

SAVE OUR SCHOOLS

Education Policy Brief

The Economic Case for Gonski

The economic case for the \$6.5 billion investment in disadvantaged schools and students recommended by the Gonski review of school funding is just as compelling as the equity and social justice case. Reducing educational inequity is as much an economic imperative as it is a social justice imperative.

Australia has a high degree of education inequality compared to many other developed countries. The latest international and national test results show low average achievement levels for low socio-economic status (SES) and Indigenous students, and very big achievement gaps between the most and least advantaged students.

For example, results from the recent *Trends in International Mathematics and Science Study (TIMSS)* show that over 70 per cent of low SES Year 8 students did not achieve the minimum mathematics standard compared to only 14 per cent of students of a parent who had a university degree [Thomson et.al. 2012]. Nearly two-thirds did not achieve the minimum science standard compared to only 10 per cent of students of a parent who had a university degree

Low achievement levels amongst the disadvantaged in secondary school leads to lower rates of Year 12 completion and transition to employment. The latest Report on Government Services shows that only 62 per cent of low SES students completed Year 12 in 2011 compared to 80 per cent of high SES students [SCRGSP , Table 4A.109]. According to the COAG Reform Council [2012: 48] only 59 per cent of low SES 18-24 year olds were fully engaged in employment, education or training compared to 80 per cent of high SES young adults.

OECD figures show that Australia has a relatively low proportion of adults who have attained at least upper secondary education including vocational equivalents. In 2010, Australia ranked 20th out of 31 developed countries with 73 per cent. In comparison, it was 92 per cent in the Czech Republic, 91 per cent in the Slovak Republic, 89 per cent in Poland and the United States and 88 per cent in Canada [OECD 2012, Table A1.2a].

Low achievement and low school completion rates amongst disadvantaged students impose high costs on the economy. These include higher unemployment, lower lifetime earnings, lower productivity, less taxation revenue, higher health care and crime costs, and higher welfare expenditure.

Failure to complete Year 12 translates into lower employment rates. OECD figures show that in Australia in 2010 65 per cent of those who did not complete secondary school were employed compared to 80 per cent of adults who completed upper secondary education and 84 per cent who were tertiary educated [OECD 2012b, Table A7.3a].

The general consensus of economic studies is that the increase in annual adult income earnings from spending one extra year in secondary school exceeds 10 per cent. A paper co-authored by Nobel Laureate, James Heckman says: "...there is a firmly established consensus that the mean rate of return to a year of schooling, as of the 1990s, exceeds 10 percent and may be as high as 17 to 20 percent" [Caneiro & Heckman 2003: 41]. A UK study found that the returns for completing secondary school compared to leaving at 16 years of age without a qualification was 24 per cent [Blundell et.al. 2005]. The Productivity Commission recently estimated the average earnings gain from an extra year of schooling at between 10 and 13 per cent [Forbes et.al. 2010: 25].

OECD figures show that in 2009, the annual earnings of Australians aged 25-34 who only completed school were 25 per cent higher than those who did not [OECD 2012b, Table A8.1]. Year 12 completion also opens up the prospect of tertiary education. The OECD figures show that gaining a university degree increases earnings by nearly 40 per cent compared with Year 11 or below. Several Australian studies indicate that the earnings of people holding a degree or higher qualification are 30-45 per cent higher than for those who have not completed Year 12 [Forbes et.al. 2010: 11].

In addition, there are substantial non-pecuniary gains as highlighted in a study published by the US National Bureau of Economic Research [Oreopoulos & Salvanes 2009]. These include work satisfaction, making better decisions about marriage and parenting, less likely to engage in risky behaviour, and more social interaction. The authors suggest that the non-pecuniary gains from an extra year of schooling may be as high as the earnings gains to individuals or higher [27].

Educated workers are the foundation of economic growth. Higher levels of education are associated with increased workforce participation and labour productivity. More education increases workforce skill levels and contributes to greater innovation and use of new technology. These are critical to improving Australia's competitiveness in the world market.

Productivity Commission estimates show that increased skill levels contributed over 20 per cent of annual multi-factor productivity growth from the mid-1980s through the 1990s [Barnes & Kennard 2002: 35]. Other Commission estimates show that an increase in the average level of schooling of the workforce by one-quarter of a year would increase productivity by about 1.2 per cent [Productivity Commission 2006: 248]. The OECD has estimated that an additional year of schooling would raise productivity by 4 to 7 per cent in a country such as Australia [OECD 2003: 76].

Increased workforce participation and productivity would boost GDP. For example, economic modelling for the Dussledorp Skills Forum and the Business Council of Australia estimates that an increase of 0.15 in the average level of schooling of the workforce would result in a 1.1 per cent increase in GDP by 2040 [Dussledorp Skills Forum 2003: 15, 18]. This amounts to about \$16 billion on today's figures.

Low education is also a public health issue. In general, individuals who do not complete school are likely as adults to have less knowledge about health, higher rates of illness and earlier deaths than those who complete school [Allensworth et.al. 2010; Cutler & Lleras-Muney 2010]. International evidence shows that more education is strongly associated with lower death rates, less risky health behaviours such as smoking, obesity and lack of exercise, and more preventative service use [Freudenberg et.al. 2007].

OECD and other studies show a direct causal effect between more education and better health and that the health returns are substantial [Feinstein et.al. 2006; Groot & Massen van den Brink 2007; Muennig 2007; Cutler & Lleras-Muney 2012]. Other evidence suggests that improving school completion rates may be more cost-effective than most medical interventions in reducing health disparities [Woolf et.al. 2007]. Improvements in health outcomes also reduce government expenditure on health care.

About 35 per cent of Australia's prisoners have not completed Year 10 compared to seven per cent of the general population [AIHW 2011]. International studies show a causal connection between increased education and reduced property crime, which constitutes the vast majority of crimes [Machin et.al. 2011; Lochner 2010; Lochner & Moretti 2004; Moretti 2007]. The estimates of the social savings of reduced costs of crime for individuals and the criminal justice system are substantial. There is also Australian evidence that extended education reduces property crime significantly [Chapman et.al. 2002].

People who fail to achieve an adequate education are also more likely to be reliant on welfare support. Their economic circumstances are frequently so poor that they need financial and other assistance to meet basic needs. More education can increase employment and income and reduce government welfare payments [Waldfoegel et.al. 2007].

Increased education, employment and earnings have a dual impact on government budgets. They deliver higher tax revenue to governments while reducing the call on government expenditure on health, crime and welfare. For example, one study has estimated that the annual lifetime government saving from an additional high school graduate in the US to be \$US209,200 in 2004 figures [Levin & Belfield 2007]. It took account of extra tax revenue and savings in health, crime and welfare costs. It estimated that the net benefit to the public sector of investments to reduce the US drop-out rate by one-half would be \$US45 billion annually in 2004 figures.

The OECD has estimated the net public benefit of an Australian male completing secondary school at \$US27,518 compared with someone who did not [OECD 2011: Table A9.2]. The estimate took into account direct education costs, foregone taxes while in learning, increased income taxes and a reduced unemployment effect. The Dussledorp/Business Council modelling shows a big net improvement in Australia's fiscal balance from increased school retention [Dussledorp Skills Forum 2003: 15, 19].

In the light of all these benefits from increased education levels, the critical issue is whether they can be delivered by the big increase in school funding proposed by the Gonksi report. Will the increased funding make a difference to education outcomes?

There is a widespread view that money does not matter for improving school quality and student outcomes. It follows the findings of what is still one of the most widely cited papers in the economics of education. This is a review of empirical studies by Eric Hanushek from Stanford University [Hanushek 1986; see also Hanushek 1989, Hanushek 1997]. He found "no strong or systematic relationship between school expenditures and student performance" [1162].

What is largely ignored by the popular view that "money does not matter" is that Hanushek's finding was refuted by a re-analysis of his review of research studies by academics from the University of Chicago. They found that the vast majority of studies with statistically

significant effects show a positive relationship between expenditure per student and student achievement [Greenwald et.al. 1996]. In contrast to Hanushek, they concluded that “a broad range of resources were positively related to student outcomes, with ‘effect sizes’ large enough to suggest that moderate increases in spending may be associated with significant increases in achievement” [361]. Other more recent studies have come to a similar conclusion [see Baker 2012]. In addition, it has been found that most of the studies included in Hanushek’s review suffered from serious data and methodological limitations, which have since been addressed in more recent work [Baker 2012; Dewey et.al. 2000].

Another issue ignored by the popular view is that studies analysing the relationship between overall spending and student outcomes are limited because they cannot distinguish how the money is spent. As a result some studies show positive results and others no effect or negative impacts. The outcomes really depend on how the money is used together with the complex interaction of different resources available to schools that is not captured most statistical models. When this is considered, “the conclusion that ‘school resources do not make a difference’ is quite wrong, then, and has been the result of studies that are weakly conceptualized and dependent on impoverished data” [Grubb 2009: 8-9].

Money does matter in reducing education disadvantage. There is extensive evidence from the UK, the US and elsewhere that increased school funding for low SES students leads to better school results [Ooghe 2011; Roy 2011; Holmlund et.al. 2010; Henry et.al. 2010; Jacob & Ludwig 2008; Papke 2008]. For example, a recent study from the London School of Economics shows that increased funding has a large impact on the achievement of low income students [Gibbons et.al 2011]. Nobel Laureate, James Heckman, together with various colleagues, has published several studies which demonstrate that large benefits are derived from increased expenditure on disadvantaged students [for example Heckman 2011; Heckman & Masterov 2007].

Even studies that find a weak overall relationship between funding and general student outcomes find bigger effects for disadvantaged students. One such Danish study found that the effect of raising school expenditure on low income students is about three times as high as for the average student [Heinesen & Graverson 2005].

But, money is only the start. Success depends on how effectively it is used. History is replete with examples of waste in education funding.

There is a wealth of studies to draw on to improve achievement in disadvantaged schools [for example, Heckman 2011; Jacob & Ludwig 2008; Levin & Belfield 2007]. In particular, the OECD [2012a] has compiled a huge data base of research evidence and practices in different countries and synthesised it into key recommendations about the most effective strategies for these schools.

The evidence shows that the quality of the human resources in disadvantaged schools is fundamental to success. Principals, executive teachers and classroom teachers all need to have specialised knowledge and training to handle the challenges of disadvantaged schools. They need to be well-supported with outside expertise and services. It is imperative that high quality staff are retained for continuity of programs and good teacher-student relationships. This may require additional financial and career incentives.

Early identification of students who are struggling and early intervention are essential. Disadvantaged schools should have a range of support measures such as special learning assistance, off-line programs, mentoring and counselling. Small class sizes just for these schools can also be beneficial, but success here seems to be dependent on taking advantage of smaller classes to change teaching practices.

The learning environment should have high expectations with strong teaching and emotional support for students. Also important are strategies to enhance teacher-student relationships, as they lead to better learning and teacher environments and therefore, both more teacher satisfaction and better student outcomes.

Developing strong family-school links to reduce absenteeism and disengagement and to enhance achievement is also a key. There is little more than rhetorical support for such programs in Australia. They too require specialised knowledge, training and support and need to involve the local community. They may include home-school liaison, mentoring of students by community members, and parenting and family literacy programs.

Another important point to consider in a program of additional funding for disadvantaged students and schools is that it is necessary to improve achievement, education policies and programs alone are not enough. Disadvantage is continually being reproduced in society by economic and social circumstances. Other policies are needed to mitigate the effects of a student background on education [Lyche 2010]. For example, numerous studies show that investment in early childhood programs has big pay-offs [Conti & Heckman 2012; Kilburn & Karoly 2008; Karoly et.al. 2005].

Australia faces a huge challenge to improve the education outcomes of low SES and Indigenous students. Without Gonski it is not going to happen and Australia will continue to bear the high social and economic costs of education disadvantage. The Gonski funding increase promises to be a worthwhile investment if it is targeted at those most in need and at effective programs. Gonski is important for our future economic competitiveness and prosperity, but realising its potential depends on using it effectively and being complemented by other social and economic policies.

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