MONASH UNIVERSITY - ACER
CENTRE FOR THE ECONOMICS OF EDUCATION AND TRAINING

TAFE FUNDING AND THE EDUCATION TARGETS

A paper discussing recent trends in public funding for VET and TAFE and the implications for future funding of government targets to improve the skills of the Australian population

Prepared by
Michael Long
Monash University -ACER
Centre for the Economics of Education and Training
for
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Key Points

This paper explores the funding implications for the VET sector, and especially for TAFE institutes, of government targets to increase the education and training qualification profile of the Australian population.

- **Past and Current Funding—**Government recurrent expenditure per hour of training declined by 11.9% between 2003 and 2008—part of a longer term trend that has seen funding per hour decline by about 22.3% from 1997. The Australian Government has recently accepted recommendations from the Bradley Review to redress a less severe funding decline in the higher education sector.

  Government funding for TAFE has declined both because of the decline in recurrent public VET expenditure per hour and because of a shift of government recurrent funding away from the TAFE sector. If both expenditure per hour and TAFE's share of that expenditure had been maintained at even 2003 levels, TAFE's funding would have been $623.6m (or 17.0%) greater in 2008 than it actually was.

- **Education Targets—**The Council of Australian Governments (COAG) has set several targets to improve Australia's educational qualification profile, including:
  - Halving the proportion of Australians aged 20-64 without qualifications at Certificate 3 level and above between 2009 and 2020; and
  - Doubling the number of higher [VET] qualification completions (Diploma and Advanced Diploma) between 2009 and 2020.

- **Future Funding**—Achieving the COAG target to halve the proportion of the population without a Certificate 3 or higher qualification and the target of doubling the annual number of Diploma completions by 2020 will require an increase in government recurrent funding of $2.2 billion - average increase in public expenditure on VET of an additional $200 million each year between 2009 and 2020.

  Achieving the COAG goals will therefore be challenging. It firstly requires a reversal of recent trends to reduce government funding per hour for VET and secondly it requires overcoming the fiscal constraints faced by state and territory governments. The Australian Government will need to take a leading role in providing the resources required by the VET sector if its educational targets for improving the skills of the Australian workforce are to be met.

1. Introduction

The Australian Education Union (AEU) commissioned the Monash University-ACER Centre for the Economics of Education and Training (CEET) to review funding and staffing for VET, and especially for TAFE, in the context of the recently set COAG targets for educational attainment.

The paper is motivated by the apparent increase in VET provision implied by government educational attainment targets in the context of stable or declining funding for VET and the conclusion that funding needs to increase if the targets are to be met.

The topics canvassed include:

- The decline in funding levels for public VET;
- The government targets for increased levels of educational attainment in the population and the workforce;
- Increased demand for the different types of educational qualifications; and
- The implications for future funding for VET.

2. Public financing of VET

Recent expenditure per public hour of VET instruction has declined almost consistently in almost all jurisdictions over the last decade or so.

Recurrent expenditure per hour

Recent government recurrent funding of VET is characterised by a near year-on-year decline relative to provision. Nationally the resources available for providing an hour of public VET have declined from $14.80 in 2003 to $13.10 in 2008—a decline of 11.9% in 2008 dollars (Table 1)[1].

Obtaining a longer time series for the change in VET funding is complicated by changes in accounting standards and, possibly perversely, efforts to improve consistency between the reporting standards of jurisdictions. Nevertheless, the recent experience of declining public expenditure per hour of public training seems consistent with longer term trends.

Table 1 includes estimates of expenditure per hour of training before 2003. These estimates are shaded in the table to indicate that they have been adjusted to make them more consistent with recent data.[2] The adjustment is empirically driven—it assumes that the percentage

[1] The measurement of hours of training in Victoria changed from scheduled hours in 2006 to the national standard in 2007. Although the effect of this change is unclear, the size of the change between 2006 and 2007 for Victoria suggests that measurement changes may have contributed slightly to the measured decline in funding per hour.

[2] Values were first converted to 2008 dollars. Working back from 2008, the adjustment used the opportunity provided by estimates for the same year calculated in two different ways. An average percentage difference between estimates for common years was successively applied to the previous

differences between two estimates for the same year calculated in different ways can be applied to other years. Table 1 provide a sense of the direction and magnitude of the change in funding over a longer time period.

Table 1
Government real recurrent expenditure per publicly funded annual hour, 1997 to 2008

(2008$)	NSW	Vic	Qld	WA	SA	Tas	ACT(e)	NT	Aust
2008 dollars per annual hour of training									
2008	12.54	12.02	14.83	12.93	13.99	14.12	16.85	21.75	13.10
2007	13.25	12.12	14.86	14.33	15.45	14.61	16.19	21.09	13.62
2006	14.01	12.86	13.76	14.80	16.23	14.89	16.50	22.11	14.04
2005	13.97	13.05	14.91	15.75	15.57	15.11	17.67	26.58	14.39
2004	15.15	12.58	15.89	15.34	16.66	14.88	16.14	24.95	14.80
2003	14.87	12.70	15.93	16.14	16.72	14.86	16.51	27.14	14.86
2002	14.84	12.90	15.07	15.95	14.68	15.37	15.32	25.23	14.58
2001	14.47	12.67	14.73	15.04	12.30	17.16	14.95	23.75	14.09
2000	15.97	11.48	16.92	15.18	14.23	18.80	16.52	25.99	14.84
1999	17.05	11.49	16.28	15.93	13.83	19.66	20.06	25.53	15.20
1998	18.09	12.93	15.02	16.07	15.83	20.57	22.26	35.66	16.07
1997	17.71	12.96	18.06	18.10	18.23	23.75	22.66	36.99	16.85
Percentage change to 2008									
2003	-15.7	-5.3	-6.9	-19.9	-16.4	-5.0	2.1	-19.9	-11.9
1998	-30.7	-7.0	-1.2	-19.6	-11.6	-31.4	-24.3	-39.0	-18.5
1997	-29.2	-7.2	-17.9	-28.6	-23.3	-40.6	-25.6	-41.2	-22.3

Adapted from SCRGSP (Steering Committee for the Review of Government Service Provision) 2010, *Report on Government Services 2010,* Productivity Commission, Canberra (and other years). Conversion to 2008 dollars used the implicit GDP price deflator from ABS, *Australian National Accounts: National Income, Expenditure and Product 5206.0,* Table 32. Expenditure on Gross Domestic Product (GDP), Chain volume measures and Current prices, Annual Series A2304682C. The time series is consistent between 2003 and 2008 (except for Victoria and consequently Australia). Values for earlier years (shaded) have been modified as described in the text to provide values that are at best approximately consistent with the series for recent years.

The estimates in Table 1 suggest that expenditure per hour has declined over the last decade and that the decline between 2003 and 2008 followed a similar decline between 1997 and 2003. While nationally VET expenditure per annual hour declined by about 12% between 2003 and 2008, it declined by almost twice as much (22%) per hour from 1997 to 2008.

year. For instance, in 2008, values were provided for 2004-2008 and in 2007 values were provided for 2003-2007—the average percentage discrepancy between the 2007 and 2008 values for 2004-2007 was used to adjust the 2003 values.

Table 2
Government real recurrent funds for VET, 2002 to 2008

(2008$)	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	AUS	Share
	$m	$m	$m	$m	$m	$m	$m	$m	$m	%
Australian Government										
2008	358.2	260.1	185.6	101.6	83.5	28.6	20.3	12.3	1,050.1	25.4
2007	367.4	266.7	190.4	104.2	85.6	29.3	20.8	12.6	1,077.1	25.6
2006	369.8	268.3	191.1	104.7	86.2	29.6	21.0	12.7	1,083.4	26.0
2005	372.7	270.8	191.1	105.1	87.1	29.9	21.3	12.4	1,090.3	25.9
2004	369.7	268.1	188.1	103.8	86.5	29.8	21.2	12.3	1,079.5	25.9
2003	373.6	270.9	189.6	104.8	87.5	30.3	21.5	13.4	1,091.5	25.6
2002	358.3	259.3	180.4	100.0	84.1	29.3	20.8	10.9	1,043.2	25.2
State and territory governments										
2008	1,012.7	773.9	579.5	326.6	192.5	76.4	62.3	65.4	3,089.2	74.6
2007	1,037.6	754.9	547.3	350.1	229.2	76.1	63.2	65.6	3,123.9	74.4
2006	1,066.3	742.6	477.7	367.2	218.1	70.9	64.9	68.9	3,076.7	74.0
2005	1,068.4	730.0	509.4	388.4	213.5	68.7	66.1	75.9	3,120.5	74.1
2004	1,092.4	694.2	497.2	368.9	225.6	64.4	63.7	78.0	3,084.3	74.1
2003	1,112.9	708.2	549.7	373.7	218.8	63.8	59.3	79.6	3,166.0	74.4
2002	1,060.5	716.6	570.2	355.2	208.7	66.0	57.0	65.3	3,099.5	74.8
All governments										
2008	1,370.9	1,034.0	765.1	428.1	276.0	104.9	82.6	77.7	4,139.4	100.0
2007	1,405.0	1,021.5	737.7	454.3	314.9	105.5	84.0	78.2	4,201.0	100.0
2006	1,436.1	1,010.9	668.9	472.0	304.3	100.6	85.8	81.6	4,160.1	100.0
2005	1,441.1	1,000.7	700.5	493.5	300.6	98.6	87.4	88.4	4,210.8	100.0
2004	1,462.0	962.4	685.3	472.7	312.1	94.2	84.9	90.3	4,163.9	100.0
2003	1,486.5	979.2	739.3	478.5	306.3	94.1	80.8	93.0	4,257.6	100.0
2002	1,418.8	975.9	750.6	455.2	292.8	95.3	77.7	76.2	4,142.7	100.0
% increase 2003 to 2008										
AusGov	0.0	0.3	2.9	1.6	-0.7	-2.4	-2.2	12.3	0.7	---
S/Tgov	-4.5	8.0	1.6	-8.1	-7.8	15.8	9.3	0.2	-0.3	---
AllGov	-3.4	5.9	1.9	-6.0	-5.7	10.2	6.2	2.0	-0.1	---

Adapted from SCRGSP, 2010, *Report on Government Services 2010,* Productivity Commission, Canberra (and other years). Table 5A.8. Conversion to 2008$ by the implicit GDP chain price deflator.

Public funding of VET in 2008 was $4,118.7m.[3] If funding had been maintained at 2003 levels, it would have been more than half a billion dollars ($553.7m) higher in 2008. If VET funding had been maintained at the levels of a decade earlier, public expenditure on VET in 2008 would have been nearly a billion dollars ($932.9m) higher.

The decline in funding has varied between jurisdictions. From 2003, it was greatest in Western Australia (20%), the Northern Territory (20%), New South Wales (16%) and South Australia (16%) and relatively modest in Queensland (6%), Victoria (5%) and Tasmania (5%) while funding increased marginally in the ACT. Over the longer term from 1997, the decline in funding appears to have been greatest in Tasmania (41%), New South Wales (29%) and Western Australia (29%). The decline in government funding in Victoria over the last decade or so (7%) appears modest in context, but followed a greater decline in the mid 1990s.[4] While expenditure per training hour has been declining, hours per student have been increasing—from 206 in 2003 to 241 in 2008. A recent review found that this pattern persisted even after the shift to nationally consistent measures of hours and partly reflected a tendency for new modules to have longer nominal hours than the older modules they replaced.[5] There was little evidence of any artificial increase in training hours to offset declining funding.

Table 3
Publicly funded and/or delivered VET, students and hours, 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008	% change
Students ('000s)	1,220.5	1,209.3	1,127.8	1,171.5	1,198.1	1,197.9	1,197.5	-1.9%
Hours (millions)	---	278.1	279.7	286.6	294.4	307.4	314..1	12.9%

SCRGSP, 2010, *Report on Government Services 2010,* Productivity Commission, Canberra (and other years). Victoria conformed to national reporting standards of standard nominal hours from 2007.

Real government VET funding has been almost unchanged over the last five or six years—between 2002 and 2008 real government recurrent funding declined by 0.1% (Table 2). This stability of funding is against a background of a small decline in student numbers (-1.9%) and a substantial increase in hours (12.9%) (Table 3). The latter is consistent with the decline in expenditure per hour shown in Table 1 and a slight decline in VET participation rates given population increases.

The Commonwealth's share

The Commonwealth's share of VET funding has also almost been unchanged in recent years at between 25% and 26% (Table 2). Australian Government expenditure per hour of public VET

[3] SCRGSP, 2010, *Report on Government Services 2010,* Productivity Commission, Canberra, Table 5A.1. Real recurrent government expenditure on public VET (Table 1) differs slightly from real recurrent government funds for VET (Table 2).
[4] Estimates of the trend for Victoria are less reliable because Victoria adopted current national reporting standards only in 2006.
[5] Karmel, T & Mlotkowski, P 2009, *Explaining the divergence between student numbers and hours, 2002 to 2007,* NCVER, Adelaide. NCVER, Adelaide.

has therefore also declined in line with the substantial overall real decline of expenditure per hour of training shown in Table 1.

TAFE's share

The proportion of government VET funding received by TAFE has declined. Between 2002 and 2008 it fell from 91.6% to 89.0%. Payments to non-TAFE providers increased correspondingly. In the context of government funding that has been almost unchanged over that period, it represents a real decline in funding for TAFE. The trend away from funding TAFE is longer-term than is shown in Table 4. Even if the share of government funding received by TAFE had been maintained at only 2002 levels, TAFE would have received an additional $108m in 2008.

TAFE has therefore suffered both from the overall decline in the level of recurrent public VET expenditure per hour and in the shift of recurrent government funding away from the TAFE sector. Applying both these factors to the 2008 expenditure underlying Table 1, if both expenditure per hour and TAFE's share of that expenditure had been maintained at 2003 levels, TAFE's funding would have been $623.6m (or 17.0%) greater in 2008 than it actually was.[6]

Table 4
Percent of government funding received by TAFE, 2002 to 2008

	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	AUS
2008	92.2	87.3	85.2	86.7	92.8	92.4	89.9	86.0	89.0
2007	92.1	86.4	88.1	88.8	94.0	92.9	88.8	88.8	89.7
2006	93.7	86.4	92.8	88.0	94.2	93.6	90.9	95.6	91.3
2005	94.9	87.8	90.2	89.9	93.7	93.1	89.8	92.4	91.7
2004	94.4	88.2	88.4	89.5	93.2	93.0	87.4	94.6	91.1
2003	95.6	88.8	88.4	91.2	91.3	93.6	86.1	90.5	91.8
2002	96.5	88.2	86.2	94.0	89.0	92.7	88.7	91.7	91.6

SCRGSP, 2010, *Report on Government Services 2010,* Productivity Commission, Canberra (and other years). Victoria conformed to national reporting standards of standard nominal hours from 2007.

TAFE's share of funding and trends in that share vary between jurisdictions. In 2008 it was lower in Victoria (87%), Queensland (85%), Western Australia (87%) and the ACT (86%) and higher in New South Wales (92%), South Australia (93%) and Tasmania (92%). The national trend is replicated in only a few jurisdictions—New South Wales, Western Australia and the ACT. In South Australia TAFE's share of government funding increased (although this might change under the government's announced policy of making 50% of VET funding contestable by 2012) and in other jurisdictions was almost unchanged. In the case of Victoria, the decline in TAFE's share of government funding occurred earlier.

[6] The estimate is an approximation—it combines measures based on expenditure and funding, which differ slightly.

Programs and policies

The changes in the overall level of VET funding and of Commonwealth funding in particular reflects stop-start policy decisions. The Australian National Training Authority (ANTA) was created in 1993 with substantial initial additional funding together with on-going growth funding. Growth funding was suspended in 1998, only partially restored in 2001, had its indexation suspended in 2003 and was effectively replaced in 2004 by the Commonwealth's Skilling Australia's Workforce agreements with the states and territories.

The more widely available statistics on VET funding mostly include only funding that is committed as part of the formal agreements between the Commonwealth and the state and territory governments. In recent years some significant additional Commonwealth funding for VET has occurred outside these agreements. The additional funding includes the creation in 2004 of 7,500 priority Commonwealth-funded places ($20.5m) that were allocated to providers on the basis of direct tendering and the creation of the Australian Technical Colleges ($343.6m over 5 years). In 2007 the Commonwealth introduced its Australian Skills Vouchers Program, including the Work Skills Voucher Program with a budget of $407.6m over 5 years and providing 30,000 places in VET courses per annum.

The Commonwealth Government has committed $2 billion over 5 years to funding 711,000 (392,000 for existing workers and 319,000 for job seekers) places leading to qualifications under its Productivity Places Program (PPP).[7] The program began in April 2008 with the Commonwealth directly tendering mainstream job seeker training places. In 2009 TAFE institutes bid for only a small fraction of the places because of the low levels of expenditure per hour of delivery. Low levels of funding also skewed delivery to courses that required little capital equipment or existing infrastructure.

From July 2009 the states and territories became progressively more responsible for delivering mainstream job seeker and existing worker PPP training places under the COAG National Partnership Agreements. The shift will bring much of the PPP training provision within the scope of the main student and funding data collections. The requirement that states and territories contribute 40% of funding and industry 10% should increase the proportion of recurrent government VET funding provided by the Commonwealth.

Elements of the initial program remain outside the COAG agreements and are administered by the Skills Councils as enterprise-based training. The evolution of the program and its impact on the number of completed awards are difficult to predict. Given the fiscal constraints faced by many of the state and territory governments there is some risk of substitution of PPP places for other sources of funding.

Recurrent funding receives the majority of attention in discussions of VET funding. Capital stock and capital expenditure are the complements of recurrent expenditure. Facilities can be expensive for the provision of some forms of VET. In 2008 capital costs were estimated to be

[7] The PPP replaced the Australian Skills Vouchers program, so the funding commitment was not all new money.

about 15% of the total cost of delivery.[8] The overwhelming majority of this cost was in buildings and land. The Commonwealth is providing $200m for TAFE infrastructure through its Better TAFE Facilities Program under the current COAG agreement with the states and territories.

The Commonwealth also contributes financially to VET through student support payments (Youth Allowance and Austudy) for the small proportion of VET students who study full-time and more extensively through the payment of employer incentives.

3. Approaches to funding in higher education

The recent *Review of Australian higher education* (the Bradley Review) found a similar situation of declining public funding in higher education. It responded with three key recommendations:

1. An increase in the base funding for teaching and learning in higher education by 10 per cent from 2010 (Recommendation 26);
2. Indexing future funding based on 90 per cent of the Labour Price Index (Professional) plus the Consumer Price Index (CPI) with weightings of 75 per cent and 25 per cent respectively. (Recommendation 27); and
3. Commission an independent triennial review of the base funding levels for learning and teaching in higher education to ensure that funding levels remain internationally competitive and appropriate for the sector (Recommendation 28).

These recommendations are as apt for the VET sector as they are for the higher education sector. They are motivated by a concern to maintain and improve the quality of education. The approach contrasts with a reporting process in the VET sector that considers lower public funding a reflection of efficiency.

Indexing VET funding and allowance for productivity gains

The issue of indexing future funding is particularly pertinent. The cumulative effect of small annual declines in purchasing power can be significant. The funding index proposed in the Bradley Report is based on the idea that about 75% of university recurrent costs are related to salaries (the Labour Price Index) and 25% to other costs (reflected in the CPI). Typically salaries increase more rapidly than the CPI.

The proposed index includes an incentive for efficiency or productivity improvements by allowing only 90% of salary changes to be included in the index. Assume, for instance, that over 5 years the CPI increases annually at 3% and the Labour Price Index at 4%—reasonably realistic values. Without the allowance for productivity improvements, the Index increases by 15.9%, but with the allowance for productivity improvements, the index increases by only 14.5%. The productivity allowance reduces the *increase* in funding by 9.2% and *total* funding by 1.2 over 5 years. By comparison, in the 5 years 2004 to 2008 real public expenditure on per hour of

[8] SCRGSP, 2010, *Report on Government Services 2010,* Productivity Commission, Canberra. Table 5A.22.

training declined by 11.5%—a decline that is interpreted as an efficiency or productivity improvement (Table 1).

The response to the Bradley Review by the Australian Government in the 2009 budget was to broadly accept the financing recommendations. Funding for universities was increased by $5.7 billion over four years (slightly less than implied by the Bradley Report recommendations) and allowed $578 million from 2011 to fund the indexation changes over three years (which accepts the recommendation on indexation).

The VET sector is expected to contribute substantially to the achievement of government goals to improve the skills of the Australian workforce and population against this background of declining resources and a differential approach to funding higher education and VET.

4. Qualification targets

Educational targets are part of COAG's participation and productivity agenda, which recognises education and training of the workforce as a major driver of economic performance and the well-being of Australians. The agenda seeks to raise both the level of the skills of the workforce and to reform the way in which education and training is delivered. COAG has set a number of targets specifying expected increases in the skill levels of Australians. The major goal from the perspective of the VET sector is to:

Halve the proportion of Australians ages 20-64 without qualifications at Certificate 3 level and above between 2009 and 2020[9]

In 2009 52.9% of Australians aged 20 to 64 had an educational or training qualification at Certificate 3 level or higher.[10] The target implies that this figure should increase to about 76.4% by 2020. The implications of this goal for the provision of post-secondary education in Australia are substantial. Growth in the workforce between 2009 and 2020 adds to the challenge posed by the target. On the other hand, the increase in the level of qualifications through the retirement of less well qualified older workers and their replacement with already better qualified younger workers will contribute to the attainment of the target without any increase in current levels of provision in education and training.

The target can also be met through increased provision in the higher education sector—undergraduate and postgraduate qualifications. The implications of the target for the VET sector therefore depend on the qualifications profile of workers with Certificate 3 level or higher and the proportion of higher education qualifications. However part of any increase in the levels of higher education qualifications will also have implications for the VET sector through VET to higher education pathways. The total educational effort implied by the target is greater than implied by the highest educational qualification attained—it includes the often multiple qualifications that lead to the highest qualification—including Certificates 1 and 2.

A second COAG target focuses specifically on VET qualifications:

[9] COAG, *National agreement for skills and workforce development,* October, 2008, p.6
[10] ABS, 6227.0, *Education and work, Australia, 2009*.

Double the number of higher [VET] qualification completions (diploma and advanced diploma) between 2009 and 2020[11]

This target shifts VET provision towards more resource-intensive qualifications. The proportion of the workforce with Certificate 3 or higher qualifications is projected to increase by only *half*—from about 50% to about 75%—while this target refers to *doubling*. The hours of training, and hence the funding, required to obtain a Diploma or Advanced Diploma are generally greater than those required to obtain a Certificate 3 or 4. But because the target is expressed in terms of numbers rather than proportions and in terms of completions rather than the stock of persons with qualifications, it is less clear that it necessarily implies an upwards shift in the profile of VET provision. The population and workforce can also be expected to increase between 2009 and 2020 with a consequent increase in the number of persons with Diplomas and Advanced Diplomas and some of the targeted increase in the skills of the workforce is already built into the current levels of provision. The implications of the target for financing the VET sector are therefore not straightforward.

A separate COAG target designed to improve the transition from school to work and/or further education is:

to achieve a national Year 12 or equivalent attainment rate of 90 per cent by 2015[12]

VET (and especially TAFE) directly provides access to Year 12 to varying degrees in most jurisdictions. The *or equivalent* part of this target includes VET qualifications such as the Certificate of General Education for Adults (at Certificate 2 level of above) and Australian Qualification Framework (AQF) Certificates 2 or higher qualification issued by a Registered Training Organisation or by a higher education institution. Hence the target adds to resources required for Certificate 2 courses not included in other targets and, subject to funding sources for Year 12 Certificate courses, to VET funding overall.

A number of other targets for post secondary education and training have been adopted. The Australian Government, in response to the recommendations of the Review of Australian Higher Education (the Bradley Review), proposed that policies and programs be implemented so that:

by 2025, 40 percent of all 25-34 year olds will have a qualification at bachelor level or above.[13]

Compared with a current level of 32%, the target implies an increase of only 25% (40% divided by 30%) to 2025. If the target is attained, it implies a shift in the educational and training qualification profile of the workforce away from undergraduate higher education degrees in the context of the target to halve the proportion of the workforce without a Certificate 3 level qualification or above by 2020. The younger and narrower age band for the target (25 to 34

[11] COAG, *National agreement for skills and workforce development,* November, 2008, p.6
[12] COAG, *National partnership agreement on youth attainment and transitions,* July 2009, p. 4.
[13] The Hon Julia Gillard MP, *Speech to Universities Australia Conference,* 4 March 2009, Canberra.

year-olds) suggests that any shift towards VET-level qualifications may be greater, rather than less than, the size of the target might suggest.

The importance of education and training for social inclusion is a recurring theme in the participation and productivity agenda. Several targets have been proposed for categories of persons with educational participation and attainment levels that are below average. In the National Partnership Agreement on Youth Attainment and Transitions, for instance, COAG commits to a target halving the gap in Indigenous Year 12 or equivalent attainment by 2020. COAG's National Agreement for Skills and Workforce Development explicitly refers to the needs of Indigenous Australians, people with disabilities and equity groups in general. Indigenous issues are cross-referenced to its broader National Indigenous Reform Agreement that includes goals for schooling, early childhood education, health and employment. Similarly the Australian Government's target for higher education includes the intention to Increase the percentage of undergraduate students who come from low SES backgrounds to 20% by the year 2020.

It is unlikely that the greater inclusiveness of Australia's education and training implied by its expansion, the broader agenda of social inclusion and the specific targets will be cost neutral. The marginal cost of educational and training provision for the additional students required to meet the various skills targets is likely to be higher for several reasons, including learning support, curriculum design and professional development for teachers.

5. Future demand for qualifications

The participation and productivity agenda is a response to both the shift in employment towards occupations that require higher qualifications and the higher skills required within occupations. The agenda is also underpinned by understandings about the role of a skilled workforce both in assisting with international competitiveness in production and in attracting capital and enterprises to Australia.

Three scenarios

Access Economics recently modelled the demand for educational and training qualifications to the year 2025 for Skills Australia.[14] The analyses provide some guidance about the resource implications of the qualification targets because they:

- Indicate the share of the increase in qualifications that might be contributed by the higher education and VET sectors;
- Indicate the changing profile of VET qualifications; and
- Point to the number of new domestic completions required each year to create the qualifications profile.

[14] Access Economics, *Economic modelling of skills demand, 22 October 2009* and *Economic modelling of skills demand -State results, 18 September 2009.*

Projections of qualification profiles of the workforce and of the annual number of award completions required to generate those qualification profiles were provided for three scenarios of future economic growth:

- ***Open doors***—a scenario based on policies that encourage international trade, immigration and cooperation over carbon emission policies. It is characterised by economic growth a little above global GDP growth; high population growth underpinned by strong net overseas immigration; labour productivity growth in line with Treasury projections; increased age-specific and overall workforce participation; exports constituting a higher percent of economic activity; but employment growth in industries such as coal mining and electricity generation mitigated by international agreements to reduce carbon emissions.

- ***Low trust globalisation***—a scenario based on policies that are less positive to international trade and immigration. It is characterised by economic growth slightly lower than that experienced over the last decade; a decline in the growth of the working-age population associated with the ageing of the population and somewhat lower net overseas immigration; and labour productivity growth similar to that experienced in recent years.

- ***Flags***—a scenario based on national-centric policies and lower immigration. It is associated with lower economic growth, a rate of productivity growth lower than that of the last decade and higher rates of unemployment. Protectionist policies shift production to domestic markets and produce stronger growth in Australia's manufacturing sector and a decline in the number of international students and tourism.

Projections of industry employment to 2025 are made through a model of the Australian economy where initial values have been set so that they are consistent with a set of assumptions, including:

- The level of total global and national economic output;
- The level of net migration to Australia;
- Labour productivity growth in the Australian economy;
- Exports as a share of Australian GDP; and
- The capital to labour ratio in the Australian economy. [15]

Changes in the distribution of industry employment in the Australian economy are used to estimate changes in employment by occupation which, together with estimates of occupational turnover and trends towards skill deepening and multiple education and training qualifications, are used to estimate the size and future qualifications profile of the Australian workforce and the annual employment demand for qualifications.

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[15] The quantitative values of the assumptions underlying the assumptions and their implications are described in Access Economics, *Economic modelling of skills demand, 22 October 2009* Table I, p.i.

Table 5
Projected distribution and growth of employed persons by highest non-school qualification: by scenario

	Distribution of highest qualification					Average 5 year growth to:		
	2007	2010	2015	2020	2025	2015	2020	2025
	%	%	%	%	%	%	%	%
Open Doors								
Postgraduate	6.8	8.0	9.2	10.2	10.9	5.5	4.0	3.3
Undergraduate	17.2	18.8	20.7	22.1	23.2	4.5	3.4	2.9
Diploma/Adv. Dip.	9.4	10.3	11.6	12.4	13.1	4.9	3.5	2.9
Certificate 3 or 4	18.2	19.4	20.6	21.6	22.4	3.8	2.9	2.5
Certificate 1 or 2	6.7	6.3	6.1	6.0	5.9	1.7	1.6	1.7
All post school quals	58.3	63.0	68.2	72.3	75.5	4.2	3.2	2.7
No post school quals	41.7	37.0	31.8	27.7	24.5	-0.5	-0.8	-0.6
Total	100.0	100.0	100.0	100.0	100.0	2.6	2.0	1.9
Cert. 3/4 or higher	51.6	56.6	62.1	66.4	69.6	4.5	3.3	2.8
Low Trust Globalisation								
Postgraduate	6.8	8.0	9.1	10.0	10.8	4.7	3.3	2.6
Undergraduate	17.2	18.7	20.4	21.8	22.9	3.7	2.7	2.2
Diploma/Adv. Dip.	9.4	10.2	11.3	12.1	12.7	4.0	2.7	2.2
Certificate 3 or 4	18.2	19.2	20.1	21.0	21.6	2.9	2.2	1.8
Certificate 1 or 2	6.7	6.2	5.9	5.8	5.7	0.9	0.8	1.0
All post school quals	58.3	62.2	66.8	70.7	73.7	3.4	2.5	2.0
No post school quals	41.7	37.8	33.2	29.3	26.3	-0.7	-1.1	-1.0
Total	100.0	100.0	100.0	100.0	100.0	1.9	1.3	1.2
Cert. 3/4 or higher	51.6	56.0	60.9	64.9	68.0	3.6	2.6	2.1
Flags								
Postgraduate	6.8	7.8	8.9	9.7	10.3	3.9	2.5	1.8
Undergraduate	17.2	18.4	20.0	21.1	22.0	2.8	1.9	1.4
Diploma/Adv. Dip.	9.4	9.9	11.0	11.7	12.4	3.2	2.0	1.7
Certificate 3 or 4	18.2	18.9	20.0	20.8	21.5	2.3	1.6	1.2
Certificate 1 or 2	6.7	6.1	5.8	5.6	5.6	0.1	0.2	0.4
All post school quals	58.3	61.1	65.5	69.0	71.8	2.6	1.8	1.4
No post school quals	41.7	38.9	34.5	31.0	28.2	-0.9	-1.3	-1.3
Total	100.0	100.0	100.0	100.0	100.0	1.3	0.7	0.6
Cert. 3/4 or higher	51.6	55.0	59.8	63.3	66.2	2.9	1.9	1.4

Adapted from Access Economics, *Economic modelling of skills demand*,.

The qualifications profile of the workforce

All three scenarios show that the proportion of the workforce with a non-school qualification will increase to 2025 (Table 5). The increase in the qualifications profile of the workforce is consistent with a shift of production to industries employing proportionately more people in higher skilled occupations. The proportions of the workforce with postgraduate or undergraduate higher education qualification, a Diploma or Advanced Diploma or a Certificate 3 or 4 is projected to increase consistently across the period, although more rapidly for the *Open Doors* scenario and least rapidly for the *Flags* scenario. In contrast, the proportion of the workforce for whom a Certificate 1 or 2 is their highest qualification is projected to decline slightly for all three scenarios

The projected growth in the *numbers* of persons with non-school qualifications differs more markedly between the scenarios and reflects a combination of differences in changes in the profile of highest qualifications and differences in the growth of the workforce. The more rapid increase in the workforce (underpinned by higher population growth) and the greater upward shift in its educational profile mean that *Open Doors* is the scenario with the highest level of growth in the number of persons with educational qualifications. For instance, the number of persons whose highest educational qualification is a Diploma or Advanced Diploma is projected to increases by 4.9% per annum in the five years to 2015 under the *Open Doors* scenario, but by 4.0% and 3.2% under the *Low Trust Globalisation* and *Flags* scenarios respectively (Table 5). The projected increase in the workforce more than offsets the declining share of Certificates 1 and 2 among highest qualifications, so that the number of persons whose highest qualification is a Certificate 1 or 2 increases for all three five-year periods for all three policy scenarios—although sometimes only very slightly.

Projected growth in the number of persons in the workforce is highest for the five years to 2015 for all highest qualification categories and then declines progressively for the five year periods to 2020 and 2025. These differences are driven by differences in the projected growth of the workforce, which is substantially higher under all three scenarios for the period to 2015.

Growth in additional qualifications

The projected increase in the number of persons with given qualifications is not necessarily a good guide to the educational provision required to generate that change. Instead demand for educational provision in a given year—and hence funding for education and training—is driven by demand for additional qualifications. Demand for additional qualifications is influenced by features such as people moving between occupations and into and out of the workforce.

Figure 1 shows the projected growth in annual demand for *new qualifications* to 2025 by qualification level, net of any supply from immigration. Hence it shows the growth in demand that is expected to be met by domestic provision. Current and expected government policy

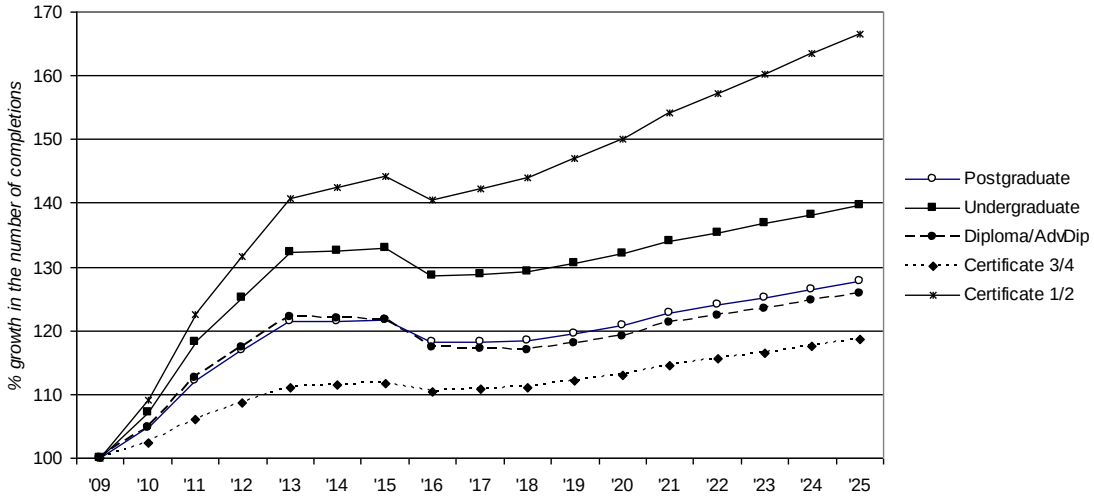

Figure 1

Number of additional annual qualifications required by persons in employment net of immigration,2009-2025: *Open Doors* scenario

Adapted from Access Economics, 2009.

settings most closely resemble those of the *Open Doors* scenario and the following discussion focuses on the consequences of that scenario for demand for educational qualifications.

The major features of the projected growth in demand for additional domestic qualifications from changes in employment are:

- the rapid growth in demand for most additional qualifications over the initial period to about 2013. Numbers then stabilise by 2015 and decline briefly before increasing again from 2017 or 2018. The early rapid growth in demand for qualifications is largely an artefact of the modelling process and the initial imbalance between demand for, and supply of, qualifications—a feature that is discussed further below.
- the greater increase in demand for Certificates 1 or 2 compared with other qualifications. By 2025 the demand for additional Certificates 1 and 2 is projected to increase by 66% compared with 32% for additional qualifications overall. This is despite the shift in the workforce's qualification profile towards higher level qualifications—the growth in demand for Certificates 1 and 2 is underestimated by a focus on highest qualifications.
- the lower increase in demand for additional Certificates 3 and 4 compared with other qualifications. By 2025 the demand for additional Certificates 3 or 4 is projected to increase by just 19.5% compared with 32.0% overall.

Demand for qualifications is modelled separate from supply (apart from the subtraction of a component of demand that is met by immigration). The values in Figure 1 show changes in demand from current demand to future demand. Demand and supply, however, need not currently be in equilibrium. A feature of the modelling is that it finds a substantial disjuncture between current demand and supply of qualifications.

Table 6
Projected growth of additional domestic completions from 2009

	Total growth to:			*Annual compound growth to:*		
% growth from 2009	**2015**	**2020**	**2025**	**2015**	**2020**	**2025**
Postgraduate	50	49	57	7.0	3.7	2.9
Undergraduate	56	55	64	7.7	4.1	3.1
Higher education	**54**	**53**	**62**	7.5	3.9	3.0
Diploma/AdvDip	158	153	167	17.1	8.8	6.3
Certificate 3 or 4	1	2	7	0.2	0.2	0.4
Certificate 1 or 2	2	7	18	0.4	0.6	1.0
VET	**25**	**26**	**35**	3.8	2.2	1.9
All non-school quals	36	36	45	5.3	2.9	2.3

Adapted from Access Economics, *Open Doors* scenario.

Table 6 shows the growth in additional domestic qualifications from the domestic supply in 2009 required to meet industry demand from 2015, 2020 and 2025. The picture differs from that in Figure 1 because the 2009 supply of additional domestic qualifications does not reflect current demand for those qualifications. The modelling shows shortages of Diplomas and Advanced Diplomas and over-supply of Certificate 1/2 and 3/4 completions. Hence the growth in the number of Diplomas and Advanced Diplomas to meet employment demand is substantially greater than appears in Figure 1 while growth for Certificates 1/2 and 3/4 is more modest.

Table 7
Projected growth of annual domestic completions (%)

	(2009)	**2015**	**2020**	**2025**
% All qualifications				
Postgraduate	11.8	12.9	12.8	12.7
Undergraduate	26.1	29.9	29.7	29.5
Diploma/AdvDip	9.5	17.9	17.5	17.4
Certificate 3 or 4	35.2	26.2	26.4	26.1
Certificate 1 or 2	17.4	13.1	13.6	14.2
Total	100.0	100.0	100.0	100.0
% VET qualifications				
Diploma/AdvDip	15.2	31.3	30.4	30.2
Certificate 3 or 4	56.7	45.8	45.9	45.2
Certificate 1 or 2	28.0	22.9	23.6	24.6
Total	100.0	100.0	100.0	100.0

Adapted from Access Economics. (2009) values are from the supply model, other values reflect modelling of demand. *Open Doors* scenario.

Changes in the profile of additional qualifications

The growth in demand for education and training qualifications overall and the shift in demand between qualifications results in a shift in the qualification profile of additional completions. The qualification profile shifts away from VET-sector completions—from 62% of additional completions in 2009 (supplied) to 57%-58% in 2015, 2020 and 2025 (Table 7). Within the VET sector, the qualification profile of additional completions shifts towards Diplomas and Advanced Diplomas (doubling from about 15% in 2009 to about 30% in 2015, 2020 and 2025) while the proportions of Certificates I/2 and 3/4 decline (from about 28% to about 24% and from about 57% to about 46% respectively).

Costs of changes in the profile of additional qualifications

The shift in the qualification profile of annual VET completions has implications for the cost of delivery—a Diploma or Advanced Diploma completion costs more to provide than a Certificate completion. Because of data limitations, only indicative estimates of how much more can be provided. Table 8 show three estimates. In slightly different ways, all are based on the metric of hours per completion. The first (1) divides the hours of public training for qualification level by the total number of completions for qualification level. The second (2) is based on public hours for qualification level divided by public qualification-equivalent (where 'qualification equivalent' is successfully completed module hours divided by an agreed number of hours for the qualification). The third (3) is an unweighted average across jurisdictions and fields of education of expert judgements of the number of hours of training required to achieve certain qualifications.

Table 8
Estimates of the ratio of the hours per Certificate 3/4 and Diploma/Advanced Diploma completion to the hours per Certificate 1/2 completion

	Public hours per actual completion (1)	Public hours per public qualification-equivalent (2)	Expert judgment of hours by qualification level (3)
Diploma & above	2.50	3.31	3.63
Certificate 3 or 4	1.45	1.43	1.72

Adapted from NCVER, *Students and courses, 2008* and DEEWR, *Annual national report of the Australian vocational education and training system, 2008.* (1) and (2) are averages of ratios for 2004-07.

The 'Expert-judgement' (3) ratios can be considered upper limits because they do not take into account credit arrangements or incomplete modules which nevertheless contribute to total hours. Nor do they take into account differences in course or unit completion rates across qualification levels. Similarly (2) is an upper limit that removes incomplete modules but does not take into account completed modules that may not form part of a qualification, although any unrecorded credit would tend to increase the estimates. On the other hand, (1) may understate the ratios—it is likely that private enrolments, especially for international students, are in Diploma-level courses, which will under-estimate the true ratio.

Taking these considerations into account, the estimates in Table 8 suggest that a Diploma/Advanced Diploma completion may cost (measured in hours) about 2.75 times the amount of a Certificate 1/2, while a Certificate 3/4 may cost about 1.45 times the amount of a Certificate 1/2. While these are approximations, it is clear that any shift towards providing proportionately more Diplomas and Advanced Diplomas has implications for VET funding.

When VET completions are weighted by their relative hours and hence adjusted for changes to their qualification profile, the growth in annual completions increases markedly. Table 9 compares the original values from Table 6 with the corresponding values adjusted for qualification-composition. The annual growth rate in VET provision required to match industry demand to 2020, for instance, is now 3.4% compared with 2.2% when it is not adjusted for the changed profile.

Table 9
Growth of additional domestic VET completions required to meet employment demand adjusted for changes in the qualification profile

	Total growth to:			*Annual compound growth to:*		
% growth from '09	**2015**	**2020**	**2025**	**2015**	**2020**	**2025**
VET unadjusted	25	26	35	3.8	2.2	1.9
VET adjusted	45	45	53	6.3	3.4	2.7

Adapted from Access Economics, *Open Doors* scenario.

Projected employment demand and targets

These projections bear on the various COAG and Australian Government targets for qualifications. The projections and the targets, however, do not always correspond. For instance, the target to halve between 2009 and 2020 the proportion of Australians aged 20 to 64 without qualifications is couched in terms of the population and 20 to 64 year-olds. The projections, however, are for 15 to 64 year-olds who are employed.

Employed persons and 20 to 64 year-olds are more likely to have a Certificate 3 or higher than are the population or 15 to 64 year-olds respectively (Table 10). The net effect is that the estimates of the percent with Certificate 3 or higher in 2009 are slightly higher for the scope of the projections (54.3%) than for scope of the targets (52.9%). There is even less difference for the corresponding 2020 targets—77.1% compared with 76.4%.

The following discussion is based on the scope of the projections (employed persons 15 to 64 years) and the implications for the scope of the targets are assumed proportional and not very different in absolute terms. The qualifications profile from the projections shows that in 2009 55% of employed persons 15 to 64 years had a Certificate 3 or higher. Under the Open Doors scenario, the proportion increases to 66% by 2020—or only about halfway to the targets. [16]

[16] The discussion of this point in Access Economics, *Economic modelling of skills demand*, p. 67 reports different values because it uses 2007 values as a base.

Table 10
Population and employed persons with a Certificate 3 or higher, 15 to 64 and 20 to 64 year-olds, 2009 (%)

	Population		Employed persons	
(%)	15-64	20-64	15-64	20-64
2009 actual	47.9	52.9	54.3	57.7
2020 target	73.9	76.4	77.1	78.9

ABS *Survey of education and work,* 2009. 6227.0.

The impact of this gap for the number of additional annual completions required to achieve the target of halving the number of Australians without a Certificate 3 or higher is not proportional—just because the growth in the profile needs to be doubled to achieve the target does not mean that the growth in the annual number of additional qualifications needs to be doubled to meet the target. Part of the growth in the annual number of additional qualifications is required just to maintain the qualifications profile of the workforce. For instance, some part of the annual additional qualifications replaces the increasing number of retirements from the workforce of persons with a Certificate 3 or higher (as both the absolute size of the retiring population increases and the skills profile of that population is higher) and having been met, does not need to be met again by any further additional completions in order to generate growth in the qualifications profile.

Under the Open Doors scenario, employment growth contributes about a third of the demand for award completions for Certificates 3 and higher. On the other hand, if the contribution of net migration to additional completions is maintained at existing projected levels, more of any growth in completions needed to meet the target will have to be provided by domestic education and training.

Without further detailed modelling or possibly access to details of the existing modelling it is difficult to estimate the likely relatively size of these (and other possible) effects. It might be expected, though, that the number of additional completions necessary to meet the COAG targets will be substantial—certainly a third or more beyond the levels required to satisfy employment demand from the Open Doors scenario.

The other major COAG target with direct implications for VET is the proposal to 'Double the number of new VET Diploma and Advanced Diploma completions between 2009 and 2020'. Projections that meet demand for qualified labour under the Open Doors scenario easily meet this target, with an increase from 47,000 domestic Diploma and Advanced Diploma completions in 2009 to 118,000 domestic completions in 2020. Growth in completions that met the target to halve the proportion of 20 to 64 year-olds without a Certificate 3 qualification or higher would result in even greater growth in the number of Diplomas and Advanced Diplomas.

Much of the projected growth in Diplomas and Advanced Diplomas to 2020 derives from a mis-match in the modelling between current supply and current demand.

6. The implications for public VET funding

Employment growth, skills deepening and replacement requires a 45% increase in VET provision to 2020 after allowing for a shift in annual award completions to higher level qualifications (Table 9). The increase translates to an annual compound increase of 3.4% over the 11 years 2009 to 2020. The growth is likely to reduce the proportion of 20 to 64 year-olds without at least a Certificate 3 by only a quarter. The COAG target is to reduce it by a half.

Achieving the two targets does not imply that growth in annual award completions needs to double—parts of the growth are due to the need to replace skilled workers who are retiring (or, given the scope of the target, move beyond age 64 or die) and skills deepening. Just over a third of award completions contribute to expanding the proportion of workers with qualification levels of Certificate 3 or above. Hence the targets might be achieved with an increase in VET provision of 60% to 2020, or 4.4% per annum.

The annual public funding for VET required to meet the targets is shown in Table 11.

Table 11
Projected government VET funding required to meet qualification targets, 2009 to 2020 ($2008)

Year	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
Total	4,139.4	4,296.8	4,461.1	4,632.5	4,811.4	4,998.1	5,193.0	5,396.4	5,608.7	5,830.2	6,061.4	6,302.7
Increase	---	157.4	164.3	171.4	178.9	186.7	194.9	203.4	212.3	221.5	231.2	241.3

Assumes 2008 funding for 2009. Annual compound growth at 4.37% on base of $3,605.4m with constant difference. Values in 2008$. Values remove non-AQF award funding pro-rata with hours for 'other' and Senior Secondary Certificate provision.

The values in Table 11 recognise that not all VET provision targets AQF awards. Students in non AQF-award enrolments received 7.7% of funded hours in 2008 and a further 5.5% of hours was allowed for students studying for Senior Secondary certificates.[17] In order to meet the targets it is only necessary to increase provision of AQF courses. Certificates 1/2 are included because despite being outside the scope of the target, they are subject to other targets and underpin many of the higher qualifications. The adjustment implies that non-award enrolments become a progressively smaller proportion of total provision.

After this adjustment, the increase in public funding required to achieve the targets is 52%, which corresponds to an annual increase of 3.9% between 2009 and 2020 These increases translate into an increase in government funding for VET of $157.4m in 2010 and progressively larger amounts in subsequent years—or an average cumulating increase of about $200 million per year (Table 11). Postponing this increase in funding either commits governments to even greater increases later or makes it less likely that the COAG targets will be achieved.

[17] DEEWR, Australian National Report of the Australian Vocational Education and Training. Table A1.5.

The expansion of participation in the VET sector implies greater social inclusion. The Bradley Review included increased funding for higher education to address the needs of the expected higher number of students from lower socioeconomic backgrounds. Achieving the VET component of the COAG targets will require similar additional funding for increased learning support, curriculum design and professional development for teachers.

The increased public funding for VET required to meet the COAG qualification targets is challenging. State and territory governments currently provide nearly three-quarters of public VET funding, but most jurisdictions face fiscal constraints. The Commonwealth will have to both increase its financial support for the VET sector in absolute terms and increase the relative size of its contribution compared with that of the states and territories if the COAG targets are to be met.

Alternative strategies

Increased government funding for VET is a prerequisite if the COAG targets are to be met simply because the increase in VET provision implied by the targets is large and governments provide the bulk of VET funding. Nevertheless, other steps can be taken to increase the annual number of VET award completions. The values in Table 11 point to one approach—a greater focus on resources for students studying for awards. There are several other possible strategies.

Public funding is only part of total VET funding —but it is the major part. Student fees, which have already increased substantially in recent years, were only 4.5% of total operating revenues in 2008.[18] The estimates in Table 11 already assume by default that revenue from student fees increases proportionately with government funding.[19] The magnitude of the increases in funding required to achieve the qualification targets is such that even extremely large increases in student fees would have little impact on the additional funding required. And of course higher fees undermine the goal of the greater access to VET required by the education targets. The nature of VET enrolments—mostly part-time with full-time employment—suggests that a system of income contingent loans might be less successful in mitigating financial disincentives for enrolment than it has been in the higher education sector.

Improving award completion rates is another strategy that could help to achieve the targets. If course completion rates improve, then the number of qualifications can increase without any increase in funding (although it implies a decline in participation). In 2008 the ratio of completions to VET students—a crude measure of completion rates—was 26.6% (335,000 AQF award completions to 1,250,700 enrolments in AQF qualifications).[20] The denominator should be *commencements* rather than total students. If commencements were say 30% less than all students (that is, 70% of students enrolled in AQF qualifications were new to their course in any given year), then crude completion rates would be closer to 40%. As in higher education,

[18] Including fees from international students. Fee-for-service provision contributed a further 16.0% of operating revenue. DEEWR, *Annual national report of the Australian Vocational Education and Training System,* 2008.
[19] Which does not imply that real fees necessarily increase, because the number of students is increasing.
[20] NCVER, *Students & Courses*, 2008.

measured completion rates are likely to be higher if system-completion rates are considered to allow for movement between providers and courses. Unfortunately little data is available to inform any estimates, but overall AQF award completion rates are unlikely to be much higher than 45%.

The scope for increasing completion rates in VET may be limited by the nature of enrolments and the structure of the courses. Most VET students study part-time and part-time study is typically associated with lower completion rates, possibly because of the difficulty of combining study with other activities. Many VET students also face a double-jeopardy. Because courses are often combined with learning on-the-job, loss or change of employment can also compromise course completion. Higher completion rates may also have the unwanted consequences of reducing access of both employers and students to the VET system. Creating a KPI for the VET system around award completions may encourage both its better measurement and its improvement.

Immigration is a major source of skilled labour in Australia. Its contribution to the targets has already been taken into account in the Access Modelling discussed earlier. The Australian Government could attempt to raise the skills profile of immigrants. Recently announced changes to the program—changes to the list of occupations in demand and seemingly a greater focus on employer-sponsored migration—may have this effect, but the more likely consequence is to shift migration pathways rather than the skills profile. Nevertheless it may still meet the Government's announced intention of ensuring that skilled labour arriving in Australia through the immigration program is better utilised.

MONASH UNIVERSITY - ACER

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Examples of CEET projects

Labour force analysis and demand for training

- industry demand for higher education graduates in Victoria 2008-2022 (OTTE)
- labour market and qualifications in Victoria and Australia (VET Inquiry Victoria (COAG)
- occupational replacement demand and vacancies (several studies for DEEWR)
- net migration of workers with VET qualifications (ANTA)
- effects of specific policies on demand for VET (ANTA/DEST)
- impact of globalisation on the occupational structure (ANTA)
- assessing the demand for VET training (OTTE Victoria)
- skill shortages, concepts and measurement (ANTA)
- skill needs of mining developments in WA (CCI WA)
- skill needs in Australia's emerging industries and response by VET systems (NCVER)
- how young people are faring in work and education (Dusseldorp Skills Forum)
- TAFE workforce data improvement (OTTE)
- trends in the TAFE workforce (OTTE)
- growth and turnover in nursing occupations (DEST)
- economics of ACE (NSW BACE)
- volunteers and TAFE (ANTA)
- youth volunteers (DFACS)

Efficiency, innovation and coordination of education and training

- analysis of specialisation in secondary schools (DEECD)
- evaluation of the impact of user choice (ANTA)
- impact of the development of a VET training market (NCVER)
- resource implications of training packages (ANTA)
- evaluation of the Frontline Management initiative (ARC)

CEET Faculty of Education Monash University Vic 3800
Tel (03) 9905 9157 Fax (03) 9905 9184
ceet@education.monash.edu.au www.education.monash.edu.au/centres/ceet

- regional development and training (ANTA)
- training needs of new industries and products (NCVER)
- rates of return to private investment in VET (NCVER)
- attrition of first year university students (DEST)
- student flows and completions in TAFE and higher education (NCVER, DEST, ANTA)

Research and policy

- framework for national finance and expenditure statistics in education and training (ABS)
- impact of VET research on policy and practice (NCVER)
- review of statistical data for VET research (ANTA)

Funding and costs of education and training

- funding of government and non-government schools (MCEETYA, DE&T Vic, ACT DOE)
- costs of VET in schools (DET Victoria, MCEETYA, ANTA)
- framework for national finance and expenditure statistics (ABS)
- financing lifelong learning (ANTA)
- costs of campus-based courses versus workplace-based courses (NCVER, ANTA)
- measuring employer expenditure on training (NCVER)
- provider initiatives in funding VET (NCVER)
- expenditure on education by sector (ANTA, Dusseldorp Skills Forum)
- price measures in education and training (ANTA, Group of Eight)

Equity

- portable funding for school students with disabilities (DEST)
- use of equity funds in schools (DEECD)
- performance measures of school completion and transition (MCEETYA)
- funding VET students with disabilities (NCVER)
- gender equity and VET (NCVER)
- equity in higher education (Monash University)
- student finances and expenditures in higher education (AVCC)
- context for expanding ACE (MCEETYA)

Firms and training

- supporting lifelong learning through the measurement of intellectual capital (ANTA, OECD)
- leading edge enterprises: insights into employment and training practices (ANTA)
- relationship between training expenditure by firms and their levels of productivity (NCVER)
- effect of firm-based training on earnings by educational attainment and occupation (ANTA)
- enterprise-based education and training, a literature review (Ministry of Education, New Zealand)

International

- transition from education to work in OECD countries (OECD)
- financing adult education and training in OECD countries (OECD)
- review of Australian education and training for the OECD economic survey (OECD)
- education expenditure and participation in selected Asian economies (DETYA)
- studies in Malaysia, Namibia, South Africa, (ADB, British Council, NBI South Africa)