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Inside the School Choice Machine[1]

The public display of national testing data and its stratificatory consequences

Abstract: Moving beyond assertions about new stratifications in Australian education, we assess the validity of a significant claim about market mechanisms further concentrating class divides through government techniques of choice and the "machinery" surrounding this. The focus is on Australian primary schools, for which we pay particular attention to the My School website, which publishes aggregated school test scores for all Australian schools, a move justified on grounds that parents need these sorts of data if they are to make informed decisions about their educational choices. By interrogating qualitative claims about the intensification of social class concentration in the My School era via analysis of the data offered up by this very site, we bring a certain nuance to the class concentration hypothesis that this literature tends to link to the choice machinery of government. Our analysis does shows trends towards greater socio-economic concentration of schools at the higher and lower ends of the ICSEA spectrum but disaggregated analysis of these trends suggests that My School may in fact be ameliorating these pressures toward socio-economic concentration in primary schools, at least in the 'middling spaces'.

Keywords: Social Stratification, Australian Education, Social Class Concentration, Education Marketisation, MySchool

1. Stratification and Schooling in a Strong Choice Society

That schools and social stratification are strongly linked is a familiar sort of assertion, one that is not without validity and has stood the test of time (see e. g. Bowles & Gintis, 1976; Bourdieu & Passeron, 1977; Connell, Ashenden,, Kessler & Dowsett, 1982; Ball, 1993). It is also clear that the means by which inequality is produced and reproduced is historically contingent, with Connell arguing that, "a major shift is [currently] happening between old forms of inequality based on institutional segregation and new forms […] based on market mechanisms" (Connell 2013, p. 681). Picking up from Connell's idea, we want to assess the validity of claims about market mechanisms further concentrating class divides through government techniques of choice and the 'machinery' surrounding this.

1 We acknowledge Prof. Radtke who coined this term in response to the paper delivered at the conference upon which this collection of papers is based.

The 'choice machine' in focus here is a government-endorsed website called *My School*.[2] Described on its landing page as "a resource for parents, educators and the community to find information about each of Australia's schools" (My School, 2018a, *Main Page*), the *My School* authors also suggests that the website offers parents information to help them "make informed decisions about their child's education" (My School, 2018b, *About*). A major component of the information on offer through *My School* is the publishing of the annual results from the National Assessment Program for measuring student Literacy And Numeracy (NAPLAN), of which more is written below. It is useful to note at this point that the average scores on each of the tests are published for every school in Australia. Resourcing of schools is a significant matter in all of this discussion of national testing and its public display; indeed, My School makes a point of emphasising the significance of a school's human resources by comparing school performance not only on the national stage but also with schools with a similar socio-economic profile as measured by the social status.

With regards to schooling, Australia is a strong choice society, a reality driven at least as much by government policy as it is by individual demand, a point highlighted in some ways by a statement on school choice published by the Independent Schools Council of Australia, one of the foremost proponents of choice-based reform to the Australian education system.

> Since the 1970s Australian governments have supported choice in schooling, providing public funding to non-government schools as a way of ensuring that all schools have at least a minimum level of facilities and resources for all students. School choice policies underpin pluralism in society. They allow families with different ethnic, religious and cultural identities to choose a school to best meet the needs of their child and their own values, within a frame of common social values. (Independent Schools Council of Australia, 2016)

In laying out a particular rationale for government support for parental choice of schooling that is supported by many and vigorously opposed by plenty of others, the statement helps inform a debate that tends to centre around social stratification and pluralism. This is a potent mix when it comes to debates about where limited funds are best used.

The main focus here is on Australian primary schools (a rather ignored arena when it comes to researching school choice). We interrogate claims that My School, with its focus on national test results and commitment to informing parental choice, exacerbates social differentiation and class segregation. We do this in two stages: firstly, by providing a structural analysis of the changing drivers and funding mechanisms for schooling in Australia. This provides the policy context for the subsequent analysis of the second half of the paper, for which we use raw data extracted from the My School website data,

2 The site reveals that it is administered by the Australian Curriculum Assessment and Reporting Authority (ACARA), which reports to a Ministerial Council for school education and early childhood, within the jurisdiction of the national government.

shared with us by the site owners, to examine trends in social stratification and mixing. In this section, we show that the trends in Australian primary schools reflect social mixing patterns that run counter to the class segregation critique hinted at above.

2. From Funding to Markets – "New Stratifications" in Australian Education?

The funding of Australian schools has been described as the nation's "oldest, deepest, most poisonous debate" (Freudenberg cited in Warhust, 2012, p. 13), much of which we cannot possibly cover here (see Forsey, Proctor & Stacey, 2017; Sherrington & Hughes, 2015). Few would argue, however with the Independent Schools' Council identification of the 1970s as a watershed decade in the Australian school choice story and its surrounding debates. For it was in 1972 that a freshly elected Labor government initiated an investigation into school funding that became known, after its chairman, as the Karmel report. Among other things, the Karmel investigation was aimed at helping address the Labor party's relationship with its Catholic constituents who to that point of time in Australian history had been largely associated with working class politics. This relationship had been a significant and divisive political problem for the Labor side of politics for most of the Twentieth Century, helping keep it out of power for 23 consecutive years (see Strangio, 2017; Ashenden, 2016).

There is little argument that opening up the non-government school sectors in Australia to government funding in the 1970s altered what these schools were able to deliver and who they were able to deliver it to, shifting established distributions of wealth as they did so. Given that the defunding of non-government schools in the late 19th Century was driven in no small part by anti-Catholic bigotry, the Independent Schools Council is correct to suggest that the revised funding arrangements help protect pluralism in Australia. That said, the current funding models guaranteeing some level of public support regardless of how 'private' the institution is due to the exclusivity of its fee structures, or even its school uniform policies, are not the most effective ways of supporting diversity (see Forsey, 2008). There is ample evidence that, when compared with similar OECD countries, Australian schooling is characterised by an unusually strong concentration of disadvantaged students in disadvantaged schools (see Nous Group, 2011). Meanwhile elite schools continue to add to their already significant assets. Ashenden writes of processes of aggrandisement taking place in high fee independent schools "with five-star resort buildings and grounds, parents paying fees twice what is spent on the common ruck of students […] and executive [staff] salary packages three times those offered elsewhere" (Ashenden, 2014, n. p.).

The significant shifts towards market driven reform of which Connell (2013 wrote in general terms characterised much of Australian public policy from the mid-80s to the present and was signalled quite early in Pusey's (1992) important study of "economic rationalism in Canberra". With regards to education, Lokan describes an economically driven "paradigm shift" whereby pre-specified outcomes, with an emphasis on meas-

urable "competences" (Lokan, 1997, p. 1) became the major pedagogical focus in Australian schools (see Forsey 2007; also Karmel, 1985). In the mind of many an education minister at State and Federal levels, opening up parental choice of schooling drove educational reform for the better. Ainley & Gebhardt report the "emergence of a national perspective on educational governance" (Ainley & Gebhardt, 2013, p. 40) in recent decades that links federal and state governments. Among a number of alignments at the State-Federal government nexus we have witnessed the development of National Assessment Program for measuring student literacy and numeracy (NAPLAN) which have helped create and reinforce a national assessment-based accountability programme.

Competition is often linked with choice in education policy. Accompanying the dual movement of policy and people primarily in favour of the non-government sector following the Karmel Report, were so-called devolutionary moves allowing government schools greater autonomy in decision making and staffing than was previously the case in some of the most highly centralised systems in the world (see Chapman & Dunstan, 1990). The implementation of devolution was uneven across the nation depending to a large degree upon the political will of the various state governments on this matter. Part of these decentralising trends was the relaxing of previously rigid school boundaries that had dictated to a large degree which government schools students could enrol in. The relaxing of policy boundaries was a move felt particularly strongly in secondary schools creating a marked increase in the specialised offerings in music and other artforms, as well as various academic and sporting programmes all aimed at expanding enrolments in individual schools. The market logic accompanying these changes in policy and practice were quite clearly aimed at improving educational outcomes through the competition generated for new clients (see Forsey, 2007). As the logic goes, "market competition forces schools to continuously improve their standards in order to attract parent consumers of the educational 'product' they are offering" (Angus, 2015, p. 395).

While some schools benefited from the relaxing of school boundaries, in terms of student enrolments and the sorts of student they were able to target and attract (see Forsey 2007; Windle, 2015), others lost students and found themselves in a downward spiral of residualisation. Schools in socially marginal areas characterised predominantly by high unemployment, lost students to more desirable schools. This, in turn, limited their ability to offer academic enrichment programmes, increasing their vulnerability to further middle-class flight and so the spiral continues (Windle, 2015, pp. 114–116).

For schools in more elite areas their boundaries tend to harden rather than relax; if the pressure is great enough on the available places popular government schools are able to refuse entry to students who reside outside of their catchment zone. This also has some spiralling effects, in the opposite direction to those reported at the residualising end of the pond, where we can see what Walford described as a form of "selection by mortgage" (Walford, 1996, p. 57). Davidoff & Leigh (2007), investigated relationships between housing prices and public school quality in the Australian Capital Territory (ACT) by comparing the prices of homes on either side of selected high school catchment boundaries. They found an increase in test scores of 5 percentage points (~ 1 standard deviation) associated with a 3.5 percent increase in house prices. Needless to say

government schools with strong academic reputations attract interest from well beyond their normal catchment area, necessitating restrictions on enrolments to within these boundaries, with some exceptions offered to students of exceptional academic talent, or other such desirable skills depending upon any specialist curriculum programmes these schools choose to offer.

3. Stepping Inside the 'Choice Machine'

In this section, we draw attention to the My School phenomenon that is the empirical focus of the paper as the government-sponsored 'choice machine', purported informing parental choice. Our focus here is on primary schooling, which has not been an active site for school choice research (see Warren 2016; Windle, 2015). Indeed, parental attitudes in Australia tend to reflect beliefs that primary education does not matter very much when it comes to future outcomes for students; more often than not it is the secondary schools with their high-stakes final examinations that draw most attention (see Forsey, 2008). There is some evidence of change, however, at least anecdotally, epitomised by a dramatic 2017 story on the national broadcaster (ABC) detailing how parents were camping overnight for up to three days outside the desirable Ascot State School in the suburbs of Brisbane in order to submit enrolment forms (see Begley & Hinchliffe 2017).

For critics of the effects of government led promotion of parental choice in Australian schooling, the Ascot State Primary story is indicative of the consequences of the market reforms of recent decades, and the ways in which this is currently shaping family decision making and behaviours. This is where our focus now shifts as we connect with 'the choice machine' – the My School website – considering as we do so the alleged new forms of stratification enabled and encouraged by a turn towards market mechanisms as a means of organising systems of schooling. As we do so, it is well to remember that as with the opening up of school funding in the 1970s, the opening up of a space in which parents can compare and contrast school performance across the nation was instigated by the social democratic Labor Party.

4. My School and the Reporting of National Testing

The My School website is designed to inform school choice through a focus on the NAPLAN test results. Currently the NAPLAN testing regime is implemented annually in all registered Australian schools across years 3, 5, 7 and 9. Every registered school in Australia, regardless of type or of sector, has a profile on My School. The pages are carefully controlled, reporting information about the same sets of variables. In addition to the NAPLAN scores published for individual schools, there is a school profile, some basic facts regarding school sector, the range of year groups for which it caters, staff numbers, total student numbers – including the proportion of students with an indige-

nous heritage, as well as those who come from a language background other than English. An important section describes the "student background" using an "Index of Community Socio-Educational Advantage" (ICSEA) and a "Socio-Educational Advantage (SEA) student distribution table" which divides the school's student population into quartiles by a measure of their SEA. The aim of both measures is to offer "contextual information about the socio-educational composition of the students in the school" (My School, 2015, [S. 3]).

Ascot State School, which is highlighted above, is as good a place as any to help illustrate the information My School makes available about each and every Australian school. Reproduced below is a screenshot of the landing page for Ascot State School (Fig. 1). From the profile it is apparent that Ascot is a relatively affluent school, with very few indigenous students enrolled and a moderate level of languages other than English represented in the school population. Its ICSEA value is more than a standard deviation above the average, which is set at 1,000 with a SD of 100 – ICSEA values range from approximately 500 to nearly 1,300 at its upper reaches. The site reveals that Ascot State School receives a grand total of $ 10,844 per student in funds, the vast bulk of which (74 percent) derives from the Queensland state government, with 18 percent provided from Federal funds with the remaining 8 percent coming from fees and charges and "other private sources". By way of comparison, one of the leading non-government schools in the same state in which Ascot State School is located – St Aidan's Anglican School for girls, attracts $ 20,260 in funding per student, for which close to 90 percent is derived from school fees.

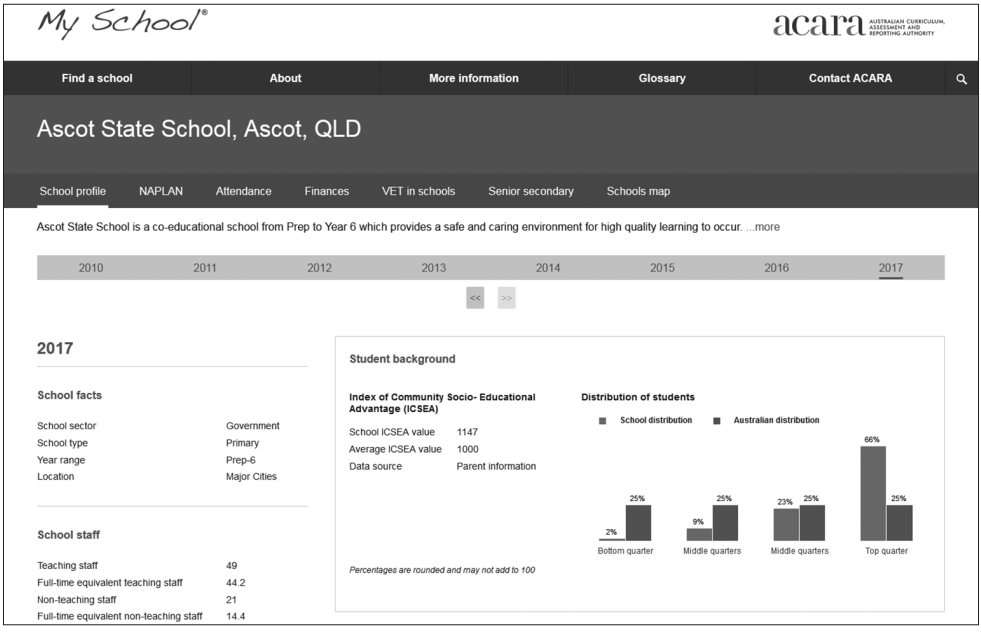

Fig. 1: Landing Page for Ascot State School on myschool.edu.au

NAPLAN results for individual schools are reported comparatively with two different reference groups: the national population average and the average scores of schools with a similar ICSEA profile. In most primary schools across Australia two year groups are tested, those in Year 3 and Year 5. Four common tests are used testing reading, writing, language conventions and numeracy. Five aspects of the results are reported on the My School site: Reading, Writing, Spelling, Grammar and Numeracy. In reporting these results colour and shading is used to emphasise school performance relative to the two aforementioned populations. Green shading signifies that the school's average for each Year cohort is above the average of the comparator, with light green indicating above average performance, while darker green signifies 'sustantially above' average. In the opposite direction results that are below the average of the comparator are shaded pink with those that are 'substantially below' shaded a bold red. In reading the tables below, one needs to imagine these colours where the shading is.

For Ascot State School, the results for the 2017 NAPLAN tests reveal an entirely predictable outcome when the school's scores are compared nationally. All results in every test and for both year groups score above the national average. The Year 3 cohort scored substantially higher on the grammar test. A screenshot of the NAPLAN results comparing Ascot State School with schools of similar ICSEA profile is copied below (Fig. 2).

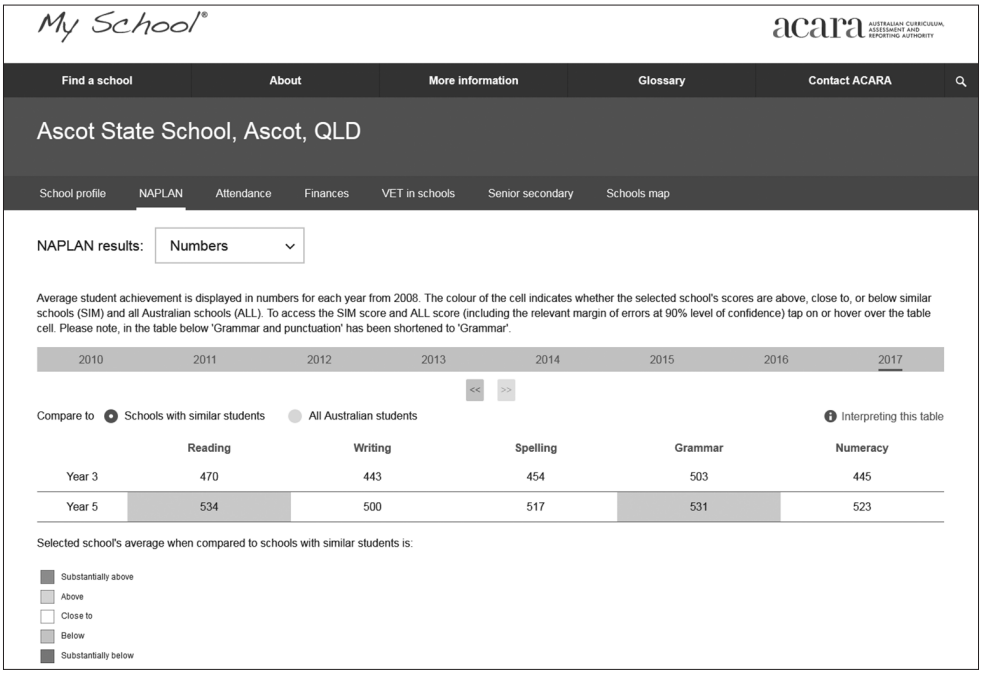

Fig. 2: Ascot State School 2017 NAPLAN Averages Compared to Schools of Similar ICSEA Profile

The scores indicate that Ascot is mostly on par with similar schools, with the obvious exception of the Year 5 scores in reading and grammar where they were below the average for their ICSEA cohort. It would be interesting to talk with parents who are keen to get their children enrolled in Ascot State School to see if these sorts of results affect their motivation at all. Chances are that it does not as Proctor (2011) found through her research amongst parents in Sydney, New South Wales, when it comes to choosing a school for their child, parents tended to trust their gut feeling or their friends' anecdotes as much as anything else. Warren (2016) reporting on longitudinal data from a significant Australian survey, notes from two of the rare studies of parental choice of primary school that proximity to home is of high value, as is the birth order of the child in question. The studies also show attraction to a school's academic results is positively correlated with family income and the students perceived academic ability (see Bussell 2000; Hastings, Kane & Steiger, 2005). While Warren's (2016) research finds positive correlation between between socio-economic status and selection of so-called academic schools, she shows that convenience also stands out as a major reason for parents selecting particular primary schools.

Warren's research paid some attention to students who changed schools during their primary school years identifying either a change of residence or better academic opportunities as reasons for the move. Towards the end of her paper she draws tentative connections between parents who chose a new school for their child aiming for better academic opportunities and the My School data as they tended to gravitate towards schools with higher average NAPLAN scores and/or a higher ICSEA value. It is through this sort of rational choice that the mechanisms of My School is supposed to work. According to the creators of this significant choice machine, the purpose of the site is to provide information to parents in order that they can "make informed choices about their child's education", a point recently reinforced by Peter Goss (2018), the School Education Programme Director at the Grattan Institute, an influential independent think-tank focused on public policy in Australia.

From a more critical angle, Angus suggests that My School delivers a message to parents suggesting it is irresponsible to not join the rational choice *movement.* He hints at forms of class concentration happening not only in exclusive private schools, but also among the difficult to access government schools in well-to-do areas managing their entry "dilemmas" through a complex mix of "zoning, examination-based entry into 'accelerated programs', and specialized curriculum pathways" (Angus, 2015, p. 404).

Ashenden (2016) argues that choosers and non-choosers alike are concentrating in their different types of schools, the wealthy in their high achieving government and non-government schools and the poor predominantly in a government system that is becoming increasingly marginalised. He laments the loss of socially-mixed schools triggered by the various waves of school choice policy emphasised above. In a later piece, Ashenden suggests that by effectively telling parents which schools not to choose, My School has exacerbated the socio-economic concentrating effects of school choice in Australia by further residualising government schools in "the poorer parts of town" (Ashenden, 2018). From this take-off point, we want to test the degree to which the class

concentration hypothesis holds true since the advent of NAPLAN and My School with regards to primary education in Australia.

4. Empirical Analysis

4.1 Data and Methods

In this section, we use quantitative data from the MySchools website to track changes in the socio-economic profile of different types of primary school across Australia. For this analysis, we use the school profile and NAPLAN data for all primary schools in Australia, provided by ACARA.[3] In 2010, the first year of our analysis, there were 9213 primary schools in the dataset, increasing to 9562 by 2016.

We also calculate two synthetic measures that we use for the analysis: a measure of the socio-economic *concentration* of each school; and, a granular measure of the 'value add' of the school – the NAPLAN performance relative to socio-economic expectations. To compute the socio-economic concentration index, we use the data provided by ACARA that breaks down the within-school distribution of students' families in four socio-economic quartiles. From this we calculate a measure of the socio-economic concentration for each school using the standard Herfindahl concentration index. Where proportion q_I of the schools' students come from socio-economic quartile i (i = 1, 2, 3, 4), the Socio-Economic Concentration Index (SECI) is given by

$$\text{SECI} = \sum q_i^2$$

In other words, the index is given by the sum of the squared proportion of students in each socio-economic quartile. More intuitively, the index can be interpreted as the probability that two randomly selected students from the school come from the same socio-economic quartile. The measure reaches its maximum at 1.0, where all students come from the same socio-economic quartile; and has a minimum value of 0.25, where exactly a quarter of the students come from each socio-economic quartile. Figure 3 shows the distribution of schools on this measure in 2016.

The My School dataset provides parents with an indication of the 'value add' that schools provide through the ability to compare NAPLAN results among 'similar schools', where similarity is determined by ICSEA. The My School measure of value add is 'lumpy', however, in the sense that it clumps together similar schools and measures each individual school performance relative to that group. With data at the individual school level, we can create a more granular measure of value add (see Andrews, Hay & Myers, 2010, for a discussion of this approach to creating indicators). For each year,

3 The data used is available publicly through the MySchool website for individual Schools. ACARA kindly provided us with a composite data file for all this data. Data request for replication or other purposes can by sought through application to ACARA.

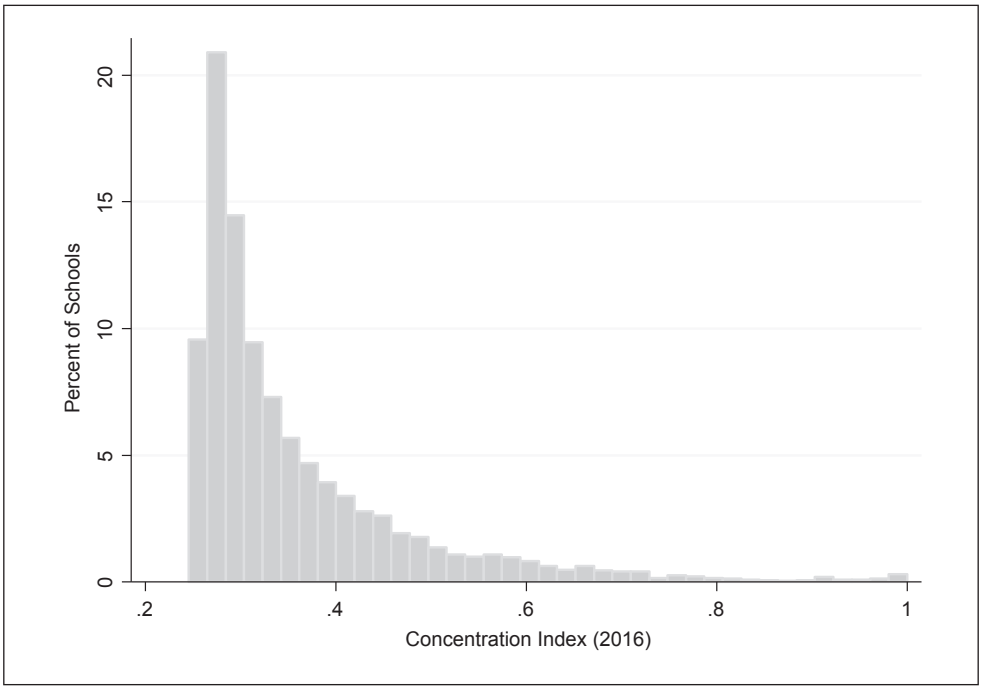

Fig. 3: Distribution of schools by socio-economic concentration, 2016

we run a simple regression predicting NAPLAN results by socio-economic status, as measured by the ICSEA. Specifically, we use the Grade 5 NAPLAN result in Numeracy as the key indicator.[4] As expected, all of these regressions are highly significant, with an r^2 value of at least 0.533. We then calculate the synthetic value add measure as the *residual* for each school from this regression analysis. Hence, for instance, if the predicted NAPLAN result for a particular school conditional on its ICSEA is 450 and the actual result for the school is 478, then the school has a 'value add' of 28 points. Positive value add scores indicate schools that outperform their ICSEA-based expectation; negative value add scores indicate schools that underperform their ICSEA-based expectation. Because the value add score is based on regression residuals, the value add scores in each year are automatically normally distributed around a mean of 0.

4 Alternative NAPLAN indicators were also tested and produce very highly correlated results.

4.2 Trends over Time

We begin the analysis with descriptive statistics of the trends in the socio-economic profile of Australian primary schools over time. For this analysis, we use the four ordinal categories for levels of geographical remoteness provided by ACARA (2014). Table 1 shows the average ICSEA score by sector and geographical zone; Table 2 presents the distribution of ICSEA scores between schools within each sector and geographical zone, as measured by the standard deviation. The appendix provides the number of schools in the analyses broken down by the same categories.

	Catholic	**Government**	**Independent**	**Metropolitan**	**Provincial**	**Remote**	**Very Remote**
2010	1038.0	979.5	1062.7	1037.6	974.4	924.4	732.8
2011	1038.8	979.5	1068.9	1037.9	975.4	926.6	737.7
2012	1036.4	981.4	1064.4	1037.7	976.2	927.8	741.7
2013	1037.9	980.9	1066.0	1039.3	972.3	940.0	763.4
2014	1038.4	980.5	1064.9	1038.9	972.4	935.8	762.8
2015	1042.5	979.0	1065.7	1040.8	970.2	928.9	757.0
2016	1042.4	981.8	1068.1	1039.1	971.5	938.6	780.0
Change 2010–16	**0.4%**	**0.2%**	**0.5%**	**0.1%**	**-0.3%**	**1.5%**	**6.4%**

Tab. 1: Average ICSEA by sector and region, 2010–2016

	Catholic	**Government**	**Independent**	**Metropolitan**	**Provincial**	**Remote**	**Very Remote**
2010	81.3	102.5	108.8	85.0	70.6	127.2	172.7
2011	77.7	101.3	103.7	83.9	70.5	125.0	166.7
2012	76.5	98.6	103.1	81.1	67.4	122.3	166.0
2013	71.3	98.9	99.8	79.8	68.1	118.0	179.1
2014	72.5	99.1	99.7	79.5	68.2	121.2	183.2
2015	72.1	98.7	98.9	79.1	68.0	114.4	173.9
2016	70.6	94.3	95.0	79.6	67.6	111.7	185.8
Change 2010–16	**−13.1%**	**−8.0%**	**−12.7%**	**−6.4%**	**−4.3%**	**−12.2%**	**7.6%**

Tab. 2: Standard deviation in ICSEA by sector and region, 2010–2016

At this highest level of disaggregation, these data suggest a clear and consistent trend. Cross-sectionally, the average ICSEA score between the different sectors and geographical zones varies as we would expect: the more urbanised the geographical context, the higher the average ICSEA score; and, Catholic and Independent schools have a significantly higher ICSEA than Government schools, with Independent schools slightly higher than Catholic. Over time, however, it is noticeable that while the average ICSEA for each school type has remained remarkably consistent, the *spread* of ICSEA scores within each category has reduced noticeably over the same timeframe. With the exception of the Remote and Very Remote geographical zones, the average ICSEA within each category varied by less than ± 0.5% over the years from 2010 to 2016, with a slightly larger positive variation in the Remote category and a much larger positive trend in the Very Remote category. While there is more variation in the rate of change in the standard deviation, the trend is again consistent, with a downwards trend across all categories except for the Very Remote.

With the exception of the small number of schools in Very Remote areas, the picture that emerges is of a consistent level segmentation and differentiation between broad categories with a small but significant shift towards greater homogeneity *within* each category. The only outlier to this trend is the Very Remote areas, where the number of observations is small – less than 300 schools across the country – and school choice is unlikely to be a significant driver of changing trends due to the lack of choice.

So far we have only considered the trends in the overall ICSEA of schools by different category. We now turn to look at the trends in the *within school* distribution of students by socio-economic profile, using both the raw quartile data and our computed socio-economic concentration index (SECI). Figure 4 shows the estimated distribution of students across different schooling sectors by socio-economic quartile in 2010 and 2016. Unsurprising, as we move down the socio-economic ladder, government schooling becomes more common, in roughly even steps: government schooling rates are

	Catholic	Government	Independent	Metropolitan	Provincial	Remote	Very Remote
2010	0.332	0.390	0.398	0.359	0.384	0.473	0.673
2011	0.346	0.372	0.406	0.357	0.363	0.470	0.711
2012	0.350	0.382	0.429	0.360	0.370	0.499	0.753
2013	0.321	0.358	0.380	0.351	0.336	0.360	0.584
2014	0.325	0.363	0.385	0.356	0.340	0.367	0.603
2015	0.325	0.365	0.384	0.357	0.344	0.367	0.585
2016	0.325	0.365	0.387	0.359	0.345	0.363	0.580
Change 2010–16	**−2.0%**	**−6.4%**	**−2.8%**	**0.0%**	**−10.1%**	**−23.1%**	**−13.9%**

Tab. 3: Average Socio-Economic Concentration Index by sector and region, 2010–2016

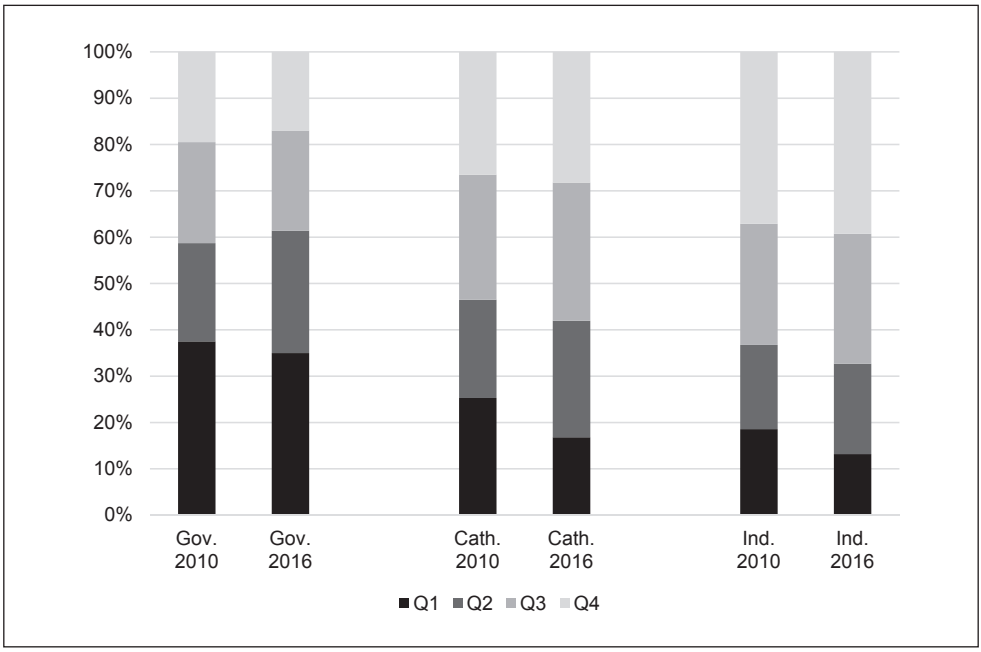

Fig. 4: Distribution of students across school sectors by socio-economic quartile

around 50% of top quartile (Q1) students; around 60% of the upper middle quartile; around 70% of lower middle quartile; and, around 80% of bottom quartile. Moreover, among those students in the non-government sector, the Catholic option prevails over Independent schools in the lower quartiles where they account for just under 70% of non-government sector enrolments in the bottom quartile compared just over 40% in the top quartile. There is also a consistent although very small trend in the distribution of students across sectors between 2010 and 2016. Both the Catholic and Independent schools sectors shifted slight more towards the upper two quartiles over the period, while government schools slightly increased their share from these bottom quartiles.

4.3 Analysis

The class concentration hypothesis associated with the My School initiative assumes that because socio-economically privileged families are better placed to take advantage of the information and opportunities provided by the school choice initiative, they have increased choice in schooling and will benefit more from this. However, the descriptive trends identified show the opposite. The different sectors and geographical regions remain ranked in socio-economic terms as we would expect – higher socio-economic status in more urban regions and in non-government sectors. While the socio-eco-

nomic differentials *between* sectors and regions has remained remarkably constant over time the profile of the schools *within* each sector is converging on a similar profile due to a broadening of the socio-economic demographic of the schools within each sector.

We cannot plausibly derive a strong causal claim from these trends to assert that My-School is driving the broadening of school demographics, but the trends certainly suggest that we can question the hypothesis that My School is driving socio-economic concentration. In order to investigate the causal dynamics at play, we conduct regression analysis on school-level factors.

For this analysis, we investigate the *change* in ICSEA at the School level between 2010 and 2016. Table 1 shows the results of a set of three regression analyses examining the first of these dependent variable. In all these models, we exclude schools in Remote and Very Remote regions due to the lack of a realistic choice of schools in those regions.[5]

The first model (I) includes basic demographic and sectoral information about the schools. The model includes the following predictor variables:

- Change in enrolments: this is to test whether schools that are able to expand their enrolments are doing so by taking in higher or lower socio-economic status student compared with their previous intake;
- ICSEA in 2010, and squared transformation: this is to test whether at the school level there is a trend towards ICSEA concentration or not. The squared transformation tests whether the relationship is non-linear;
- Sector dummy variables: this is to test whether there is a particular demographic effect happening in the non-government sectors compared with the government baseline.

The results of the estimation in Model I are all highly significant statistically. Interestingly, these trends at the School level are more in line with the expectations of the critique of the My School choice machine than the descriptive trends in the previous section. The positive coefficient on the change in enrolments suggest that schools that are expanding their intake are doing so by taking in higher socio-economic students than their former demographic. The non-linearity of the result on ICSEA is best interpreted graphically. In order to do so, Figure 5 maps the results of Model I assuming zero change in enrolments. The results here show that the predicted change in ICSEA for all government schools is negative, with a greater drop in lower ICSEA schools. Independent and Catholic schools have tended to increase their ICSEA if they were already relatively high, and decreased their ICSEA if they were already relatively low. These trend suggest precisely the kind of new stratification emerging that critics worry about – higher ICSEA schools becoming ever higher, lower ICSEA schools becoming ever lower, with high ICSEA leakage into the non-government sectors pushing their ICSEA even higher.

5 For robustness, Models I and II were also run on just the subset of schools in Model III. No significant variations in results were evident.

	I	II	III
Change in enrolments	5.63***	5.91***	5.92***
ICSEA in 2010	−0.334***	−0.21**	−0.212**
ICSEA in 2010, squared	0.000232***	0.00017***	0.00017***
Sector [Reference categeory = Govt]			
Catholic	19.2***	19.2***	19.2***
Independent	23.5***	25.3***	25.5***
Value add in 2010		−0.246***	−0.235***
Sector X value add			
Catholic			−0.0212
Independent			−0.0639
Constant	84.8***	24.4***	25.3***
N. obs	8023	6572	6572
R-squared	0.205	0.248	0.248

Tab. 4: Change in ICSEA between 2010 and 2016

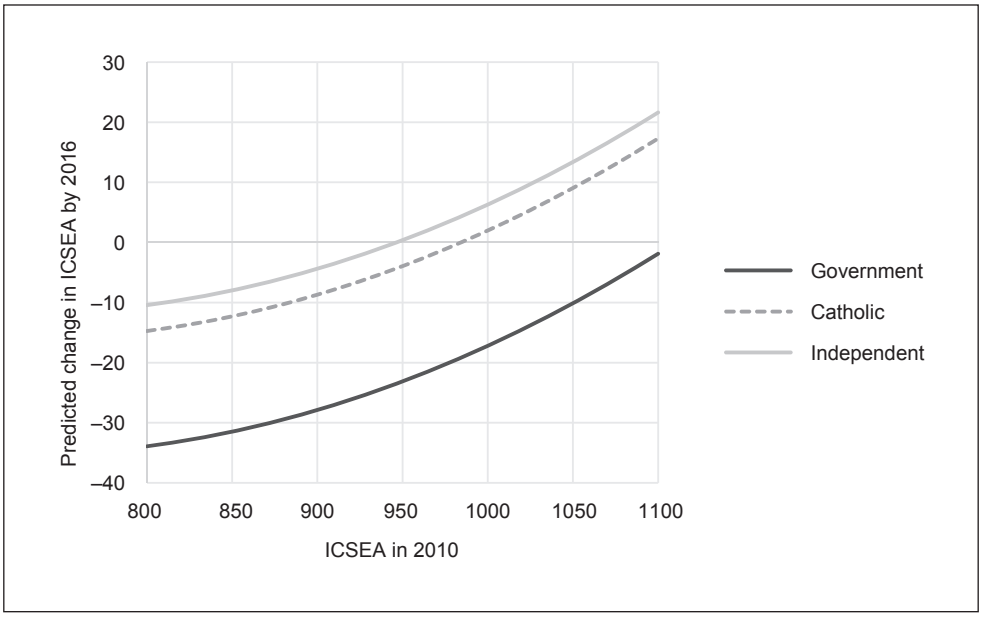

Fig. 5: Predicted change in ICSEA 2010–2016 by sector (Model I)

Just as we cannot make the strong causal attribution of the descriptive trends to My School, however, so we cannot make equivalent attribution of these analytical results to the My School effect; it is equally plausible to assert that these trends may be irrespective of My School. We can get closer to understanding the effect of My School by including in the analysis the Value Add measure described above. This measure directly maps on to the information made publicly available through My School, and so has a stronger causal connection to the 'choice machine'. We do this in Model II, which repeats the basic socio-demographic factors in Model I, but includes the value add measures as an additional explanatory variable. The result here is remarkable. While the coefficients and statistical significance of the Model I variable remain largely unchanged, the addition of the value add measure produces a significant *negative* result, and also improves the overall predictive power of the model substantially, with an increase in the R^2 from 0.205 to 0.248. The final model (Model III) includes additional interaction variables that track whether the impact of value add on ICSEA is different in the different school sectors. As the coefficients on these interaction variables are close to zero and statistically incognisant, we can safely discard this model; it is included here for reference.

How are we to interpret the results of Model II? Schools that outperformed their socio-economic base in NAPLAN results in 2010 saw a significant *decrease* in the ICSEA between 2010 and 2016. Figure 6 graphs the results of this model for government sector schools at three level of 2010 ICSEA: low (850), average (1000), and high (1150). The high ICSEA result is the most noteworthy: high ICSEA government schools in

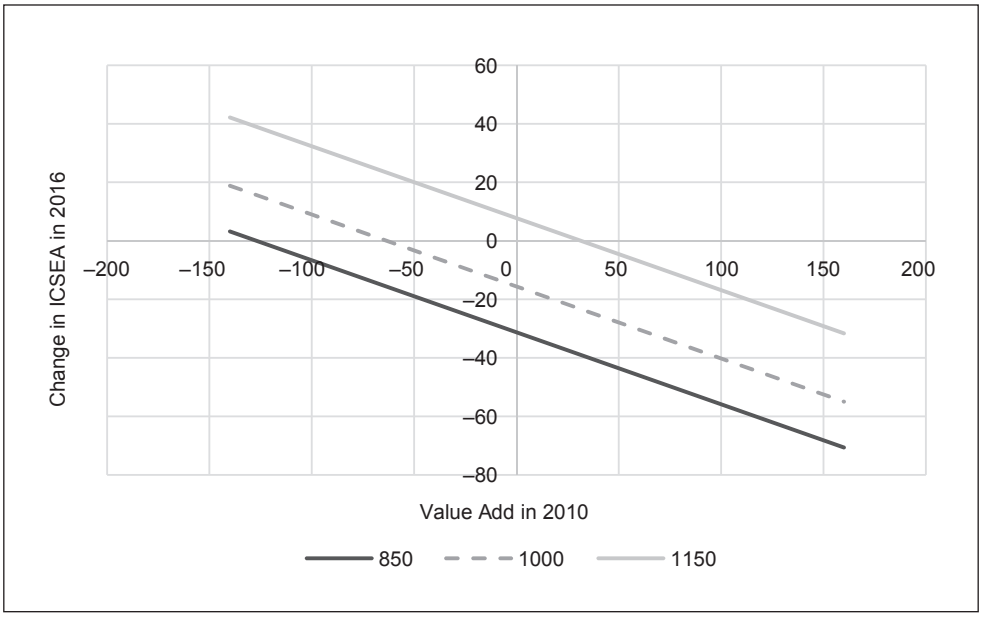

Fig. 6: Impact of Value Add on ICSEA, 2010 to 2016 (Model II)

2010 that outperformed NAPLAN expectations saw a subsequent *drop* in their ICSEA by 2016, while similar schools that underperformed NAPLAN expectations saw an *increase* in their ICSEA by 2016. At the other extreme, low socio-economic schools all see a predicted decline in their ICSEA in this model, but the decline is stronger the *better* the school did relative to its socio-economic base in 2010. While we must be careful of the ecological fallacy – inferring individual-level (i. e. parents, children) motivations from group (school) level data, these results are consistent with the argument that My School data is, in fact, acting as a *restraint* on a broader trend towards socio-economic concentration between schools.

5. Conclusion

In the first part of this paper we outlined the ways in which the Australian Labor Party through a series of educational policy decisions has allegedly intensified existing social class divides in two ways: firstly, in the 1970s, by allowing fee-charging schools outside of the Government education systems in Australia to prosper at the expense of government schooling; secondly by making school 'success' and 'failure' visible through the My School website launched in 2010. Following this second initiative, we have identified a social class intensification hypothesis emerging from critical commentators lamenting the further loss of socially-mixed schools triggered by the sorts of commodification of education that My School seemingly represents.

Our analysis of the data provided by the My School website suggests a more nuanced picture than this critique implies. We do see trends towards greater socio-economic concentration of schools at the higher and lower ends of the ICSEA spectrum. While it is plausible to attribute this concentration effect to the broad policy changes of the past decades, our analysis suggests that it is harder to attribute a direct causal link to My School. Indeed, our disaggregated analysis suggests the reverse – that My School may in fact be ameliorating these pressures toward socio-economic concentration in primary schools, at least in the "middling spaces" (see Conradson & Latham, 2005) between the socio-economic poles. Our provisional conclusion is that the funding regime for primary schools in Australia is far more culpable in the emergence of 'new stratifications' than the quintessentially neoliberal 'choice machine' embodied in My School. Further qualitative work understanding the dynamics of parental choice are needed to help test this conclusion.

	Catholic	Govern-ment	Indepen-dent	Metropolitan	Provincial	Remote	Very Remote
2010	1,630	6,548	1,035	5,077	3,441	336	278
2011	1,630	6,544	1,029	5,076	3,439	336	278
2012	1,630	6,545	1,029	5,076	3,439	336	278
2013	1,630	6,545	1,030	5,076	3,438	336	278
2014	1,630	6,547	1,032	5,077	3,441	336	278
2015	1,630	6,546	1,027	5,074	3,440	336	278
2016	1,630	6,548	1,035	5,077	3,441	336	278

Appendix: Number of Schools by Sector and Regions

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Zusammenfassung: Über Aussagen zu neuen Stratifizierungen des australischen Bildungssystems hinausgehend, bewerten wir in diesem Beitrag die Validität der gängigen Behauptung, Markt-Mechanismen würden durch von der Regierung angewandte Techniken zur (Aus-)Wahl und die damit verbundene "Maschinerie" die Klassenteilung vorantreiben. Der Fokus liegt auf australischen Grundschulen, wobei die Aufmerksamkeit vor allem auf die "My School" Website gerichtet ist, welche eine Zusammenstellung von Testwerten über alle australischen Schulen veröffentlicht. Die Rechtfertigung dieser Site gründet darin, dass Eltern solche Art von Daten benötigen, wenn sie sachkundige Bildungsentscheidungen treffen sollen. Durch Befragung der qualitativen Behauptungen über die Intensivierung der Ungleichverteilung in der My School Ära anhand einer Analyse der von eben dieser Site bereitgestellten Daten, fügen wir der Ungleichverteilungs-Hypothese, die diese Literatur meist mit der (Aus-)Wahl Maschinerie der Regierung in Verbindung bringt, eine gewisse Nuancierung hinzu. Unsere Analyse zeigt zunächst Trends in Richtung einer stärkeren sozioökonomisch ausgerichteten Verteilung von Schulen am oberen und unteren Ende des ICSEA Spektrums (Index of Community Socio Educational Advantage) an. Vertiefende Analysen dieser Trends deuten jedoch darauf hin, dass My School in der Tat den Druck gegenüber sozioökonomischer Verteilung in Grundschulen herausnehmen kann, wenigstens im mittleren Teil des Spektrums.

Schlagworte: Soziale Schichtung, Australisches Bildungswesen, Bündelung sozialer Schichten, Ökonomisierung von Bildung, MySchool

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