School funding and achievement:

Following the money trail

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Synopsis

The recurrent expenditure on school education in Australia is over 44 billion dollars each year, around 36 billion of this provided by governments. These are considerable sums, more often than not expressed as a cost rather than an investment – especially when it doesn't always seem to deliver noticeable improvements in student results.

But a closer look at where the money goes and what it delivers reveals many surprises. Schools are expensive places, some far more than others. But in recent years the biggest funding increases have gone to the most advantaged schools - and there is scant evidence of any difference in student results.

Some schools are better than others – but regardless of sector, schools which enrol similar students turn out much the same results. This prompts us to take a close look at how much schools are spending to get these same results.

We find that if all schools spent the same as the most efficient providers up to $3.3 billion each year could potentially be released and diverted to our most needy students. Gonski would be back in play, Australia's worrying achievement gaps would diminish.

This study shows the figures, the possibilities and some the inevitable arguments.

The story so far…

This article is the latest in a series investigating what My School data tells about our schools. In 2014 Bernie Shepherd showed that, over the period since the Gonski review – and almost in defiance of its recommendations - funding per student has increasingly poured into schools which enrol more advantaged students[i]. In October Chris Bonnor and Bernie Shepherd revealed that achievement and equity across our schools had worsened since Gonski's findings were released. Achievement by students in low socio-educational advantage (in this context, SES) schools in particular was declining, with few significant gains in higher SES schools[ii]. Such trends were not unique to any particular school sector. Bonnor and Shepherd also showed that the pattern of achievement in schools enrolling similar students showed no significant differences between the school sectors: government, Catholic and Independent[iii].

The next step

The revelation that schools enrolling similar students essentially achieve similar results, regardless of sector, is not new and the research has recently been extensively reviewed by Trevor Cobbold[iv], recently supported by his own analysis of My School data[v]. High achievement, low achievement and underachievement can be found in any school in any sector. As is well known, low achievement levels are readily found in low SES schools, and this correctly focuses attention, including in the Gonski review, on how to lift student performance in these schools. There are government and non-government schools where better and more investment can make a difference.

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But there are also schools where an already substantial investment is apparently not creating any noticeable improvement. Are they low SES schools or do they exist across the SES range? Some schools are funded in excess of similar schools which achieve similar results? Which schools, where and why - and what amounts of money are involved?? Should such schools be more closely monitored? Should a case be made to reduce funding to some schools and redistribute this funding to schools where it will make a difference?

The debate about money and schooling

Before we answer these questions it is useful to reflect on the debate about money and schooling in the years since Gonski reported. Some of this debate has been triggered by the high cost of implementing Gonski's recommendations: the high price tag itself being created largely by the requirement that no school was to lose a dollar. Critics have certainly pointed with alarm at the prospect of more being spent when more spending in the past has apparently made little difference:

> "… despite real growth in government funding of over 3.8 percent per annum over the period 2000-2012, performance on international standardised tests either did not improve or deteriorated.[vi]

But such claims don't stand up to close scrutiny[vii] - and the benefits of increased investment are well known. As recently as January 2015 major long term research by the US National Bureau of Economic Research has shown that

> "a 10 percent increase in per-pupil spending each year for all twelve years of public school leads to 0.27 more completed years of education, 7.25 percent higher wages, and a 3.67 percentage-point reduction in the annual incidence of adult poverty; effects are much more pronounced for children from low-income families[viii].

As Rick Morton and Justine Ferrari reported recently in the Australian media,

> "the study estimates an increase of 22.7 per cent in school funding for every year of a poor child's schooling is enough to entirely close the gap in high school graduation levels between low-income families and affluent families[ix].

Such evidence continues to be ignored by those (including some politicians) seeking justification for not proceeding with Gonski's recommendations, claiming that expenditure on education is a cost for which there are few, if any, returns.

The debate about money and schooling has also entered a different era. Public provision and benefits which come with a high price tag are not faring well at a time of government budget deficits. The notion of entitlement itself is under challenge, although with significant exceptions – stated concerns about middle class welfare don't seem to extend to any serious discussion of the ways in which some schools are funded and subsidised.

The implications are clear: with Gonski not fully funded achieving greater equity now means we should redistribute existing education dollars. This means taking a serious look at where investment in education is needed and where it is not.

Unpacking the funding: what My School can show

Statements about schools and money tend to be very generalised. To assess their merit or otherwise, there is a need to have a closer look at exactly where the money goes and what it may, or may not, be delivering.

Data published on the My School website enables a closer analysis of exactly where the money goes and it also provides data about school outcomes, in NAPLAN tests at least. Our investigation follows the money trail: where it goes and what it achieves – and how much of it might be poorly directed.

In general terms My School shows that, on average, Australian students are funded around $14 250 per student, but this average hides big variations created by the nature of the schools and their enrolment. For the most disadvantaged students, in schools below ICSEA[x] 800, the average is just under $30 000. For students in schools between ICSEAs 800 and 1000, also disadvantaged, the average is just under $15 000. Our 'cheapest' students are in schools between 1000 and 1150 where they cost around $12 500 per head. Above ICSEA 1150 costs rise to over $15 000 per student, paradoxically a higher amount than that spent on most of the disadvantaged students.

Amounts spent on schooling also vary according to location. In 2012 (the most recent year for which My School financial data is available) around $12 270 was spent on each student attending a metropolitan school. For students in provincial schools the average was 22% higher at just under $15 000. For students in remote and very remote schools the average was $26 400, over double the level for metropolitan students. Clearly location alone is a big determinant of school costs, something often overlooked in the debates.

It is also hardly surprising that the money needed by schools will also increase over time, if only to cover increased recurrent and capital costs. When most, if not all, of the increases simply keep pace with costs, it is inevitable that much of the funding increase may not be accompanied by changes in student achievement.

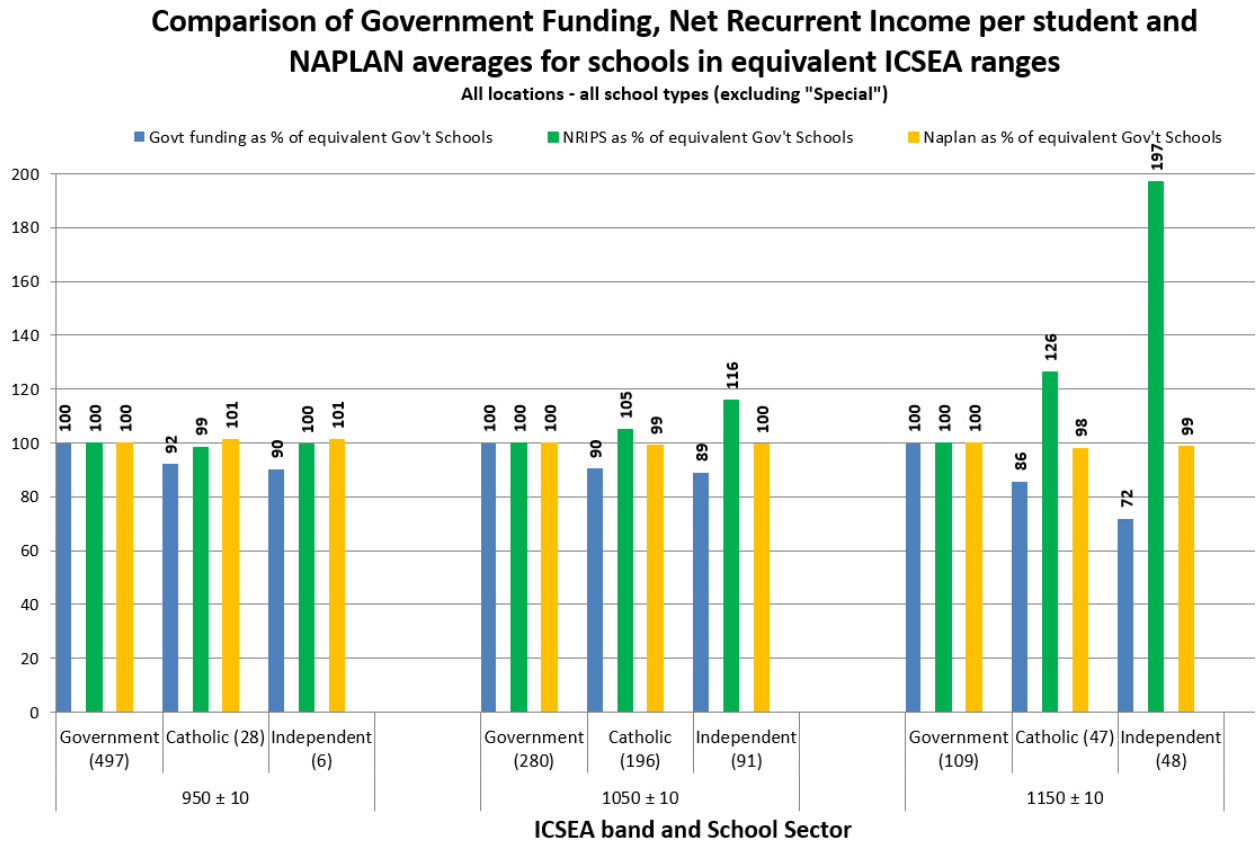
But not all funding trends are linked to location, disadvantage or even to incremental increases in costs. Funding can increase for other reasons. This is even noticeable in metropolitan schools, where most Australians are educated. The average TRI (total recurring income) per student in government metropolitan schools in 2012 was $11 476. This had grown by 6.6% since 2010 – close to the inflation rate for the period. The average TRI per student in Catholic metropolitan schools was slightly larger at $11 717 – but this had increased by almost 16% since 2010. For Independent schools the average TRI per student was much higher at almost $17 000 and up by 21%.

The above-inflation increases are certainly not linked to increasing disadvantage in these schools – almost half the enrolment in Independent schools is made up of the most advantaged quarter of Australia's students. Other costs may have increased in these schools, somehow at three times the rate of inflation. There is certainly a need to know the extent to which this increased investment has resulted in improvements in student outcomes.

Finding a standard of achievement.

One way to assess the effectiveness of expenditure on schools is to consider, for groups of schools enrolling similar students, the dollars spent by schools in each sector to reach a common standard of achievement. This is relatively easy to assess: as we now know, the level of student achievement for schools is not significantly different for schools, regardless of sector, which enrol similar students[xi]. The question is how much money is invested to reach this level of achievement?

The similarity between schools in achievement is best illustrated by the graph below which compares, for schools in three ICSEA ranges, the NAPLAN achievement in government, Catholic and Independent schools. It also shows government funding and the net recurrent income per student (NRIPS) as a percentage of funding in government schools.



What is noticeable is the persistent similarity in levels of NAPLAN student achievement (the yellow columns) regardless of school sector. This similarity effectively creates a common achievement 'standard' against which funding can be compared. It doesn't mean that NAPLAN achievement levels, often quite low in actual test results, are as good as schools can do. Clearly a much greater investment is needed in some schools, regardless of sector, to raise the standard of student achievement. Nothing in this analysis should be interpreted as an argument for not strongly funding schools on the basis of need.

The graph also shows that quite different levels of net recurrent income per student are being spent by each sector to achieve a remarkably similar result. We can identify the investment needed to produce this result by looking at the amount spent by the lowest cost provider – and then comparing this amount against the dollars spent by other sectors. The example below illustrates how these calculations are made.

ICSEA Range (from/to)	1000	1050	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	1987	885,506	1024	20	31	30	20	8,581,198,013	9,900	9,774,285,467	11,277	504
Government	1160	501,333	1022	21	31	29	19	5,047,655,514	10,287	5,364,185,543	10,932	504
Catholic	604	283,675	1026	18	31	31	20	2,648,766,985	9,503	3,210,969,813	11,520	502
Independent	223	100,498	1028	19	30	30	21	884,775,514	9,091	1,199,130,111	12,321	507

The schools in this example have an ICSEA between 1000 and 1050. The average ICSEA is 1024 and each sector is reasonably close to this average. There is also little variation between the sectors in student achievement. The NAPLAN measurement used is a combined NAPLAN index which balances literacy and numeracy.

The lowest cost provider is the government sector, hence the school investment per student needed to achieve the standard reasonably common to all the schools in this ICSEA range is $10 932, which is the government school net recurrent income per student (NRIPS).

The Catholic schools in this ICSEA range spend $588 per student more than this amount to achieve similar results. There are 283 675 Catholic school students in this range, so the total 'excess' Catholic school spend is $166 871 787. Independent schools spend $1 389 per student more than the lowest cost provider for similar results. There are 100 498 Independent students so the total 'excess' Independent school spend is $139 639 219.

A reasonable conclusion is that the total investment made by Catholic and Independent schools is more than that needed to reach the average standard achieved by schools in this ICSEA range[xii]. There are many other issues arising from this worked example which will be discussed later.

Dollars and achievement across the ICSEA range

The expenditure patterns for all schools (except special schools and schools without full published data) across most ICSEA ranges can now be examined using this methodology. The tables show calculations for schools grouped in nine ICSEA bands, indicated as an ICSEA target and range. There are not enough Catholic or Independent schools below ICSEA 900 to enable a useful comparison. In all but the first of the following tables government schools are the lowest cost providers, hence for consistency costs are measured against government school costs. The first table below (ICSEA 900-950) shows costs in the other sectors less than those for government schools.

ICSEA Range (from/to)	900	950	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	1119	412,802	929	51	28	15	5	5,272,874,763	12,821	5,477,059,326	13,317	469
Government	1059	397,041	929	52	28	15	5	5,093,065,483	12,860	5,276,342,279	13,322	469
Catholic	46	12,356	930	46	28	18	8	147,460,710	12,232	162,747,548	13,500	476
Independent	14	3,406	937	48	27	17	7	32,348,570	10,200	37,969,499	11,972	470

The income per student needed to achieve close to the composite NAPLAN average is $13 322 (government school NRIPS)
Catholic 'excess' spend is $13 500 minus $13 322 = $177 per student x 12 356 students = **$2 191 908**
Independent 'excess' spend is $11 972 minus $13 322 = -$1 350 per student x 3 406 students = **- $4 597 010**
(The total government contribution to non-government students is around $180m)

ICSEA Range (from/to)	950	1000	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	1935	736,422	976	36	32	22	10	8,184,660,375	11,212	8,707,749,502	11,929	486
Government	1654	649,833	975	37	32	22	10	7,291,235,737	11,303	7,666,650,346	11,885	486
Catholic	222	66,549	982	31	32	25	12	698,947,001	10,589	796,010,382	12,059	489
Independent	59	20,041	984	34	30	24	13	194,477,637	10,303	245,088,774	12,985	490

The income per student needed to achieve close to the composite NAPLAN average is $11 885 (government school NRIPS).
Catholic 'excess' spend is $12 059 minus $11 885 = $175 per student x 66 549 students = **$11 631 217**
Independent 'excess' spend is $12 985 minus $11 885 = $1 100 per student x 20 041 students = **$22 044 292**
(The total government contribution to non-government students is around $893m)

ICSEA Range (from/to)	1000	1050	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	1987	885,506	1024	20	31	30	20	8,581,198,013	9,900	9,774,285,467	11,277	504
Government	1160	501,333	1022	21	31	29	19	5,047,655,514	10,287	5,364,185,543	10,932	504
Catholic	604	283,675	1026	18	31	31	20	2,648,766,985	9,503	3,210,969,813	11,520	502
Independent	223	100,498	1028	19	30	30	21	884,775,514	9,091	1,199,130,111	12,321	507

The income per student needed to achieve close to the composite NAPLAN average is $10 932 (government school NRIPS).
Catholic 'excess' spend is $11 520 minus $10 932 = $588 per student x 283 675 students = **$166 871 787**
Independent 'excess' spend is $12 321 minus $10 932 = $1 389 per student x 100 498 students = **$139 639 219**
(The total government contribution to non-government students is around $3 533m)

ICSEA Range (from/to)	1050	1100	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	1192	607,902	1073	9	23	33	35	5,346,826,349	8,965	6,694,541,250	11,225	521
Government	562	264,602	1073	10	22	32	36	2,495,264,588	9,695	2,701,028,880	10,495	524
Catholic	410	209,968	1072	9	23	34	34	1,759,608,485	8,545	2,285,396,412	11,099	517
Independent	220	133,332	1074	9	23	33	35	1,091,953,276	8,204	1,708,115,958	12,833	522

The income per student needed to achieve close to the composite NAPLAN average is $10 495 (government school NRIPS).
Catholic 'excess' spend is $11 099 minus $10 495 = $604 per student x 209 968 students = **$126 784 599**
Independent 'excess' spend is $12 833 minus $10 495 = $2 339 per student x 133 332 students = **$311 802 940**
(The total government contribution to non-government students is around $2 851m)

ICSEA Range (from/to)	1100	1150	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	719	406,333	1123	4	12	29	55	3,292,636,147	8,286	4,912,577,508	12,363	542
Government	367	197,172	1123	4	12	28	55	1,756,280,441	9,256	1,933,654,690	10,190	545
Catholic	184	78,822	1120	3	13	30	54	622,595,445	8,014	903,119,303	11,625	534
Independent	168	130,339	1124	3	12	30	55	913,760,261	7,032	2,075,803,515	15,975	541

The income per student needed to achieve close to the composite NAPLAN average is $10 190 (government school NRIPS).
Catholic 'excess' spend is $11 625 minus $10 190 = $1 435 per student x 78 822 students = **$113 121 349**
Independent 'excess' spend is $15 975 minus $10 190 = $5 785 per student x 130 339 students = **$754 029 219**
(The total government contribution to non-government students is around $1 536m)

ICSEA Range (from/to)	1150	1200	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	373	245,428	1171	2	6	20	73	1,604,963,976	6,662	3,759,433,101	15,606	563
Government	190	103,818	1169	2	6	20	72	878,932,097	8,802	979,011,973	9,804	568
Catholic	58	26,855	1170	1	5	21	73	181,395,042	6,892	355,122,136	13,493	550
Independent	125	114,754	1173	1	5	20	74	544,636,837	4,747	2,425,298,992	21,141	562

The income per student needed to achieve close to the composite NAPLAN average is $9 804 (government school NRIPS).
Catholic 'excess' spend is $13 493 minus $9 804 = $3 689 per student x 26 855 students = **$ 99 081 535**
Independent 'excess' spend is $21 141 minus $9 804 = $11 337 per student x 114 754 students = **$1 300 959 303**
(The total government contribution to non-government students is around $722m)

ICSEA Range (from/to)	1200	1250	ICSEA	SEA Quarter Ave.				All Government funding		Net Recurrent income		Composite NAPLAN
	Schools	Students	Average	Q1	Q2	Q3	Q4	Total amount	Per Student	Total amount	Per Student	Index Average
All	49	38,684	1213	1	3	12	85	234,991,908	6,136	662,316,025	17,294	599
Government	21	14,763	1212	1	3	13	83	136,104,917	9,322	158,501,970	10,856	630
Catholic	5	1,130	1214	0	2	12	86	8,281,442	7,626	12,269,580	11,298	572
Independent	23	22,791	1214	0	2	11	86	90,605,549	4,007	491,544,475	21,738	580

The income per student needed to achieve close to the composite NAPLAN average is $10 856 (government school NRIPS).
Catholic 'excess' spend is $11 298 minus $10 856 = $442 per student x 1 130 students = **+ $ 498 988**
Independent 'excess' spend is $21 738 minus $10 856 = $10 882 per student x 22 791 students = **+ $248 008 017**
(The total government contribution to non-government students is around $99m)

Adding up the cost

In general the financial information for the seven groups of schools shown in the tables shows a higher level of investment by non-government schools to achieve close to the same results as government schools serving similar students. The exception is Independent schools in the lowest ICSEA group shown where spending is less than that in similar government schools. This might add weight to Gonski's recommendation that non-government schools enrolling disadvantaged students should be fully government funded.

But the situation changes at all other levels, especially above the median ICSEA of 1000. The average per student net recurring cost in **government** schools actually goes down as the level of student advantage rises. In other words, the real cost of bringing students up to the common level of achievement becomes lower for government school students who are more advantaged. It also tends to be lower, at least to ICSEA 1100, for students in **Catholic schools.**

By way of contrast, the per student cost in **Independent schools** progressively rises, with few exceptions, as student advantage increases - to the point where over twice as much is spent on these students in high ICSEA schools (above 1150) as is spent on equivalent government school students. It is important to note that these are averages: due to the lingering complexities of the Howard Government's categorisation of non-government schools some schools receive far more funding than others with similar students.

When the numbers of enrolled students in each sector are taken into account the total 'excess' amounts allocated to students who achieve the same results as the 'cheaper' government school students are:

- **$520 million** for students in **Catholic** schools.
- **$2 771 million** for students in **Independent** schools.

This adds up to **$3 291 million** (almost $3.3 billion per annum) for students in **all non-government** schools**.** To put this figure into some perspective the total public contribution to private school recurrent costs is around $9.6 billion. Around one third of this amount, $3.3 billion, is arguably in excess of what is needed to bring student achievement to the average level for similar students across the sectors.

What about the schools lower than ICSEA 900? Surely whatever measure is used, some are funded more than similar others to achieve the same results? There are 626 schools between ICSEA 600 and 900 and 90% of these are government schools. The total spend on these schools is $2.4 billion, almost all of this money provided by governments. While this is a considerable sum it is, in raw dollar terms, just 5.4% of total expenditure on schools, and 6.8% of combined government expenditure. It is less than the $3.3 billion which is spent by higher ICSEA non-government schools in excess of spending by similarly achieving government schools.

That said, there is still a strong case to monitor the effectiveness of the public investment in all schools, including lower ICSEA schools. One of the characteristics of disadvantaged program funding in earlier years was the absence of rigorous evaluation. The recent research by the US National Bureau of Economic Research states that

> "to be most effective it is likely that spending increases should be coupled with systems that help ensure spending is allocated towards the most productive uses[xiii].

It is still the case that many programs in place in these schools, including those supported by the philanthropic sector, are not delivering anticipated improvements in student engagement and achievement. While acknowledging the higher investment needs of these schools we still need assurance that the programs and resources in place are the best available. Anecdotal evidence from New South Wales suggests that the additional Gonski funding now beginning to reach some these schools is already having an impact, but any claimed improvements need to be authenticated.

Should advantaged students receive more funding?

If the purpose of investing money in schools is to improve student results then $3.3 billion of public funding spent on higher ICSEA non-government schools is a poor investment: it has little or no additional impact on measurable student achievement. We need to know more, and My School can partially tell us, how the money is spent in these schools and this might help explain why it has such little impact. What we do know is that this amount, if redistributed, could more than double our investment in schools below ICSEA 900 - in all sectors.

A counter argument is that the high investment in advantaged students has other benefits. Schools add value, it is claimed, to the lives of young people in ways which cannot be so easily measured. Schools in general certainly do and should add such value, but any argument that this benefit is created by more money for already advantaged students assumes that the claimed added value:

- is not also being achieved for students enrolled in lower funded schools.
- is derived from funded school resources and programs and not created by families and communities.

- is just as important or more important than improving measurable student outcomes.

As if to justify a high investment in advantaged schools some argue that such benefits should be spread to all schools, in the process enlarging the size of the pie – presumably as distinct from carving it up in more equitable ways. But this just serves to inflate costs across the school education sector. One of the ongoing problems facing school and school systems managers is the endless and expensive resources competition, often in the absence of lasting evidence of student gain. As any cursory glance over the school fence would attest, much of this competition is led by high-fee schools, although it is also the case that costs in public school systems have been inflated by across-the-board resourcing decisions.

Perhaps the most common rationale for noticeably higher spending in some schools is that the additional money comes from parents - especially for advantaged students in high ICSEA schools. Parents make a choice, so the argument goes, to spend their money in these ways and hence the value which may or may not be gained is a matter for them alone.

But the reality is that, regardless of the source, the funds spent on students in higher ICSEA schools in particular come from both parents and governments. The current funding regime, quite unique to Australia, makes governments active and willing partners in arrangements which create, sustain and actually worsen a well-researched and documented inequity. In view of the demonstrated needs of students in disadvantaged schools, how and where should governments direct public funding?

The $3.3 billion apparently not used for, or not succeeding in, improving student outcomes in advantaged schools would be far better invested in lower ICSEA schools, in all sectors, where the upside potential for improving outcomes is considerable. The US National Bureau of Economic Research states that 22.7% extra funding would close the achievement gap between low income and affluent families. If this were to have a similar impact in Australia 22.7% extra funding for every school under ICSEA 1000 would cost $3.6 billion each year, not much more than the amount of current over-spend in higher ICSEA schools.

If the required investment, identified by Gonski for these students, can't come from additional funding to the school education sector then existing public funding needs to be redirected to where it can make the greatest difference. If no more money can be found it is a policy choice: we either make the investment needed to lift the strugglers or continue to top up the advantaged; we can't do both.

Searching for a better debate

The data made available by My School can make a significant contribution to an improved public debate. We have seen this already in such areas as the need to compare like with like among schools, the importance of being able to measure the progress made by schools - and more recently in greater public understanding of which students and schools need greater support.

But many of the debates about schools, including about funding, have been characterised by more than a few beliefs that don't stand up well to closer scrutiny. Here are some of them:

The entitlement argument. The first is the belief that all children should be entitled to a substantial base level government funding. While this entitlement is a given, including in the Gonski review, it certainly does not reflect arrangements in comparable countries where private schools are almost fully private. Under current funding (in effect, pre-Gonski) arrangements such an entitlement to public funding has no uniformity, clarity or efficacy, even amongst non-government schools. Under its restrictive terms of reference the Gonski review recommended a system of base funding plus needs-based loadings. Non-government school peak groups have pressed the entitlement argument to ensure that base funding is at quite high levels. Australia's funding arrangements will likely always support students in non-government schools but the nature and extent of this as an entitlement should be subject to a better informed debate and to periodic scrutiny.

Non-government schools save substantial public money. This argument dates from the early 1960s at a time when it was arguably well-founded. But the huge increases in public funding of non-government schools – in many cases at rates well in excess of those available to government schools – has created a very different scenario. Non-government schools are claimed to save governments over $9bn in annual recurrent school costs[xiv] - but this assumes that if their students moved to public schools governments would have to match their existing higher per capita costs. In a future study we show that even if all students moved to similar-ICSEA government schools the additional recurrent cost to governments would be around one-third of this figure. In reality it would even be less: a privately-funded private sector in Australia would still retain the OECD average percentage of enrolments, around 5-8%. On the other hand, capital costs also have to be considered, although governments already meet much of these for Catholic schools. Finally, the arguments about money have never considered all the costs involved, including the longer term costs of not adequately funding lower SES schools.

The importance of choice and competition. This argument suggests that public funding of non-government schools greatly increases choice of schools and that the resulting competition will improve school quality and indeed place pressure on private schools to reduce their fees. To cut a long story short none of this has happened. In a forthcoming study we show that the extent of choice available to families rests almost entirely on the level of household disposable income and for most families the whole concept of choice is fairly meaningless. As far as the benefits of competition are concerned the research certainly suggests otherwise – and at a time of unprecedented school competition we read a steady stream of reports about declining levels of student achievement. Finally, the belief that public funding places downwards pressure on school fees … remains a belief.

Conclusion

The data from My School is telling us more than was previously known about our framework of schools. Revelations about student achievement, school quality, equity issues and funding have the potential to create a better debate. On the matter of school funding, the money trail shows that if we want to raise student achievement – particularly in the absence of additional funding – we have to seriously ask why we are pouring substantial resources into schools where it is making little difference while there are schools that need it more.

There are some given realities which need to inform how we respond to this question. Firstly - as partly demonstrated by My School - our various interventions in schools, loosely described as reforms, have made little difference over the last half decade. The achievement gap between our disadvantaged and most advantaged has widened, even without any appreciable gain for the latter. The various costs of this achievement gap to the whole community will only increase.

The second reality is that, in the short to medium term, there will not be a significant additional investment in low SES schools unless funding can be redistributed within the school sector. The case to do this is considerably strengthened by the evidence: $3.3 billion in dollar terms, that we are over-spending on students who are already relatively advantaged.

Of course there is a third reality: any serious redistribution of the education dollars won't even make the policy agenda without a serious debate, vastly improved co-operation between levels of government and the political leadership required to make all this happen. What we hope to achieve with this analysis is to lay out, yet again, another problem with our schools and an understanding of how we can do better - and the costs if we don't.

Chris Bonnor, with Bernie Shepherd
January 2015

APPENDIX

The analysis in this paper uses NAPLAN results as a measure of student achievement.

There are good grounds for arguing that NAPLAN is a narrow and insufficient measure of school achievement and that other measures should also be used. Any assessment of the contribution of schools (as distinct from parents) to student outcomes should consider the wider curriculum taught in the school. So what difference do higher expenditure schools make to student achievement in their chosen subjects at the end of Year 12?

There is no publicly available data that covers the country as a whole. However we can explore this question using Higher School Certificate (HSC) results by school in NSW. Do HSC results show that much more is invested in some schools without any significant gain in student achievement?

INVESTMENT AND ACHIEVEMENT IN THE NSW HIGHER SCHOOL CERTIFICATE

In this analysis the measure of achievement is the percentage of HSC exams sat which achieve Band 6 results. This is commonly used in tables showing achievement, school-by-school, in the HSC. The analysis is similar to that conducted above in relation to NAPLAN: the cost of reaching the standard in each ICSEA band is represented by the cost per student in government schools.

As can be anticipated, there are greater differences, between schools and between sectors, in HSC results in each ICSEA band. Reasons for this include:

- the small sector samples in some ICSEA ranges, especially 950-999 and over 1100
- greater differences in average ICSEA values by sector, as evident in the 950-999 ICSEA range
- the large number of government selective schools in the highest ICSEA range

These issues mean that caution is required when comparing results by sector.

ICSEA Range	Sector/av ICSEA	Schools	Students	Total Gov $	Total RI/student	HSC % Band 6	
950-999							
	Govt 971	106	83 139	1 043 477 741	13 860	2.15	
	Catholic 984	12	8 221	95 455 312	15 442	4.07	
	Ind 982	4	2 799	26 554 088	13 839	4	
The income per student needed to achieve close to the average HSC outcome is $13 860 (government school RI/student). **Catholic** 'excess' spend is $13 839 minus $13 860 = - $ 21 per student x 8221 students = **- $172 641** **Independent** 'excess' spend is $15 442 minus $13 860 = $1 582 per student x 2 799 students = **+ $4 428 018**							

ICSEA Range	Sector	Schools	Students	Total Gov $	Total RI/student	HSC % Band 6	
1000-1049							
	Govt 1026	58	49 626	597 346 140	13 805	5.09	
	Catholic 1024	52	46 838	481 498 726	14 161	5.37	
	Ind 1033	35	20 489	188 329 726	13 393	5.03	
The income per student needed to achieve close to the average HSC outcome is $13 805 (government school RI/student). **Catholic** 'excess' spend is $14 161 minus $13 805 = $ 356 per student x 46 838 students = **+ $16 674 328** **Independent** 'excess' spend is $13 393 minus $13 805 = - $412 per student x 20 489 students = **- $8 441 468**							

ICSEA Range	Sector	Schools	Students	Total Gov $	Total RI/student	HSC % Band 6	
1050-1099							
	Govt 1073	30	28 401	306 197 903	12 094	7.04	

	Catholic 1071	25	23 133	224 729 743	14 063	9.13	
	Ind 1075	47	35 445	297 935 401	15 095	7.17	

The income per student needed to achieve close to the average HSC outcome is $12 094 (government school RI/student).
Catholic 'excess' spend is $14 063 minus $12 094 = $1 969 per student x 23 133 students = **+ $45 548 877**
Independent 'excess' spend is $15 095 minus $12 094 = $3 001 per student x 35 445 students = **+ 106 370 445**

ICSEA Range	Sector	Schools	Students	Total Gov $	Total RI/student	HSC % Band 6	
1100-1149							
	Govt 1123	15	17 224	179 202 891	12 235	14.23	
	Catholic 1121	9	7 517	69 048 270	19 131	13.06	
	Ind 1121	39	31 476	230 312 198	17 854	10.87	

The income per student needed to achieve close to the average HSC outcome is $12 235 (government school RI/student).
Catholic 'excess' spend is $19 131 minus $12 235 = $6 896 per student x 7 517 students = **+ $51 837 232**
Independent 'excess' spend is $17 854 minus $12 235 = $5 619 per student x 31 476 students = **+ $176 863 644**

	Sector	Schools	Students	Total Gov $	Total RI/student	HSC % Band 6	
1150-1309							
	Govt 1194	20 (select)	18 337	19 2326 697	13 769	39.43	
	Catholic 0						
	Ind 1182	39	43 807	202 595 897	25 985	25.68	

The income per student needed to achieve close to the average HSC outcome is $13 769 (government school RI/student).
Independent 'excess' spend is $25 985 minus $13 769 = $12 216 per student x 43 807 students = **+ $535 146 312**

Summary

- Spending by Catholic schools is **$113 887 796** above the investment which achieves similar HSC outcomes in government schools which enrol similar students.
- Spending by Independent schools is **$814 366 951** above the investment which achieves similar HSC outcomes for students in government schools which enrol similar students.
- In total, non-government schools spend **$928 million** above the investment which achieves similar NAPLAN outcomes for students in government schools which enrol similar students.

Governments contribute $1 816 million, in recurrent income, to the non-government schools in this analysis. Around half this amount, $928 million, could be argued to be in excess of what governments should pay to enable the schools to meet outcomes comparable to those of students in government schools.

[i] http://insidestory.org.au/school-equity-from-bad-to-worse
[ii] https://drive.google.com/file/d/0B8UbZRpTfT_5empMWm5nbFZMblhKUkhKNmRfUnJVOVcwWDQ4/view
[iii] http://www.smh.com.au/national/education/public-schools-beat-private-rivals-in-hsc-comparison-20141213-125kmu.html
[iv] http://www.saveourschools.com.au/public-education/private-schools-are-no-better-than-public-schools
[v] http://www.saveourschools.com.au/public-education/public-schools-do-just-as-well-as-private-schools-in-naplan
[vi] http://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0CCsQFjAC&url=http%3A%2F%2Fwww.aph.gov.au%2FDocumentStore.ashx%3Fid%3D07e2144f-f65b-4a3b-8e97-7268017d5bad%26subId%3D207045&ei=iyDIVNXiMYG-mAXAiYK4Bg&usg=AFQjCNHPKJNSjSdMvXNRbRJyN4cd5sdxpA&bvm=bv.84607526,d.dGY
[vii] http://www.saveourschools.com.au/funding/money-matters-spend-it-right
[viii] http://www.nber.org/papers/w20847

[ix]

http://www.theaustralian.com.au/subscribe/news/1/index.html?sourceCode=TAWEB_WRE170_a&mode=premium&dest=http://www.theaustralian.com.au/news/extra-funding-the-best-investment-in-poor-students/story-e6frg6n6-1227198899054&memtype=anonymous

[x]

[xi] http://www.saveourschools.com.au/public-education/public-schools-do-just-as-well-as-private-schools-in-naplan

[xii] In this example the Independent sector does achieve above this 'standard' but the average ICSEA for Independent schools in this range is also higher

[xiii] ICSEA is the numerical Index of Community Socio-Educational Advantage. Schools with the same ICSEA are said to be "statistically similar" on a range of *non-school* variables that are known to influence educational outcomes.
http://www.theaustralian.com.au/subscribe/news/1/index.html?sourceCode=TAWEB_WRE170_a&mode=premium&dest=http://www.theaustralian.com.au/news/extra-funding-the-best-investment-in-poor-students/story-e6frg6n6-1227198899054&memtype=anonymous

[xiv] http://isca.edu.au/about-independent-schools/funding-of-independent-schools/