen Elder	Bruce Phillips
Catholic Education Commission of Victoria	Catholic Education Commission of Victoria
execdirector@ceomelb.catholic.edu.au	bphillips@cem.edu.au

¹ SES scores were not applied in their pure form to Catholic systemic schools until 2018.

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1. Introduction

1.1 Context

School Socio-Economic Status (SES) scores are the most important parameter in school funding for most Catholic and independent schools. In the Australian Government's school funding model – the Schooling Resource Standard (SRS) model – school SES scores determine how much private income a school is expected to raise (i.e. its 'capacity to contribute'). As this amount increases the amount of government funding allocated to the school decreases.

Earlier in 2017, the CECV released *Capacity to Contribute and School SES scores*², which examined whether SES scores form a valid and accurate measure of the capacity to contribute by school communities. That report found major deficiencies in SES scores. These deficiencies fall into two general categories. First, the methodology used to calculate school SES scores (by using area-based Census data) has a number of shortcomings and errors. Second, the Census data that is used to construct SES scores is not adequate to properly assess the financial circumstances of families who attend non-government schools. The report demonstrated that the deficiencies identified in SES scores serve to benefit affluent families. These are concentrated in high-fee, independent schools, meaning the funding needs of these schools are over-estimated. The report concluded by calling for a new approach.

The call by the CECV for a new approach echoed the recommendations of the Gonski panel members, who were highly aware that SES scores were problematic. They recommended 'all Australian Governments should commence work as a priority to develop, trial and implement a better measure of the capacity of parents to contribute'.³

The Government responded to the CECV report by making school SES scores even more important in school funding, by removing the option of system-average SES scores for non-government school systems. This came despite these arrangements being clearly supported by the Gonski review panel.⁴ Important information, explaining how school SES scores are calculated, was also removed from the website of the federal Department of Education and Training (DET).⁵

Around this time the Australian Bureau of Statistics (ABS) provided advice to DET that the methodology and datasets used in the CECV analysis were appropriate, and that a

² This report is available at <http://www.cecv.catholic.edu.au/Publications?d=1>

³ Expert Panel (Gonski, Boston, Greiner, Lawrence, Scales, Tannock) 2011, *Review of Funding for Schooling – Final Report*, Canberra, December, p177.

⁴ Expert Panel (Gonski, Boston, Greiner, Lawrence, Scales, Tannock) 2011, *Review of Funding for Schooling – Final Report*, Canberra, December, p177.

⁵ This was the technical report, written by consultant Stephen Farish, explaining how school SES scores were calculated from the 2011 Census of Population and Housing.

number of the criticisms raised by the CECV were valid.⁶ The ABS further offered to investigate ways to address some of those issues. This appears to have been ignored.

As awareness grew about the problems with SES scores, other independent observers joined Catholic education and the Gonski review panel in calling for a review.⁷ These calls were also dismissed by the Government, which insisted there would be no changes to the funding model and declared that those who sought changes were pleading for a 'special deal of some sort'.⁸

Fortunately, the Senate recognised the weight of evidence against SES scores and required that these be reviewed in return for its support of the Gonski 2.0 package. This review will now be undertaken by the National Schools Resourcing Board.

1.2 This report

This report complements the CECV's earlier report on school SES scores, and has been developed to inform the public debate about SES scores and school funding.

While there are many problems with SES scores, this report focuses on the methodological step in constructing SES scores that is perhaps the most contentious. This is the use of area-based data to classify families who attend non-government schools. In this step, the addresses of non-government school students are coded to a neighbourhood – a Statistical Area 1 (SA1). All families in each SA1 are then assumed to have the same characteristics – the same capacity to contribute – as one another. In other words, the capacity to contribute of student families is inferred from their neighbourhood. This is referred to in this report as 'SA1-level averaging'.

This report draws on a wide range of data sources to interrogate this assumption, and ultimately, how SA1-level averaging impacts the way families in different non-government schools are classified relative to their true circumstances. The report's core thesis is that differences in school fees among non-government schools corrupt SA1-level averaging as a fair and unbiased methodology for classifying school families. The findings are compelling, and have acute implications for the funding of Catholic and independent schools by the Australian Government.

Section 2 of this report provides important background information on school SES scores, school fees and the role of SES scores in school funding. This information

⁶ This is available at <http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Disclosure+log>

⁷ These include Associate Professor Steven Farish (original architect of school SES scores), the Centre for Independent Studies, *The Australian* (Judith Sloan), *The Age* (editorial), *The Australian Financial Review* (Tim Dodd) and the Grattan Institute.

⁸ For example, in his address to the National Press Club on 4 May 2017, the Minister for Education and Training claimed that Catholic education was trying 'to achieve another special deal of some sort' in its opposition to the Government's proposal to make SES scores even more important in school funding. It appears that the Minister did not appreciate the irony of these comments. As argued in this report, school SES scores are the biggest 'special deal' in school funding and, for high-fee, wealthy independent schools they have been the special deal of a lifetime.

highlights the relevance and importance of this report and the funding implications for Catholic systems and independent schools.

Subsequent sections of the report contain detailed data analysis:

- Section 3 analyses Census data to assess the extent of diversity in family incomes within SA1s.
- Section 4 analyses student address data, and investigates patterns in the areas from which different types of schools attract students.
- Section 5 compares school SES scores to school enrolments of students from families with a Commonwealth Health Care Card in Victoria.
- Section 6 compares school SES scores to school enrolments of advantaged and disadvantaged students.
- Section 7 contains a detailed comparison of family incomes, by school sector, within SA1s
- Section 8 summarises the overall findings of the different strands of analysis as well as the implications.

2. Background

The vast majority of high-fee schools in Australia are independent schools. About 27% of independent schools have high fees and these educate 40% of all students in independent schools (excluding special schools). Only 1% of Catholic schools have high fees and these educate only 3% of all Catholic school students.

SES scores are calculated for non-government schools by linking the addresses of school students to Statistical Area 1s (SA1s). SA1s are the smallest geographic unit for which the ABS publishes data from the Census of Population and Housing (Census). On average, they contain about 400 people, 65 families and 50 families with dependent children. All student families within the same SA1s are assumed to have the exact same characteristics – as measured by aggregated data for each SA1.

SES scores are the most important driver in the funding that most Catholic and independent schools attract from the Australian Government in the SRS model. For high-fee schools, SES scores become paramount: they are about ten times more important in determining funding than all of the loadings combined.

As a result, government funding for most Catholic and independent schools is highly sensitive to their SES score. Small inaccuracies can have major financial implications. Altogether, the credibility of the SRS model for most Catholic and independent schools – especially those with high fees – hinges on the credibility of SES scores.

2.1 Relevance of analysis

SES scores are predicated on the assumption that SA1-level averaging is a fair and unbiased methodology for classifying families in Catholic and independent schools.

The core thesis of this report is that differences in school fees corrupt SA1-level averaging as a fair and unbiased methodology. It argues that SA1-level averaging is biased in favour of high-fee schools, and biased against low-fee schools. This bias arises because SA1s are highly diverse, and high-fee and low-fee schools attract different types of families from within each SA1.

To provide context for this thesis and the data analysed in this report, this section presents brief background information on how SES scores are estimated (section 2.2), SES scores in Catholic and independent schools (section 2.3), school fees in Catholic and independent schools (section 2.4) and on the importance of SES scores in school funding (section 2.5). The data used in this section is sourced from the ACARA MySchool website and the Federal DET.

2.2 School SES scores

School SES scores provide a portrait of the student population at a school using an 'area-based' approach. This means that student attributes are inferred from their neighbourhood, not the actual characteristics of each student. The key 'area unit' (or student neighbourhood) used to calculate SES scores is the SA1.⁹

SA1s are the smallest geographical unit used by the ABS for the processing and output of data from the Census. There are 54,805 SA1s covering the whole of Australia (without overlaps or gaps) and on average they have a population of approximately 400 people.¹⁰ There are an average of 147 households, 65 families and 50 families with dependent children in each SA1 (Table 1). SA1s tend to be slightly more populous in capital cities.

Table 1: Average numbers of households and families in SA1s*

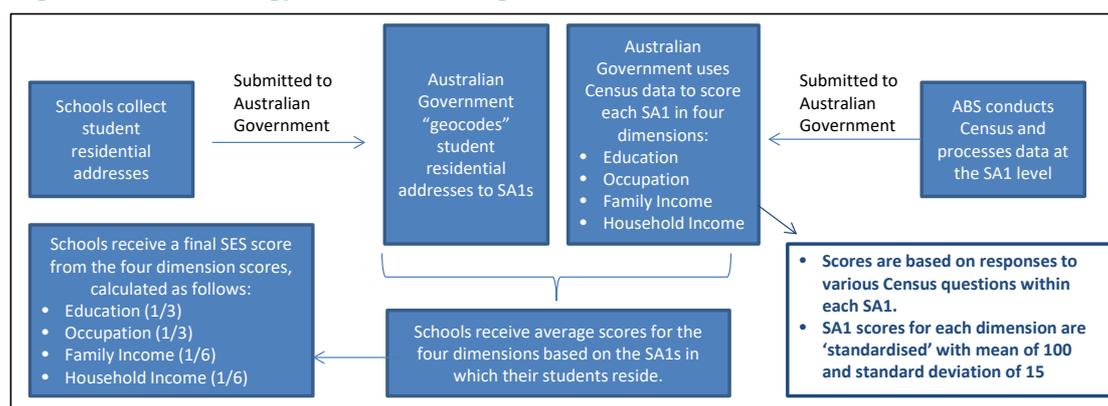
	Average number of households	Average number of families	Average number of families with dependent children
Capital cities	151	70	53
Rest of state/territory	142	57	44
All SA1s	147	65	50

*SA1s with no households or families are excluded.

Source: Australian Bureau of Statistics, Census of Population and Housing 2011

SES scores are constructed through a number of steps, using student residential address data from schools and SA1 data from the Census. Students are assigned individual scores based on aggregate data for their SA1. Schools are assigned an overall score based on the average scores of their students. The methodology is illustrated in Figure 1.

Figure 1: Methodology for constructing school SES scores



⁹ Prior to the 2011 Census, the relevant area unit was the Collection District. SA1s replaced Collection Districts in the 2011 Census.

¹⁰ ABS 2011, *Statistical Geography Fact Sheet: Statistical Area Level 1*

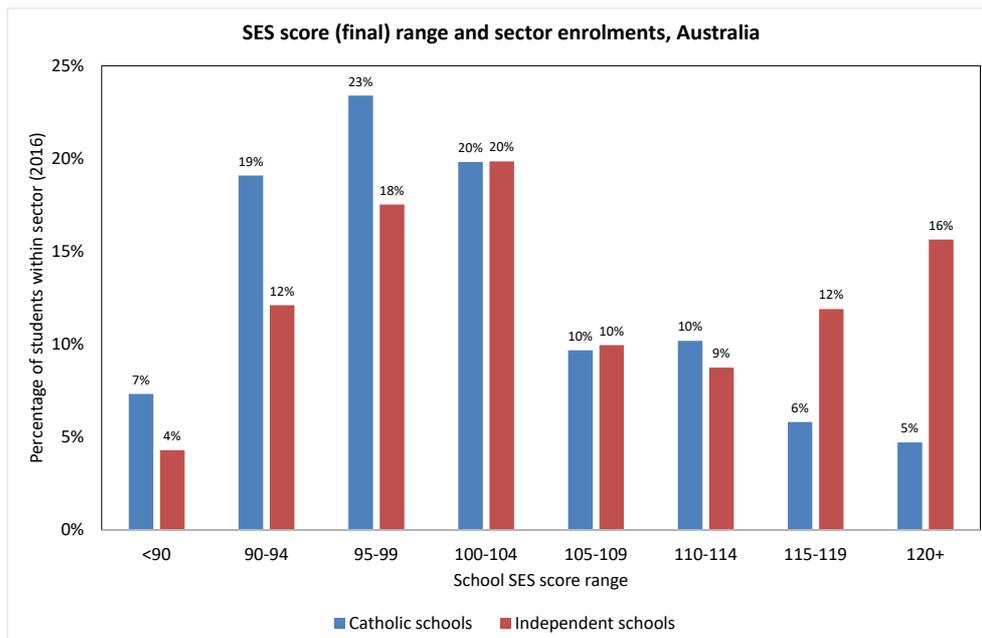
School SES scores have a mean of 100, and a standard deviation of 15. The higher a school SES score, the more affluent its school community is estimated to be. Further details on how SES scores are calculated may be found in other publications.¹¹

The key step under investigation in this paper is the use of SA1 data to assess student families. This effectively means that all families within the same SA1 are assumed to have the exact same characteristics – as measured by aggregate data for each SA1. This is despite SA1s containing an average of 65 families and 50 families with dependent children.

2.3 SES scores and enrolments

Figure 2 shows the distribution of student enrolments by SES score range and school sector in Australia. In independent schools, 66% of students are in schools with a SES score of 100 or higher (compared to 50% in Catholic schools), and 28% of students are in schools with a SES score of 115 or higher (compared to 11% in Catholic schools).

Figure 2: Distribution of students by sector by SES score, Australia*

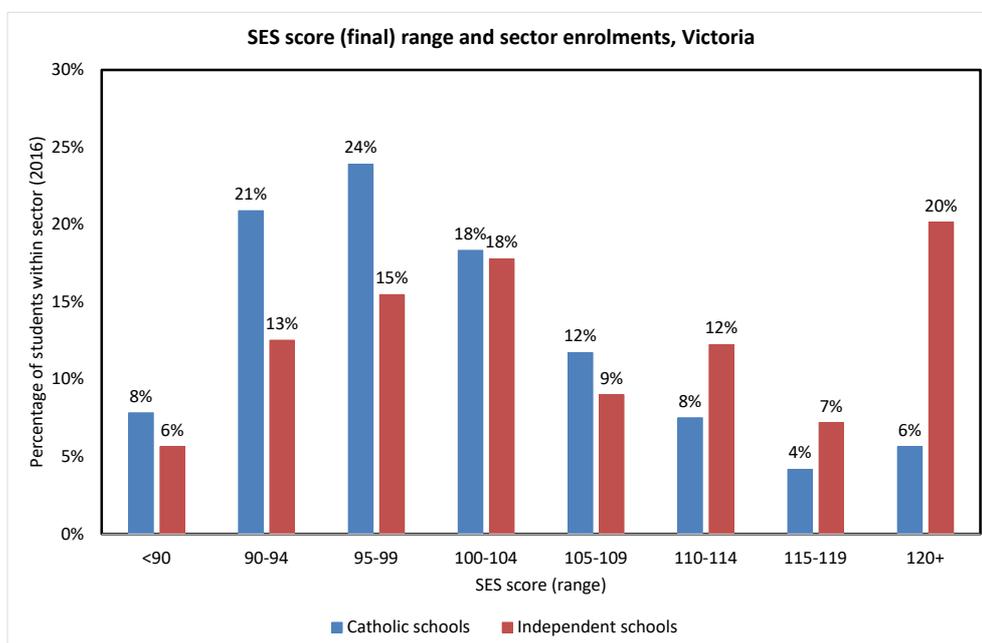


*Students in schools that do not receive a SES score are excluded.

Source: Federal Department of Education and Training

The data for Victoria is similar (Figure 3).

¹¹ For example, refer to the earlier CECV report (<http://www.cecv.catholic.edu.au/Publications?d=1>) or the website of the Federal DET.

Figure 3: Distribution of students by sector by SES score, Victoria*

*Students in schools that do not receive a SES score are excluded.

Source: Federal Department of Education and Training

2.4 High-fee schools and enrolments

The vast majority of high-fee schools in Australia (i.e. schools that had fees and charges of at least \$10,000 per student in 2015) are independent schools (Table 2). Based on 2015 data, and excluding special schools, about 27% of independent schools have high fees, and these educate 40% of all students in independent schools. Only 1% of Catholic schools have high fees, and these educate only 3% of all Catholic school students. Altogether, across Australia, 93% of high-fee schools are independent schools, and 91% of the students in high-fee schools are in independent schools.

Table 2: High-fee schools* and students, by sector**

	Number of schools	% total schools in sector	Number of students	% total students in sector	Government funding****
Catholic	19	1%	23,336	3%	\$135.9m
Independent***	253	27%	228,259	40%	\$1,057.7m
All non-government	272	11%	251,595	20%	\$1,193.7m

*Includes schools with fees, charges and parental contributions above \$10,000 per student in 2015.

**Excludes special schools, special assistance schools, and majority indigenous student schools.

***Non-systemic Catholic schools are categorised as independent schools.

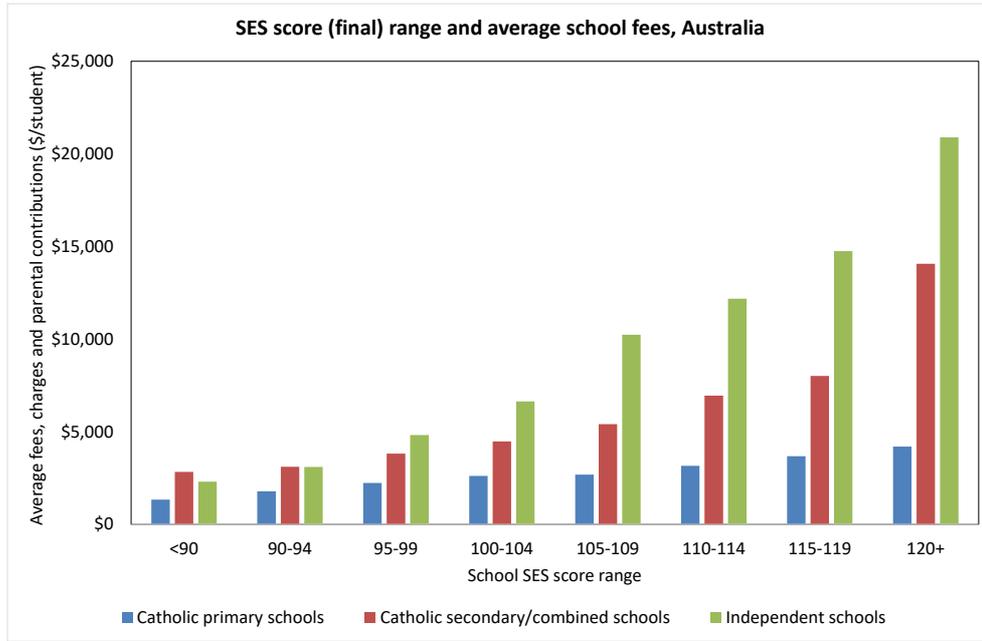
****Australian Government recurrent funding in 2015. Note that this data is not complete for all schools.

Source: ACARA MySchool website

High-fee non-government schools received about \$1.2 billion in recurrent grants from the Australian Government in 2015. Almost 90% of these grants were to independent schools.

Independent schools tend to have higher fees than Catholic schools for schools with SES scores of 95 and above (Figure 4). For schools with SES scores below 95 there is little difference. The difference in school fees tends to increase with school SES scores.

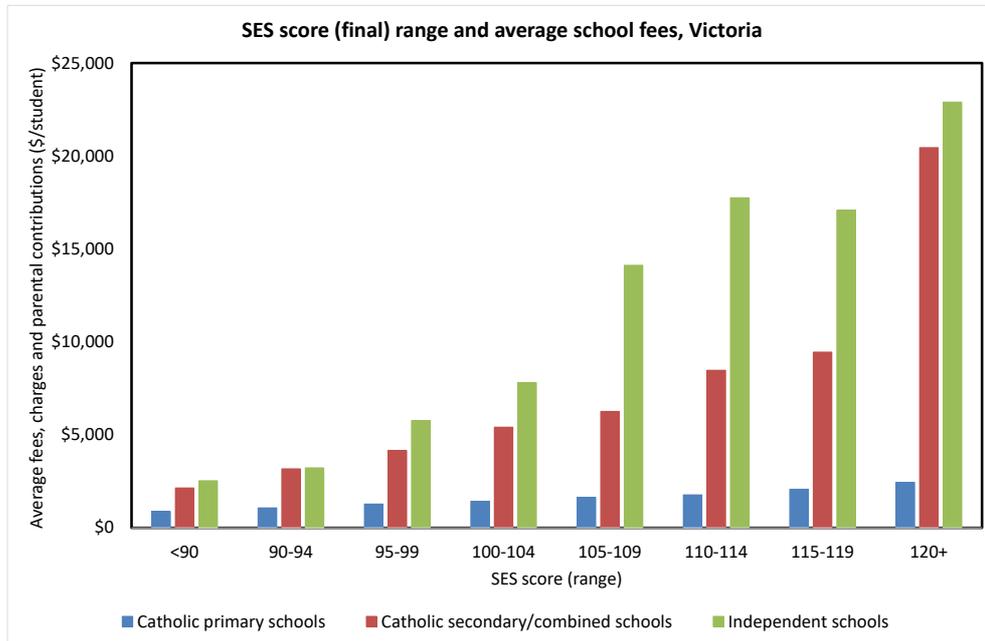
Figure 4: Average school fees by SES score by sector, Australia



Source: ACARA MySchool website and the Federal DET

The data is similar for Victoria (Figure 5). While Catholic primary schools in Victoria tend to have relatively low fees across the board, average fees in high-SES primary schools are double the average fees of low-SES Catholic schools.

Figure 5: Average school fees by SES score by sector, Victoria



Source: ACARA MySchool website and the Federal DET

2.5 SES scores and funding

SES scores are the most important factor in the amount of funding that most Catholic and independent schools attract from the Australian Government. In fact, in Catholic systemic schools across Australia (Table 3), SES scores have a bigger impact on funding than all of the loadings combined. Capacity to contribute (which is determined by SES scores) reduces base funding by 25.9% for Catholic systemic schools across Australia, while the loadings only increase base funding by 21.2% in total.

Table 3: Relative importance of funding model parameters*, Catholic systemic schools

Item	Importance (Impact on base funding)
Capacity to contribute (School SES scores)	25.9%
Loadings	21.2%
School size	1.5%
School location	2.5%
Students With Disability	7.2%
Low English Language Proficiency	0.2%
Low-Socio-Educational Advantage	8.7%
Aboriginal and Torres Strait Islander	1.2%

*Figures reflect how much each item modifies base funding in the 'Gonski 2.0' version of the SRS model, based on the latest school data (2016), for Catholic systemic schools in aggregate in Australia. Source: Federal DET

The importance of SES scores to individual schools varies depending on the SES score of the school and the extent to which it qualifies for loadings. The highest-need schools are exempt from 'capacity to contribute', meaning their SES scores are irrelevant.¹²

However, as school fees increase, SES scores become paramount. This is because high-fee schools usually (but not always) have high SES scores and low levels of disadvantage. Accordingly these schools have a large discount to their base funding for capacity to contribute, but receive few loadings. To illustrate, for high-fee Catholic schools, SES scores are ten times more important in determining funding than all of the loadings combined in the SRS model (Table 4).

Table 4: Relative importance of funding model parameters, high-fee Catholic schools*

Item	Importance (Impact on base funding)
Capacity to contribute (School SES scores)	62.6%
Loadings	6.2%
School size	0.0%
School location	0.0%
Students With Disability	4.4%
Low English Language Proficiency	0.0%
Low-Socio-Educational Advantage	1.5%
Aboriginal and Torres Strait Islander	0.3%

*Figures reflect how much each item modifies base funding in the 'Gonski 2.0' version of the SRS model, based on the latest school data (2016), for Catholic systemic schools in which fees, charges and parental contributions exceeded \$10,000 per student in 2015. There are 19 schools in the sample. Source: Federal Department of Education and Training

There is a great deal of hype about the SRS model being a true 'needs-based' funding model. The data in Table 3 and Table 4 show the reality. For most non-government schools – and for high-fee schools especially – the credibility of the SRS model as 'needs-based' hinges on the credibility of SES scores. The loadings for high-fee schools are inconsequential. They are a distraction used by the Government to overstate the extent the SRS model is needs-based for non-government schools.

Because SES scores overwhelmingly determine the funding that high-fee schools attract from the Government, their funding is highly sensitive to changes in SES scores. Most of these schools are large, so modest changes in per-student funding rates cause large changes in total funding.

¹² These comprise special schools, special assistance schools, sole provider schools and majority indigenous student schools.

Table 5 reports on the decreases in Australian Government funding that high-fee Catholic schools would experience under different scenarios. It shows:

- An average increase in SES scores of one point would trigger an average annual funding decrease of almost \$300,000 per school (or 5.7%)
- An average increase in SES scores of five points would trigger an average annual funding decrease of over \$1,200,000 per school (or 29.6%)
- An average increase in SES scores of 10 points would trigger an average annual funding decrease of almost \$2 million per school (or 54.1%).

The data in Table 5 would be very similar for high-fee independent schools.

Table 5: Importance of SES scores to high-fee Catholic schools*

Hypothetical change in SES scores	Funding decrease** (Average \$m/school)	Funding decrease** (Average %)
Increase of 1 point	-\$0.29m	-5.7%
Increase of 2 points	-\$0.57m	-11.7%
Increase of 5 points	-\$1.24m	-29.6%
Increase of 10 points	-\$1.91m	-54.1%

**Figures reflect how much annual funding from the Australian Government would decrease under different scenarios if SES scores were to increase for high-fee Catholic schools. It is assumed the Australian Government funds 80% of estimated school need for public funding in the SRS model. The data shown is for Catholic systemic schools in which fees, charges and parental contributions exceeded \$10,000 per student in 2015. There are 19 schools in the sample.*

***Estimates are made in 2017 dollars using the latest school data (2016)*

Source: Federal DET, CECV

Thus, inaccuracies in the SES scores of high-fee schools have important ramifications for their funding. Specifically, if SES scores for high-fee schools are too low – because SA1-level averaging is systemically biased in their favour, as argued in this report – then this would mean these schools are over-funded, perhaps significantly. The replacement of SES scores with an unbiased measure could lead to large funding decreases for these schools. Conversely, schools with unjustifiably high SES scores would receive more funding.

3. Diversity within Statistical Areas 1s

As part of the SES scoring methodology, all student families who live in the same SA1 are assumed to have the same 'capacity to contribute'. This section analyses data from the Census on family incomes within SA1s, to assess the extent to which SA1s are homogenous. It concludes that family incomes within SA1s are diverse. As a result it cannot be assumed that all students who live in a particular SA1 have similar family incomes. It is instead possible that students who come from the same SA1 have vastly different family incomes.

3.1 Relevance of analysis

As part of the SES scoring methodology, all student families who live in the same SA1 are assumed to have the same 'capacity to contribute'.

This methodology can only deliver fair and unbiased SES scores if certain assumptions are true. One assumption that would make SA1-level averaging accurate is if SA1s are homogenous. In this case, the general characteristics of each SA1 would be an accurate guide to the circumstances of each constituent family.

This section assesses whether this assumption is true. Do families within the same SA1 tend to be similar? Is it safe to assume that all families who live in the same SA1 have the same (or very similar) financial means?

The dataset that is used in this analysis is family incomes within SA1s from the 2011 Census. This is publicly available from the ABS. This analysis focuses exclusively on family incomes within SA1s as this is most relevant to the issue of 'capacity to contribute'.¹³

3.2 Statistical Area 1 data on family incomes

The analysis in this section assesses diversity of family incomes within SA1s. The focus is on SA1s in the capital cities that contain higher-income families, since these are the types of families that tend to choose non-government schools (given the need to pay school fees).

Table 6 shows the number of SA1s in each capital city in which at least 10% of families have high annual incomes (above \$208,000 per annum¹⁴). There are 8,146 of these

¹³ The publicly available data does not distinguish between family incomes within SA1s according to whether families include school-aged children. However, data for these families may not be reliable in many SA1s due to measures taken by the ABS to protect the confidentiality of Census data.

¹⁴ To place this figure in context, the average family income in Australia in 2011 was around \$90,000 per annum.

SA1s in the capital cities across Australia. Table 6 further shows the number of these SA1s in which at least 10% of families also have a low annual income (less than \$65,000¹⁵). In 90% of the SA1s where at least 10% of families have high incomes, at least 10% of families also have low incomes.

Table 6: High-income and low-income families within the same Statistical Area 1*

Region (Greater Capital City Statistical Area)	Number of SA1s where at least 10% of families earn >=\$208,000 per annum	Number of those SA1s where at least 10% of families <u>also</u> earn < \$65,000 per annum	% SA1s meeting both criteria
Greater Sydney	3,283	2,877	88%
Greater Melbourne	2,065	1,918	93%
Greater Perth	1,009	937	93%
Greater Brisbane	883	807	91%
Australian Capital Territory	482	380	79%
Greater Adelaide	323	314	97%
Greater Darwin	65	49	75%
Greater Hobart	36	36	100%
All capital cities	8,146	7,318	90%

**Families that reported 'nil' or 'negative' incomes are not counted, since these incomes may not truly reflect their circumstances. Incomplete data ('partial income stated', 'all incomes not stated' and 'not applicable') is also excluded.*

Source: Australian Bureau of Statistics, Census of Population and Housing 2011

Table 7 refines this analysis by focusing on the 20 highest-income regions – Statistical Area 4s¹⁶ (SA4s) – within capital cities across Australia. The regions are chosen because they have the most SA1s in which at least 10% of families have a high annual income (\$208,000 or more). Table 7 further shows the number and percentage of the SA1s in these high-income regions where at least 10% of families also have low annual incomes (less than \$65,000¹⁷). Overall, 89% of the highest-incomes SA1s contain at least 10% of families earning a low income.

¹⁵ Note that this \$65,000 threshold was also used as the low-income threshold for both the family income and the household income dimensions in school SES scores for 2011.

¹⁶ Statistical Area 4s are designed to provide a sub-state breakdown of Australia. In metropolitan areas, SA4s tend to have populations of 300,000 – 500,000 people.

¹⁷ Note that this \$65,000 threshold was also used as the low-income threshold for both the family income and the household income dimensions in school SES scores for 2011.

Table 7: Low-income families within high-income regions*

Region (Statistical Area 4)	Number of SA1s where at least 10% of families earn \geq \$208,000 per annum	Number of those SA1s where at least 10% of families <u>also</u> earn $<$ \$65,000 per annum	% SA1s meeting both criteria
Sydney - North Sydney and Hornsby	695	544	78%
Melbourne - Inner	650	584	90%
Australian Capital Territory	482	380	79%
Sydney - Eastern Suburbs	445	370	83%
Melbourne - Inner South	426	408	96%
Melbourne - Inner East	414	375	91%
Brisbane Inner City	357	319	89%
Sydney - Inner West	356	322	90%
Sydney - Northern Beaches	338	315	93%
Sydney - City and Inner South	326	252	77%
Perth - Inner	286	237	83%
Sydney - Baulkham Hills and Hawkesbury	288	264	92%
Perth - North West	256	247	96%
Adelaide - Central and Hills	213	206	97%
Perth - South West	206	198	96%
Sydney - Ryde	197	184	93%
Sydney - Sutherland	196	188	96%
Brisbane - West	179	159	89%
Perth - South East	175	172	98%
Sydney - Inner South West	142	142	100%
All of the above	6,627	5,866	89%

**Families that reported 'nil' or 'negative' incomes are not counted, since these incomes may not truly reflect their circumstances. Incomplete data ('partial income stated', 'all incomes not stated' and 'not applicable') is also excluded.*

Source: Australian Bureau of Statistics, Census of Population and Housing 2011

The clear conclusion from Table 6 and Table 7 is that SA1s are diverse, particularly in middle-class and affluent areas. It would be a big mistake to assume that all students in non-government schools who live in the same SA1 have the same family income. It is instead possible that students who come from the same SA1 have vastly different family incomes.

4. School address data and school fees

This section examines student SA1 data for schools that are part of the Catholic systems in four states/territories. This data provides insight into the likely accuracy of SA1-level averaging for different types of schools in different locations.

The data shows clear patterns in the catchment areas of different schools. This has implications for the accuracy of SA1-level averaging to assess student populations, as follows:

- SA1-level averaging is likely to be more accurate for non-metropolitan schools than metropolitan schools.
- In metropolitan areas, SA1-level averaging is likely to be more accurate for primary schools than secondary and combined schools.
- In metropolitan areas, SA1-level averaging is least accurate for high-fee schools.

Student SA1 data in high-fee schools shows unique patterns. High-fee schools frequently 'cherry-pick' students from SA1s. Cherry-picked students lower the SES scores received by high-fee schools. It is unlikely that the relatively low SES scores of cherry-picked students in high-fee schools reflect their actual family circumstances. Altogether the student SA1 data confirms that school fees filter student families within SA1s, and that this distortion in SA1-level averaging causes SES scores in high-fee schools to be significantly under-estimated.

4.1 Relevance of analysis

As stated earlier, as part of the SES scoring methodology, all student families who live in the same SA1 are assumed to have the same capacity to contribute.

Section 3 found that one assumption that would support the validity of the SES methodology – that SA1s are homogenous – is not true. Rather, family incomes within SA1s are diverse.

An alternative assumption, which would also support the validity of the SES methodology, is that schools attract large numbers of students from the same SA1s. When large numbers of students at a school come from the same SA1 then, other things being equal, the combined characteristics of those students will reflect more closely the aggregate characteristics of their SA1. In this instance, therefore, SA1-level averaging is more likely to produce an accurate portrait of the overall student body at a school.¹⁸

¹⁸ To put this in statistical terms: as the sample size from each SA1 increases, the average characteristics of each sample will converge on the average characteristics for each SA1.

Conversely, if a school attracts only one or two students from the same SA1 (i.e. students are 'cherry-picked' from SA1s), then SA1-level averaging is less likely to be accurate.

This section assesses this alternative assumption. Are there large numbers of students from the same SA1s at each school? Or do schools tend to attract few students from the same SA1s? Are there different patterns in SA1 data based on the type and/or location of schools? Also, are there any patterns in the type of students who tend to be 'cherry-picked' from SA1s? What does all this tell us about the likely accuracy of SA1-level averaging for different schools?

This analysis uses data on student SA1s in Catholic systemic schools in four states/territories. Schools that do not receive SES scores are excluded. Altogether, the dataset contains SA1 observations for over 400,000 students in 924 Catholic systemic schools.

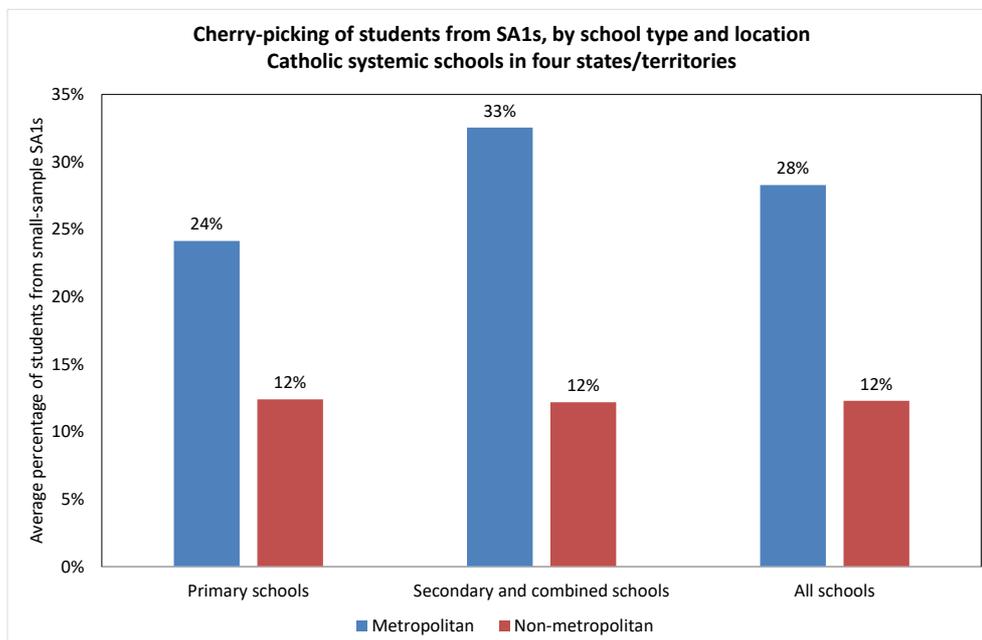
The dataset includes 16 Catholic systemic schools in which fees, charges and parental contributions exceeded \$10,000 per student in 2015. SA1 data for these schools can be compared with SA1 data for other schools to identify patterns in student SA1s linked to school fees. From such comparisons it is possible to make general conclusions about how school fees impact school SA1 patterns. It is highly likely these would be equally applicable to the 253 independent schools where fees, charges and parental contributions exceeded \$10,000 per student in 2015.

4.2 Statistical Area 1 data for Catholic systemic schools

Given that SA1s are diverse (Section 3), SA1-level averaging is less likely to be accurate for schools that attract only one or two students from the same SA1. In this report this is referred to as 'cherry-picking' students.

Figure 6 presents data on this issue. It shows the prevalence with which students are 'cherry-picked' from SA1s by different types of schools (primary, and secondary/combined) in different locations (metropolitan and non-metropolitan).

Figure 6: Cherry-picking* of students from SA1s, by school type and location



**This measures the average percentage of students who come from SA1s that are observed only once or twice within schools of the types shown.*

Source: Catholic systems in four states/territories

As can be seen:

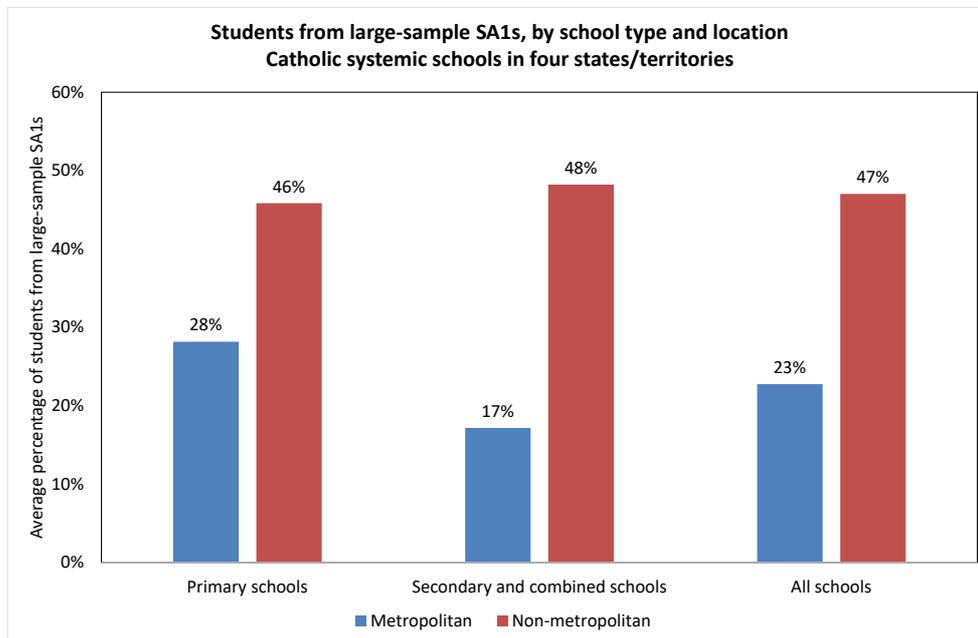
- Cherry-picking is more common in metropolitan schools (average 28% of students) than in non-metropolitan schools (average 12% of students).
- Within metropolitan schools, cherry-picking is more common in secondary and combined schools (average 33% of students) than primary schools (average 24% of students). In non-metropolitan schools there is little difference in cherry-picking between primary schools and secondary and combined schools.

As stated earlier, when schools attract large numbers of students from the same SA1 then SA1-level averaging is more likely to be accurate. Figure 7 presents data on this issue. It shows the prevalence with which students are part of a large cohort from the same SA1 (defined as 10 or more students), across different types of schools (primary, and secondary/combined), in different locations (metropolitan and non-metropolitan).

Not surprisingly, the pattern is the reverse of that above:

- It is more common for non-metropolitan schools to attract a large number of students from the same SA1 (average 47% of students) than it is for metropolitan schools (average 23% of students).
- Within metropolitan schools, it is more common for primary schools (average 28% of students) to attract a large number of students from the same SA1 than for secondary and combined schools (average 17% of students).

Figure 7: Students from large-sample* SA1s, by school type and location



**This measures the average percentage of students who come from SA1s that are observed 10 or more times within schools of the types and locations shown.*

Source: Catholic systems in four states/territories

The above charts demonstrate that SA1-level averaging is likely to be more accurate for non-metropolitan schools than metropolitan schools and, within metropolitan areas, for primary schools than secondary and combined schools.

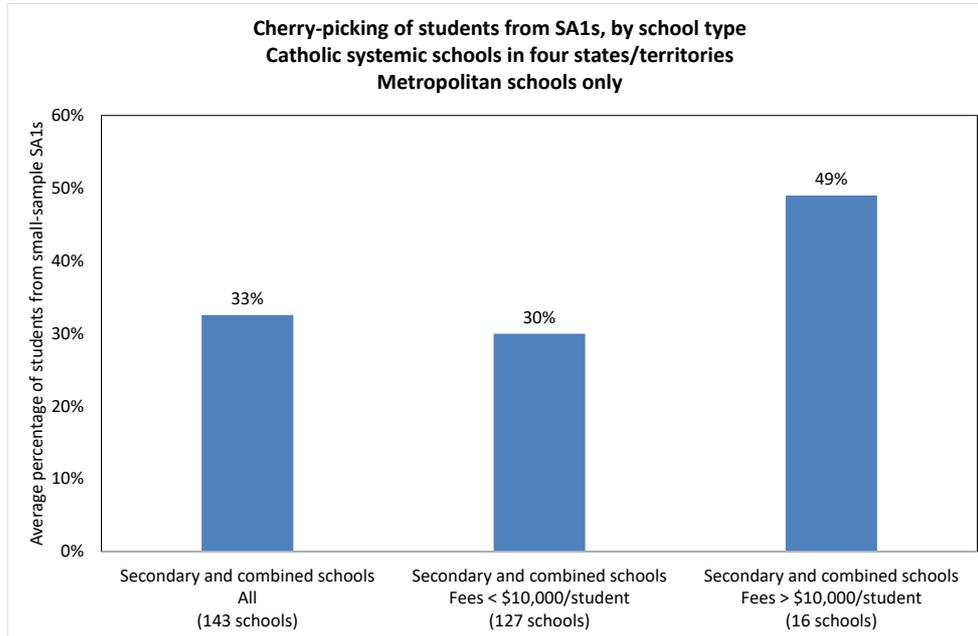
The 16 high-fee schools in the dataset available to the CECV are all located in metropolitan areas. This makes it possible to compare student SA1 data in high-fee schools to student SA1 data in other schools in metropolitan areas. This is explored in Figure 8 and Figure 9.

Whereas secondary and combined schools in metropolitan areas cherry-pick 33% of their students, on average, this figure increases to 49% for secondary and combined schools with annual fees and charges¹⁹ above \$10,000 per student (Figure 8).²⁰

¹⁹ This is measured by the 'fees, charges and parental contributions' item on the ACARA MySchool website. The latest data available is for 2015.

²⁰ Note that for the five schools with the highest fees and charges this figure further increases to 53%.

Figure 8: Cherry-picking* of students from SA1s, metropolitan schools by fees



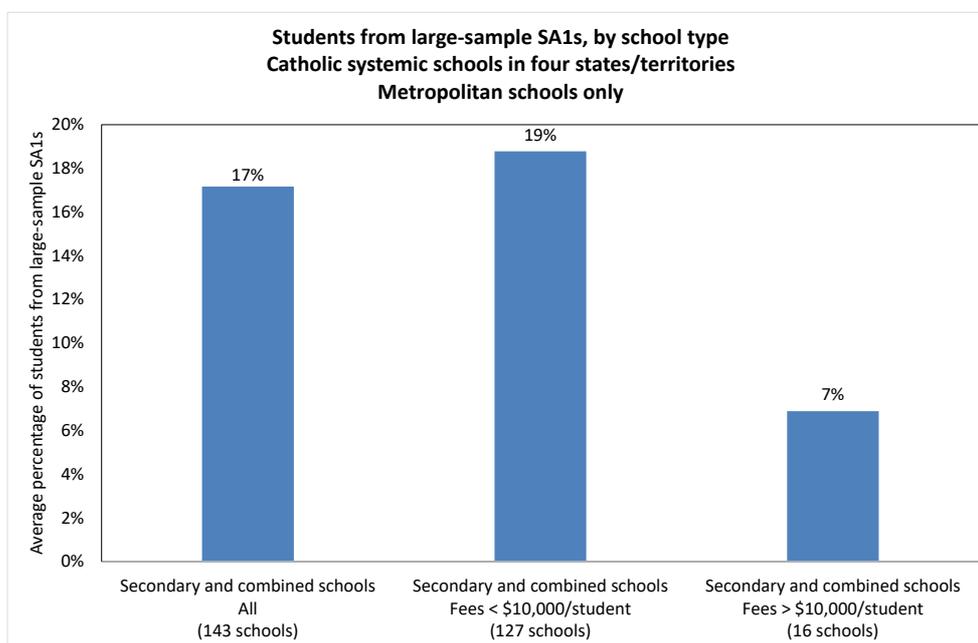
**This measures the average percentage of students who come from SA1s that are observed only once or twice within schools of the types and locations shown.*

Source: Catholic systems in four states/territories, ACARA MySchool website

Whereas secondary and combined schools in metropolitan areas attract an average 17% of their students from large-sample SA1s, this figure decreases to just 7% for secondary and combined schools with annual fees and charges above \$10,000/student (Figure 9).²¹

²¹ Note that for the five schools with the highest fees and charges, this figure further decreases to 4%.

Figure 9: Students from large-sample* SA1s, metropolitan schools by fees



**This measures the average percentage of students who come from SA1s that are observed 10 or more times within schools of the types and locations shown.*

Source: Catholic systems in four states/territories, ACARA MySchool website

This suggests that SA1-level averaging is least valid for high-fee schools. High-fee schools do not attract enough students from each SA1 to make SA1-level averaging reliable. It also shows that cherry picking increases with school fees. This indicates that cherry-picking is associated with the financial means of student families.

The data on high-fee schools used in this analysis probably understates the extent to which these schools cherry-pick students. This is because the highest-fee schools in the dataset are all located in high-SES areas, where more families (on average) within each SA1 would be able to afford their fees. High-fee schools that are located in less-advantaged areas (where fewer families within each SA1 who could afford high fees) are likely to have very high rates of cherry-picking. The CECV does not have SA1 data for these types of schools, in order to test this hypothesis.²²

Another clear pattern in the data is the high rates of cherry-picking relating to boarding students. In the dataset there are 2,624 boarding students, and 70% of these students are cherry-picked (i.e. come from SA1s observed only once or twice within their school's dataset). This indicates that SA1-level averaging is probably least accurate for schools with large boarding facilities.

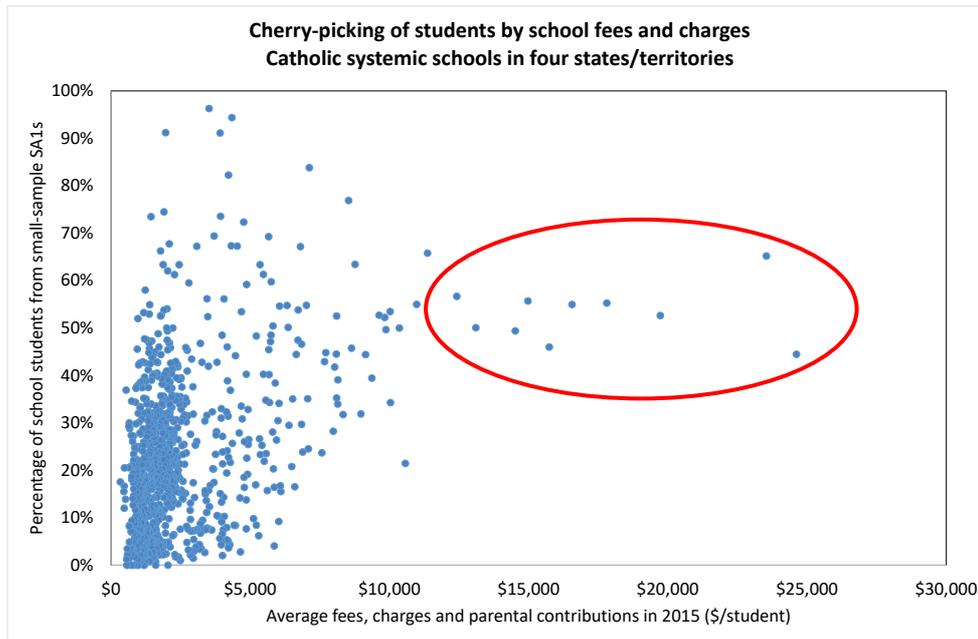
Figure 10 plots the extent to which individual schools cherry-pick students against their school fees. Figure 11 plots the extent to which individual schools draw students from

²² All of these types of schools are independent schools. Examples of these schools in Victoria include Geelong Grammar (in Corio, SES score of 115), Geelong College (in Newtown, SES score of 108), Tintern Grammar (in Ringwood East, SES score of 110) and Haileybury College (main campus in Keysborough, SES score of 111).

large-sample SA1s against their school fees. These figures show that, within the broad trends highlighted above, there can be significant variation in the degree of cherry-picking by individual schools. For example, there are some low-fee schools that still cherry-pick more than 60% of their students.

However, there is very little variation in the data for high-fee schools. Every high-fee school cherry-picks at least 40% of its students (Figure 10). Similarly, no high-fee school draws more than 11% of its students from large-sample SA1s (Figure 11).

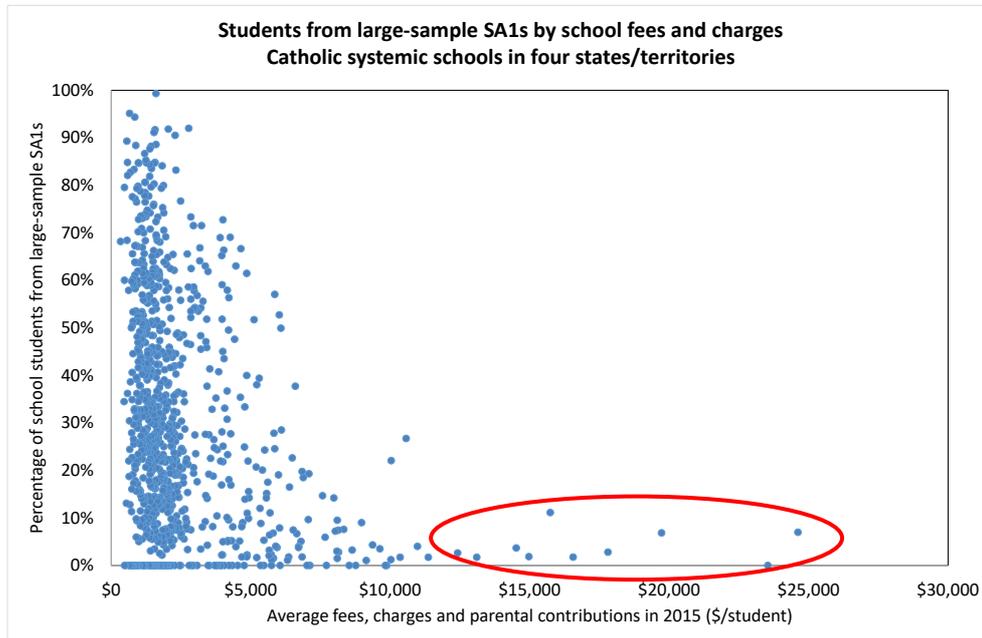
Figure 10: Cherry-picking* of students from SA1s, metropolitan schools by fees



**This measures the average percentage of students who come from SA1s that are observed only once or twice within the school.*

Source: Catholic systems in four states/territories, ACARA MySchool website

Figure 11: Students from large-sample* SA1s, metropolitan schools by fees



**This measures the average percentage of students who come from SA1s that are observed 10 or more times within the school.*

Source: Catholic systems in four states/territories, ACARA MySchool website

Do cherry-picked students and large-sample students have different characteristics? How does each type of student tend to impact school SES scores? The answers depend on school fee levels (Table 8).

Table 8: Impact of cherry-picked and large-sample students

	Average SA1 score for the family income dimension	Average SA1 SES score
High-fee schools***		
Cherry-picked* students (49%)	115	115
Large-sample** students (7%)	128	125
Other students (44%)	123	121
Other schools****		
Cherry-picked* students (30%)	101	101
Large-sample** students (19%)	102	100
Other students (51%)	101	100

*This refers to students who come from SA1s that are observed one or two times only within a school.

**This refers to students who come from SA1s observed 10 or more times within a school.

***Includes Catholic systemic schools in four states/territories with fees, charges and parental contributions above \$10,000 per student in 2015. All of these schools are secondary and combined schools in metropolitan areas. There are 16 of these schools in the dataset, with 18,915 student SA1s.

****Includes Catholic systemic secondary and combined schools in four states/territories in metropolitan areas with fees, charges and parental contributions below \$10,000/student in 2015. There are 127 of these schools in the dataset, with 115,466 student SA1s.

Source: Catholic systems in four states/territories, ACARA MySchool website, the Federal DET

In high-fee schools, there are large differences in the average SA1 characteristics of cherry-picked students and large-sample students:

- Cherry-picked students tend to come from SA1s with much lower family income dimension scores (average score of 115 versus 128).
- Cherry-picked students tend to come from SA1s with much lower SES scores (average score of 115 versus 125).

Thus, cherry-picked students lower the SES scores received by high-fee schools, while large-sample students increase them. For reasons already explained, the SA1 data for large-sample students is likely to be a much more accurate guide to the financial means of school families than the SA1 data for cherry-picked students. Thus, according to the more accurate data, the SES scores of the high-fee schools should perhaps be five to 10 points higher. In this event, high-fee independent schools will be overfunded by hundreds of millions of dollars next year.²³

Table 8 also includes the corresponding data for schools with annual fees below \$10,000 per student. To make this most comparable with the data for high-fee schools, the data is limited to secondary and combined schools in metropolitan areas. In the lower-fee

²³There were 253 independent schools with annual fees above \$10,000 per student in 2015 (excluding special schools and special assistance schools) (Table 2). Increases in SES scores of five to 10 points for high-fee schools can reduce funding for each of these schools by millions (Table 5).

schools, there is little discernible difference in the SA1s from which students are cherry-picked compared to large-sample students:

- The SA1s of cherry-picked students have the same average scores for the family income dimension as the SA1s for large-sample students (101).
- The SA1s of cherry-picked students have similar overall SES scores as the SA1s for large-sample students (101 versus 100).

In contrast to high-fee schools, there is little evidence that cherry-picked students reduce the SES scores of lower-fee schools, or that large-sample students increase them.

The data in Table 8 is what we would expect to see if school fees filter student families within SA1s. It is consistent with the thesis that high-fee schools cherry-pick the most affluent families from lower-SES areas. As the SES score of a SA1 decreases, the available pool of affluent families grows smaller. Hence, high-fee schools rarely draw numerous students from low-SES areas. The families they attract from these areas are not reflective of them and they artificially lower school SES scores.

Table 9 provides further evidence of this. In high-fee schools, as the number of times the same SA1 is observed in a school increases – that is, as the SA1-level averaging becomes more reliable because there are more observations from within the same SA1 – then SES scores and family income dimension scores steadily increase.

Table 9: Average student SES score by SA1 frequency, high-fee schools*

Number of times SA1 is observed in school data	% of students in high-fee schools	Average SA1 score for the family income dimension	Average SA1 SES score
1 or 2 times	49%	115	115
3 or 4 times	24%	121	120
5 or 6 times	11%	124	122
7 to 9 times	9%	126	123
10 or more times	7%	128	125
All	100%	119	118

**Includes Catholic systemic schools in four states/territories with fees, charges and parental contributions above \$10,000 per student in 2015. All of these schools are secondary and combined schools in metropolitan areas. There are 16 of these schools in the dataset, with 18,915 student SA1s. Source: Catholic systems in four states/territories, ACARA MySchool website, the Federal DET*

There is another type of student that also tends to cause school SES scores to be under-estimated: boarding students. Table 10 reports on the SA1 profile of boarding students versus other students, in schools with at least one boarding student.

Table 10: Impact of boarding students

	Average SA1 score for the family income dimension	Average SA1 SES score
High-fee schools**		
Boarding students* (9%)	100	100
Other students (91%)	120	119
Other schools***		
Boarding students* (12%)	93	93
Other students (88%)	101	98

*This refers to students who come from SA1s that are observed one or two times only within a school.

**Includes Catholic systemic schools in four states/territories with boarding students and also with fees, charges and parental contributions above \$10,000 per student in 2015. There are seven of these schools in the dataset, with 8,643 student SA1s.

***Includes Catholic systemic schools in four states/territories with boarding students and also with fees, charges and parental contributions below \$10,000 per student in 2015. There are 21 of these schools in the dataset, with 13,685 student SA1s.

Source: Catholic systems in four states/territories, ACARA MySchool website, the Federal DET

In the high-fee schools, on average, boarding students:

- Come from SA1s with much lower family income dimension scores than other students (average score of 100 versus 120).
- Come from SA1s with much lower SES scores than other students (average score of 100 versus 119).

Boarding students significantly lower the SES scores of high-fee schools. As in the case of cherry-picked students, it is unlikely that the family incomes of boarding students are much different from the family incomes of other students. However, they do lower school SES scores because they come from SA1s that are less advantaged overall. As can be seen in Table 10, boarding students also lower the SES scores of lower-fee schools albeit to a much lesser degree. In lower-fee schools, on average, boarding students come from SA1s with a SES score of 93 compared to 98 for other students.

5. SES scores and Health Care Card enrolments

This section compares school SES scores with school enrolments of students from families who hold a Health Care Card (HCC) in Catholic and independent schools in Victoria. Comparisons of these two datasets provides insight into the likely accuracy of SES scores, with respect to low-income families. It also highlights the circumstances in which SES scores tend to be inaccurate and/or unfair for schools.

The data shows that, with respect to low-income families, SES scores are biased against lower-fee schools in favour of high-fee schools. This is because lower-fee schools tend to attract more low-income families, which SA1-level averaging does not adequately identify. The bias is greatest in high-SES areas; in these areas SA1-level averaging hides low-income families.

Catholic schools are disadvantaged by this, due to their affordable fees. The bias against Catholic schools occurs in schools with SES scores above 100.

5.1 Relevance of analysis

The previous sections have challenged key assumptions related to whether SA1-level averaging is a robust methodology for classifying school student populations. Building on this analysis, this section reviews data that can be used to directly assess the accuracy of SES scores.

In its funding model for non-government schools, the Victorian Government allocates a share of government funding to schools based on their enrolments of students from families with a HCC.

HCCs are made available by the Australian Government to individuals and families with low incomes. The availability of this dataset provides an opportunity to compare data on school HCC enrolments against school SES scores, albeit there are limitations with the data on HCC enrolments. HCC data only captures families below specific income thresholds. Also, it is not complete. Collection of HCC data requires families that hold a HCC to identify themselves to their school each year. Understandably, some families are reluctant to do this, and accordingly HCC enrolments in schools are often under-reported. The extent to which this occurs across different school types is unclear.

Notwithstanding, there is value in comparing school SES scores to their HCC enrolments. School SES scores are used as a financial means-test in the SRS model, but SES scores are not based on student families and they are only partly based on financial measures. In contrast, HCCs are a direct measure of the financial means of student families in schools, and they are based on family finances – albeit they only capture families at the bottom of the income scale. Comparisons of these two datasets

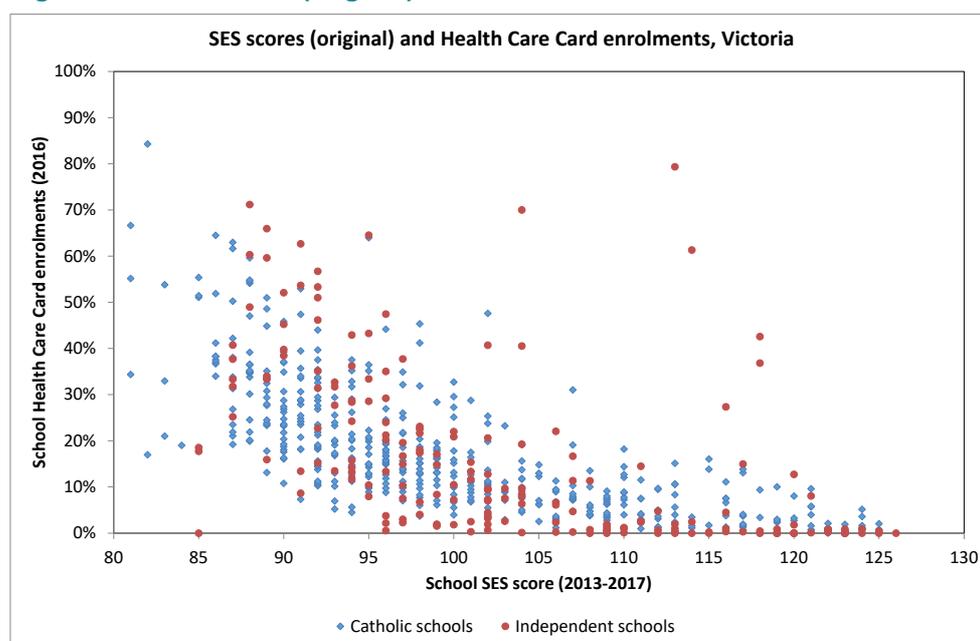
can therefore provide insight into the accuracy of SES scores, with respect to low-income families. It can also highlight the circumstances in which SES scores tend to be inaccurate and/or unfair.

Special schools and special assistance schools are excluded from the analysis. In total the dataset encompasses 676 non-government schools in Victoria, of which 485 are Catholic and 191 are independent.²⁴ The HCC data is for 2016 enrolments at each school. Altogether, almost 340,000 students attended the schools in the dataset in 2016. Data on schools fees is for 2015 and sourced from the ACARA MySchool website.²⁵

5.2 School-level data

Figure 12 plots school SES scores against their enrolments of HCC students. Catholic schools and independent schools are separately identified. The SES scores used are the ones that schools originally received under the SES scoring methodology.

Figure 12: SES scores (original) and Health Care Card enrolments*



Source: CECV, the Federal DET, the Victorian DET (unpublished)

As would be expected there is a clear negative relationship between school SES scores and school enrolments of HCC students. However, there is a wide band in school enrolments of HCC students at each school SES score. The variation is widest for low-SES schools. Among schools with SES scores below 95, some have less than 10% HCC students while others have over 50%. There are some schools that originally received SES scores above 110 but which have more than 30% HCC enrolments. In summary,

²⁴ Note that HCC data is collected at the campus level. This has been aggregated to schools to make the HCC data comparable to SES scores.

²⁵ This is measured by the 'fees, charges and parental contributions' item.

Figure 12 shows that while there is a clear negative correlation between the variables, for individual schools, SES scores are only a broad guide to enrolments of HCC students.

Table 11 reports on the correlation between SES scores and HCC students, for all schools and then across different subsets of schools. The overall correlation (-0.66) is quite strong. However, the statistical strength of the relationship declines markedly for high-SES schools: for schools with SES scores above 110 the correlation is -0.23.

Table 11: Correlation between school SES scores* and HCC enrolments

	Number of schools	Correlation coefficient
All schools	676	-0.66
Schools with SES score < 100	363	-0.58
Schools with SES score >= 100	313	-0.34
Schools with SES score >= 110	147	-0.23

*Includes original SES scores (i.e. prior to appeals)

Source: CECV, the Federal DET, the Victorian DET (unpublished)

One explanation for the weak correlation for high-SES schools is that SA1-level averaging is poor at identifying families who are not typical for their area. SA1-level averaging assumes that all students who live in high-SES areas are high-SES. But there are also many low-income families in these areas (section 3), and thus SA1-averaging 'hides' these families. It might therefore be expected that SA1-level averaging is poor at detecting low-income families in high-SES areas.

Figure 13 plots the data for schools with SES scores of 110 and above. To improve visibility, Figure 13 has been cropped at 20% HCC enrolments. As a result, five independent schools (which had their SES scores reduced following appeals) are not shown.²⁶ There is very little relationship between SES scores and HCC enrolments among this cohort. Some schools have over 10% HCC enrolments while others have 0%.

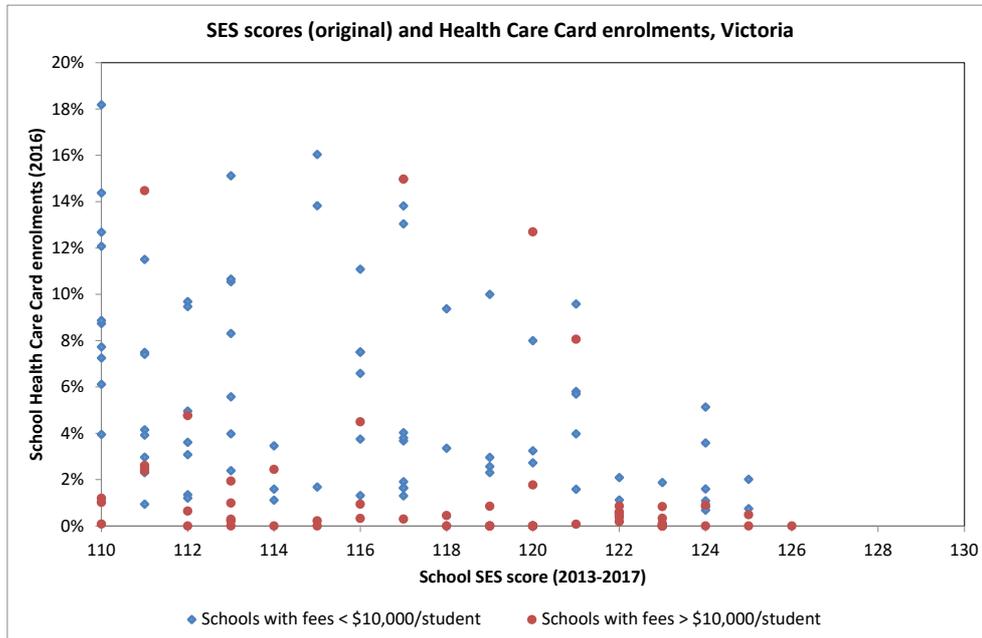
The position of schools in Figure 13 is related to school fees. Most of the schools with relatively high HCC enrolments have fees below \$10,000 per student, while most of the schools with relatively few HCC enrolments have fees above \$10,000 per student. For schools with a SES score of 110 or above:

- Schools with average annual fees of less than \$10,000 per student have an average of 8% HCC enrolments
- Schools with average annual fees above \$10,000 per student have an average of 1.2% HCC enrolments.²⁷

²⁶ These schools (plotted in Figure 12) originally received SES scores ranging from 113 to 118, which were reduced on appeal to less than 90. In each of these schools at least 25% of students come from HCC families. Importantly, all of these schools are low-fee religious schools, which happen to be located in high-SES areas.

²⁷ The data on school fees relates to the 'fees, charges and parental contributions' item in the ACARA MySchool website.

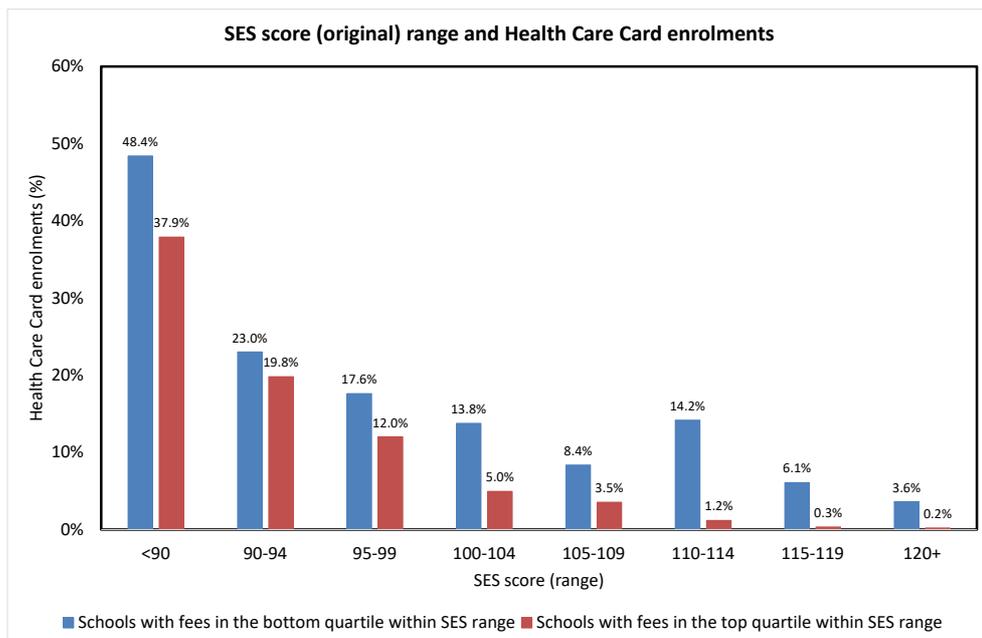
Figure 13: High-SES score schools and Health Care Card enrolments



Note: This chart does not show five independent schools that have >20% HCC enrolments.
 Source: CECV, Federal DET, Victorian DET (unpublished)

Figure 14 charts the relationship between school HCC enrolments, school SES scores and school fee levels more generally. Schools are grouped into SES score bands, and then split based on their school fees (bottom quartile and top quartile within each SES band).

Figure 14: SES scores and Health Care Card enrolments, Victoria, by school fees



Source: CECV, Federal DET, ACARA MySchool website, Victorian DET (unpublished)

Two clear patterns are apparent in this data.

First, HCC enrolments generally decline as school SES scores increase – for both schools with high fees, and those with low fees.

Second, within every SES score band, lower-fee schools have more HCC enrolments than high-fee schools. It appears that lower-fee schools attract more low-income families, which SA1-level averaging may not adequately identify. This is especially the case in high-SES areas (where SA1-level averaging hides low-income families).

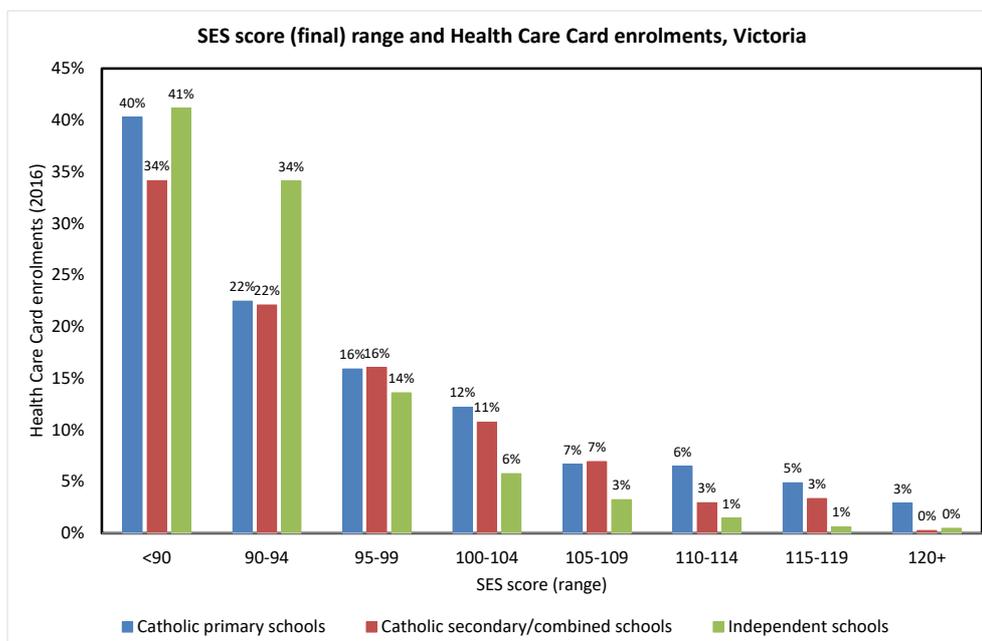
Thus, SES scores for high-fee schools appear too low and/or SES scores for low-fee schools are too high. For schools with SES scores above 95, based on HCC enrolments, school fees appear to distort SES scores by 10 to 20 points. That is, a high-fee school tends to have similar HCC enrolments as a lower-fee school that has an SES score 10 to 20 points higher.

5.3 Sector-level data

This section compares school SES scores and HCC enrolments at the sector level in order to assess how Catholic schools and independent schools are currently impacted by SA1-level averaging. As school funding is based on existing SES scores, the SES scores used in the analysis are those that are currently assigned to schools (not original scores).

Figure 15 shows HCC enrolments by SES score range by school sector.

Figure 15: SES scores and Health Care Card enrolments, Victoria



Source: CECV, the Federal DET, the Victorian DET (unpublished)

Independent schools have relatively high numbers of HCC enrolments in schools with a SES score below 95. At this point on the SES spectrum there is little difference in school

fees between Catholic and independent schools. Less than 20% of students in independent schools are in schools with a SES score below 95.

For schools with SES scores above 95 – where fees in independent schools are typically much higher than fees in Catholic schools – there are, on average, more HCC students in Catholic schools than independent schools with similar SES scores. This is most apparent when comparing high-SES Catholic primary schools to high-SES independent schools.

The data in Figure 15 suggests that SES scores are systemically biased against Catholic schools for schools with SES scores of 95 and above, with respect to low-income families. It indicates that Catholic schools are penalised because their lower fees make them more accessible to lower-income families. However, SA1-level averaging hides low-income families, especially in middle-class and affluent areas.

6. SES scores and parental education and occupation data

This section compares school SES scores and school enrolments of advantaged and disadvantaged students, for Catholic and independent schools in Australia. Comparisons of these two datasets provides further insight into the accuracy of SA1-level averaging and the fairness of SES scores

This comparison makes similar findings to the comparison of HCC enrolments. The evidence suggests SA1-level averaging is biased against lower-fee schools in favour of high-fee schools. Among schools with similar SES scores, lower-fee schools tend to attract more disadvantaged students (whose parents are likely to have lower incomes), while high-fee schools tend to attract more advantaged students (whose parents are likely to have higher incomes).

Again, the comparison confirms Catholic schools are disadvantaged from SA1-level averaging and therefore SES scores. The bias against Catholic schools appears to be greatest in schools with SES scores above 100.

6.1 Relevance of analysis

Sections 3 and 4 of this report challenged key assumptions related to whether SA1-level averaging is a robust methodology for classifying school student populations. This section builds on those earlier sections. It assesses the accuracy of SA1-level averaging by comparing school SES scores against education and occupation data from school parents.

Parental education and occupation characteristics are reflected in school Socio-Educational Advantage (SEA) data, which is published by ACARA. Specifically, ACARA publishes school enrolments of students by SEA quartile. The latest year for which this data is available is 2016. The input data used to calculate SEA quartiles relates to education and occupation characteristics of student parents. (Table 12). However, these characteristics are also closely correlated with personal incomes.²⁸

This makes comparisons between school SES scores, and school SEA data relevant. Given SES scores are used as a financial means-test in the SRS model, and SEA data is correlated to personal incomes of school parents, the opportunity exists to check whether

²⁸There is a large body of economic research demonstrating the financial returns to education in Australia and elsewhere (see, for example, Leigh, A 2008, 'Returns to Education in Australia', *Economic Papers*, September). Parents with higher education qualifications usually have higher incomes than those without; parents with managerial and professional occupations usually have higher incomes than those in other occupations; and parents in paid employment typically have higher incomes than those not in paid employment.

SEA data corroborates SES scores. The key item of interest is whether school fees are associated with systemic differences in school SES scores and school SEA data.

Table 12: Parental education and occupation data inputs to school SEA quartile data

Parental occupation data	Parental education data
Parental occupations <ul style="list-style-type: none"> • Machine operator • Tradesperson/clerk/sales • Professional/manager • Senior manager 	Parental school education <ul style="list-style-type: none"> • Year 9 or equivalent • Year 10 or equivalent • Year 11 or equivalent • Year 12 or equivalent
Parental non-paid occupations <ul style="list-style-type: none"> • In non-paid occupation • In paid occupation 	Parental non-school education <ul style="list-style-type: none"> • No non-school education • Certificate I-IV inc. trade certificate • Advanced diploma/diploma • Bachelor degree or above

Source: Farish, ACARA 2015, ICSEA 2015: Technical Report, Canberra, February.

The analysis in this section includes data for 2,487 non-government schools across Australia, comprising 1,610 Catholic schools and 876 independent schools (including non-systemic Catholic schools). Special schools and special assistance schools are excluded, as well as other schools that do not receive a SES score or for which SEA data was not available in 2016. Altogether, over 1.25 million students attended the schools in the dataset. Data on school fees is for 2015 and sourced from the ACARA MySchool website.²⁹

In this section, students in the bottom two SEA quartiles³⁰ are referred to as 'disadvantaged' students. The education and occupation characteristics of the parents of these students are associated with lower personal incomes. Students in the top SEA quartile are referred to as 'advantaged' students. The education and occupation characteristics of the parents of these students are associated with higher personal incomes.

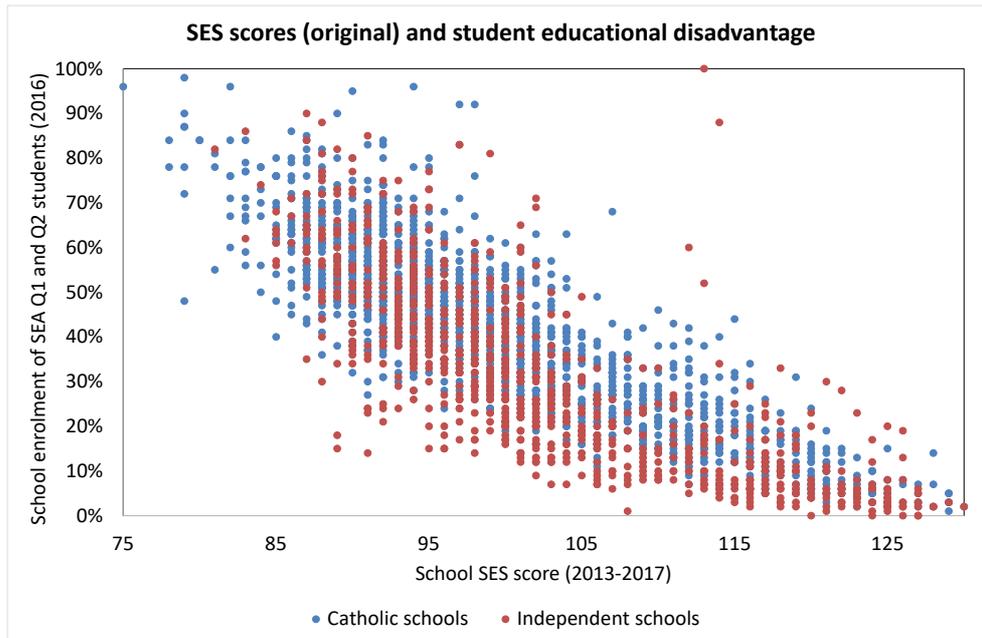
²⁹ This is measured by the 'fees, charges and parental contributions' item.

³⁰ These are students in the bottom two SEA quartiles, which attract a loading in the SRS model.

6.2 School-level data

Figure 16 plots school enrolments of disadvantaged students against school SES scores. Catholic schools and independent schools are separately identified. The SES scores used are the ones that schools originally received under the SES scoring methodology.

Figure 16: School SES scores and enrolments of disadvantaged students



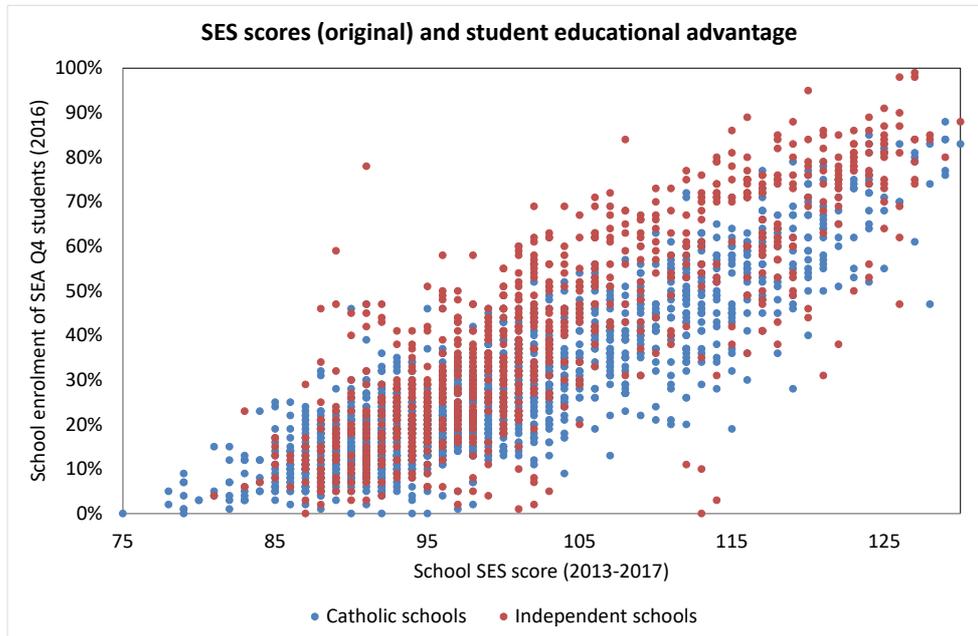
Source: CECV, ACARA MySchool website, the Federal DET

There is a clear negative relationship between school SES scores and school enrolments of disadvantaged students. However, there is a wide band in school enrolments of disadvantaged students at each school SES score. There are many schools with the same SES score where enrolments of disadvantaged students differ by more than 20 percentage points. This suggests that the distribution of disadvantaged students varies widely across schools, and this is true across the SES score range. Thus, SES scores are only a general guide to enrolments of disadvantaged students.

Figure 17 plots school enrolments of advantaged students against school SES scores. Catholic schools and independent schools are separately identified and the SES scores used are the ones that schools originally received.

As above, there is a clear positive relationship between the variables, but also significant variation in enrolments of advantaged students for schools with the same SES score. SES scores are only a general guide to enrolments of advantaged students.

Figure 17: School SES scores and enrolments of advantaged students



Source: CECV, ACARA MySchool website, the Federal DET

Table 13 reports on the correlation between SES scores and school SEA populations, for all schools and then across different sub-groups. The overall correlations between school SES scores and SEA quartile 1 (most disadvantaged) students (-0.72), and school SES scores and SEA quartile 4 (most advantaged) students (0.86) are quite strong.

Table 13: Correlation between SES scores* and student educational advantage

	School SEA quartile 1 students	School SEA quartile 4 students
All schools	-0.72	0.86
SES <= 95	-0.54	0.41
SES >= 110	-0.29	0.61

Analysis applies school SES scores for 2014-2017, and school SEA data for 2016. Schools without either SES scores or SEA data for 2016 are excluded. The sample comprises a total of 2,476 schools. SES scores for schools are those that were calculated originally (i.e. prior to an appeal).

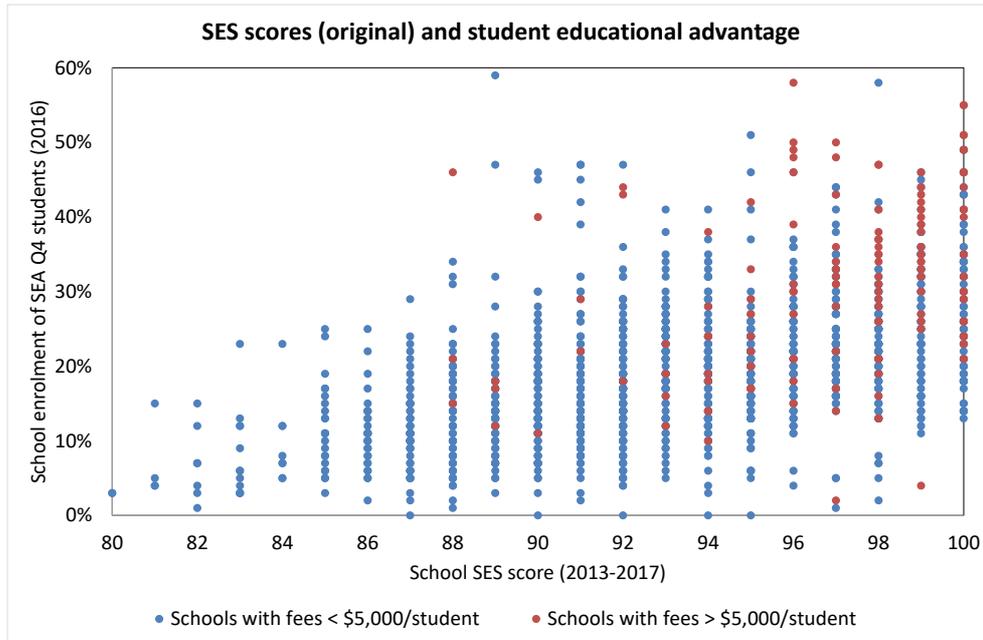
Source: CECV, ACARA MySchool website, the Federal DET

However, the strength of the correlation falls away among certain sub-groups. The correlation is lowest for the most disadvantaged enrolments in high-SES schools (-0.29), and for advantaged enrolments in low-SES schools (0.41). The correlation coefficient in the former case (-0.29) is close to the corresponding correlation coefficient between SES scores and HCC enrolments in high-SES schools in Victoria (-0.23) (see section 5).

One explanation for this data is that, in high-SES areas, SES scores are poor at identifying the most disadvantaged students. Conversely, in low-SES areas, SES scores are poor at identifying the most advantaged students. This mirrors similar findings with respect to HCC data (section 5).

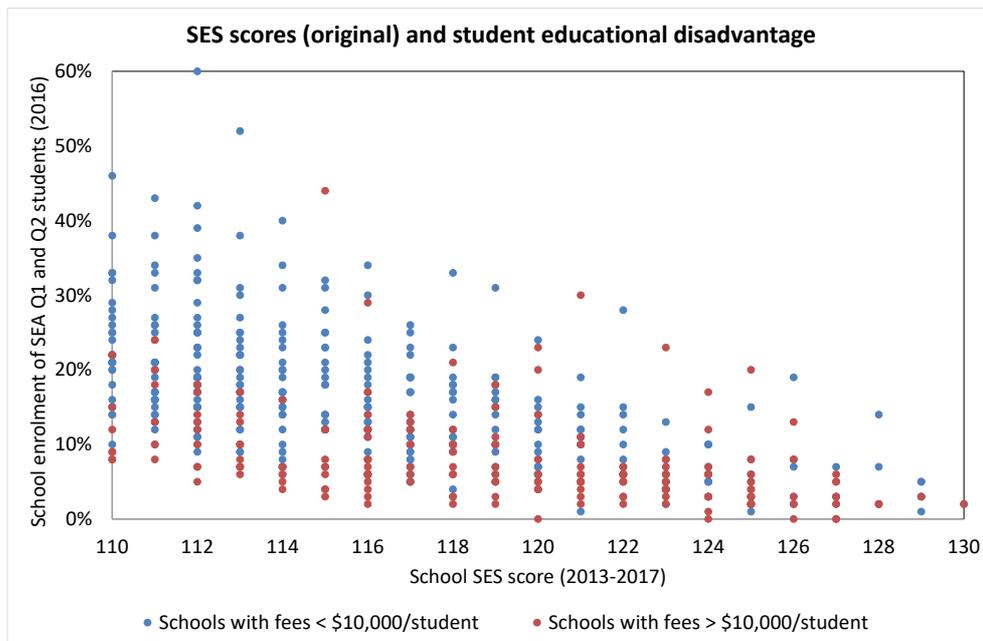
Figure 18 and Figure 19 provide further illustration. They plot enrolments of advantaged students in schools with SES scores of 100 and below (Figure 18) and enrolments of disadvantaged students in schools with SES scores of 110 and above (Figure 19). Schools with low fees and high fees are separately identified.

Figure 18: Low-SES score schools and enrolments of advantaged students



Source: CECV, ACARA MySchool website, the Federal DET

Figure 19: High-SES score schools and enrolments of disadvantaged students



Source: CECV, ACARA MySchool website, and the Federal DET

As can be seen, the position of schools in Figure 18 and Figure 19 is related to their fees. Among schools with SES scores of 100 and below (Figure 18):

- An average of 19.2% of students are advantaged in schools with annual fees of less than \$5,000 per student.
- An average of 31.4% of students are advantaged in schools with annual fees above \$5,000 per student.

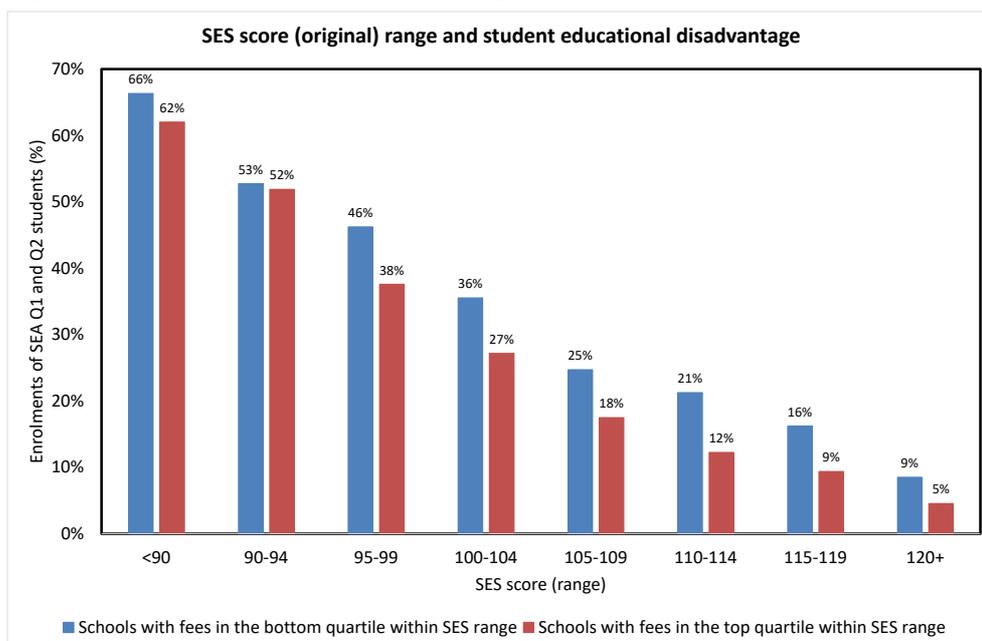
Similarly, among schools with SES scores of 110 and above (Figure 19):

- An average of 18.2% of students are disadvantaged in schools with annual fees of less than \$10,000 per student.
- An average of 7.7% of students are disadvantaged in schools with annual fees above \$10,000 per student.

Figure 20 charts the relationship between disadvantaged students, school SES scores and school fee levels more generally. Schools are grouped into SES score bands, and then split based on their school fees (bottom quartile and top quartile within each SES band).

Within each SES score band, low-fee schools have more disadvantaged students than high-fee schools. The difference is largest for schools with SES scores of 95 and above (which tend to have a wider range of school fees). Altogether, this data suggests that school fees may distort SES scores by five to 10 points.

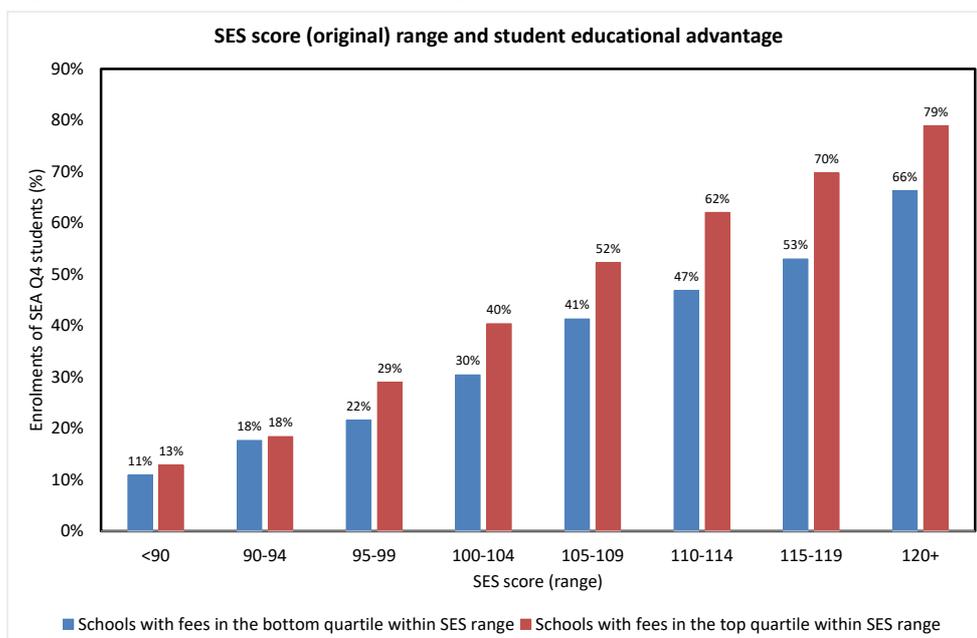
Figure 20: SES scores and disadvantaged students, by school fees



Source: CECV, ACARA MySchool website, the Federal DET

Figure 21 duplicates the above analysis but for advantaged students. The results mirror those above. Within each SES score band, low-fee schools have fewer advantaged students than high-fee schools. The difference widens as SES scores increase. Again, this data suggests that school fees distort SES scores by five to 10 points.

Figure 21: SES scores and advantaged students, by school fees



Source: CECV, ACARA MySchool website, the Federal DET

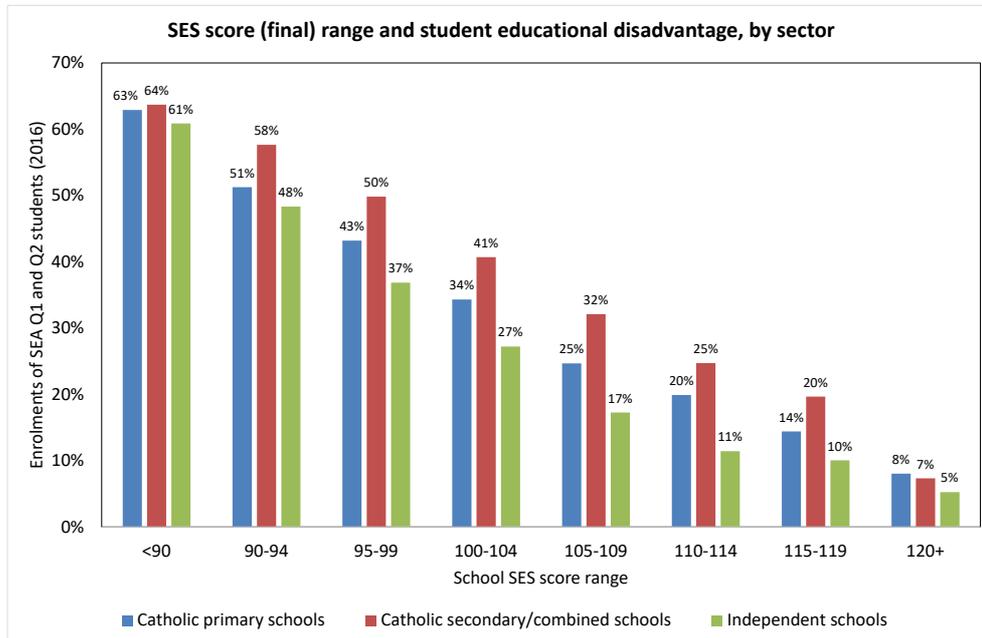
The evidence shows that, for schools with similar SES scores, lower-fee schools attract more disadvantaged students, and fewer advantaged students, than high-fee schools. This aligns with the conclusions that can be made from HCC data, and reinforces the conclusion that SA1-level averaging is systemically biased against lower-fee schools in favour of high-fee schools. Compared to their actual student populations, the SES scores of lower-fee schools appear to be too high and/or the SES scores of high-fee schools appear to be too low.

6.3 Sector-level data

This section compares school SES scores and SEA enrolments at the sector level in order to assess how Catholic schools and independent schools are impacted by SA1-level averaging. As school funding is based on existing SES scores, the SES scores used in the analysis are those that are currently assigned to schools (not original scores).

Figure 22 shows enrolments of disadvantaged students by SES score range by school sector. Within all SES bands, Catholic schools have more disadvantaged students than independent schools. The difference is greatest for schools with SES scores above 95.

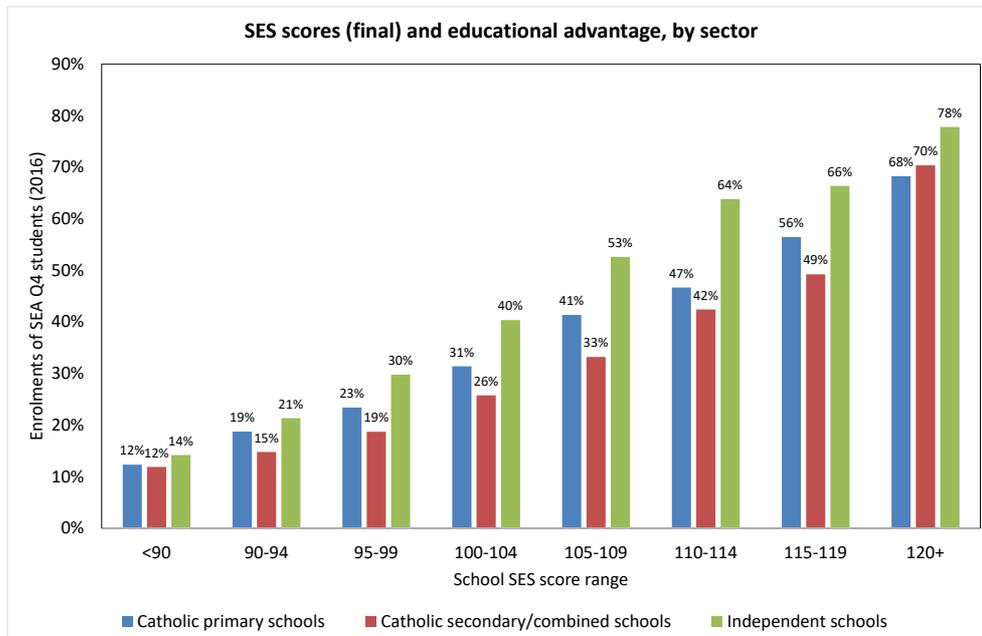
Figure 22: SES scores and socio-educational disadvantage, by sector



Source: CECV, ACARA MySchool website, the Federal DET

Figure 23 shows enrolments of advantaged students by SES score range by school sector. Within all SES bands, independent schools have more advantaged students than Catholic schools. Again, the difference is greatest for schools with SES scores above 95.

Figure 23: SES scores* and socio-educational advantage, by sector



Source: CECV, ACARA MySchool website, the Federal DET

The sector-level data provides yet more evidence that SES scores are systemically biased against Catholic schools in favour of independent schools, for schools with SES

scores above 95. This appears to be due to lower fees in Catholic schools. SA1-level averaging effectively penalises Catholic schools (and other lower-fee non-government schools) for being inclusive. In particular, it penalises schools that attract disadvantaged students from middle-class and affluent areas and it rewards schools that attract advantaged students from working-class and middle-class areas.

7. Census data on family incomes

This section compares the incomes of Catholic school families with the incomes of independent school families within the same SA1s. The comparison focuses on capital cities and regions from which non-government schools attract many of their students.

The data shows that, in most SA1s, Catholic school families have lower incomes than independent school families. Often, the incomes of Catholic school families are significantly lower. Thus SA1-level averaging is usually biased against Catholic school families in favour of independent school families. This bias appears to be greatest in regions where schools receive SES scores above 100.

7.1 Relevance of analysis

In earlier sections of this paper, two independent datasets – HCC data (Section 5) and SEA data (Section 6) – both showed that SA1-level averaging is biased against low-fee (mostly Catholic) schools in favour of high-fee (mostly independent) schools. This bias appears to be most pronounced in schools with SES scores above 95.

This section tests this conclusion through comparison of average family incomes, by school sector, within SA1s. The data used in this section comes from the 2011 Census from the ABS. This is similar to the source data used to calculate SA1 scores for the family income dimension as part of the SES scoring methodology. In the Census, in each household, respondents are asked whether children in a household attend a government school, a Catholic school, or an ‘other’ non-government school (referred to as an ‘independent’ school in this section).³¹ Respondents also provide details on their incomes, which are aggregated by the ABS to family incomes.

This enables comparisons of family incomes by school sector within SA1s. Specifically, the data in this section compares the average incomes of families with at least one child in a Catholic school (‘Catholic school families’), with the average incomes of families with at least one child in an independent school (‘independent school families’), within the same SA1s. This comparison is relevant because SA1-level averaging assumes all families in the same SA1 have the same ‘capacity to contribute’. The data used in this

³¹ Note that under this procedure it is likely that families with children in non-systemic Catholic schools are likely to identify the school as Catholic. In other sections of this paper, non-systemic Catholic schools have been categorised as ‘independent schools’. This difference is unlikely to impact the findings in this section, except perhaps in the ACT (where about 22% of students in Catholic schools are in non-systemic schools) and in NSW (where about 15% of students in Catholic schools are in non-systemic schools). Also note that this simple distinction between school sectors conceals considerable diversity within both Catholic systems and independent schools. In particular, it is likely that families in low fee (non-Catholic) religious independent schools would have similar characteristics to families in Catholic schools, but unfortunately this cannot be tested in this dataset.

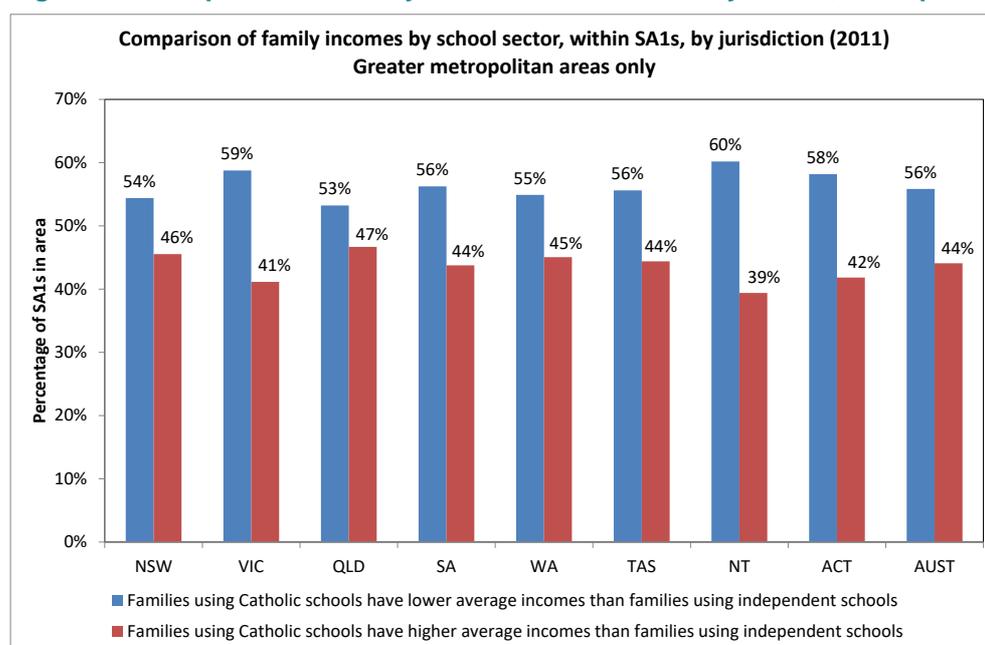
analysis is not publicly available and was provided to the CECV under a consultancy agreement with the ABS.

7.2 State data

Figure 24 reports on a comparison of incomes between Catholic school families and independent school families in SA1s in capital cities.³² The figures show the percentage of SA1s in which Catholic school families have lower and higher average incomes than independent school families. The data is restricted to SA1s in capital cities.

In every capital city across Australia, in most SA1s, Catholic school families have lower average incomes than independent school families. In total, Catholic school families have lower average incomes in 56% of SA1s in greater metropolitan areas in Australia. This is not an anomaly from the 2011 Census. In the 2006 Census (processed for Collection Districts rather than SA1s), the corresponding figure was 59%.

Figure 24: Comparison of family incomes within SA1s, by sector, metropolitan areas



Analysis compares the average incomes of families with at least one child in a Catholic school, against the average incomes of families with at least one child in an independent school, within SA1s. Only SA1s that contain both types of families are included in the analysis. Numbers may not add to 100% due to rounding and because SA1s in which family incomes are the same are not shown.

Source: CECV, ABS (unpublished data)

Table 14 reports on the size of the differences between the average incomes of Catholic school families and independent school families within SA1s in capital cities. SA1s are placed into four categories based on the differences in average family incomes:

³²About 80% of students in non-government schools come from greater metropolitan areas, so these are the most relevant SA1s for comparisons of family income between Catholic and independent schools within SA1s.

- Average Catholic school family incomes are more than 10% lower than average independent school family incomes.
- Average Catholic school family incomes are 0-10% lower than average independent school family incomes.
- Average Catholic school family incomes are 0-10% higher than average independent school family incomes.
- Average Catholic school family incomes are more than 10% higher than average independent school family incomes.

Table 14: Comparison of family incomes within SA1s, by sector, metropolitan areas

State	Region (Greater Capital City Statistical Area)	SA1s with both types of families	SA1s where Catholic school family incomes are >10% lower	SA1s where Catholic school family incomes are 0-10% lower	SA1s where Catholic school family incomes are 0-10% higher	SA1s where Catholic school family incomes are >10% higher
NSW	Greater Sydney	9,422	42%	12%	10%	35%
VIC	Greater Melbourne	8,573	47%	12%	9%	32%
QLD	Greater Brisbane	4,480	39%	14%	12%	35%
WA	Greater Perth	3,701	42%	13%	11%	34%
SA	Greater Adelaide	2,767	44%	13%	11%	33%
TAS	Greater Hobart	473	47%	9%	11%	33%
ACT	ACT	796	40%	18%	12%	30%
NT	Greater Darwin	226	46%	15%	8%	31%
AUST	(All of the above)	30,438	42%	12%	10%	35%

Analysis compares the average incomes of families with at least one child in a Catholic school, against the average incomes of families with at least one child in an independent school, within SA1s. Only SA1s that contain both types of families are included in the analysis. Numbers may not add to 100% due to rounding and because SA1s where family incomes are the same are not shown.

Source: CECV, ABS (unpublished data)

There are two findings of interest in Table 14:

- First, it is often the case that the average incomes of Catholic school families and independent school families are significantly different in the same SA1. In 77% of SA1s in metropolitan areas, their average incomes are different by more than 10%.
- Second, it is often the average incomes of Catholic school families that are much lower (i.e. lower by more than 10%). This is true in 42% of SA1s in capital cities overall, and in 47% of SA1s in Melbourne and Hobart. In contrast, the average incomes of Catholic school families are much higher (i.e. higher by more than 10%) than the average incomes of independent school families in only 35% of SA1s in capital cities.

This data further undermines the appropriateness of SA1-level averaging as a method of classifying school populations. Whereas SA1-level averaging assumes all families in a

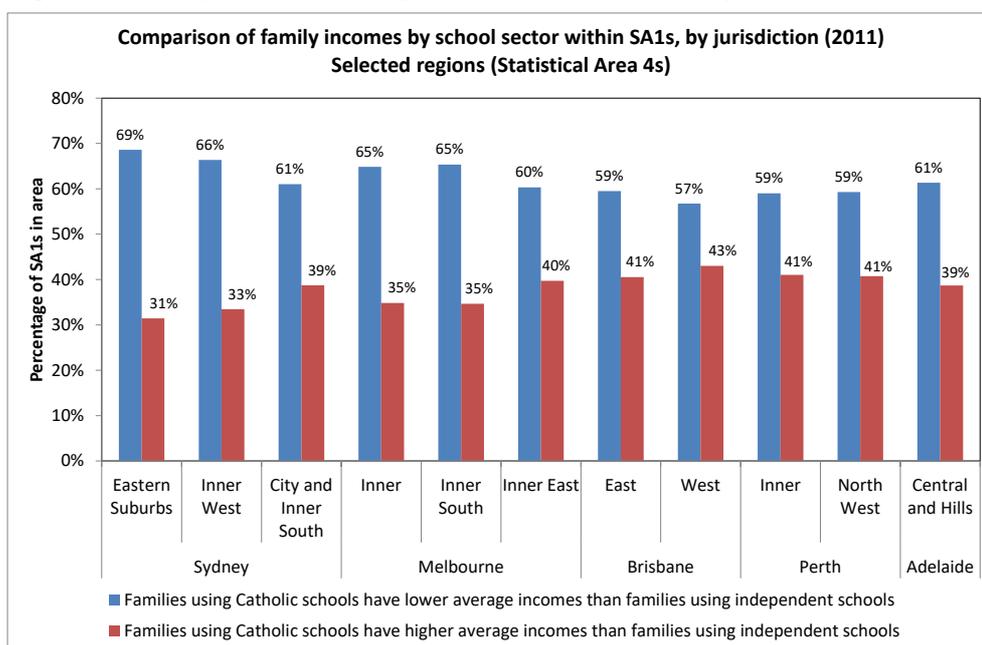
SA1s have the same income, in reality, there tend to be significant differences in the incomes of Catholic school families and independent school families within SA1s. Moreover, the data indicates SA1-level averaging is biased against Catholic school families, for students who live in capital cities. In most of these SA1s Catholic school families tend to have lower incomes than independent school families – and in many cases, their incomes are much lower.

7.3 Regional data

Regional data provides further insight into the conclusions made above. Figure 25 reports on a comparison of incomes within SA1s between Catholic school families and independent school families in selected regions. The data shows the percentage of SA1s in which Catholic school families have lower and higher average incomes than independent school families. The data is restricted to SA1s in middle-class and affluent regions – Statistical Area 4s (SA4s) – within capital cities.

The regions shown include the SA1s where non-government schools attract SES scores above 100. There are 402 non-government schools located in the SA4s shown in Figure 25, they educate almost 230,000 students, and they have an average SES score of 112. Over 20% of students in independent schools attend a school located in these SA4s.

Figure 25: Comparison of family incomes within SA1s, by sector, selected regions



Analysis compares the average incomes of families with at least one child in a Catholic school against the average incomes of families with at least one child in an independent school, within SA1s. Only SA1s that contain both types of families are included in the analysis. Numbers may not add to 100% due to rounding and because SA1s in which family incomes are the same are excluded.

Source: CECV, ABS (unpublished data)

Figure 25 illustrates that in middle-class and affluent areas, there are marked differences in the average incomes of Catholic and independent schools families in the same SA1s. For example:

- In Sydney – Eastern Suburbs, where the average SES score of non-government schools is 118, the average income of independent school families is higher than Catholic school families in 69% of SA1s.
- In Melbourne – Inner South, where the average SES score of non-government schools is 115, the average income of independent school families is higher than Catholic school families in 65% of SA1s.

Table 15 reports on the size of the differences in average incomes between Catholic school families and independent school families in these middle-class and affluent areas. SA1s are assigned to the same four categories reported earlier.

Table 15: Comparison of average family incomes within SA1s, by sector, selected regions

State	Region (Statistical Area 4)	SA1s with both types of families	SA1s where average Catholic school family incomes are >10% lower	SA1s where average Catholic school family incomes are 0-10% lower	SA1s where average Catholic school family incomes are 0-10% higher	SA1s where average Catholic school family incomes are >10% higher
NSW	Sydney – Eastern Suburbs	541	55%	13%	8%	24%
NSW	Sydney – Inner West	571	56%	10%	10%	23%
NSW	Sydney – City and Inner South	408	54%	7%	7%	32%
VIC	Melbourne – Inner	950	56%	9%	6%	28%
VIC	Melbourne – Inner South	889	53%	12%	12%	23%
VIC	Melbourne – Inner East	806	45%	15%	12%	28%
QLD	Brisbane – East	464	45%	14%	13%	28%
QLD	Brisbane – West	379	37%	20%	12%	31%
WA	Perth – Inner	317	45%	14%	13%	28%
WA	Perth – North West	1,019	45%	14%	11%	30%
SA	Adelaide – Central and Hills	636	47%	14%	10%	28%

Analysis compares the average incomes of families with at least one child in a Catholic school against the average incomes of families with at least one child in an independent school, within SA1s. Only SA1s that contain both types of families are included in the analysis. Numbers may not add to 100% due to rounding and because SA1s in which family incomes are the same are excluded.

Source: CECV, ABS (unpublished data)

Table 15 shows that in middle-class and affluent areas, the average incomes of Catholic school families are not just lower than independent school families – they are often much lower. For example:

- In Sydney – Eastern Suburbs, in 55% of SA1s the average income of Catholic school families is more than 10% lower than the average income of independent school families.

- In Melbourne – Inner South, in 53% of SA1s the average income of Catholic school families is more than 10% lower than the average income of independent school families.

This analysis shows that the bias against Catholic school families from SA1-level averaging is most pronounced in schools with SES scores above 100. In the catchment areas of these schools, Catholic school families often have much lower incomes than independent school families.

This finding closely aligns with the respective findings from analysis of HCC data and analysis of SEA data.

8. Conclusions

This report sets out a compelling narrative about the ways in which SA1-level averaging impacts how student populations are classified in Catholic and independent schools. There is remarkable consistency with this narrative across the various independent data sets analysed in the report.

SA1s are diverse. It cannot be assumed that all students in Catholic and independent schools who live in the same SA1 have the same family income. It is instead possible that students who come from the same SA1 have vastly different family incomes, especially for SA1s in middle-class and affluent areas (Section 3).

All of the available data suggests that school fees create distortions in how non-government schools attract students from SA1s. School fees filter families within SA1s based on their financial means.

Schools with high fees frequently cherry-pick students from SA1s and draw few students from the same SA1s. In contrast, schools with low fees draw more students from the same SA1s. This suggests that SA1-level averaging is least accurate for high-fee schools (Section 4).

In addition, in high-fee schools, the students who are cherry-picked from SA1s lower school SES scores because cherry-picked students come from SA1s that have significantly lower SES scores than other students at the school (Section 4). However, it is unlikely that the financial circumstances of cherry-picked student families are very different to those of other student families since all the families at these schools have been filtered by school fees. As a result, the evidence strongly suggests that SES scores in high-fee schools are significantly underestimated.

The bias in SA1-level averaging caused by school fees is further apparent in comparisons of SES scores with other datasets on student populations. For a given SES score, relatively few students in high-fee schools come from low-income families (Section 5) or have disadvantaged family backgrounds (Section 6). More of these students come from advantaged families (Section 6). Conversely, lower-fee schools have relatively more disadvantaged students and students from low-income families.

Altogether, the data shows that school fees cause significant bias in SA1-level averaging. Funding non-government schools based on their SES scores is therefore unfair and inequitable.

The evidence suggests the Catholic sector is systemically disadvantaged by the bias in SA1-level averaging, for schools with SES scores above 100. This is where the differential in fee levels between Catholic schools (especially primary schools) and independent schools is greatest. For schools with a given SES score, Catholic schools tend to have more students from low-income families (Section 5), more disadvantaged students (Section 6), and fewer advantaged students (Section 6), than independent

schools. Within the same SA1s, Catholic school families often have much lower incomes than independent school families, especially in middle class and affluent areas (Section 7).

There are many examples where Catholic and independent schools receive the same SES score, when other datasets on their student populations show that in reality the independent school is much more advantaged. Several examples from Victoria are listed in Appendix A. In these examples the absurdity of SES scores is plain to see.

The use of SA1-level averaging to construct SES scores directly and gravely undermines the claim that the SRS model is 'needs-based'. SA1-level averaging rewards schools that attract students who are relatively affluent and punishes schools that attract students who are relatively poor. It rewards schools that set high fees and are exclusive and punishes schools that set affordable fees and aim to be inclusive. This is an indictment of the methodology.

Funding non-government schools based on their SES score is a costly policy mistake. Next year this deeply flawed approach will overfund wealthy independent schools by hundreds of millions of dollars. As SES scores have driven school funding outcomes since 2001³³, it would not be an exaggeration to call SES scores 'the special deal of a lifetime' for wealthy independent schools.

Regrettably, the Gonski review panel did not undertake any original research on school SES scores and failed to fully grasp their flaws. Had the Gonski review panel done that work properly it could not possibly have supported using SES scores in the SRS model – even in the short term. Had the Government actually implemented the recommendations of the Gonski review panel and reviewed SES scores in good faith, it would surely have reached the same view.

As it stands, the Government's move to make school SES scores even more important in school funding – by removing the option of system-average SES scores for school systems – exacerbates past failures in policy-making. Claims by the Minister for Education and Training that the Government is implementing 'true, sector-blind, needs-based funding', while it retains SES scores as the key measure for allocating grants to Catholic and independent schools, are uninformed and misleading.

³³ SES scores were not applied in their pure form to Catholic systemic schools until 2018.

Appendix A School SES score comparisons

This Appendix compares SES scores of Catholic schools and independent schools in Victoria in order to highlight their bias.

Table 16 directly compares Catholic schools and independent schools that have been assigned the same SES score through the deeply flawed SA1-level averaging process. Schools with the same SES score are estimated to have student families with the same financial means (capacity to contribute).

Various other school information is also shown on the school and its student population. This additional information shows the SES scores of the schools to be absurd. In all of the examples, it is obvious that the SES score of the Catholic school is too high and/or the SES score of the independent school is too low.

There are many other examples that could have been used to populate Table 16.

Table 16: Comparison of school SES scores, Catholic and independent schools, Victoria

	St Joseph's School (Malvern)	Independent school
School SES score	124	124
School type	Primary	Combined
Enrolments	214	1,797
Health Care Card enrolments (%)	5%	1%
Advantaged students* (%)	68%	81%
Disadvantaged students** (%)	7%	3%
Fees and charges*** (\$ per student)	\$2,223	\$27,587
	Our Lady of Lourdes (Prahran East)	Independent school
School SES score	121	121
School type	Primary	Combined
Enrolments	125	1,301
Health Care Card enrolments (%)	10%	0%
Advantaged students* (%)	64%	82%
Disadvantaged students** (%)	10%	4%
Fees and charges*** (\$ per student)	\$1,959	\$25,740

	Galilee Regional Catholic Primary School (South Melbourne)	Independent school
School SES score	120	120
School type	Primary	Combined
Enrolments	325	1,404
Health Care Card enrolments (%)	8%	0%
Advantaged students* (%)	62%	79%
Disadvantaged students** (%)	12%	4%
Fees and charges*** (\$ per student)	\$2,111	\$23,278
	Holy Rosary School (Kensington)	Independent school
School SES score	119	119
School type	Primary	Combined
Enrolments	300	708
Health Care Card enrolments (%)	10%	0%
Advantaged students* (%)	47%	83%
Disadvantaged students** (%)	19%	3%
Fees and charges*** (\$ per student)	\$1,287	\$21,270
	St Benedict's School (Burwood)	Independent school
School SES score	116	116
School type	Primary	Combined
Enrolments	160	928
Health Care Card enrolments (%)	8%	0%
Advantaged students* (%)	48%	71%
Disadvantaged students** (%)	18%	8%
Fees and charges*** (\$ per student)	\$2,034	\$21,933

	Presentation College (Windsor)	Independent school
School SES score	115	115
School type	Secondary	Combined
Enrolments	570	1,457
Health Care Card enrolments (%)	14%	0%
Advantaged students* (%)	45%	70%
Disadvantaged students** (%)	25%	8%
Fees and charges*** (\$ per student)	\$8,532	\$18,823

	Christian Brothers' College (St Kilda East)	Independent school
School SES score	112	112
School type	Secondary	Combined
Enrolments	552	616
Health Care Card enrolments (%)	9%	0%
Advantaged students* (%)	26%	58%
Disadvantaged students** (%)	42%	14%
Fees and charges*** (\$ per student)	\$7,121	\$19,633

	St Augustine's School (Yarraville)	Independent school
School SES score	110	110
School type	Primary	Combined
Enrolments	208	787
Health Care Card enrolments (%)	13%	1%
Advantaged students* (%)	41%	66%
Disadvantaged students** (%)	27%	9%
Fees and charges*** (\$ per student)	\$1,553	\$21,384

	St Margaret's Primary School (Maribyrnong)	Independent school
School SES score	108	108
School type	Primary	Combined
Enrolments	321	1,238
Health Care Card enrolments (%)	11%	1%
Advantaged students* (%)	57%	65%
Disadvantaged students** (%)	15%	8%
Fees and charges*** (\$ per student)	\$2,034	\$21,933
	Academy of Mary Immaculate (Fitzroy)	Independent school
School SES score	107	107
School type	Secondary	Combined
Enrolments	608	941
Health Care Card enrolments (%)	19%	0%
Advantaged students* (%)	36%	56%
Disadvantaged students** (%)	35%	14%
Fees and charges*** (\$ per student)	\$5,659	\$20,111
	St John Bosco's School (Niddrie)	Independent school
School SES score	106	106
School type	Primary	Combined
Enrolments	453	1,416
Health Care Card enrolments (%)	11%	0%
Advantaged students* (%)	40%	63%
Disadvantaged students** (%)	27%	9%
Fees and charges*** (\$ per student)	\$1,488	\$16,272

	Ave Maria College (Aberfeldie)	Independent school
School SES score	104	104
School type	Secondary	Combined
Enrolments	798	943
Health Care Card enrolments (%)	10%	0%
Advantaged students* (%)	25%	60%
Disadvantaged students** (%)	35%	12%
Fees and charges*** (\$ per student)	\$5,816	\$16,494
	Mount St Joseph Girls' College (Altona)	Independent school
School SES score	102	102
School type	Secondary	Combined
Enrolments	917	721
Health Care Card enrolments (%)	20%	2%
Advantaged students* (%)	26%	46%
Disadvantaged students** (%)	42%	21%
Fees and charges*** (\$ per student)	\$4,711	\$16,648

Note: all data on the families in each school is for 2016 except parental fees and charges, which is for 2015.

*Refers to Socio-Educational Advantage quartile 4 students

**Refers to students who attract the low-SES loading in the SRS model.

***Refers to the 'fees, charges and parental contributions' item in the ACARA MySchool website.

Source: ACARA MySchool website, the Federal DET, the Victorian DET, CECV