



Funding and financing vocational education and training

Research readings

Edited by
Katrina Ball



NCVER

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The author/project team were funded to undertake this research via a grant under the National Vocational Education and Training Research and Evaluation (NVETRE) Program. These grants are awarded to organisations through a competitive process, in which NCVER does not participate.

The NVETRE program is coordinated and managed by NCVER, on behalf of the Australian Government, and state and territory governments, with funding provided through the Department of Education, Science and Training. This program is based upon priorities approved by ministers with responsibility for vocational education and training (VET). This research aims to improve policy and practice in the VET sector. For further information about the program go to the NCVER website <<http://www.ncver.edu.au>>.

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ISBN 1 920896 83 X print edition
1 920896 84 8 web edition

TD/TNC 84.03

Published by NCVER

ABN 87 007 967 311

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Contributors

Editor

Katrina Ball is the former manager of the Standards Branch in the statistical services area of the National Centre for Vocational Education Research (NCVER). For the last eight years she has worked as an economist in a variety of positions at NCVER in research and statistical roles. Her major research interests lie in the economic aspects of vocational education and training (VET), particularly outcomes achieved by disadvantaged social groups. Recent research includes an analysis of apprentice and trainee completion rates. Before joining NCVER she worked as an economist and consultant in a range of university positions and in both the Australian Government and state government agencies. She is currently Director of Policy Analysis for the South Australian Department of Treasury and Finance.

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Ross Adams is a qualified accountant with over 30 years experience in public sector financial management. He has been both an employee of, and consultant to, Australian Government and state government departments and Australian Government authorities and committees.

Ross’s involvement with funding, financing and financial reporting of Australia’s public VET system commenced in the late 1980s. Since then he has been a key promoter in developing cooperative relationships between Australian, state and territory agencies to facilitate the provision of VET financial information which is published annually by the NCVER. This information has funding, performance measurement and research applications across the VET sector.

Associate Professor Stephen Billett has worked as a vocational educator, educational administrator, teacher educator, professional development practitioner within TAFE, and policy developer in the Queensland state training system before becoming lecturer and researcher at Griffith University. His research has focused on how vocational expertise can be developed in workplace settings. He also researches in policy and practice within adult and vocational education. He was a Fulbright scholar in the United States in 1999, researching the skills required for the modern workplace. He was the Foundation Director of the Centre for Learning and Work Research and previously the Director of Adult and Vocational Education studies at this university.

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Jack Keating is Professorial Fellow in Education and Training at the University of Melbourne. He has over 25 years of national and international experience in education and training research, policy and systems analysis, and has taught in school and adult education in Australia and the United Kingdom. He has worked on national developments in education and training in Australia for the major international agencies: the Organisation for Economic Co-operation and Development (OECD), the World Bank, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the International Labour Office. During 2001–02 he worked for the OECD and managed their major activity on the role of national qualifications systems in promoting lifelong learning.

Jack has a strong background in education and training policy and research. His research has been in a broad range of education policy, including assessment, VET in Schools, certification, credit transfer, work-based learning and work placements, entry-level training, and international developments. He was the chief author for Kirby report on post-compulsory education and training in Victoria, which has resulted in a number of initiatives, including the establishment of the Victorian Qualifications Authority.

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Professor Sue Richardson is Director of the National Institute of Labour Studies and is also currently President of the Academy of the Social Sciences in Australia and a part-time Commissioner with the Essential Services Commission of South Australia. She received her PhD from La Trobe University and her BCom (Hons) from the University of Melbourne. Prior to her appointment at the National Institute for Labour Studies, Sue was Associate Professor in the School of Economics at the University of Adelaide.

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Chris Selby Smith has been a Professor in the Department of Management at Monash University since 1988 and a director of the Monash University–Australian Council for Educational Research Centre for the Economics of Education and Training since it was established in 1992. Prior to that he was a senior officer in the Australian Public Service, including in the Prime Minister's Department, Health, the Public Service Board and the Department of Industrial Relations. He retired from Monash University in June 2005.

Andy Smith is Professor of Human Resource Management and Head of the School of Commerce at Charles Sturt University. Andy was formerly the General Manager, Research and Evaluation at NCVET and has also worked for number of years in human resource management positions in the automotive and aerospace industries. Andy's area of research expertise is in enterprise training and human resource development. He has carried out a number of major national research projects in these areas and is also the author of the text, *Training and development in Australia*. Andy is editor of the *International Journal of Training Research*.

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Overview

Katrina Ball

This book of readings brings together the results of a body of research on the funding and financing of vocational education and training (VET) in Australia presented at a research forum hosted by the National Centre for Vocational Education and Research (NCVER) in late 2003. Some of the research presented at the forum was work in progress. The research was finalised during 2004 and incorporates feedback from forum participants.

Introduction

THIS OVERVIEW SUMMARISES the main issues identified in this book of readings on the funding and financing of vocational education in Australia. By funding we mean how money is distributed, while financing refers to how money is raised.

Before examining the main issues, it is useful to provide a background and description of the way in which vocational education and training has been funded during the life of the Australian National Training Authority (ANTA) agreements between the Australian Government and the states and territories.

The Australian National Training Authority Agreements

Between 1992 and mid-2005, ANTA administered Australian Government funding for vocational education and training within the framework of the ANTA multi-lateral intergovernmental agreement. ANTA and state and territory governments allocated funds under detailed funding arrangements.

Recurrent funding models commonly in use in Australian vocational education and training include:

- ❖ negotiated profiles of student contact hours by training area and level (with technical and further education [TAFE] institutes)
- ❖ open tendering in selected training areas/programs

- ❖ user choice, whereby employers and employees determine the provider to whom government funds are distributed, particularly and often exclusively within the New Apprenticeships program.

These input-based funding models do not have clear differential payment rates for different fields of study or for different social groups.

In 1996 the ANTA Ministerial Council (MINCO) agreed to provide \$20 million per year to state and territory training authorities over a four-year period (1997–2001) under the VET in Schools program, to assist in funding vocational education and training in schools. Following a review of the program, the Ministerial Council agreed to provide a further \$20 million plus indexation in the three calendar years from 2002–04. There are two parts to the formula applied to distribute funding:

- ❖ distribution of funds from the Australian Government to the states and territories based on their relative proportion of the 15 to 19-year-old population in Australia
- ❖ allocation of funds between the government and non-government sectors, determined by the participation of Year 11 and 12 students within each sector.

The funding of vocational education and training

The first chapter of the book of readings provides details about the methods used by state and territory training authorities to allocate the funds which have been appropriated by state and territory governments and the Australian Government. The second provides a broader perspective on the impact of market reform in the VET sector. In the final two chapters of this section funding arrangements for groups with special needs are discussed, in this instance, the arrangements in place for Indigenous Australians and for students with a disability.

Allocation of VET funding by state training authorities

Adams, in the first chapter, provides an overview of the way in which funds appropriated by state and territory governments and the Australian Government are allocated by state and territory training authorities. Funding provided to all vocational education and training providers from state training authorities covers profile, user choice and contestable delivery¹. Overall, Adams found that there is a large degree of commonality between states and territories in

¹ 'Profile delivery' is undertaken by public registered training organisations (e.g. TAFE institutes), with funding set aside for these registered training organisations. There may be competition between TAFE institutes in a jurisdiction for profile delivery funds but these funds are not available to private providers.

'Contestable delivery' is delivery won by either public or private providers through open-market bidding arrangements.

'User choice' is also a form of contestable delivery, whereby the funds flow to providers according to the choice made by employers and their new apprentices.

organisational structures that develop and deliver vocational education and training plans and profiles.

State training authorities take advice from their vocational education and training stakeholders (comprising providers, government, unions and employers), in developing their training plans, training priorities and related funding requirements. These are submitted to ministers and government for approval through parliamentary budget processes.

Negotiations to underpin financial resource allocations to the public providers for general profile core delivery will predominately consider local training needs, student demographics, infrastructure and operating costs factors, and historical operating performances. Where resource allocation models support allocations, these can involve an averaged annual hours curriculum rate for a provider or specific rate for a course delivered by a provider.

Contestable programs have direct linkages to skill needs of specific industries or training priorities of government.

Market reform in the vocational education and training sector

In his chapter, Anderson evaluates the market reforms—to improve market competition—that were intended to produce a range of beneficial outcomes: improved choice and diversity; efficiency; responsiveness; quality; flexibility; innovation; and access and equity within vocational education and training. He concludes that choice, diversity, responsiveness to large enterprises and fee-paying students, flexibility and innovation have increased. However, the benefits are less clear for efficiency (because of high transaction costs) and responsiveness to small enterprises, communities and government-funded students. Access and equity have also not been improved. The research raises questions on the impact of a more competitive training market on community service obligations and in areas where there are thin markets.

Indigenous students

Burke and Long aim to compare education and training expenditure on Indigenous students to the expenditure on non-Indigenous students. They build on the approximate public cost of a range of courses based on cost relativities and the number of curriculum hours (nominal) associated with the course. These examples are used to estimate average total expenditure per student in schools, vocational education and training and higher education.

Comparisons of participation in education and training by Indigenous Australians with non-Indigenous Australians provide the basis for the comparison of expenditure. Compared with non-Indigenous Australians, Indigenous Australians:

- ❖ have lower participation in pre-school and in the first year of school, have lower levels of school achievement
- ❖ have lower school attendance rates while enrolled

- ❖ have higher representation in vocational education and training
- ❖ have lower levels of achievement in vocational education and training
- ❖ have lower rates of participation in higher education
- ❖ have lower levels of academic success in higher education
- ❖ receive a higher number of hours of training.

Indigenous education and training is provided with considerable additional funding compared with non-Indigenous education and training. A considerable amount of this funding is provided for student assistance. Nonetheless, Burke and Long conclude that, despite the additional funding for Indigenous students, overall, the net additional expenditure is much less than might be expected because Indigenous students have a lower rate of participation in education and training than other Australians.

Students with a disability

Selby Smith and Ferrier report on a project they undertook in 2001–02 which examined the funding arrangements for students with disabilities in vocational education and training in Australia. They found that there are substantial differences across states and territories in the extent to which people with disabilities can access vocational education and training. Most states and territories provide base funding to institutions, with additional funding provided for special purposes. Universally, the arrangements in the states and territories are complex, limited in scope, limit the assistance that can be provided and focus on public training providers. The current funding arrangements for students with disabilities in the states and territories differ in structural arrangements, in supplementary assistance available, according to the size of the state and territory, and in specific initiatives offered.

Selby Smith and Ferrier identify the features of an ideal funding model for students with a disability in vocational education and training as a means of discriminating between alternative funding models. None of the alternative funding models they examined exhibited all of the desired features. They conclude that there are a number of opportunities for improving efficiency in the use of resources to assist students with disabilities in vocational education and training. They are concerned about the availability of additional funds to assist students with disabilities, which they believe is largely a societal responsibility rather than the sole responsibility of enterprises or education and training providers. Some of the alternative funding options, such as case management, would also require input and funds from agencies which operate outside the VET sector.

However, a note of caution is warranted. In looking at groups such as Indigenous Australians and persons with a disability, either in terms of aggregate expenditure or funding models, there is an issue about identification of students. This means that Burke and Long's estimates cannot be taken as definitive. It also means that funding models that rely on precise identification of a student's characteristics will be somewhat problematic.

Financing vocational education and training

The first chapter in section 2 of this book outlines the different financing mechanisms employed overseas to finance entry-level vocational education and training compared with continuing vocational education and training. The contributions made by governments, employers and individuals to expenditure on vocational education and training in Australia are then discussed. The next chapter outlines the TAFE fees and charges that operate across Australia. While contributing relatively little to overall funds, fees and charges are important from the perspective of students and also governments. The next two chapters of this book examine ways in which both employers' investment and individuals' investment in training can be increased, so that governments do not have to assume responsibility for financing increases in expenditure on training. The final chapter provides a different perspective by looking at the value of informal, unstructured learning that occurs on the job.

Contribution to costs of VET by governments, employers and individuals

There are no comprehensive data available that provide an accurate indication of total expenditure on training in Australia. This major information gap means it is not possible to determine with any degree of accuracy the relative contributions to the costs of VET by governments, employers or individuals.

However, Ball identifies some consistent trends and issues in vocational education and training expenditure. These can be summarised as follows:

- ❖ The trend was for governments to reduce the average amount spent per student over the 1990s. Real expenditure per hour by government declined by 11% between 1997 and 2003.
- ❖ While access to employer-supported training increased over the 1990s, average hours of training or skill intensity fell. A high proportion of direct training expenditure by employers can be attributed to firms that employ apprentices and trainees.
- ❖ The reasons given in the Australian Bureau of Statistics (ABS) Training Expenditure and Practices Surveys in relation to why employers provide training to their employees changed over the 1990s. Individual development of staff was a more important reason for employers to provide training in 2001–02 than in 1994 or 1997. In earlier years the reason most often reported by employers providing training to employees was to improve the work performance of employees.
- ❖ Investment by individuals has been relatively low as a proportion of public expenditure for some time, accounting for only about 4% of expenditure within public TAFE providers.

TAFE fees and charges

Watson's research found that there is no consistency in the fee regimes operating across Australia and many variations between institutes operating within the same state or territory. Apart from New South Wales, all states and territories calculate tuition on an hourly rate, with institutes determining the number of training hours. Furthermore, she found that students enrolled in the same course at the same institute could be paying different tuition fees if they have different hours of enrolment. With the exception of South Australia, there are a range of 'hidden' non-tuition costs that can be very high in some states and territories for some courses requiring expensive materials or tools of trade.

Watson concludes that, should a nationally consistent policy be introduced, there would need to be an agreed set of principles based on maximising access to vocational education and training, particularly at the foundation levels, providing a transparent and simple fee structure for students, and maximising access to vocational education and training courses for students from disadvantaged social groups.

Increasing employer investment

A number of commentators and researchers have claimed that there has been a decline in investment in training by employers since the suspension of the Training Guarantee Scheme in the mid-1990s and have argued for the re-introduction of a compulsory levy to force employers to invest more in training. In their chapter, Smith and Billett maintain that these views are based on a selective interpretation of the data and challenge the view that Australian employers do not provide enough training, based on comparisons with investment in training by employers in other countries.

Smith and Billett provide evidence that, despite the apparent decline in employer training expenditure since the mid-1990s, the majority of Australian workers claim to be receiving some form of training from employers, much of it in the form of formal off-the-job training. They also show that claims that Australia lags behind other developed countries in employer training expenditure are fallacious.

Smith and Billett examine the purposes for which enterprises should be encouraged to increase their expenditure on training. They found that governments introduce measures to enhance employer expenditure on training to improve the distribution of training effort between employers, to improve the distribution of expenditure across industry sectors and the distribution of training between different groups of employees, and to increase the national stock of skills.

Smith and Billett discuss and characterise employer approaches to financing training that have been used internationally according to the following classification:

- ❖ *Laissez-faire* systems: this model sees few regulations imposed on employer training. Employers are free to train or not train in accordance

with business need. Countries using this model include the United States, the United Kingdom, Australia and Canada.

- ❖ High employer commitment systems: these systems occur in countries where employers take a high degree of responsibility for skills formation. There is legal responsibility and onus on employers to train, but the training systems are based on workplace training financed by employers. Countries using these systems include dual system countries like Germany, Switzerland and Austria, and the extensive on-the-job training systems of Japan.
- ❖ Sectoral training funds: this model emphasises arrangements whereby employers and/or government establish training funds based on industrial agreements between social partners. Sectoral training funds cover industry sectors and allow employers to provide training with funding from the training funds. Such funds have been used in Australia (Construction Industry Training Funds), the United Kingdom (levy grant scheme), Netherlands (O+O funds) and the Scandinavian training funds.
- ❖ Levy schemes: the most commonly quoted means of increasing employer investment in training is a universal levy scheme. Employers are either required to pay into a training fund to which they can apply for funding to support training (levy-grant system) or pay into a fund if they do not meet a predetermined level of training expenditure (levy-exemption systems). Countries that used or currently use these schemes, include the United Kingdom, Australia and Malaysia.

The authors conclude that there are four policy mechanisms applicable to the Australian context, depending upon the particular goal to be achieved and the circumstances. These are levies, partnerships, leverage and regulation. Leverage could take the form of government partnership with industry or government contributions to encourage further employer contribution. Smith and Billett note that, in Australia, the primary drivers for training provided by employers are internal, in that they are related to organisational change, the introduction of new technologies and to achieving the business strategy of the enterprise.

Increasing individual investment

Traditionally, the level of individual investment in the Australian VET sector, through payment of fees, has been minimal. In his chapter, Keating warns that governments and enterprises can no longer be relied on to fund increases in VET expenditure, and that individuals need to assume responsibility for funding the required investment in vocational education and training if they are to enjoy the benefits from participation in lifelong learning

Keating evaluates the likely effectiveness, within the Australian context, of alternative mechanisms used internationally to increase individual investment in education and training. The main mechanisms considered are individual learning accounts, student loan schemes, vouchers and paid educational leave. Individual learning accounts are accounts opened by individuals to save for their education

and training. Student loan schemes can take the form of graduate taxes, income-contingent loans or mortgage-type loans. Vouchers are an entitlement for an individual to access a predetermined amount of education and training from a provider of their choice. Paid educational leave is a legislated entitlement in some European countries to payment of unemployment benefits or continued payment of salary by an employer for a prescribed period while education and training is being undertaken.

Keating concludes that the VET sector does not have the excess demand necessary to drive an income-contingent loan scheme, as it is excess demand that provides the foundation for the Higher Education Contribution Scheme. Increasing the financial base for vocational education and training supply requires mechanisms that concentrate upon increasing demand for continuing vocational education and training, which will predominantly be among people in paid employment. Learning accounts and paid educational leave offer the most potential to increase demand and investment. There need to be incentives for individuals to invest. These could include tax breaks and superannuation for older workers. Mechanisms would also be needed to encourage investment by the lower-paid and less-educated.

Valuing employers' contribution to training

In her chapter on employers' contribution to training, Richardson emphasises that skill development can take many forms. In most analyses the focus is solely on the costs involved in the development of high-level skills which requires substantial investment by individuals, government and employers. These costs take the form of learner time, the provision of a well-developed formal education and training system which may be publicly or privately funded, and formal on-the-job training provided by employers. Richardson points out that skills used by the workforce are also acquired through the provision of informal training on the job which incurs a cost borne by employers. The cost of this form of training is difficult to quantify because much of it is unstructured, and so the costs are usually ignored.

Richardson develops an approach based on assumptions about how the labour market works to provide estimates of the value of skill enhancement that occurs on the job. She estimates that the contribution made by employers to skill development is in the order of four times that of conventional measures. The importance of her contribution is the insight that the value of skills obtained on the job is very high indeed, and any discussion of employers' contributions to training should take this into account.

Concluding comments

The chapters of this book describe the state of play at the end of the era during which the Australian National Training Authority administered Australian Government funding for vocational education and training within the framework of a multi-lateral intergovernmental agreement. During this

period input-based funding models were employed. At the time of writing, the Australian Government Department of Education, Science and Training is preparing to take over the administration of government funds for vocational education and training and alternative funding models based on outputs or outcomes are being mooted.

A variety of financing mechanisms are proposed in the latter chapters of the book of readings which have been used internationally to encourage employers and individuals to increase their investment in training. Any push to increase investment in education and training needs to be mindful of these mechanisms.

A move to models based on outputs or outcomes will provide both research and policy challenges, not the least because of uneven completion rates and employment outcomes across equity groups, particularly Indigenous students and students with a disability. The chapters on these groups should provide invaluable background to the policy developments. At the same time the other material on funding should provide a useful starting point in developing new funding models.

Part one:
The funding of
vocational
education and
training

Allocation of VET funding by state training authorities

Ross Adams

Over the past decade the nature of vocational education and training (VET) has changed profoundly as a result of many interrelated factors, including technological change, globalisation, de-regulation of the training market and the development of the Australian Quality Training Framework. These changes have, in turn, affected the way in which the VET sector is funded. The aim of this chapter is to give an overview of the way in which funds appropriated by state and territory governments and the federal government are allocated to vocational education and training—both public and private providers—through state training authorities.

Background and purposes

UNTIL THE EARLY 1990s, the great majority of public vocational education and training in Australia was delivered by institutes of technical and further education (TAFE). In most states and territories, funding was disbursed to TAFE institutes by the government department or agency with overall responsibility for vocational education and training. In fact, at that time the acronyms 'TAFE' and 'VET' were practically synonymous. Some state and territory and Australian Government funding was provided to non-TAFE providers, such as the adult and community education (ACE) sector in some states, and to providers of education and training services for Indigenous Australians. However, the sums involved were very small by comparison with total funding to TAFE.

In the past, TAFE served two major client groups. The first was traditional apprentices, and from the mid-1990s, trainees, and their employers. The second group comprised young people undertaking complete full-time vocational training courses after finishing secondary school. The TAFE system, and the mechanisms for funding it, reflected these priorities.

This situation changed irreversibly in the early 1990s, driven by a number of interrelated factors, including:

- ❖ profound structural shifts in the labour market, caused by, among other things, increasingly rapid technological change and increasing globalisation of markets
- ❖ continued increase in the average age of the Australian population, which occurred at around the same time as the growing need for skills upgrading and retraining in response to rapid technological change
- ❖ arrangements for greater industry input into the training system through the development of a network of state and territory and national industry training advisory boards
- ❖ the introduction of competition into the training provider market by allowing providers other than the institutes of TAFE to receive public funds to deliver training, often on a competitive tendering basis, and by allowing providers (including TAFE) to deliver training in other states and territories
- ❖ changes to the traditional apprenticeship system, including the development of traineeships, and the implementation of the New Apprenticeships system from 1 January 1998. The New Apprenticeships arrangements included choice of training provider and arrangements for fully on-the-job delivery of the formal part of the training program
- ❖ Government funding in the form of subsidies to employers of apprentices and trainees, growth funds to state and territory training authorities and funds for capital works, capital improvements and special projects
- ❖ requirements of states and territories to match additional Australian Government recurrent funding on a dollar-for-dollar basis
- ❖ the development of the National Training Framework for vocational education and training (now the Australian Quality Training Framework); the development of national courses and modules, and more recently, national training package qualifications and units of competency, linked to levels in the Australian Qualifications Framework
- ❖ national agreements to fund and promote recognised vocational education and training in secondary schools as part of upper secondary education
- ❖ the implementation of other new policies and a change in strategic direction by providers, state and territory training authorities, the Australian National Training Authority (ANTA) and the Australian Government, for example, access and equity initiatives.

The majority of these policy changes had implications, either directly or indirectly, for the ways in which resource allocation to the public VET system was managed. The annual agreements signed by each state and territory with the Australian Government explicitly reflected this changed funding context. Throughout the 1990s, a more diverse range of funding and accountability arrangements emerged in response to the diversification of the public VET system, and these have continued.

The five-year national strategies for vocational education and training developed by ANTA and agreed by ministers also reflect these developments. For example, a key objective of the 1994–98 national strategy was ‘efficiency, so that value for money and accountability are emphasised and administrative arrangements are streamlined and simplified’. Specific strategies included opening up the training market, allocating a greater proportion of funding on a competitive tendering basis, offering choice in relation to who provides training, and removing barriers to industry and private provision of training.

In the 1998–2003 national strategy, specific objectives for improving efficiency and maximising the value of public expenditure on vocational education and training included: using infrastructure effectively; assuring accountability; improving management information; and using research and evaluation to inform policy and planning.

Throughout this period of change, the states and territories and ANTA, in accordance with the Australian Vocational Education and Training Management Information Statistical Standard, have provided financial information about the public VET system to the National Centre for Vocational Education Research (NCVER) for publication each year. This information is published in the form of a number of financial tables, charts and explanatory comments, covering revenues and expenses, assets and liabilities, cash flows and trends in total revenues and expenses over the previous five years.

While this information provides regular data about the recurrent financial throughputs and capital investment levels of Australia’s public VET system, there has been little information available in the public domain which describes the main practices across the system in relation to obtaining and allocating VET funds appropriated by state and territory parliaments and the Australian Parliament.

The primary purpose of this chapter is to give an overview of these practices, to link to other work related to funding and financing models, and, more generally, to develop a national picture of total VET effort and not just the public VET system.

Scope

The research focused on clarifying structural and funding arrangements of state and territory training authorities in their management of the allocation of public (that is, government) recurrent funding to public and private providers for VET program delivery. Public funding includes:

- ❖ funding paid by ANTA
- ❖ funds appropriated for vocational education and training by the Australian Government and state governments
- ❖ other funds earned and controlled by the public TAFE institutes
- ❖ funding of VET divisions within universities which has been paid for by state and territory training authorities.

Of the funds earned and controlled by the public TAFE institutes, delivery hours funded by fee-for-service arrangements (arising from a client request for a specific course/program) are additional to the delivery hours specified by the provider's contract with the government. For the purposes of the contract, student fees and charges revenues which remain under the control of the provider are included in the calculations relating to funding of the delivery hours. This is the most common approach across states and territories, the alternative being that student fees and charges revenue are returned to consolidated revenue during the funding year. In this approach, the government initially funds delivery at gross levels with guaranteed subsequent revenue returns. The net cost to government is the same under both approaches.

However, not all public funding spent on vocational education and training goes through state training authorities. For example, VET provision to prisoners, police, fire brigade and defence forces may be delivered through non-TAFE registered training organisations, including 'in-house' registered training organisations. Funding for this does not involve any financial transaction with state training authorities and thus relates to the broader notion of total VET effort. The broader notion of total VET effort includes all recognised (accredited) vocational education and training, including VET that is not publicly funded.

Funding provided to all VET providers from state training authorities essentially covers profile, user choice and contestable delivery (refer further comments below). For this chapter some additional information was obtained relating to financial performance evaluation of providers and their accountability to state training authorities for funds provided.

The research for this chapter focused on the mechanisms which state training authorities use to allocate and manage the publicly funded resources of their jurisdictions. It was not concerned with specific costing or pricing.

Methodology

All states and territories were invited to participate in either personal or telephone consultations structured around a series of questions in the areas noted above. One state declined the invitation to participate, while another provided limited information. Responses were returned to contributors for checking, amendment and final acceptance.

Findings

Structural arrangements

There is a large degree of commonality between states and territories in organisational structures which develop and deliver VET training plans and profiles. There is essentially a two-tiered approach to the delivery of state and territory vocational education and training.

A legislated training board/commission (which is technically the ‘training authority’) has responsibility for providing advice and recommendations to the minister on annual training plans. These are strategically and priority-focused and link estimated funding requirements to related delivery outputs and outcomes. Membership of the board or commission includes representatives of providers, government, industry, unions and employers, all of whom provide comprehensive input into the VET training needs of the jurisdiction.

Following adoption of the training plan by the state or territory government in its budget, responsibility for managing the allocation of the appropriated VET funds is devolved to the state training department. These VET funds comprise funds contributed by:

- ❖ state or territory governments (57% of total)
- ❖ ANTA and other Australian Government special purpose programs (22% of total)
- ❖ internally generated fee-for-service and ancillary services funds (16% of total)
- ❖ funds from fees and charges levied on students (5% of total).

This breakdown is shown in figure 1 (p.27).

The states and territories display a number of differences in the structural relationships between the training departments/branches and the TAFE colleges/institutes. In a couple of the states, the TAFE institutes are not autonomous authorities and their financial systems are integrated within the appropriate department. In most states and territories the TAFE institutes are statutory authorities with no operational linking of financial systems.

In terms of VET program delivery, state or territory training departments establish contracts with both the public providers and private providers. Private providers deliver user choice and contestable delivery programs. Although some states make payments to ACE providers, these are for administration and program support, not for delivery of accredited VET courses. An exception would be an ACE provider, which was also a registered training organisation, securing funding under user choice or contestable arrangements, such as tendered bids. Similarly, state and territory training departments/branches do not fund delivery of VET in Schools programs. This present work confirmed that funding for VET in Schools programs was appropriated to education departments as schools education funding.

Funding categories and arrangements

States and territories ‘cut’ their training plans into four main categories for allocating the appropriated funds. These are for:

- ❖ general profile delivery and college-based administrative, student and property services support for public providers (range, 70–80% of total)
- ❖ user choice delivery (range, 10–20% of total)

- ❖ contestable delivery (range, 5–10% of total) funding for both public and private providers
- ❖ state training authority and training department administration funding (range 1%–5% of total).

General profile delivery and college-based administrative, student and property services support funding

General profile delivery covers the broad spectrum of VET programs to be delivered by the TAFE colleges and institutes. Delivery targets for individual institutes are determined through negotiations with the department, and which take into account a number of factors, including:

- ❖ current local and regional training demands
- ❖ student demographics
- ❖ institute capital infrastructure and capacity to deliver
- ❖ government priorities and special initiatives or programs requiring delivery
- ❖ institute location
- ❖ historical delivery performance.

Funding is formalised through annual resource performance agreements which are negotiated by both departmental and institute management.

The performance agreements detail both delivery hours (with analysis of industry grouping normally a scheduled attachment) and funding provided. Funding calculations are not normally based on detailed course or program cost or activities information, but are more likely to involve the use of average hourly rates for providers, derived from negotiations and historical information. The complexity and diversity of programs and program delivery methods for vocational education and training do not readily allow confident identification of costs at levels which could form the basis of course/program resourcing calculations.

User choice delivery funding

‘User choice’ refers to delivery of the formal (usually off-the-job) component of training to New Apprentices (that is, apprentices and trainees). The funding of user choice is independent of the subsidies and incentives paid to employers by the Australian Government Department of Education, Science and Training. Private providers also access public funds for these initiatives.

Most jurisdictions appear to establish their total anticipated delivery for apprentices and trainees and allocate funding to cover the majority of the public providers’ expected delivery as a component of their resource agreement funding at the commencement of the funding period. Allocations take account of local demands for particular skills, and also providers within the market area who have previously demonstrated capacity to supply the training requirements.

The 'residual' user choice is allocated to private and public providers based on individual contracted arrangements or on tendered arrangements. Delivery bids from providers are evaluated by state training authorities before contracts for training delivery are formalised, based on a number of criteria, including price, scope of provider registration and demonstrated capacity to deliver quality training etc. Compliance with state or territory procurement policies and preferred supplier arrangements where applicable are also considered.

Payments to providers are progressive and depend upon evidence of performance, such as submission of training plans, evidence of commencement of training and evidence of completion of competencies or issue of qualifications.

It would seem that, at the present time, the majority of public funds for user choice programs go to the public providers. There are a number of possible reasons for this.

- ❖ There are well-established relationships between employers and the large public providers. Firms and industries have direct links with public providers through their representation on the councils or boards of these providers. These links would tend to maintain employer recognition of the role of the public providers as major providers of apprentice and traineeship training and could understandably influence employer–employee training decisions.
- ❖ The public providers have benefited from significant capital facilities investment by governments over time and are often better equipped than private providers to deliver apprenticeship training, particularly in the traditional trades areas. Typically, courses in the traditional trades are more expensive programs to deliver than information technology traineeships or business and clerical traineeships, thus requiring higher per unit funding from governments.
- ❖ The public providers would also be more dominant in regional areas where there are likely to be fewer private providers.

Contestable delivery funding

Contestable delivery is best described as specific and/or priority-demanded delivery which takes account of industry and government priorities, skill shortages and training needs of equity target groups, and which has been evaluated by state or territory training authorities as suitable for delivery by both public and private providers through open market 'bidding' arrangements. Contestable delivery, as managed and defined by state training authorities, does not include delivery under the New Apprenticeships initiative.

Contestable funding is equitably available to both public and private providers, with the exception of one state, which has excluded its public providers from accessing these funds. It is noteworthy that the limited availability of suitable providers in the smaller jurisdictions can impact on funding distributions.

Assessment of delivery bids and payments to approved providers are essentially the same as user choice as described above.

Most states and territories have recently experienced tension between determining appropriate funding for training delivery in an open training market while, at the same time, meeting ongoing commitments to fund their public providers as they, also, move to becoming more corporative entities. The public providers have embedded cost burdens, such as those relating to jurisdictional industrial award conditions for employees, and relatively larger capital infrastructure and capital maintenance costs, which do not affect private providers to the same extent. Costs such as these make it more difficult for public providers to price their program offerings competitively with those of private providers, with the result that public providers are required to deliver a disproportionate amount of more expensive programs.

State training authority and training department administration funding

These funds are allocated within the organisational units of state training authorities and training departments for the purpose of managing:

- ❖ corporate policy, planning and administration, including VET program accreditation
- ❖ registration of training providers
- ❖ information technology services
- ❖ facilities management, statistical services
- ❖ financial budgeting, reporting and accountability arrangements with public providers and central agencies, such as state or territory treasuries or departments of finance, and ANTA.

The funds are essentially allocated and managed on a program management basis. Funds are aligned with expected outputs and outcomes, and performance measures. Funding allocations are formalised through signed resource agreements between the state training authority, the departmental chief executive officer and section directors.

Performance monitoring and accountability of public providers

As a general rule, the frequency of monitoring delivery outputs and financial performance of the public providers by state training authorities and/or training departments is determined by:

- ❖ the degree of autonomy of the public providers
- ❖ the presence or absence of centralised financial systems containing provider records
- ❖ state or territory financial administration and audit legislative requirements
- ❖ the size of the state or territory.

Nevertheless, all states and territories conduct, as a minimum, major quarterly reviews of financial and non-financial information of all organisational units, including the public providers, primarily in accordance with the requirements of state and territory financial administration and audit legislation. The reviews are the prime mechanism for adjusting delivery targets and related funding of providers during the life of the performance agreement and are usually undertaken through direct consultation with senior management within providers. State training departments or branches can also introduce more regular (for example, monthly) monitoring of any provider, where its financial indicators of liquidity are outside tolerance levels.

Conclusion

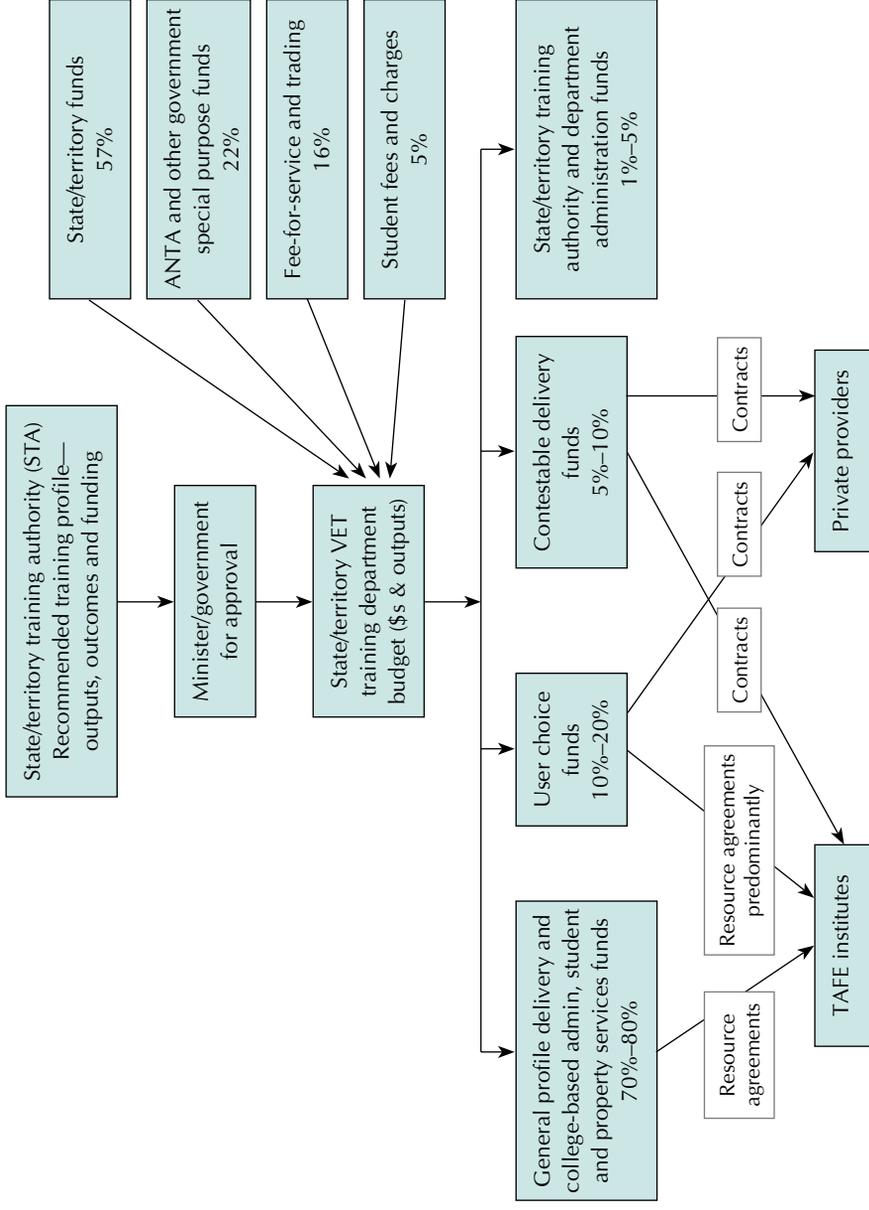
The following are the major findings from this research project on funding allocation for vocational education and training by state training authorities.

- ❖ State training authorities take advice from their VET stakeholders—provider representatives, government, industry, unions and employers—in developing training plans, training priorities and related funding requirements. These are submitted to ministers and government for approval through parliamentary budget processes.
- ❖ Training departments or branches are responsible for the distribution and overall management of public funds paid to public and private providers.
- ❖ Formalised resource or performance agreements support funding to TAFE colleges and institutes for their general profile and the bulk of their user choice funding. Some states fund their TAFE colleges and institutes for a calendar year, while others fund for a financial year.
- ❖ Negotiations which consider local training needs, student demographics, infrastructure and operating costs factors, and historical operating performances predominately underpin financial resource allocations to the public providers for general profile core delivery. Where resource allocation models support allocation calculations, these can involve an averaged annual hours curriculum rate for a provider or, in exceptional instances, a specific rate for an output (for example, course) for a provider.
- ❖ Funding levels for user choice and contestable delivery, as a component of total funding, are generally in the ranges of 10–20% and 5–10% respectively.
- ❖ Contestable programs have direct linkages to skill needs of specific industries or training priorities of government. These programs have been evaluated by state training authorities as being appropriate for contestable delivery, based on their knowledge of their providers' registration status, capacity to deliver quality training, and state or territory training market demographics.

- ❖ Payments to both public and private providers for contracted or tendered user choice and contestable delivery are made progressively when evidence of completion of competency levels or qualification attainment has been received by training departments or branches.
- ❖ Funding outlays for both user choice and contestable funding can be identified from either primary financial systems or supporting management systems.
- ❖ Major quarterly financial and performance reviews of TAFE colleges or institutes by training departments or branches can result in adjustments to funding and/or delivery hours, and closer monitoring (for example, monthly) of providers showing signs of difficulty in achieving contracted financial or delivery conditions and targets.

While there are different organisational and structural arrangements and relationships between state training authorities, training departments and the training providers across the states and territories, the overall conclusion is that their basic policies, principles and practices for financial resources needs determination, allocation and management are nevertheless largely consistent.

Figure 1: Broad overview—VET financial resource allocations, states/territories



Measuring the impact and outcomes of market reform in VET

Damon Anderson

In the early 1990s, the concept of a competitive market in vocational education and training (VET) was adopted as policy in Australia. As the process of market reform became well advanced in all state and territory jurisdictions, Damon Anderson set out to evaluate the impact and outcomes of this from a national perspective, primarily on the basis of survey data collected at the end of 2001. This chapter is an edited version of the resulting report¹. It has been prepared by Davinia Woods, a graduate research officer with the National Centre for Vocational Education Research, in consultation with Damon Anderson.

Introduction

OVER A DECADE has now elapsed since the concept of a competitive training market was adopted by governments in Australia and its development is now well advanced. Anderson notes that, despite the significance and potential impact of the market reform in VET, there has been no comprehensive evaluation of its impact and outcomes. This chapter summarises Anderson's evaluation of market reform in VET as at 2002.

Taking a national perspective, Anderson aimed to evaluate the impact and outcomes of market reform in VET, particularly in relation to competitive tendering and user choice. In doing so, he aimed to:

- ❖ examine the structure, composition and dynamics of contestable or 'quasi-markets' for VET
- ❖ assess the impact and effects of market reform on providers and clients
- ❖ evaluate the outcomes, both intended and unintended, of market reform in VET
- ❖ identify how existing market arrangements could be improved in order to produce more effective outcomes.

¹ Anderson, D (forthcoming), *Trading places: The impact and outcome of market reforms in vocational education and training*, NCVER, Adelaide.

Anderson used the following research methods:

- ❖ a review of policy and research literature relating to the development, impact and outcomes of markets for VET
- ❖ an analysis of national data on participation and finances in VET
- ❖ stakeholder consultations with the Australian National Training Authority (ANTA), state/territory training authorities, academic researchers and peak bodies representing VET providers and clients
- ❖ focus group interviews in metropolitan and regional Victoria with managers, teachers, student services staff, students and apprentices and trainees
- ❖ a national survey of registered training organisations conducted in late 2001, with responses from 842 registered training organisations (a response rate of 71% for technical and further education [TAFE] institutes and 32.6% for all registered training organisations).²

The study used a framework comprising several key criteria, to evaluate the efficacy of quasi-markets in VET. These included increased choice and diversity; efficiency; responsiveness; quality; flexibility; innovation; and access and equity. These criteria were derived from official policy statements about intended outcomes of a competitive training market.

Background

Since the late 1980s, the VET sector in Australia has undergone profound and far-reaching reform with the aim of producing a more highly skilled and flexible workforce. Among the most important of these reforms has been the development of a competitive training market.

For almost two decades prior to these reforms, VET programs and services were delivered primarily through the technical and further education (TAFE) system, which was formally established following the seminal report of the Australian Committee on Technical and Further Education (1974), commonly known as the Kangan Report. This report advocated universal access to recurrent education as a social entitlement, and viewed TAFE provision as a key responsibility of government. Kangan recommended that TAFE should be planned, coordinated and delivered through an integrated system of state-owned and operated institutions.

In 1990, the Deveson Review (1990) argued that market reform would produce a range of beneficial outcomes not otherwise possible through the centralised model of state planning, financing and provision of VET that prevailed following the Kangan Report. Drawing on economic theory, but unsubstantiated by empirical evidence, it asserted that market-based competition would result in

² The survey tool has a number of limitations relating to: cause-and-effect attribution; the lack of comparative before-and-after data; and the partial and subjective nature of senior manager perspectives.

greater choice and diversity, efficiency, responsiveness and quality, without adverse consequences for access and equity. Subsequent government policy statements have made similar claims (for example, ANTA 1996).

Two years later, the Australian Government and the state and territory governments adopted the goal of creating a competitive training market and began progressively redesigning their policy, funding and regulatory frameworks along market lines. Drawing on the concepts and language of economics, government redefined VET as a 'product' that was subject to the market forces of 'supply' and 'demand', driven respectively by the principles of 'competition' and 'choice'.

By the mid-1990s, the eight state-based TAFE systems had been overlaid with a series of markets for VET programs and services. Private providers were granted access to government recognition and funding, and were encouraged to compete with TAFE institutes. Simultaneously, TAFE institutes were encouraged to become more businesslike, entrepreneurial and reliant on private income from commercial training markets. Although these institutes continued to receive the bulk of public VET funds, they did so mostly within a new framework of quasi-contractual performance agreements with state/territory training authorities.

Quasi-markets, based on the organising principles of choice and competition, were established through the separation of the purchaser and provider roles of government, and the use of market mechanisms to allocate funds for VET delivery on a contestable basis. Government assumed the role of a 'monopsonistic' purchaser of training places under competitive tendering arrangements.³ By 1999, competitive tendering was being used to allocate about 5% of national recurrent funds for VET delivery, although this proportion declined slightly thereafter. An additional 3% of total VET revenue was derived from contestable fee-for-service provision funded by government agencies other than state/territory training authorities.

From 1996–97 onwards, the pace of market reform in VET accelerated, and government turned its attention to reforming the demand side in an effort to empower clients to exercise greater choice and influence over providers. The mechanism adopted for this purpose was 'user choice', a quasi-voucher scheme that enables employers and their apprentice or trainee to choose their preferred provider and aspects of training content and delivery. Implemented nationally from 1998 onwards, user choice was used to allocate up to 18% of national recurrent VET funds in 2001.⁴

³ A monopsony is a market structure in which there is only a single buyer of goods or services offered by several sellers—that is, the demand-side analogue of a monopoly (a single seller on the supply side of a given market). It should also be noted that government purchasing decisions in the training market are influenced by demand-side advice provided by Industry Training Advisory Bodies.

⁴ It should be noted, however, that not all the funds for user choice were open to competition among TAFE and non-TAFE providers, due to the introduction of caps on private registered training organisation apprentice and trainee numbers in Queensland, Tasmania and Victoria at the end of the 1990s.

Findings

Anderson's study shows that market reform resulted in fundamental changes in the form and character of VET providers and VET provision. The outcomes that emerged included a range of positive and negative outcomes. Anderson cautions that care must be taken when interpreting the findings due to the broad-scale nature of the study, limitations of research methodology and difficulty in interpreting cause-and-effect relationships.

Changes in structure, composition and dynamics of markets in VET

Findings about the structure and composition of VET markets are described in the context of the national training market, geographic markets, industry markets and income sources. Market dynamics relate to competition issues.

National training market

Following the establishment of a national framework for the recognition of non-TAFE providers and VET qualifications in the early 1990s, the supply side of the training market has grown rapidly. In 1994, there were 1209 registered training organisations in Australia; by 2001 there were 4306, including TAFE institutes⁵.

By 2001, a large majority of the 4226 non-TAFE registered training organisations were delivering a substantial proportion of their VET programs and services within the National Training Framework. The 2001 survey found that 63% of all registered training organisations and 89% of TAFE institutes had delivered at least three-quarters of their training under the National Training Framework in the previous 12 months. However, over one-quarter of all registered training organisations and only 11% of TAFE institutes had delivered all of their training under the National Training Framework.

Geographic markets

Despite the establishment of the National Training Framework and associated mutual recognition arrangements, a relatively modest proportion of TAFE and non-TAFE registered training organisations were found to be delivering nationally recognised training across state/territory borders. Although registered training organisations, two-thirds of which are based in metropolitan areas, continue to deliver training in their local markets, a substantial number are competing for business in other markets in their own state/territory of registration. Surprisingly, there appears to be a larger influx of registered training organisations into rural/regional than into metropolitan markets.

International markets for VET have become a significant focus of competitive activity and source of income for TAFE institutes and some types of non-TAFE registered training organisations, particularly business colleges. Over seven in ten TAFE institutes and over one in ten non-TAFE registered training

⁵ 'TAFE institutes' include TAFE institutes (including TAFE divisions of universities) and five other TAFE providers listed on the National Training Information Service.

organisations are competing in on-shore export markets, which have become one of the three largest sources of income for 11% of TAFE institutes and 7% of registered training organisations as a whole. Off-shore export markets are also growing in significance, with over six in ten TAFE institutes, and almost one in ten registered training organisations as a whole, competing for business overseas. By comparison, only a small proportion of TAFE and non-TAFE providers derive some of their income from off-shore export markets. Nonetheless, the survey findings and other research suggest that export markets for VET rival the national training market in commercial significance for a small but growing number of VET providers, especially business colleges.

Industry markets

Changing patterns of registered training organisation participation in domestic markets during the latter half of the 1990s have altered the form and composition of markets on the supply side. TAFE providers continue to dominate the primary and secondary industry training markets, although to a lesser extent in some industries than was the case prior to market reform. The TAFE providers appear to face more competition from a wider range of non-TAFE providers (and other TAFE providers) in most industry training markets, including manufacturing, and especially in training markets for service industries. Most of this competition is concentrated at Australian Qualifications Framework (AQF) levels II–IV inclusive.

Income sources

From 1997–2001, payments by government to post-school non-TAFE providers grew by 87% nationally. This occurred during a period when total government revenue for VET declined (Burke 2003). Anderson found that payments to post-school non-TAFE providers as a percentage of government revenue grew from 5.4% to 9.8% from 1997 to 2001.

Anderson indicates that, in 2001, non-TAFE providers won 44% nationally of contestable VET funds and almost 10% of total recurrent government revenue. As a result, TAFE institutes began trading places with non-TAFE providers. In response to an overall 2.4% decline in total government funding from 1997–2001, TAFE institutes derived about 13% of their total delivery revenue in 2001 from quasi-markets, and 16% from commercial markets.

Although TAFE providers continue to service mass markets comprising government-funded students, survey data also show they are increasingly moving into niche commercial markets. The majority of TAFE providers are competing in markets for both fee-paying individual and industry/enterprise clients, although almost three times more TAFE providers identified fee-paying industry/enterprise clients among their three main sources of VET revenue.⁶ Government funding allocated via non-competitive (profile) processes remains the largest source of income for TAFE providers, and for rural/regional registered training organisations as a whole. User choice and competitive tendering are among the

⁶ Analysis of the 2003 NCVER VET Financial Data Collection indicates that, between 1999 and 2003, TAFE providers continued to increase their participation in open and commercial markets, with a 55.1% increase in fee-for-service revenue recorded over this period.

three main income sources for six and five in ten TAFE institutes, respectively. By comparison, fee-paying industry/enterprise clients were identified by almost six in ten TAFE institutes as among their three main income sources. Fee-paying industry/enterprise clients are also relatively more important than government funding sources for metropolitan registered training organisations.

Markets for private fee-paying clients remain the most important income sources for non-TAFE registered training organisations—around six and five in ten of all registered training organisations are competing for fee-paying individual and industry/enterprise clients, respectively. Comparatively fewer registered training organisations are competing for government funds in contestable markets. About half of all registered training organisations identified fee-paying individual and industry/enterprise clients as among their three main sources of income, and between three and four in ten identified government-funded contestable markets among their main income sources. Therefore, since the establishment of contestable funding markets in the mid-1990s, government has become a major source of revenue for many non-TAFE registered training organisations. Over half (51%) of all registered training organisations (including TAFE institutes, which comprised only 7% of the total respondent population) derived at least half of their total VET revenue in 2000–01 from government sources.

Competition

During the 1990s, competition between and among TAFE and non-TAFE providers appears to have increased in both quasi-markets and open and commercial markets for VET. Although the survey data suggest that the degree of competition is greater in commercial markets for VET, there are large proportions of TAFE and non-TAFE providers competing for contestable government funds. Between four and five in ten registered training organisations are competing for funds/clients in competitive tendering and user choice markets. Competition has increased ‘greatly’ since the introduction of contestable funding processes, according to over half of all TAFE institutes and over one-third of all registered training organisations. The degree of competition appears to be higher in user choice than competitive tendering markets. Reflecting the large influx of registered training organisations into rural/regional markets, competition therein has increased to a greater extent than in metropolitan markets.

Despite efforts by the government to place public and private VET providers on an equal footing through ‘competitive neutrality’ arrangements, the study found that the ‘playing field’ is far from being level. Around half of all TAFE providers and registered training organisations as a whole identified at least one factor that restricts their capacity to compete effectively. Overall, the most significant restriction on registered training organisations as a whole (42%), and the second most significant restriction on TAFE providers (46%), is the capital cost of entering new markets, although 17% of all registered training organisations, and 7% of TAFE institutes, identified government training regulations as a restrictive factor. This proportion is lower than expected in the light of prior research. This suggests that government reforms during the later 1990s have succeeded to some extent in reducing regulatory and bureaucratic constraints on provider competition.

The main restriction on the competitiveness of TAFE providers is industrial awards and conditions for teachers and trainers (51%); the costs of meeting community service obligations (39%) are also significant. By far the most significant restriction on rural/regional registered training organisations is their geographical location. These restrictions mainly relate to thin markets on the demand side (34%) and difficulties experienced in attracting or retaining experienced or qualified teachers and trainers (27%). Such restrictions increase production costs and disadvantage the affected providers.

As these restrictions were inherited from the pre-market era, as a whole they serve to highlight the fact that the construction of quasi-markets has not occurred in a value-free context. Each factor increases the direct costs and/or uncertainty of operating in a market-driven environment, and highlights the need for government to give further consideration to the differential modes of production that apply in TAFE institutes and rural/regional providers. In the absence of compensatory action, key policy objectives are likely to be compromised, including efficiency, quality, flexibility, and access and equity, in addition to continuity of supply and the viability of thin markets in rural/regional areas.

Provider responses to market reform

The study investigated some of the ways in which VET providers are being affected by, and are responding to, the new contestable funding environment.

A majority of both TAFE providers and registered training organisations as a whole reported that revenue had increased during the period from 1998–2001, although mostly to a minor degree. Private rather than government sources contributed to these increases to a slightly larger degree, although seven in ten TAFE providers and four in ten registered training organisations as a whole experienced increases in income under user choice. A larger proportion of TAFE providers than of all registered training organisations reported decreases in income from government via non-competitive and also competitive tendering processes.

Patterns of expenditure during the same period were found to vary between TAFE institutes and all registered training organisations in certain key respects. As a whole, registered training organisations increased their expenditure across the board on all items. Around half of both TAFE institutes and all registered training organisations had increased their expenditure on administration (such as planning and finances). Significantly more TAFE institutes than registered training organisations as a whole had increased their expenditure on marketing information and communication, and ancillary trading (such as industry consultants); and had decreased their expenditure on: direct delivery (teaching and training); curriculum development and maintenance; infrastructure maintenance (facilities and equipment); and student services.

Overall, the findings suggest that TAFE providers, to a much greater extent than most registered training organisations, have been engaged in a process of organisational restructuring to enable them to respond effectively to the demands of a more competitive and unpredictable market environment. In a context where TAFE institutes are guaranteed considerably less government funding

on a recurrent basis, a more market-oriented system has necessitated greater responsiveness and flexibility in organisational strategy and infrastructure, especially in relation to human, but also physical resources. At the same time, they have been refocusing their program profiles on commercial training markets, and vigorously pursuing a range of cost-reduction strategies in an effort to both manage the impact of declining government funds, and put themselves on a more competitive footing in all market segments.

Outcomes of market reform assessed against policy objectives

Overall, findings suggest that market reform in VET has produced a range of positive and negative outcomes. Table 1 shows the policy objectives that were achieved and those that were not achieved for TAFE and all registered training organisations.

Choice and diversity

Choice and diversity have increased in the VET sector as a result of market reform, although not to the same degree in all market sectors or for all VET clients. On the supply side, the number and range of providers have expanded, thereby giving purchasers and clients access to a potentially wider range of choices. Choice is relatively more restricted in rural/regional areas, as only one-third of all registered training organisations are located outside metropolitan areas. However, as previously noted, substantial numbers of registered training organisations are competing for business and delivering nationally recognised training in rural/regional markets beyond their own locality. Despite the apparent influx of registered training organisations into rural/regional areas, the existence of thin markets on the supply side is an ongoing problem, especially in remote areas. As a consequence, competition and choice are highly restricted, and in some cases non-existent. This, together with other adverse effects, suggests that quasi-markets in VET are generally unviable in remote areas and many rural/regional areas.

The extent to which market reform has improved the range and diversity of VET programs and services is less clear-cut. Overall, the survey found that the range of 'training options' has increased under competitive tendering, and to a greater extent under user choice. However, the evidence also suggests that full-fee-paying clients may enjoy a wider range of training options and scope for choice than government-funded students. Training options also appear to be relatively more numerous for clients under user choice than in programs funded through both profile and competitive tendering arrangements.

The research suggests that the market power of clients to exercise choice, and thereby influence training decisions and outcomes, has increased under user choice, but not under competitive tendering. However, the content-related choices open to user choice clients are restricted to a predetermined range of industry-mandated competency standards and packaging specifications in training packages. Findings also suggest that it is the employer, rather than the employer in conjunction with the apprentice or trainee, who exercises choice-making power.

Table 1: Scorecard of the intended outcomes of market reform in VET

	TAFE institutes	All RTOs ¹
Increased choice and diversity		
Increased diversity of providers	✓	✓
Increased diversity of training options	✓	✓
Increased client control over outcomes ²	X✓	X✓
Increased efficiency		
Reduced costs of training delivery	X	X
More efficient use of public VET funds	X	X
Reduced costs of administration	X	X
Reduced complexity of administration	X	X
Reduced delivery costs outweighing increased transaction costs	X	X
Increased responsiveness		
Closer/more direct relations with clients	✓	✓
Increased responsiveness to individual student needs	X	✓
Increased responsiveness to apprentice/trainee needs	✓	✓
Increased responsiveness to industry/employer demand	✓	✓
Improved skills supply to industry	X	✓
Increased investment by industry/enterprises	X	X
Improved quality		
Improved quality of VET programs and services	X	✓
Improved skill outcomes for students/apprentices	X	✓
Increased flexibility	✓	✓
Increased innovation	✓	✓
Increased access and equity		
Improved access for small enterprises	X	✓
Improved access for medium/large enterprises	✓	✓
Improved access for local/surrounding communities	X	✓
Improved access and equity for women	X	X
Improved access and equity for unemployed people	X	X
Improved access and equity for disadvantaged groups (e.g. migrants, disabled)	X	X
Improved accountability for use of public VET funds ³	X✓	✓

- Notes: 1 The respondent population comprised TAFE institutes (7%), adult and community education centres (12%), and other registered providers (81%).
- 2 Client control over outcomes has increased under user choice, but not under competitive tendering, from a TAFE perspective.
- 3 Accountability for public VET funds has increased under user choice, but not under competitive tendering, from a TAFE perspective.
- RTO = registered training organisation.

Efficiency

The survey produced some evidence of efficiency gains from market reform, but these appear to be predominantly internal to providers, and generally confined to specific administrative and financial processes. However, the bulk of evidence from the survey suggests that neither crude nor productive efficiency has ensued from training market reform. A majority of both TAFE providers and registered training organisations indicated that the costs of training delivery have not declined, and that public VET funds are not used more efficiently, under either competitive tendering or user choice arrangements. Despite the fact that providers have been rationalising and streamlining internal administrative and planning systems and processes—in addition to implementing a wide range of cost-reduction strategies—high transaction costs, and greater complexity and uncertainty in quasi-markets, appear to have discounted or cancelled out any efficiency gains.

Responsiveness

Provider responsiveness to client needs has almost universally increased as a direct consequence of market reform in VET. In general, responsiveness to client needs has increased to a greater extent under user choice than under competitive tendering. Closer and more direct relations between providers and clients have also been achieved under both market mechanisms. However, the survey findings show that some client groups have fared better than others. Specifically, survey data suggest that employers, rather than individual students or apprentices and trainees, are the major beneficiaries of increased provider responsiveness under competitive tendering and user choice.

The survey findings also show that the needs of some enterprises have been better satisfied than others. Access for medium and large enterprises appears to have improved to a greater degree than it has for small enterprises, although a smaller majority of registered training organisations indicated that access for small enterprises has improved under user choice. Neither market mechanism has improved access to TAFE for local/surrounding communities, although they appear to enjoy better access in some cases to non-TAFE registered training organisations.

Other outcome measures also cast the greater responsiveness promoted by market reform in a more problematic light. Market reform has increased the capacity of a majority of TAFE providers to satisfy the needs of full-fee-paying clients, but not government-funded clients. The converse applies to registered training organisations as a whole. According to a majority of TAFE providers, neither market mechanism has improved the supply of skilled labour to industry, suggesting that the potential for skills shortages may increase over the medium to long term. Finally, the majority of both TAFE providers and registered training organisations as a whole said that neither market mechanism has increased employer investment in VET, despite this having been identified in official policy as a consequential outcome of increased provider responsiveness to industry needs. The survey data also suggest the need for an examination of the extent to which market reform may have encouraged cost-shifting by enterprises and substitution of public for private training resources.

Quality

The findings are somewhat equivocal on the issue of quality. From a TAFE perspective, quality has not improved, and appears to have declined under both competitive tendering and user choice. After increased transaction costs, a decline in the quality of VET provision was identified by both TAFE institutes and registered training organisations as a whole, as one of the main negative outcomes of market reform. Although not conclusive, the survey data suggest that quality may have improved for a small proportion of non-TAFE registered training organisations, although more so under user choice than under competitive tendering arrangements.

Other circumstantial evidence pointing to a potential decline in quality includes the findings that a large proportion of TAFE institutes and all registered training organisations are:

- ❖ less inclined to share information and resources
- ❖ diverting resources from training delivery to both administration and marketing (as a consequence of high transaction costs)
- ❖ giving higher priority to cost-reduction than quality improvement.

Although a direct causal relationship cannot be established, the survey found that market reform has also been accompanied by reductions in expenditure by a significant proportion of TAFE institutes on key inputs that are likely to affect the quality of provision, including: direct delivery (teaching and training); infrastructure maintenance (facilities and equipment); curriculum development and maintenance; and student services. At the same time, the aforementioned cost-reduction strategies implemented by most TAFE institutes may well have eroded the basis for quality provision. These trends suggest that, in the absence of any effective monitoring of educational outcomes, the net effect of market reform in VET may be to force TAFE, if not non-TAFE registered training organisations, to substitute cheapness for quality.

Although a majority of all registered training organisations felt that skill outcomes for students and apprentices and trainees have improved in VET markets, a larger majority of TAFE institutes disagreed. A substantial majority of both TAFE and non-TAFE registered training organisations also indicated that, as a consequence of increased contestability, their training provision is driven more by financial and commercial imperatives than by educational and skills formation objectives.

Overall, the balance of evidence suggests that market reform has not improved quality in TAFE, but may have done so for some non-TAFE registered training organisations. However, persistent contractual non-compliance among private registered training organisations casts doubt on quality assurance under the Australian Quality Training Framework (Smart Consulting and Research 2003), which was in the early stages of implementation when the national survey of registered training organisations for the study was administered.

Flexibility and innovation

Market reform appears to have achieved consistently positive outcomes against two key policy objectives: flexibility and innovation. The majority of both TAFE providers and registered training organisations as a whole indicated that the flexibility of training delivery has increased, to a greater extent under user choice than under competitive tendering. Similarly, significant majorities of both provider types indicated that product development and delivery is also more innovative as a result of market competition. Examples of such outcomes include the development of new products and services for niche markets, and the implementation of more flexible delivery systems.

Access and equity

The access and equity outcomes of market reform in VET appear to be generally negative. The survey findings suggest that access for women, unemployed people and disadvantaged groups has not improved under contestable funding arrangements from either a TAFE or non-TAFE perspective. Moreover, despite their increased responsiveness and flexibility, providers are generally no more able, or motivated, to satisfy the needs of designated equity groups or their local/surrounding communities than they were prior to market reform. The lack of improved correspondence between provider programs and services on the one hand, and the needs of the designated client groups on the other, suggests that quasi-markets have produced negative equity outcomes. Overall, relatively more negative access and equity outcomes were reported by TAFE than non-TAFE registered training organisations, and by rural/regional registered training organisations than metropolitan registered training organisations.

Other equity-related trends are a cause for further concern. A not insignificant proportion of both TAFE providers and all registered training organisations indicated that they are more inclined to engage in the practice of 'cream skimming' or adverse selection as a result of increased contestability. About half of all TAFE providers and registered training organisations are also placing higher priority on attracting full-fee-paying clients than government-funded training places. A small, but again not insignificant, number of TAFE institutes and all registered training organisations have increased fees and charges for government-funded students to a 'major' or 'moderate' extent. Overall, almost six in ten TAFE institutes, and four in ten registered training organisations as a whole, indicated that their VET provision is driven by efficiency objectives rather than by equity goals to a greater extent than prior to market reform. None of these trends is likely to enhance access and equity, and in combination, may well have adverse consequences.

It is still too early to reach any definitive conclusions about the access and equity outcomes of market reform in VET. More quantitative data are required about the access, participation and completion rates of disadvantaged and under-represented groups over time. Nonetheless, should the incremental tendencies revealed in this study remain unchecked, there is a risk that the

public VET markets will become increasingly inaccessible and inequitable for women and disadvantaged groups, with adverse ramifications for labour market participation and social inclusion.

Conclusion

This research has identified several beneficial and detrimental effects of competitive markets in VET. The weight of available evidence suggests that the accumulation of current trends is tipping the scales away from positive outcomes towards negative outcomes. However, harder quantitative data on outcomes, further research into client and teacher and trainer perspectives, and follow-up evaluations over the mid-to-long term are required before definitive conclusions can be reached. Furthermore, the study is based on data from 2001 and prior. Thus developments post-2001 that have occurred are not captured in the study.

Nonetheless, the outcomes of market reform in VET appear to be positive in relation to: choice and diversity; responsiveness (to medium and large enterprises and fee-paying clients); flexibility; and innovation. Conversely, the outcomes of market reform in VET appear to be generally negative in relation to: efficiency (due largely to high transaction costs and complexity); responsiveness (to small enterprises, local/surrounding communities, and government-subsidised students); quality; and access and equity.

The research also raises questions about the impact of market reform on public interest objectives, thin markets, and the financial viability of providers, particularly TAFE institutes and small registered training organisations.

Market reform appears to be changing the values, priorities and motivations of VET providers in significant ways, with potentially adverse consequences for the public interest. As a result of market reform, TAFE institutes are driven more by efficiency and financial and commercial objectives than by equity and educational and skills formation objectives. Such findings confirm the observation by TAFE Directors Australia (1999, p.18) that: 'The emphasis in TAFE is now on "the bottom line" and "efficiency"—not quality delivery'. Attracting full-fee-paying clients and responding to short-term market demand have become relatively more important for TAFE institutes than competing for government-funded training places and responding to medium- or long-term demand for skills. Overall, the imperatives of market competition appear to be overshadowing government policy and planning priorities as drivers of TAFE provision. In effect, doing business and remaining financially viable, if not profitable, seem to be incrementally supplanting the public interest role and responsibilities of TAFE providers.

Efficiency gains may have been achieved as a result of market reform, at least internally to VET providers, but this may occur at a cost in the longer term. TAFE institutes have reduced production costs by retrenching ongoing teaching staff, switching to cheaper labour, increasing class sizes and reducing student contact hours. But such strategies are likely to diminish the depth and breadth

of curriculum and teaching expertise in TAFE and decrease individualised attention for learners, thereby diluting the basis for high-quality program design and delivery and effective learning. The long-term implications of reduced or deferred expenditure on curriculum development and maintenance, capital infrastructure, and student services in TAFE are as yet unknown. Collectively, they are likely to contribute to a progressive 'hollowing out' of TAFE institutes as educational and community resources.

Such developments have potentially serious implications not only for the quality, responsiveness, flexibility and accessibility of VET programs and services, but also in relation to the industries and communities that rely on TAFE institutes to underpin their social and economic capital through the provision of skilled workers and active citizens.

Overall, the research suggests that, as a result of market reform, TAFE and non-TAFE registered training organisations are trading places not only in contestable VET markets, but also with respect to income sources and organisational identity, values and priorities. Such changes have potentially detrimental implications for the public good. In conclusion, Anderson argues the need for a more creative and judicious mix of state planning and market forces that serves the needs and interests of all stakeholders, and preserves the distinctive character and mission of the public VET sector.

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Expenditure on education and training in Australia with special attention to Indigenous students

Gerald Burke and Michael Long

This chapter provides estimates of the average expenditures in the major sectors of education and training. It also presents an overview of participation in education and training by Indigenous and non-Indigenous Australians as part of the data for identifying expenditure on Indigenous Australians. A range of special expenditures are identified for the education of Indigenous Australians, but this may not mean much additional expenditure over their lifetime if their rate of educational participation is lower than for non-Indigenous Australians.

Introduction

THE NATIONAL VOCATIONAL education and training (VET) strategy (ANTA 2003b) and the national goals for schooling (Ministerial Council on Employment, Education, Training and Youth Affairs 1999) support the education and training of those who have special educational, employment and other needs. Objective 4 of the national VET strategy states that Indigenous Australians will be provided with skills for viable jobs and their learning culture will be shared. Vocational education and training will help to increase employment and business development opportunities for Indigenous Australians and communities, which, in turn, will provide a foundation for greater economic independence. Vocational education and training will be enriched through an exchange of learning cultures. Indigenous Australians will be given the capacity to create and adapt VET products and services in order to exercise their rights to promote positive learning environments for their communities.

Goal 3.6 of the national goals for schooling affirms that schooling should be socially just, such that all students have access to the high-quality education necessary for the completion of school education to Year 12 or its vocational equivalent, and that it provides clear and recognised pathways to employment and further education and training.

The role of educational policy in maximising individual potential, regardless of any social barriers has a strong tradition. The national VET strategy emphasises the role of vocational education and training in opening pathways for Indigenous Australians to enable a fuller participation in the wider society, especially in the workforce. At the same time, it notes that lower educational attainment is only one of a number of disadvantages experienced by the Indigenous population, and that policy and programs need to simultaneously address issues of health, imprisonment and employment.

Expenditures per student

To provide an estimate of how much is spent on particular groups in the community and on Indigenous Australians in particular, it is necessary first to have data on unit expenditures in the various education sectors.

Estimates reported here are for public provision in schools, vocational education and training and higher education. The data are averages, and there is considerable variation about those averages across states and territories, and within them.

Schools

Table 1 shows estimates of the average government expenditure per student in government schools. The estimate of the relative cost of senior secondary compared with junior secondary is less exact than the broader primary and secondary comparisons. Average total expenditures at primary level are estimated at \$6900 per student in 2002, \$8500 at junior secondary and \$10 000 at senior secondary.

Table 1: Approximate public recurrent expenditure on government schools per student, Australia, 2002

Primary	Junior secondary	Senior secondary	All students
\$	\$	\$	\$
6 900	8 500	10 000	7 700

Note: Estimate assuming an increase of 10% on the 1999–2000 level and rounded to nearest \$100.

Source: Derived from data in Ministerial Council of Employment, Education, Training and Youth Affairs (2001)

Recurrent expenditure per student includes depreciation and payroll tax, but excludes user cost of capital.

There are no estimates given here on variation in costs among different types of programs in secondary education. Direct teacher costs do vary across learning areas (Shah 1998). Vocational programs in schools, where they involve industry placements, result in additional costs due to program coordination.

This discussion is concentrated on government schools. More details on these and on expenditure on non-government schools are given in Burke (2003).

Vocational education and training

Table 2 provides some estimates for particular VET courses. The estimates are based on the recurrent public cost per annual curriculum hour, which was estimated at \$ 12.4 for 2001. The estimate includes student fees which were equal to about 5% of the total public outlay. As public revenues in current prices may have increased by about 5% in 2002, the figure of \$12.4 per hour is used as the base figure (public funding only and excluding student fees) for the 2002 approximations.

Table 2: Approximate government recurrent expenditure per publicly funded annual hour curriculum 2002

	Hours per year	Cost relativity	Unit cost \$ per actual annual curriculum hour	Total expenditure
	\$	\$	\$	\$
Average expenditure per hour	–	1.00	12.40	–
Diploma in Banking and Finance	667	0.68	8.40	5600
Advanced Diploma Accounting	675	0.79	9.80	6600
General education and training	800	0.85	10.60	8400
Certificate in Sales	290	0.94	11.70	3400
Engineering Apprenticeship	320	1.28	15.90	5100

Note: Under the definition used by ANTA, government recurrent expenditure equals: total operating expenditure less fee-for-service revenue; ancillary trading revenue; other operating revenue; revenue from specific purpose Government funds; VET in Schools funding; redundancy payments external to VET budgets; and skill centre capital revenues. Note that this means that student fees and depreciation costs are included in the estimates of government recurrent expenditure.

AAHC equals actual annual hours curriculum adjusted for invalid enrolments.

Source: Based on data in ANTA (2003a) and course information

Examples are given for the approximate public cost of selected courses based on cost relativities, and the number of nominal curriculum hours involved. The cost relativities were estimated some years ago and may no longer be operative and are used for illustration only at this stage.

Higher education

Public expenditures on university education are shown in table 3. The estimated government base operating expenditure per Australian funded equivalent full-time student unit, excluding most research expenditures and 'capital roll-in', was about \$11 300 in 2002. This is used as the base for the estimates.

Most 'teaching and research staff' in universities are expected to devote a proportion of their work time to research. No deduction is made for this in table 3.

Estimates for expenditure per student by broad field of study are also shown, based on the application of the relative funding weights currently being used by the Department of Education, Science and Training (2003a). The resulting

estimates put the average cost per undergraduate year for medicine at around \$17 000; \$14 000 for science and around \$8300 for humanities, business and law. It is important to remember the internal allocation of funds may vary at the discretion of each university.

In universities, the Higher Education Contribution Scheme (HECS) enables the Australian Government to recoup a rising share of the outlays. This scheme is a deferred payment scheme, which involves repayments adjusted for inflation but with no explicit charge for interest. Students who pay up-front receive a discount. The system is being revised under the reforms being initiated by the current federal Minister for Education, Brendan Nelson.

Table 3: Unit costs per annum in higher education, approximations, Australia 2002

	Relative weight	Annual per EFTSU \$	HECS liability in 2002 \$
Average base operating expenditure	1.00	11 343	NA
Business, law, humanities	0.73	8 200	3 598 to 5 999
Education	0.94	10 700	3 598
Nursing	1.16	13 200	3 598
Engineering, science surveying	1.60	14 100	5 125
Dentistry, medicine, veterinary science	1.96	17 200	5 999

Note: Excludes specific research funds and capital roll-in. Estimates rounded to nearest 100.
EFTSU = Equivalent full-time student unit

Source: Estimates based on Australian Vice-Chancellors' Committee and Department of Education, Science and Training data

The rates for various courses are indicated in table 3 where three levels applied: \$3598, \$5125 and \$5999. Not all Higher Education Contribution Scheme charges are repaid, and while there is an implicit real interest rate (roughly indicated by the discount for cash), the government will still, in the long run, bear part of the cost of Higher Education Contribution Scheme charges.

Indigenous secondary school students may be eligible for ABSTUDY and full-time senior school students, VET and university students may be eligible to receive student assistance, such as Youth Allowance. These outlays are not yet included in this work.

Scenarios

Table 4 draws on the estimates in tables 1 to 3 to show how much is spent on a number of different courses.

A student who leaves a government school at the end of Year 9 of secondary school will have had about \$75 000 of public outlays on his or her education. The figure grows to \$104 000 for someone who stays to the end of secondary school.

If the student entered and completed a three-year engineering apprenticeship, a further \$15 000 would be spent on off-the-job training. No allowance is made here for the Australian Government's subsidy to employers of apprentices or any of the employers' costs of training. A student taking a general studies course in vocational education and training over five years half-time might give rise to expenditures of \$21 000.

A three-year arts degree involves government operating expenditures of about \$25 000, but Higher Education Contribution Scheme liabilities now account for 40% of such expenditures, so the total public expenditure, not including funds from the scheme, for the arts degree and 13 years of schooling is about \$120 000. The total public expense is lower for business and law per year because of higher Higher Education Contribution Scheme rates—Higher Education Contribution Scheme liability is greater than 70% of the cost of a law course. A four-year honours science degree involves expenditures of about \$56 000—so the combined public expenditure for 13 years of schooling and the degree, not including the Higher Education Contribution Scheme, is about \$140 000. A six-year medical degree would add to over \$100 000, with Higher Education Contribution Scheme liabilities equal to around 35% of expenditures. The combined net public expenditure would be over \$170 000.

The examples in table 4 are for the specified length of the courses. The majority of VET students only complete part of a program. About a third of university students withdraw before completion. Considerable numbers of students take longer than minimum time, and some subsequently commence other courses. Many persons switch sectors. The simple examples given in table 4, which show completion of selected courses in minimum time, do not reflect the full extent to which people avail themselves of public education and training funding.

Spending on Indigenous Australian students

There are a number of special programs for expenditure on the education of Indigenous Australian students in all the major sectors. These will be considered in a larger project. This chapter sets out only to establish the expenditures that occur at the various levels of education and training. It is noted in the next section that Indigenous school retention rates are relatively very low and so too their rate of transition to university education. Hence in these areas, except for the special programs for Indigenous students, expenditures on Indigenous Australians would be relatively much lower than their proportion of the relevant age groups. How much this is offset by their higher-than-average participation in VET is yet to be calculated.

Table 4: Examples of public expenditures, Australia 2002

	Expenditure over program	HECS liability
	\$	\$
Government schools		
Primary schooling, preschool–Year 6	48 300	NA
Junior secondary, Years 7–10	35 600	NA
Senior secondary, Years 11–12	20 000	NA
Total government schooling	103 900	NA
Public VET		
Advanced Diploma Accounting 2 years	13 200	NA
Diploma in Banking & Finance 1.5 years	8 400	NA
Certificate in Sales	3 400	NA
‘Engineering’ Apprenticeship 3 years	15 300	NA
General education and training 5 years half-time	21 000	NA
University		
Humanities 3 years	24 700	10 794
Business 3 year	24 700	15 375
Science honours 4 years	56 200	20 500
Medicine 6 years	103 500	35 994

Notes: NA = not applicable.

Students in VET pay fees. These vary across states and territories and are tending to increase. Exemptions of part of the fees are provided for particular groups.

Source: Based on data in tables 1 to 3 of this chapter

Educational participation

Population issues

Statistics on Indigenous education—participation rates in particular—depend on the estimates of the Indigenous population. This section briefly presents some estimates and explores their implications for educational statistics.

The census provides the best source of information about the Indigenous population, although even estimates from the census are subject to error. Table 5 shows values from the census for the years 1986 to 2001. The lower panel shows revised estimates which take into account lack of coverage and failure to answer the question on Indigenous status. The changes are often substantial; for instance, the 1991 value increases by 22%.

Indigenous Australians increasing proportion of the population

Table 5 shows that Indigenous Australians increased from 2.0% of the population in 1991 to 2.4% in 2001. Over the longer term, the number of Aboriginal and Torres Strait Islanders counted in the census increased by 340% in the period 1966 to 1996, while the total population increased by only 53%. The increase is

substantially greater than can be explained by any differences in fertility, mortality or migration. Some part of the increase can be explained by improved coverage of Indigenous Australians and possibly more inclusive (and less offensive) questions. Methodology aside, however, some of the increase in the estimated Indigenous population is due to a greater willingness of Indigenous Australians to identify themselves as Aboriginal or Torres Strait Islander. A similar phenomenon has been observed in Canada, New Zealand and the United States.

Table 5: Estimated resident Indigenous population, Australia, 1986 to 2001

Australia	1986	1991	1996	2001
Census estimates (% of population)	1.50	1.64	2.11	2.37
Persons ('000s)	240.20	283.60	386.00	460.10
Revised estimates (% of population)	1.56	2.00	2.11	2.37
Persons ('000s)	250.70	345.40	386.00	460.10

Notes: 2001 values for Indigenous persons from ABS (2001, table 1, p.24).
 1986, 1991 and 1996 values for Indigenous persons from ABS (1997).
 1986 values revised using 1991 census; 1991 values revised using 1996 census; 1996 and 2001 values as estimated.
 Population rates calculated using estimated resident population.

Time series data and Indigenous Australians

Time series data on the educational participation of Indigenous Australians need to take into account the increasing population benchmarks. It is not immediately clear which benchmarks—the census estimates or the revised estimates—should be used. Recalibrating previous census estimates reduces the apparent growth in the Indigenous population from census to census because the end of this series will always be an unrevised estimate (there is no later census to provide recalibration).

Age of Indigenous population

The Indigenous population is younger than the overall population. In 2001, 39% of Indigenous Australians were less than 15 years old (compared with 21% of the total population) and only 3% were over 65 years old (compared with 13% of the total population). In 2001, the median age of the Indigenous population was 15 years younger than the median age of the overall population—21 years compared with 36 years (ABS 2002).

Table 6 shows the age distribution of the Indigenous and total populations in 1996. The relative over-representation of Indigenous people among younger people declines to about age 30.

The younger age structure of the Indigenous population also means that the population benchmarks for post-school education are lower. For instance, in 1996, Indigenous Australians were only 1.7% of the 15 to 64-year-old population compared with 2.1% of the overall population, and in 2001, 2.1% of the 15 to 64-year-old population compared with 2.4 of the overall population.

Post-school education of Indigenous Australians

The relative post-school educational participation of Indigenous Australians can be overstated because of their younger age profile, since younger people are more likely to participate in education. Unless the difference in age structures is removed—by using age-specific participation rates, for instance—estimates of the Indigenous adult participation rates in VET and higher education will be misleading when they are compared with participation rates for the overall population. The error can be quite large. The VET participation rate for Indigenous Australians is about 80% higher (20% compared with 11%) than for other Australians, but only 20% higher among 15 to 25-year-olds, and on an age-population weighted average, about 40% higher.

Table 6: Age distribution of Indigenous and total population, Australia, 1996

Age	0–14	15–19	20–24	25–29	30–39	40–49	50–59	60+	Total
Indigenous (%)	40.0	9.8	9.5	8.7	13.9	9.1	4.8	4.2	100.0
All persons	21.4	7.0	7.6	7.7	15.8	14.5	10.1	15.9	100.0
Ratio	1.87	1.41	1.24	1.13	0.88	0.63	0.48	0.26	

Notes: Values for Indigenous persons from ABS (1997)
Population rates calculated using estimated resident population.

Geographic distribution of Indigenous population

The geographic distribution of the Indigenous population differs from the distribution of the overall population. The majority of Indigenous Australians live in New South Wales (29%) and Queensland (27%). Indigenous Australians comprise the largest proportion of the population in the Northern Territory (29%) (table 7). Although over a quarter of Aboriginal and Torres Strait Islanders live in capital cities, Indigenous Australians are less likely to live in capital cities (26%) than are other Australians (56%) and more likely to live in rural areas (Long, Frigo & Batton 2001). Indigenous Australians are therefore differentially affected by state and territory education policies and by policies designed to address educational participation in rural and remote areas.

Indigenous Australians as a proportion of the population

Because Indigenous Australians are a small proportion of the population, sample surveys of the general population are of limited value in providing information on Indigenous education: they will contain too few Indigenous respondents to provide meaningful estimates. In addition, sample surveys typically under-represent Indigenous Australians. The census and administrative collections from education authorities, together with specially targeted surveys, provide the main sources of statistics on the education of Indigenous Australians. Even so, the often small fraction of the population who are Indigenous can lead to unstable estimates.

Table 7: Estimated resident population by Indigenous status and state or territory (preliminary), 30 June 2001

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
Indigenous (000's)	135.3	27.9	126.0	25.6	66.1	17.4	57.6	3.9	460.1
(%)	29.4	6.1	27.4	5.6	14.4	3.8	12.5	0.8	100.0
Non-Indigenous (000's)	6 474.0	4 794.7	3 509.1	1 489.2	1 840.0	455.5	142.5	317.7	19 025.1
(%)	34.0	25.2	18.4	7.8	9.7	2.4	0.7	1.7	100.0
All persons (000's)	6 609.3	4 822.7	3 635.3	1 514.9	1 906.1	472.9	200.0	321.7	19 485.3
(%)	33.9	24.8	18.7	7.8	9.8	2.4	1.0	1.7	100.0
% Indigenous	2.0	0.6	3.5	1.7	3.5	3.7	28.8	1.2	2.4

Notes: Estimates have been rounded to the nearest 100 and, as a result, discrepancies may occur between sums of component items and totals.

Indigenous population estimates are experimental.

Australia includes other territories.

Source: Preliminary estimates, ABS (2001, table 1, p.24 [adapted])

Numbers of Indigenous Australians

Despite the small proportion of Australians who are Indigenous, the absolute number of Aboriginal and Torres Strait Islanders is still quite large. The population of Indigenous Australians (460 100) is about the size of the population of Tasmania.

Schools

School retention

Retention to Year 12 for Indigenous students in 2001 (36%) is only about half the rate for non-Indigenous students (74%) and is the culmination of lower retention across preceding years. Table 7 shows the apparent rates published by the Australian Bureau of Statistics (ABS 2001) based on enrolment data provided by school authorities. They are calculated by following a cohort of students by grade from year to year, for instance, Year 8 in 1997 to Year 9 in 1998 and so on, along the diagonal shown in bold in table 8. The average number of years of schooling for Indigenous and non-Indigenous students can be calculated from these retention rates. Indigenous students receive about one year's less schooling than non-Indigenous students.

The estimated difference in years of secondary schooling between Indigenous and non-Indigenous students assumes that all students reach Year 8; that participation at the time of the school census is the same as completion of the school year; and that ungraded Indigenous enrolments (about 7.5% of secondary Indigenous enrolments in 2001) show a similar level of retention as graded enrolments. The differences are probably slightly underestimated.

The rates are only indicative. Not all Indigenous students begin secondary school. Furthermore, there is a net increase in Indigenous identification during

the course of a school career—some students identifying as Indigenous in Year 11 were recorded as not Indigenous in Year 7 or 8 (Long, Frigo & Batten 2001). Part of the reason may simply be improved record-keeping (non-Indigenous may be accepted as a default classification) associated with movement between schools (particularly to senior secondary colleges) or applications for targeted educational assistance. These changes, which are not apparent in national statistics, result in overestimation of Indigenous retention.

A substantial percentage of Indigenous students are classified as ‘ungraded’—not readily classified into a particular year level (7.5% in 2001)—and hence lie outside the values in table 7. The age structure of the ungraded Indigenous student population suggests that any effect on retention rates may not be large. A change in the statistical treatment of ungraded students in the Northern Territory from 1997 onwards contributed to higher estimates of retention.

Table 8: Apparent retention rates: Indigenous and non-Indigenous secondary school students, Australia, 1994–2001

From Year 7/8	1994	1995	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%	%	%
To Year 9								
Indigenous	92.1	89.4	96.8	96.2	95.0	93.9	95.7	96.5
Non-Indigenous	99.4	99.5	99.6	99.8	99.7	99.9	99.8	100.0
To Year 10								
Indigenous	78.6	76.5	75.8	80.6	83.1	82.0	83.0	86.0
Non-Indigenous	97.4	96.9	97.3	97.6	97.5	97.9	98.0	98.2
To Year 11								
Indigenous	47.5	48.8	47.2	49.6	52.5	56.0	53.6	56.1
Non-Indigenous	86.3	84.2	84.3	85.3	85.4	86.4	86.2	87.6
To Year 12								
Indigenous	32.5	30.6	29.2	30.9	32.1	34.7	36.4	36.3
Non-Indigenous	75.6	73.2	72.4	72.9	72.7	73.2	73.7	74.5
Difference in years of secondary schooling for Indigenous students								
	–	–	–	-1.1	-1.1	-0.9	-0.9	-0.9

Notes: Year 7 is the first year of secondary schooling in the ACT, NSW, Tas. and Vic.; Year 8 in the other jurisdictions.

Source: Derived from ABS (2001, table 13)

Differences in years of schooling

The difference in the years of schooling of Indigenous and non-Indigenous students is likely to be greater than the values indicated in table 8. The approximately one-year difference in schooling between Indigenous and non-Indigenous students does not take into account lower participation in pre-school nor (in some states) in the very first year of schooling. It also ignores lower attendance rates while enrolled. The lower levels of school achievement of Indigenous Australians is a further issue.

Vocational education and training

Information on the participation and attainment of Indigenous VET students comes from the National Vocational Education and Training Provider Collection, an administrative collection maintained by the National Centre for Vocational Education Research (NCVER) which covers publicly funded VET enrolments, fee-for-service enrolments in technical and further education (TAFE) institutes and some VET in Schools enrolments. We draw principally on analyses of that database presented in the NCVER publication, *Indigenous people in vocational education and training* (Saunders et al. 2003).

The major concern in relation to using the collection is the number of students for whom information about their Indigenous status is unknown—and the extent to which this varies from year to year. In 2001, for instance, 3.3% of students were Indigenous, 79.4% were non-Indigenous and 17.4% were of unknown Indigenous status.

The statistical treatment of the sizeable ‘unknown group’ can clearly affect the analysis substantially. If ‘Indigenous’ is restricted to those students who report being Indigenous, then estimates of participation in vocational education and training by Indigenous students are a lower bound and downwardly biased. This is the approach taken by Saunders et al. If, however, students of unknown status are distributed pro-rata between Indigenous and non-Indigenous, then Indigenous students are 4.0% of all enrolments. Unfortunately, we have no basis on which to decide how to allocate these students, and, because they are a large group, such decisions can have large effects on any estimates.

Indigenous Australians and VET

Table 9 shows that Indigenous people are well represented in vocational education and training. The overall participation rate of Indigenous Australians in VET is 80% higher than the participation of other Australians. Much of this difference reflects the younger age structure of the Indigenous population. Even so, for 15 to 24-year-olds, Indigenous Australians are about 20% more likely to participate in VET than are other Australians, a difference which might be somewhat smaller if 15 to 19-year-olds and 20 to 24-year-olds were examined separately. Some of this difference, particularly among younger people, reflects the lower retention rates for Indigenous Australians in secondary schools.

Table 9: VET age participation rates by Indigenous status, Australia, 2001

Age	15–24	25–39	40–64	65+	1–64
Indigenous (%)	30	19	13	2	20
Non-Indigenous (%)	26	12	8	1	11
Ratio (Indigenous/non-Indigenous)	1.18	1.61	1.73	2.00	1.82

Notes: Non-Indigenous students includes students whose Indigenous status was unknown.

Omits 2.7% of Indigenous students and 4.1% of non-Indigenous students whose age was not known.

Source: Saunders et al. (2003, tables 1, 7)

Participation in VET by older Indigenous Australians, however, is particularly strong. In these age groups, however, Indigenous Australians are in relatively small numbers. An age-weighted ratio of participation is likely to show that the participation of Indigenous Australians in vocational education and training is about 40% higher than for non-Indigenous Australians. In an environment of often substantially lower participation in other educational sectors, this is a significant feature of the VET system.

Indigenous students and VET hours

Indigenous students receive more hours of VET than other students. Table 10 shows that Indigenous VET students receive an average of 258 hours of training per year compared with 237 hours for non-Indigenous students. The somewhat higher hours for Indigenous students may be somewhat surprising, given the impression that their enrolments are concentrated in lower-level courses. Table 11 confirms this impression to some extent, but it also shows that Indigenous students are substantially less likely than other students to be enrolled in non-award courses.

Table 10: Annual hours of training per student by Indigenous status—students enrolled in VET, Australia, 2001

	Indigenous	Non-Indigenous	Not known	(Non-Indigenous or not known)	Total
Hours per student	258	237	154	(222)	224

Source: Saunders et al. (2003, tables 2, 25)

Table 11: Level of qualification by Indigenous status—students enrolled in VET, Australia, 2001

	Australian Qualifications Framework									
	Diploma or above	Certificates				Senior second-ary	Other recognised	Non-award	Module only	Total
		IV	III	II	I					
Indigenous (%)	5.9	7.4	20.4	30.1	14.5	0.1	8.6	5.8	5.7	100.0
Non-Indigenous (%)	11.7	10.9	21.4	19.0	4.8	0.2	9.4	15.0	6.0	100.0
Ratio (Indigenous/non-Indigenous)	0.50	0.68	0.95	1.58	3.02	0.50	0.91	0.39	0.95	–

Notes: Non-Indigenous students includes students whose Indigenous status was unknown. Totals include 1.5% of students 'AQF level unknown' for both Indigenous and non-Indigenous students and not shown separately in the table.

Source: Saunders et al. (2003, table 15)

Indigenous VET students and achievement levels

Indigenous VET students have lower levels of achievement. Indigenous students enrol for assessed modules at about the same rate as other students, but their pass rate for modules is 77%, which is somewhat (but not dramatically) lower than for other students (86%) (Saunders et al. 2003). The rate of withdrawal from modules is somewhat higher—14% for Indigenous students compared with 8% for other students. Indigenous students contribute 3.4% of award completions but comprise 3.8% of commencements (and the only award level at which percentage completions exceed percentage enrolments is 'other certificates').

Higher education

Indigenous entry rate

Indigenous students enter, and participate in, higher education at a substantially lower rate than non-Indigenous students. A mere few years ago the Department of Education, Science and Training report, *Equity in higher education*, noted in regard to 1997 enrolments that:

... for 1997, the proportion of commencing students who were of Aboriginal or Torres Strait Islander descent was 1.5%. With Bachelor College included, the figure rises to 1.7%. As Indigenous people are 1.7% of the population aged 15 to 64 at the 1996 Census, this group has achieved an equitable representation among commencing students.

(Department of Education, Science and Training 1999, p.22)

Table 12 suggests that this situation has deteriorated. In 2001, Indigenous students were only 1.5% of the commencing higher education student population, compared with 2.1% of the 15 to 64-year-old population at the 2001 census. And of course, age-specific participation rates (or commencement rates) are required to show the true picture. The higher education participation rate for Indigenous 15 to 19-year-olds was 1.9% compared with 8.9% for non-Indigenous 15 to 19-year-olds. The corresponding rates for 20 to 24-year-olds were 4.5 and 16.0% respectively (Long, Frigo & Batten 2001). Given that commencements are proportionately somewhat higher than participation rates for Indigenous students (table 8), the chances of a young Indigenous person entering higher education are probably about a third of those for a non-Indigenous young person.

Higher education success

Academic success is lower for Indigenous higher education students. Indigenous students are more likely to enter higher education enabling courses (20%) than are non-Indigenous students (1%) and diploma courses (10% compared with 1%) (Department of Education, Science and Training 2001). In 2000, Indigenous students contributed 0.8% of completions (excluding, by definition, enabling and non-award courses), but for many years have made up a higher proportion of commencing students (even allowing for enabling and non-award courses).

Table 12: Commencing and all students by Indigenous status, 1992 to 2001

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<i>Commencing students</i>										
Indigenous	2 691	2 984	3 236	3 623	3 624	4 028	3 997	4 140	3 510	3 566
Non-overseas	194 746	200 709	206 202	221 531	233 310	232 890	229 420	231 392	231 992	237 960
Ratio	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.5	1.5
<i>All students</i>										
Indigenous	5 105	5 578	6 264	6 805	6 956	7 461	7 789	8 001	7 350	7 342
Non-overseas	525 305	538 464	544 941	557 989	580 906	595 853	599 670	603 156	599 877	614 076
Ratio	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.3	1.2	1.2

Source: Derived from Department of Education, Science and Training (2001, tables 1, 22, 73)

Specific outlays on Indigenous education

The Australian Government provides \$468 million a year for Indigenous education (Department of Education, Science and Training 2003b). State funds are much harder to estimate. The main elements of the funds are shown in table 13. A considerable part is for student assistance. The main direct assistance for resources in schools and technical and further education (TAFE) is contained in the Indigenous Education Specific Initiatives Program (IESIP) funds which total \$138 million.

These funds can be considered in relation to enrolments in 2002, as estimated in table 14.

Table 13: Main elements of Australian Government Indigenous education student programs, 2003

	\$m
Indigenous Education Specific Initiatives Program (IESIP)	138
Away from base assistance	22
Aboriginal student support and parent awareness	19
Aboriginal tutorial assistance scheme	39
Vocational and educational guidance for Aboriginals scheme	7
Total	226*
ABSTUDY (Secondary)	83
ABSTUDY (Tertiary)	121
Total	205*

Note: *Numbers may not add up to totals due to rounding.

Source: Department of Education, Science and Training (2003b)

Table 14: Total Indigenous enrolments, 2002

Preschool	8 700
Schools	121 600
VET	59 800
University	8 900
Total	199 000

Source: ABS (2001, table 13); Saunders et al. (2003); Department of Education, Science and Training (2001)

If Indigenous students participated in education at the same rates as non-Indigenous, school enrolments might be some 10 000 higher, VET about 20 000 lower (about 6000 in full-time equivalent) and university enrolments some 15 000 higher (13 000 in equivalent full-time student units). Overall, there would be perhaps 17 000 more equivalent full-time Indigenous Australians in the education system each year. At the level of the costs of senior secondary schooling at \$10 000 per annum (table 1), this would imply an additional \$170 000 000 expenditure per annum.

These are very rough sums. But they make the point that, while Indigenous education is provided with considerable additional funds as shown in table 13, the fact that, overall, Indigenous people have a lower rate of participation means that net additional expenditure is much less than might have been assumed.

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Funding arrangements for students with disabilities in VET

Chris Selby Smith and Fran Ferrier

This chapter is based on a larger project¹ conducted in 2001–02 which examined the funding arrangements for disabled students participating in vocational education and training (VET) in Australia. An additional aim of the project was the identification of potential alternative funding models and an examination of the strengths and weaknesses of each, as well as implications for their implementation.

Introduction

IN AUSTRALIA, THE *Disability Discrimination Act 1992* provides the basic framework for the rights of people with disabilities and social responses to them. Within the act, ‘disability’ in relation to a person is defined very broadly to mean:

- ❖ total or partial loss of the person’s bodily or mental functions, or
- ❖ total or partial loss of a part of the body, or
- ❖ the presence in the body of organisms causing disease or illness, or
- ❖ the presence in the body of organisms capable of causing disease or illness, or
- ❖ the malfunction, malformation or disfigurement of a part of the person’s body, or
- ❖ a disorder or malfunction which results in the person learning differently from a person without the disorder or malfunction, or
- ❖ a disorder, illness or disease which affects a person’s thought processes, perception of reality, emotions or judgement or which results in disturbed behaviour.

¹ Selby Smith, C & Ferrier, F 2003, *The funding of vocational education and training for students with disabilities: Volume 1*, NCVET, Adelaide.

The definition includes disabilities which currently exist, which do not exist now but previously existed, or which may exist in the future. Through the act's associated complaints-based procedures, those with disabilities can seek redress from people or organisations which discriminate against them, either directly or indirectly.

Education and training constitute a service covered by the *Disability Discrimination Act*, and education authorities, institutions and providers are obliged to provide the services and facilities necessary to ensure that students with disabilities can participate without discrimination. This includes making 'reasonable adjustments' to ensure that students with disabilities can enrol and participate without discrimination.

The project

The project whose findings are reported here was conducted during 2001–02. It had four objectives:

- ❖ to investigate and document the current funding arrangements existing throughout Australia
- ❖ to identify and develop other possible funding arrangements which warrant consideration (or perhaps are already under consideration in some jurisdictions)
- ❖ to identify and compare the strengths and weaknesses of the various existing or proposed funding arrangements
- ❖ to draw out the implications for possible changes to the existing funding arrangements in order to promote inclusive and effective training for people with disabilities.

The project was small and set out to collect only limited data. Nevertheless, interviews were conducted with representatives of all state and territory training agencies and many private and public vocational education and training providers. A literature review was also undertaken.

Students with disabilities in VET

In 2000, over 62 000 VET students reported a disability. This was a substantial increase on the 47 300 reporting a disability in 1996. Statistics on disability are collected on enrolment, where students are asked if they have a 'permanent and significant disability'. Overall, about 4–5% of VET students report a disability, but there are some variations between states and territories. In 2000, the proportion was lowest in the Northern Territory (2.9%), Western Australia (3.7%) and Victoria (3.8%), and highest in New South Wales (5.3%). About a third of students do not indicate a specific disability, but of the remaining two-thirds, the largest group in 2000 reported a physical disability (20.7%).

Compared with all VET students, those with a disability are less likely to be in employment (40%, compared with 77%). They tend to have lower levels of schooling—only 30% achieved Year 12 compared with 43% of all students. Students with disabilities also tend to be older than all VET students. In 2000, 38% were aged over 40 years, compared with 30% of all students.

More students with disabilities enrol in multi-field education than all students. This field includes enabling programs addressing generic study, interpersonal and job-search skills. However, the proportion choosing this type of vocational education and training has declined since 1996, from 47% to 27%. In 2000 a smaller proportion of VET students with disabilities than all VET students were studying at Australian Qualifications Framework (AQF) Certificate III level (16% compared with 20%) and more were studying at AQF Certificate I level (12% compared with 5% of all students). However, in 2000, most were studying a similar mix of qualifications as all VET students.

Students reporting a disability undertook, on average, more hours of training in 2000 than all VET students (243 compared with 198 hours annually). This is consistent with a higher proportion being engaged in full-time study (12% compared with 9%).

Students reporting a disability are less likely than all VET students to achieve successful module outcomes (74% compared with 80%). However, the success rate has risen since 1996, when it was 71%. A larger proportion of students with disabilities withdraw from study (13% compared with 9%).

Employment outcomes for VET graduates are poor for students with disabilities. The proportions in employment before and after training are almost identical, leading to the conclusion that participation in training makes little difference to these students in the labour market (all data from NCVET 2002).

Current funding arrangements

Outline

In most states and territories funding arrangements comprise a mixture of base funding to institutions, with additional funding being available for special purposes, such as to assist students with particularly expensive support needs. However, in each state or territory, there is a slightly different emphasis on various elements in the funding mix and there are also some differences in the ways in which funds are bid for, and allocated.

Similarities

There are four particular similarities between the arrangements in the states and territories:

- ❖ The arrangements are complex.
- ❖ They are limited in scope.

- ❖ Resource pressures limit the assistance that can be given.
- ❖ The arrangements focus on public training providers.

Funding arrangements are complex

The funding arrangements are often quite complex within a state, varying for example, between state and Australian Government sources, between public and private providers, between students with different sorts of disabilities, and between students in different VET courses. The basic principles on which the current arrangements are based are not easy to identify.

Current funding arrangements are limited in scope

Current arrangements focus on people already in vocational education and training, and on their learning needs. They provide little scope for proactive initiatives which would enable more people with disabilities to participate in vocational education and training and to achieve successful outcomes. They appear to provide relatively little assistance to students with special needs which are not directly related to VET, but which still may be important or critical to their ability to engage in, and complete, VET programs successfully, for example, transport, accommodation, personal hygiene, social interaction, financial circumstances.

Current arrangements offer little scope to assist students with disabilities who are seeking to negotiate transitions, for example, from school to vocational education and training, or from VET to employment, although these can be areas of difficulty. Relatively little assistance also appears to be available for students with a disability undertaking a workplace assignment—even where these assignments are a compulsory component of a VET program.

Resource pressures inhibit the assistance that can be given

A number of people interviewed for the project commented that they sometimes run out of resources. They also expressed doubts about the extent to which funding could be relied on in the longer term—and this appeared to be influencing actions in the present. For instance, some concern about resource pressures appeared to influence provider advice to students on occasions. These problems were exacerbated by the following factors.

- ❖ The existing statistical information systems are inadequate for reporting students with disabilities, a situation which inhibits the timely provision of resources to those who require them and the appropriate determination of priorities.
- ❖ There is wide variation in the cost of meeting the legitimate needs of different students with a disability. In one area, eight out of some 300 students who were identified as having a disability took up about two-fifths of the time and financial resources available. Even in large VET providers, the unpredictability of variations in the cost of providing

appropriate supports from year to year can affect individual courses and departments, especially if a devolved funding arrangement is in operation. The variability can be particularly difficult to handle in small providers and thus tends to be more of a problem in private rather than public providers.

- ❖ The provision of funding to providers is primarily for educational purposes, although the academic performance of students with a disability can be influenced by a range of other factors, including transport, living arrangements and financial circumstances.

Current funding arrangements are focused on public rather than private training providers

Providing vocational education and training for students with a disability, especially for students with a severe disability, can involve a very substantial increase in costs. While some opportunities exist for the provider to obtain extra financial assistance in meeting them, in many cases it appeared that the provider ended up bearing a significantly increased burden. Both public and private providers argued that supporting the extra costs is a matter for society in general and should not be transferred to the provider. The financial implications can be especially difficult for small training providers located in geographically remote areas where other support services are fewer than in larger centres.

Differences

There are also four main types of differences between funding arrangements in the various states and territories:

- ❖ in structural arrangements
- ❖ in supplementary assistance
- ❖ in the size of the state or territory
- ❖ in specific initiatives.

Structural arrangements

Different structural arrangements in each state and territory influence the policy environment for disability services, the degree of linkage between the sectors and the opportunities for action. The differences occur by conscious decision of governments. For example, in New South Wales at the time the project was undertaken, the responsibilities of the Department of Education and Training included both schools and technical and further education (TAFE), with the Assistant Director-General for student services and equity matters reporting to the two Deputy Directors-General (for schools and TAFE respectively) in relation to student services, youth assistance, equity programs, disability programs, and education and training access matters. By contrast, in Western Australia, the Department of Training, while responsible for VET, was not responsible for

schools. Structural arrangements for adult and community education (ACE) also differed between the states and territories, as does ACE's relationship with VET.

Supplementary assistance

In some states, the funding of VET for students with disabilities, while always including general course and student support, places greater emphasis on statewide arrangements to provide supplementary assistance. In South Australia, for example, the TAFE Statewide Disability Support Program is a combined initiative of all the state's institutes of TAFE and operates within guidelines set down by a consensus of all the directors of the TAFE institutes. The program seeks to provide assistance to TAFE teaching and support staff in their efforts to better accommodate the education and training needs of students whose disability creates a barrier to success in pursuing TAFE options. The program stresses the development of partnerships between students, teaching staff and the program's resources in order to share responsibility for the more successful achievement of student outcomes.

In Victoria special additional assistance is provided centrally through a Disability Support Fund. The allocation process involves decisions by the department, based on advice from a reference group consisting of three disability liaison officers from TAFE institutes. In most states there is a mixture of general support to providers, special assistance to providers to assist with meeting the extra costs of VET training for students with a disability, and other funds available for disbursement centrally, often on application, or for particular programs (for example, competitive programs) or circumstances (for example, Aboriginal students). Much of the assistance available is confined to public providers.

According to size

There appear to be significant differences in views of the existing funding arrangements according to the size of the state or territory. In the smaller jurisdictions, such as Tasmania or the Australian Capital Territory, the central authorities, the public provider and private training providers all seem to be 'reasonably happy with the current funding arrangements'. In Tasmania the providers indicate that they have been treated fairly in seeking and receiving support for students with disabilities. They attribute this to Tasmania being 'a small state, personal contacts, trust and cooperation'. The administrators interviewed for this study also tend to be satisfied, arguing that, in general, the proposals from providers are 'nicely structured, with a complete package, and a lot of well-thought-out material'. They also note that the direct relationships help the purchasing authorities to 'keep a finger on what is generally going on and where an extra \$500 can really make a difference'.

By contrast, there appears to be much more frustration at the provider level in the larger states, much more bureaucratic formalisation in the processes, and much less confidence at the central level that resources are being used to the best effect. There also appears to be less evidence of accumulative learning.

Specific initiatives

There appear to be many valuable specific initiatives being implemented in the states and territories. In some cases these innovations are initiated at the system level, such as the closer linking of schools and TAFE in New South Wales, the use of specialised rather than more general disability service officers, or the department's development of an 'equity data cube' to develop a set of uniform processes for collecting, comparing and disaggregating equity data in an electronic form for TAFE NSW. In other cases they are a cooperative effort at the registered training organisation level, as for the TAFE institutes in South Australia—or are developed by individual providers. In other cases again, specific initiatives are the direct result of the efforts of individuals. To what extent it is appropriate for VET systems to rely on the outstanding contributions of some individuals—including the implications elsewhere—can be debated, but their efforts lead to better vocational education and training and outcomes for a considerable number of students with disabilities.

Strengths and weaknesses

The current arrangements have a number of strengths, but they also have several weaknesses.

Strengths

The strengths of the existing funding arrangements include:

- ❖ the enrolment of considerable numbers of students with disabilities, especially in public providers, but also in some private registered training organisations
- ❖ the provision of extensive support for students with disabilities, including through capital expenditures, such as that for access, and through recurrent funding, such as for interpreters, note-takers, ergonomic furniture or adaptive equipment
- ❖ a strong commitment among many managers, academic staff, administrative staff and students in VET to address the needs of students with disabilities, to encourage their participation and to facilitate their successful study
- ❖ an increasing recognition in VET systems, at both national and state and territory levels, that additional measures are required if the reasonable needs of VET students with disabilities are to be met, and some evidence of an increasing determination to achieve these changes. For example, in New South Wales, the largest VET system in Australia, there has been considerable progress in relation to facilitating the access of disabled school students to TAFE and in providing more VET programs in schools, including for students with disabilities.

Weaknesses

Significant weaknesses in the current funding arrangements limit access to VET programs, make the VET study of students with disabilities less successful than it might otherwise be, and restrict the achievement of optimal employment or other outcomes.

Number of VET students with disabilities

The proportion of VET students with disabilities is much less than the proportion of the Australian population (or the population in the relevant age groups) who have a disability. While the statistics are not wholly reliable, the differences are most unlikely to be merely an artefact of the definitions used or the way in which the situation was measured. The access into vocational education and training of students with disabilities is significantly more restricted than for the general population. Indeed, the proportion of the total VET student enrolment in Australia, which is represented by students with disabilities, has been falling. They represented 5.1% of the total VET population in 1996, but in 2000, the corresponding figure was 4.5% (NCVER 2002). According to the Australian Vocational Education and Training Management Statistical Standard statistics, there are also marked differences between states and territories, ranging from 5.3% in New South Wales in 2000 to 2.9% in the Northern Territory.

Outcomes from VET study

VET students who report a disability also appear to have poorer outcomes from their studies. Among TAFE students who graduated in 2000, those with disabilities appeared to experience virtually no improvement in employment outcomes. The proportion in employment remained unchanged at 43%, both before and after training (NCVER 2002, p.9). Given that the proportion of all TAFE graduates in employment increased from 68% before training to 76% after training, the ability of those with disabilities to gain employment appears to be an issue of concern. For full-time employment the contrast is even more striking. While the proportion of all students who were in full-time employment rose from 39.5% before training to 50.4% after training, it was 21.3% before training and 21.1% after training for those with disabilities.

In addition, students with disabilities who were successful in securing employment after graduation from TAFE did not achieve the same level of income as Australians as a whole, after controlling for factors such as field of study, occupation and level of qualification attained. Furthermore, new TAFE graduates who reported in the National Centre for Vocational Education Research (NCVER) survey that they had a disability were found to obtain a significantly lower income at 30 May in the year following completion of a TAFE course compared with other new TAFE graduates (NCVER 2002, p.10). However, NCVER also found that students with disabilities who were in an apprenticeship or traineeship during their VET course achieved more positive post-course employment outcomes than those who were not engaged in a contract of training.

Type of disability

The needs of students with a physical disability appear to be better met by vocational education and training than those for students with an intellectual disability, a claim made during the discussions with state training authorities and with training providers. It also appears to be supported by the statistics from NCVER's national statistical collection from VET providers. Data about the types of disabilities reported by VET students in 1996 and 2000 show that 47.2% in 1996 and 47.7% in 2000 of VET students with disabilities had a physical disability (that is, a sensory disability or physical disability), while only 15.7% in 1996 and 12.5% in 2000 were shown as having an intellectual disability (6.2% and 8.1% respectively were shown as having a chronic illness). Unfortunately, the high proportion of disabilities which were reported as 'other' or 'unspecified' (over 30% in both 1996 and 2000) make it difficult to identify trends or even the various categories satisfactorily.

Special needs costs

The financial assistance provided does not appear to cover the extra costs involved in providing for the special needs of students with disabilities, especially for those whose needs are substantial. It is clear that many students with disabilities can cope reasonably adequately with relatively minor levels of additional support (often made available through the training provider), especially where the provider is large and has substantial resources. However, when the student's needs are particularly costly to meet satisfactorily, or even when they are less costly but the training provider is small (as is the case for many private providers and those in the ACE sector), then the present funding arrangements raise real difficulties for providers. In effect, they are being asked to subsidise such students, either at the expense of other students or fee-for-service activities, or they are being faced with invidious choices which responsible providers are not keen to make, certainly not explicitly. In any case, the supports which are made available tend to focus primarily on educational and academic support, while the student may require a range of other supports, for example, in relation to transport, accommodation and the skills of daily living, which—if not provided—have an adverse impact (perhaps a very serious impact) on their earning and educational progress.

Inadequate statistical reporting

The statistical information currently collected through the enrolment form, on a voluntary self-reporting basis and incorporated in the Australian Vocational Education and Training Management Statistical Standard system of national statistics, is seriously deficient. If the objective is to identify students who need assistance in a timely fashion, it conspicuously fails to do so. Many students who identify themselves appear not to need much assistance, while many students who—for a variety of reasons—do not identify themselves require assistance and can experience considerable educational disadvantage, even failure, if they do not get it. Even the support that is provided is often not supplied as quickly after

the course starts as would be desirable. Some steps are being taken to address these problems, including through closer links with the schools from which particular students are recruited, or by working more closely through enrolment processes and with both lecturing and administrative staff. This is happening especially in some states and with some providers.

Towards improved arrangements

Funding models

The material gathered in the interviews conducted for this project indicates that an ideal model for funding VET for students with disabilities should incorporate the following features.

- ❖ The model should create incentives for VET providers to enrol people with disabilities and to provide them with the support they need to complete their program successfully and to achieve desired outcomes.
- ❖ The model should ensure that VET providers do not bear the burden of meeting the high-cost support needs of some students with disabilities.
- ❖ The model should enable students with disabilities to take the extra time some of them need to complete a VET module or program.
- ❖ The model should ensure that students with disabilities have the supports they need during work placements.
- ❖ The model should ensure that students with disabilities receive the support they require to be able to enter vocational education and training and participate successfully, including meeting needs not directly related to VET but potentially affect VET.
- ❖ The model should provide support for transitions (for example, school to VET, VET to work etc.)
- ❖ The model should enable the identification of appropriate VET outcomes for individual students and support the students and providers in working towards these outcomes.
- ❖ The model should enable support to move with the student in a transfer from one VET provider/program to another.
- ❖ The model should increase opportunities for students with disabilities in vocational education and training.
- ❖ The model should incorporate flexibility, allowing for variations in the levels of support required within any registered training organisation from one year to the next.
- ❖ The model should incorporate flexibility to allow for differences between states and territories within a national framework, while ensuring that access to necessary supports does not become a function of geographic location.

- ❖ The model should increase equity in vocational education and training.
- ❖ The model should be as simple as possible to implement and operate.
- ❖ The model should ensure the most effective use of limited resources.
- ❖ The model should support cumulative learning about the most effective and appropriate ways to support students with a disability in VET so that they can achieve desired outcomes.

Alternative funding arrangements

Discussions and data analysis also identified four possible alternative funding arrangements:

- ❖ the current situation
- ❖ modifications to the existing arrangements while keeping the basic existing structure
- ❖ additional base funding arrangements for VET providers
- ❖ a case management approach.

None of these funding models has all of the features of the ideal model noted above and it is unlikely that any single model would ever do so. In any case, contextual matters are likely to impact on the ability of any single model to meet all of the requirements at any one time. Resource constraints, the setting of priorities etc. differ across the states and territories, even with a national framework, and will affect both the appropriateness of any model—and its effectiveness.

These four options are not the only possible alternatives, but the states and territories all indicated that these four, which could be modified in various ways or taken up rather differently by individual jurisdictions, covered the possibilities and, in their view, warranted serious consideration. They also indicated that they were seeking a limited range of alternative funding arrangements for serious consideration, rather than a longer list which might be justifiable on some theoretical or hypothetical basis, but which currently were unlikely to receive attention at political and bureaucratic levels.

Given that there is insufficient space to discuss these alternatives, their specific strengths and weaknesses are summarised in table 1.

Table 1: Funding options and their strengths and weaknesses

Option	Strengths	Weaknesses
<i>Continue current arrangements</i>	<p>Considerable enrolments of students with disabilities</p> <p>Extensive supports provided</p> <p>Staff and provider commitment</p> <p>Recognition of need for additional measures and support for change</p>	<p>Under-representation of people with disabilities in VET</p> <p>Students overrepresented in some courses and fields and at lower levels in VET</p> <p>Poorer employment and other outcomes</p> <p>Some needs better met than others</p> <p>Insufficient financial assistance, especially for expensive needs</p> <p>Poor statistical information does not support resource allocation decisions</p>
<p><i>Current arrangements with modifications in:</i></p> <ul style="list-style-type: none"> ❖ statistical information ❖ support arrangements ❖ the balance between ‘base’ and ‘top-up’ funding ❖ financial incentives to providers to enrol and support people with disabilities ❖ attention to transitions 	<p>Potential to improve efficient use of resources</p> <p>More timely and appropriate support.</p> <p>Support for work placements</p> <p>Potential to increase opportunities in VET for people with disabilities</p> <p>Flexibility to local needs and approaches</p>	<p>Improvements would possibly only be small</p> <p>Enrolment and support for students with disabilities would still be reliant on the discretion of the provider</p> <p>Limited increase in opportunities for people with disabilities in VET</p>
<p><i>Additional base funding</i></p> <p>Students with high support needs classified into 2 or 3 groups. Providers reimbursed for the extra costs of providing appropriate support</p> <p>Clear targets established for achievement. Progress toward them monitored. Resources progressively re-directed to those areas and providers who achieve the best outcomes</p> <p>Increased emphasis on cumulative learning through monitoring and evaluation</p>	<p>Provides an incentive for registered training organisations (private, as well as public) to enrol and support high-needs students</p> <p>Potential to improve the efficient use of resources</p> <p>Would link resource allocation to outcomes</p> <p>Would increase transparency and accountability</p> <p>Potential to decrease disparities between students with disabilities and other VET students</p>	<p>Assumes additional funding would be available</p> <p>Additional resources confined only to VET—ignoring wider issues that affect access, participation and successful outcomes</p> <p>Possibility of increased confrontation around the gap between rhetorical support and real support</p> <p>Growth in understanding of successful approaches</p>
<p><i>Case management approach</i></p> <p>Focus on the needs of the individual, both within and outside VET, and the ways in which they interact</p>	<p>An integrated model which considers the links between the wider aspects of a person’s life and their education and training</p> <p>Could strengthen the linkages between secondary schooling, VET and employment</p> <p>Potential to improve both efficiency and equity processes</p>	<p>Implementation difficulties—requires a whole-of-government approach</p> <p>Would entail complex negotiations.</p> <p>Extends far beyond the boundaries of VET—the special concerns of VET could be overlooked</p> <p>Limited scope for variation or flexibility at the state/territory level</p>

This project does not identify any single model as a preferred option. This position also reflects the fact that this small project has not been able to consider in sufficient detail the alternatives identified. Considerable further work is required before any conclusions might be drawn about which was the most appropriate model, for what reasons and in what circumstances. The alternatives need to be 'filled in' with detail about what they would look like and how they would work.

However, discussion of these alternatives leads to four main conclusions.

- ❖ There are a number of opportunities for improving efficiency in the use of resources to assist students with disabilities in vocational education and training. There also appear to be significant possibilities for improving access, participation and outcomes for this substantial group in Australian society.
- ❖ There is an important question about whether additional funds will be provided. Support to meet the extra costs of providing adequate facilities and services to students with disabilities in VET is a societal responsibility rather than primarily a responsibility of enterprises or education and training providers. A number of cases have been identified, generally when students have particularly expensive support needs and where providers are not reimbursed for these extra costs. This can be a problem for providers, especially in specialised areas or where enrolments are low. This issue tends to have a greater impact on private than on public providers, and smaller than larger providers. If additional funds were made available, substantial improvements could be achieved. However, if additional funds are only available for students with disabilities by redirecting existing resources from other areas in VET, then much less is likely to be achieved. Support for students with disabilities will tend to be confined largely to the public sector and there will remain considerable cynicism about a perceived gap between the rhetoric of access, equity and support and the perceived reality of constrained resources.
- ❖ There is a question about the degree of standardisation to be sought. At present, there are considerable variations between the support facilities and services provided to VET students with disabilities. There are also substantial differences between states and territories in the degree to which people with disabilities even gain access to vocational education and training. These differences reflect the continuing state-based nature of VET, despite substantial federal involvement over recent years; objective variations between them, for example, in geographical area, population size and industrial structure; and the way in which the various TAFE, ACE and private provider sectors have developed over the years. The present situation and the first two possible changes discussed above continue to allow scope for substantial variation between the states and territories, whereas greater harmonisation appears likely under a case management approach.

- ❖ There is an issue concerning the extent to which the decisions about whether to change the funding arrangements are matters primarily for the VET sector alone. Of course any significant changes to the existing funding arrangements will involve interaction with other parties, including state treasuries, if additional financial resources are sought. However, of the various options outlined, the range of powerful stakeholders outside the VET sector who would be involved in policy development and implementation is much greater for the case management approach than for the other options. This factor tends to be more important where VET decision-makers wish to retain control over their own sector.

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Part two:
The financing
of vocational
education and
training

Relative contribution of individuals, industry and government to the costs of VET

Katrina Ball

This chapter considers the options available for financing entry-level and continuing vocational education and training (VET) in an environment where there are competing demands for government resources to fund other government priorities. Government, employers and individuals all contribute towards financing vocational education and training, with government being the main contributor to financing entry-level vocational education and training, and employers being the major contributor to the cost of continuing vocational education and training. The exact quantum of expenditure on training in Australia is not known.

SIGNIFICANT RESOURCES ARE expended by governments to deliver education and training. As there are competing demands on governments to resource priorities such as health and welfare, defence and national security, in addition to education and training, it is important to scrutinise resource allocation in this major expenditure area. Governments are increasingly concerned about addressing the pressures of an ageing population (Department of Treasury 2004) which will cause upward pressure on health and welfare expenditures and constrain expenditure in other areas such as education and training. It is important to determine the relative contribution of individuals, industry and government to the costs of vocational education and training to inform the debate on resource allocation between competing government priorities. There are also competing resource demands between vocational education and training and the other educational sectors. In terms of the VET sector, there is a question over what proportion of expenditure should be privately funded compared with the publicly funded component.

Levin (2003) maintains that almost every country has a coherent system of compulsory education with a clear and consistent financing structure. On the other hand, financing structures of post-compulsory education systems are diverse, and the multitude of forms of financing arrangements can lead

to inefficiency, inequity and inconsistencies across the range of institutions providing post-compulsory education and training. Traditionally, economists such as Friedman argued that, because the benefits of post-compulsory education are largely vocational and therefore largely accrue to an individual or firm, the costs should be borne by the individual or the employer. The costs of post-compulsory education could be funded through an income-contingent loan repaid through income tax. More recently, economists who advocate endogenous growth theory have argued that society benefits from a highly educated workforce able to adopt technological advances and new work methods, and so the costs of post-compulsory education and training should be shared between government, the individual and the employer.

In Australia, there have been two main lines of argument in relation to striking a balance between public and private expenditure on post-school education. The first is that there are private and community benefits in public funding of tertiary education in terms of economic growth, innovation and human capital. The second is based on equity considerations, in that it is inequitable for those not attending higher education to have to invest in it through taxes. (Karmel 1999).

Ziderman (2001) outlined a number of reasons for governments to take a role in financing training. These are:

- ❖ externalities
- ❖ property rights in human capital, within the enterprise
- ❖ market imperfections
- ❖ inadequate enterprise training
- ❖ weak private training institutional capacity
- ❖ parity of treatment between trainees and students
- ❖ neglect of disadvantaged groups.

It is useful to distinguish between entry or initial post-compulsory education and training and continuing vocational training when considering the question of relative contributions of expenditure between individuals, employers and government.

Options for financing entry-level training

There are a variety of financing mechanisms employed in different countries in relation to entry-level training. The nature of the entry-level training system has implications for how it is funded. Systems that are predominantly school-based are overwhelmingly public-funded. In some countries, such as the United Kingdom, the state provides the training but leaves choices to individuals and employers, and in others, such as France, the state regulates the system (Gasskov 2001).

Employers in France pay two kinds of levy to finance entry-level training. The first is an apprenticeship tax, which is set at 0.5% of the gross wage bill, from which employers are exempted if they hire apprentices. The second is a

statutory training levy of 1.5% of the gross wage bill (on enterprises with ten or more employees), a proportion of which is allocated to entry-level training under 'alternance' contracts. Alternance training contracts describe training which alternates between the employer and training institutions (Keating et al. 2001, p.38).

In Sweden initial vocational training is undertaken while in school (Andersson 2000). Approximately half (46%) of all students in the upper secondary school system in 1997 followed one of 14 vocational programs. Those following a vocational program spend at least 15% of their time based in workplaces gaining on-the-job training and experience, with the remaining time spent in school. When workplace-based, they have a purely student status.

Entry-level training in Australia is predominantly school-based rather than work-based, as most people acquire skills sufficient to get them an entry-level job in a particular vocation by studying for a formal qualification at a technical and further education (TAFE) institution or similar organisation. The bulk of the costs for entry-level training are met by the government in provision of the training, and individuals in foregone earnings. Employers make a modest contribution by providing some financial support for about a quarter of those studying towards a vocational qualification and, to the extent that any cost is incurred, in employing apprentices and trainees (Cully 2002).

Financing continuing vocational training

Continuing vocational training which encompasses initial training, updating or upgrading skills and retraining is far less reliant on public spending than initial vocational training. Most employer-provided training takes the form of short courses or on-the-job training. In contrast to vocational education leading to a formal qualification, external training courses which do not lead to a qualification are much more likely to be employer-funded.

Rogers-Elson and Westphalen (2001) for the European Centre for the Development of Vocational Training (CEDEFOP) explored the various approaches to funding continuing vocational training in nine member states of the European Union. The continuum they use is state-led to demand-led, with social partnerships in the middle. Essentially they identified three models:

- ❖ state-led funding, where the government regulates and funds continuing vocational training
- ❖ social partner funding, where the funding of continuing vocational training is a joint responsibility between government, community and industry
- ❖ demand-led funding, involving funding incentive schemes and demand-side mechanisms.

Post-compulsory education and training expenditure

The post-compulsory education sector comprises senior secondary schooling, the VET sector and higher education. Comparisons with other Organisation for Economic Co-operation and Development (OECD) countries suggest Australia's total expenditure on post-compulsory education and training is just below the middle of the all OECD countries. Australia ranks amongst the countries with highest levels of private expenditure. Australia has a higher rate of private expenditure than most European countries. Japan, Germany, Greece, Korea and the United States have higher rates of private expenditure (Burke 2001, 2002). On the other hand, government expenditure is near the lower end of all OECD countries.

Government outlays on education and training for all sectors make up about 14% of all government outlays. This has not changed in recent years. The gross value-added of education as a percentage of gross domestic product declined from 4.6% in 1996 to 4.4% in 2000. Demographic change has only had a minor effect on expenditure, and changes in participation rates have had an even smaller effect (Burke 2001, 2002).

General government outlays relative to gross domestic product have fallen from 37% in 1992–93 to 34% in 1999–2000. In recent years, growth in real expenditure per student has been confined to the school sector. There has been a decline in real expenditure per equivalent full-time student units in higher education, and in vocational education and training there has been a decline in government recurrent expenditure per publicly funded annual curriculum hour (Burke 2001, 2002)

Cross-sectoral issues

Watson, Wheelahan and Chapman (2002) point out that differences in funding, regulatory and accreditation systems define the post-compulsory education sectors to a greater extent than differences in the courses of study they offer. The sector-based differences in funding, regulatory and accreditation arrangements are a disincentive to all forms of cross-sectoral provision and the development of courses involving more than one sector. It is their view that it is unlikely that a new funding model could be put in place to encompass all sectors, because of the complexity of current funding arrangements, with each sector funded to a different degree by each level of government.

Funding levels per student in each sector vary because of differences in industrial awards, class sizes and student contact hours, all of which influence the average course delivery costs in each sector. A major problem posed by each sector being funded in different proportions by different levels of government is the incentive for cost-shifting by encouraging students to move to another sector which is funded by a different level of government (Watson, Wheelahan & Chapman 2002).

There are different methods for allocating funding to institutions across the post-compulsory education sectors. Schools are funded according to student (per capita) enrolments in a calendar year. VET providers are funded on the basis of teaching time, measured in terms of the number of student contact hours. Student load in universities is measured in terms of equivalent full-time student units. State funding to the adult and community education (ACE) sector is on the basis of student contact hours (Watson, Wheelahan & Chapman 2002).

There are also differences in student contributions across the post-compulsory sectors. Public school students contribute around 5% of course costs through voluntary contributions, while private school students contribute between 20% and 70% of their course costs. TAFE fees vary by state. Up-front fees range from 50c to \$1.15 per student contact hour, and in some states may be up to \$1000, although 20–30% of students obtain exemption from fees. In higher education, students pay about 33% of the cost either up-front with a 25% discount, or as a deferred income-contingent loan. In adult and community education most students pay the full course fees, except in government-funded programs (Watson, Wheelahan & Chapman 2002).

Financing vocational education and training in Australia

Reforms to make the training market function more effectively were introduced in Australia in the 1990s. Selby Smith et al. (2001) identified that the main policy instruments used to affect both supply and demand in education and training at this time were:

- ❖ putting more publicly funded education and training into competitive markets
- ❖ expanding charges in public education
- ❖ increasing the public subsidy to fee-charging public providers
- ❖ mandating or exhorting increased expenditure by employers
- ❖ restraining or cutting public funds
- ❖ developing a new structure for vocational education and training based on competencies and the recognition of training
- ❖ changing the management structure of public education.

There are no comprehensive data available that provide an accurate indication of total expenditure on training in Australia or the distribution of training expenditure by individuals, employers, and government (Cully 2002; Hall, Buchanan & Considine 2002; Long 2002). In particular, there is limited information available about training expenditure by employers, especially the cost to employers of wages paid to employees while training. The Royal Commission into the Building and Construction Industry identified the lack of data on training expenditure as a major information gap (Royal Commission into the Building and Construction Industry 2002).

Expenditure by government

By comparison with other OECD countries, the proportion of government expenditure on vocational education and training is near the lower end. However, the OECD key indicators reported in their publication, *At a glance*, do not capture the entire vocational education and training effort in Australia due to problems of reporting (Burke 2001).

From 1992 to 30 June 2005, the Australian Government and state and territory governments funded the national VET system under the Australian National Training Authority (ANTA) agreement. The funds ANTA allocated to states and territories were approved through the annual Directions and Resource Allocation Report considered by ministers at the ANTA Ministerial Council. This funding allocation also included funding for training apprentices and trainees who meet the criteria for user choice funding as determined by individual states and territories.

The Australian Government and state and territory governments also fund incentives to employers to train apprentices and trainees. The Department of Education, Science and Training advise that the 2002–03 estimate for Australian Government incentives for New Apprenticeships is \$566.019 million, comprising \$437.122 million in employer incentives; \$17.874 million in personal benefits to New Apprentices (living away allowances); and \$111.023 million in payment to the New Apprenticeships Centres for administration.

State government incentives predominantly relate to payroll tax exemptions or exclusion from payroll tax. New entrant New Apprentices are eligible for payroll tax exemptions or rebates in most states and territories. State and territory incentives also comprise accommodation and travel expenses for apprentices and trainees travelling to attend day or block release. Some states allow apprentices concession passes for travel on buses or trains between home and work and training provider to attend classes. It is not possible to cost the incentives provided by state and territory governments, as most of the incentives are payroll tax exemptions on wages paid to apprentices and trainees for which no costing is available.

Other government funding for training apprentices and trainees is provided through the Industry-Based Skill Centre program, which has been administered by the states and territories on behalf of ANTA. The program allows industry and community organisations incorporated as not-for-profit organisations to apply for assistance for the establishment of skill centres (Royal Commission into the Building and Construction Industry 2002).

Burke (2001) suggests that there is limited capacity for public funding to underwrite continued growth in vocational training as the trend for government funding in the 1990s has been to reduce the average amount spent per student. Student numbers grew considerably over the 1990s under the ANTA Agreement, which provided growth funding to the sector from 1993 to 1997. The 2001 ANTA Agreement re-introduced growth funding following a period of expansion. This was funded by a range of cost-saving measures (Haukka, Keating & Lamb 2005).

ANTA annual reports indicate that expenditure per hour declined by 16% in real terms between 1997 and 2001 from \$15.5 (\$A as valued in 2003) per hour in 1997 to \$13.0 (\$A as valued in 2003) per hour in 2001, before increasing by 6% between 2001 and 2003 to \$13.8 (\$A as valued in 2003). Total adjusted annual curriculum hours delivered increased by 22% between 1997 and 2001 from 227.8 million hours in 1997 to 277.7 million hours in 2001 before declining to 276.0 million hours in 2003. Differences exist between states and reflect differences in state management, funding and staffing policies (ANTA 1997–2003)

The full extent of government funding for training is not captured in the VET financial accounts, as some state and territory agencies allocate funds to training as part of regional and special initiatives or as part of programs such as Farmbiz.

Expenditure by employers

The quantum of employer support for training in Australia is unknown. Employer support for training includes wages paid for time off work while training, and direct payments for fees, training materials and travel and subsistence payments. Industry also supports training through the resources provided for the development of national training packages in the form of time, travel and accommodation costs for industry representatives. The building and construction industry has industry-managed funds for training. Levies are collected from the industry and provided to industry training funds to finance training. With the exception of New South Wales and Victoria, all states and territories have some type of building and construction industry training fund (Royal Commission into the Building and Construction Industry 2002).

Most employer-provided training takes the form of short courses or on-the-job training. In contrast to vocational education leading to a formal qualification, external training courses which do not lead to a qualification are much more likely to be employer-funded.

There has been a persistent belief in Australian training policy circles that Australia is underperforming in relation to employer investment in training, especially since the abolition of the Training Guarantee Levy in 1996 (Smith & Billett 2003; Hall, Buchanan & Considine 2002). However, it is not possible to make any judgements about where Australia stands relative to other countries in total expenditure on vocational education and training, and employers' contribution to it. It is by no means clear that Australian employers spend less on training than their counterparts in Europe (Cully 2002). Figures provided by the European Union, Eurostat—Continuing Vocational Training Survey (CVTS II) show that in fact, Australia lies towards the top end of the normal range of employer training expenditure of about 1 to 3% of payroll (Smith & Billett 2003).

Differences in survey definitions and methodology between Australian Bureau of Statistics (ABS) surveys make it problematic to measure employer funding of training. For example, the overall estimate of total hours of training for the ABS 1997 household-based Education and Training Experience Survey was 25 hours compared with 19.6 hours for the ABS 1996 employer-based

Training Expenditure Survey (Long 2002). In addition, comparability of the ABS 2001–02 Training Expenditure and Practices Survey with earlier training expenditure surveys was compromised by the decision to only collect data in 2001–02 on direct expenditure by employers and not to collect data on wages and salaries paid to employees while in training.

Training expenditure by employers, including wages and salaries paid to employees while in training, rose between 1989 and 1993, and then declined between 1993 and 1996. The decline coincided with the abolition of the Training Guarantee Levy. The ABS results on the 2001–02 Training Expenditure and Practices Survey suggest an increase in employer expenditure between 1996 and 2001–02. However, considering movements in real wages over this time, it would appear that there has been little change in the percentage of employers' wage and salary bill devoted to training.

Surveys of training and development practices conducted by the Australian Graduate School of Management suggest that the percentage of organisations which spent more than 2.5% of payroll on training development and learning practice had declined between 1996 and 2001. However, there was an increasing trend for employers to pay tuition fees (Hall, Buchanan & Considine 2002).

Research conducted by Australian Centre for Industrial Relations Research and Training found that employee-funded training has been growing faster than employer-funded training (Hall, Buchanan & Considine 2002).

Nonetheless, access to training has become more widespread, but fewer resources are being devoted to skill development. More employees are taking part in employer-funded training courses. In 2001, 74% of external courses completed by employees were financially supported (Hall, Buchanan & Considine 2002).

Based on work by Wooden (cited by Cully 2002), there was a fall in average training hours for in-house training courses from 50.6 in 1989 to 36.2 in 1997. Between 1997 and 2001 there was an increase in the incidence of training, but a fall in training intensity. The 2001 Survey of Education and Training Experience suggests both trends have continued, with a fall in aggregate hours of 3.5% between 1997 and 2001, and a fall in average hours of training of 15.5% (Cully 2002).

International comparisons of training intensity are problematic because of differences in training systems across countries. For example, Sweden has a high incidence of rate of training but a low intensity, with middle-aged, well-qualified professionals predominately receiving training (Cully 2002).

Employers fund the training of apprentices and trainees directly through direct training expenditures and indirectly through wage payments to apprentices and trainees while they are undertaking training. A high proportion of training expenditure by employers can be attributed to firms with apprentices and trainees. In 2001–02, 13% of firms employed apprentices and trainees. Firms which employed apprentices and trainees contributed 46% of all training expenditure by employers (ABS 2001–02).

The ABS 2001–02 Training Expenditure and Practices Survey collected information on direct training expenditure by employers and the reasons employers provided training. Table 1 shows direct expenditure on structured training between 1993 and 2001–02 in current and constant 1993 dollars. Total training expenditure during 2001–02 was \$3652.7 million, including wages and salaries of dedicated trainers, and accounting for offsets to training expenditure, which represented a 52.4% increase in total expenditure in nominal dollars. The increase in real terms is \$834.6 million, a 37% increase from 1996. This increase can be attributed to an increase in the number of employers offering structured training, the growth in the labour force, changes within industry, legislative requirements and increases in the real cost of training an employee.

Table 1: Direct expenditure on structured training 1993, 2001–02 (\$m)

	1993 ¹ ('000)	1996 ² ('000)	2001–02 ³ ('000)
<i>Current dollars</i>			
Wages & salaries of dedicated trainers	1036	1087.7	1036.7
Direct training expenditure (excluding wages & salaries to dedicated trainers)	1339.2	1430.5	2981.5
Gross training expenditure	2375.2	2518.1	4018.2
Offsets to training expenditure	110	121.5	365.5
Total	2265.2	2396.7	3652.7
<i>Constant 1993 dollars³</i>			
Wages & salaries of dedicated trainers	1036	1031.9	882.2
Direct training expenditure (excluding wages & salaries to dedicated trainers)	1339.2	1357.1	2537.3
Gross training expenditure	2375.2	2389.0	3419.5
Offsets to training expenditure	110	115.3	311.0
Total	2265.2	2273.8	3108.4

Notes: 1 Annual estimates for 1993 and 1996 based on September quarter from ABS Training Expenditure Survey 1993 and 1996.

2 2001–02 financial year, ABS Employer Training Expenditure and Practices 2001–02.

3 The non-farm GDP (NFGDP) deflator is used as a general measure of price change. Reference year for implicit price deflators is 2001–02 (ABS 2003).

Source: Colyer (2004, tables 1 & 2)

Colyer (2004) analysed the changes in direct training expenditure by employers between the 1997 and 2001–02 ABS Training Expenditure And Practices Surveys. The industries with the largest growth in numbers of employers providing training between 1997 and 2001–02 were accommodation, cafes and restaurants (54.8% in 1997 to 91.5% in 2001–02), cultural and recreational services (from 49.5% in 1997 to 80% in 2001–02) and construction (47% in 1997 to 75.7% in 2001–02). The increase in the provision of structured training in these industry sectors may be due to the relatively high level of job mobility in the accommodation, cafes and restaurants industry sector and growth in the number of employees in construction and cultural and recreational services.

The number of employees in construction increased 23% from 1998 to 2003, while cultural and recreational services increased by 16% over the same period.

The main reasons for employers providing structured training to employees in 2001–02 were:

- ❖ to maintain professional status and/or meet industry standards (55% of employers)
- ❖ to provide staff development or advancement (54%)
- ❖ to improve quality of goods or services provided (53%)
- ❖ to meet legislative or regulative requirements or for licensing arrangements (39%)
- ❖ to respond to new technology (36%).

The main reasons why employers provided training in 2001–02 differed markedly from those in 1994 and 1997. Individual development of staff was seen as more important in 2001–02 than in 1994 or 1997. In 1994, the reason reported most often for providing structured training was to improve the work performance of employees (80%), especially by public employers (94%). This is similar to the trend in 1997, where 53% of businesses supplying structured training did so to improve performance in current job; 39% found structured training important to respond to new technology; and 44% rated it important to improve the quality of goods or service.

The main reasons identified by employers as limitations to the provision of structured training in 2001–02 were:

- ❖ current employees adequately trained (43%)
- ❖ requirements met through unstructured methods (13%)
- ❖ cost constraints (9%)
- ❖ time constraints (7%)
- ❖ trained people recruited (6%).

Circumstances facing employers were quite different in 1994. The main reasons identified by employers as limitations to the provision of structured training in 1994 were time constraints (56%) and cost constraints (41%). Only 11% of employers felt that their current employees were adequately trained, and only 5% recruited trained people.

A number of alternative strategies have been mooted by Cully (2002) to encourage a higher contribution towards training expenditure by employers.

- ❖ Treat expenditure on structured training in the same manner as research and development expenditure. A deduction rate in excess of 100% would encourage more spending on ongoing training.
- ❖ Trial industry and region-specific levies modelled on construction industry schemes.
- ❖ Introduce an employer entitlement to training.

Expenditure by individuals

Investment by individuals in training in Australia, indicated by fixed student fees and charges, accounts for a very small proportion of private expenditure within public TAFE providers. The total share of individual expenditure on public vocational education and training has been consistently in the range of 4.1 to 4.4% over the period 1995 to 2003 (NCVER 1996–2003). Individuals' investment in training among private providers is not known with any degree of accuracy. Although difficult to measure, individuals make a substantial investment in training through foregone earnings.

Research by Hall, Buchanan and Considine (2002), based on ABS Education and Training Experience Surveys from 1989 to 1997 shows there has been a considerable rise in the number of people taking part in externally provided non-employer-supported training. In 1989, 9.8% of all those who had participated in training in the previous year had taken an external course that was not supported by an employer. This figure had grown to 20% in 1997. Research by Dumbrell (2002), estimates that just over 750 000 individuals incurred personal expenses in paying for their own training during the 12 months prior to the 1997 ABS Education and Training Experience Survey, with more than 75% spending less than \$500 on training. A large proportion (13.5%) of people not classified to an industry (unemployed or studying) have spent more than \$5000 on their own training, while relatively high numbers of individuals employed in the communication, property and business services and wholesale industries spent between \$1000 to \$5000 on their own training. While employers are increasingly providing incentives to train by paying course fees and materials, employees are contributing more to external training by not receiving any wages or salary for the hours they spend in training (Long 2002).

A number of strategies have been suggested to increase the contribution made by individuals to the cost of their training. Individual learning accounts and income-contingent loans are alternative mechanisms being used in other countries to increase the share contributed by individuals to the cost of provision (Haukka, Keating & Lamb 2005).

Higher Education Contribution Scheme-type fees are an income-contingent loan. The current review of higher education has raised the prospect of a Higher Education Contribution Scheme-style system for diploma-level courses in vocational education and training. Some students undertake VET courses at low fees and then seek credit transfer to university. In 2001, 7% of students commencing bachelor degrees (or below) were admitted on the basis of prior TAFE study in Australia. However, entry to university on the basis of TAFE qualifications has been stable since 1995 and certainly there is no evidence to suggest an increase since the changes to the Higher Education Contribution Scheme introduced in 1997. Long and Burke (2002) suggest that a limit to credit transfer is imposed by the difference between vocational education and training and higher education courses. Currently this limit and the absence of one-to-one credit transfer arrangements impose costs on students, preserve vocational

education and training as an alternative pathway to university, keep Higher Education Contribution Scheme avoidance to a minimum and help maintain the integrity of VET programs.

Conclusions

There is a question over what proportion of expenditure on vocational education and training in Australia should be privately funded compared with that which is government-funded. Government, employers and individuals all contribute towards financing vocational education and training, with government being the main contributor to financing entry-level vocational education and training, and employers being the major contributor to the cost of continuing vocational education and training.

Although the exact quantum of expenditure on training in Australia is not known, there are some consistent trends in VET expenditure. Investment by individuals has been relatively low as a proportion of public expenditure for some time, accounting for only about 4% of expenditure within public TAFE providers. While access to employer-supported training increased over the 1990s, average hours of training or skill intensity fell. A high proportion of direct training expenditure by employers can be attributed to firms which employ apprentices and trainees. With limited capacity to increase expenditure on training by government, the trend was for government to reduce the average amount spent per student over the 1990s. Real expenditure per hour by government declined by 11% between 1997 and 2003.

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Student fees and charges in VET: Policies and practice

Louise Watson

This chapter reports the results of a review of fees and charges applied in the vocational education and training (VET) sector in eight Australian jurisdictions for the 2003 calendar year. The review, which was commissioned by the National Centre for Vocational Education Research (NCVER), showed that making comparisons across jurisdictions was problematic because government policies in each differ. Further complexity is added by the existence of concession rates in all jurisdictions, differences in the hours of course delivery and the fact that individual institutes (except in South Australia) impose additional fees and charges for resources and materials. These are generally not published, meaning that the total cost of a course is not known. To obtain data on the total cost of one course, this review investigated both the published and unpublished fees charged for one course of study—Certificate I in Hospitality (Kitchen Operations)—offered in ten institutes across four states.

Introduction

IN THE AUSTRALIAN vocational education and training sector, all state and territory governments (except the Northern Territory)¹ have policies governing technical and further education (TAFE) fees and charges which set official tuition fees at relatively low rates, with concessions for disadvantaged students. Nevertheless, public VET providers in all jurisdictions have the potential to raise additional revenue through student fees and charges which fall outside government policy guidelines. The real cost of a VET course to individual students in any TAFE college is therefore not known.

The NCVER commissioned a review of VET fees and charges in Australia's eight states and territories. The purpose of the review was to examine the different fees and charges policies in each jurisdiction, as well as the hidden fees and charges faced by students (Watson 2003). The research also involved comparing the cost of one course of study between different technical and further education (TAFE) institutes. The data collected in the research relate to TAFE

¹ The data used in our research in relation to the Northern Territory were based on the fees and charges for VET courses offered by the former Northern Territory University, now known as Charles Darwin University.

fees and charges in the 2003 calendar year.² Issues arising from the research are discussed in the next section.

Difficulties in comparing student fees and charges

Several difficulties are involved in a comparison of student fees and charges between institutes and jurisdictions. The first problem is that official government policy in all jurisdictions specifies one rate for standard students and a concession rate for disadvantaged students. Second, the structure of training undermines the comparability of courses. Third, institutes have the capacity to charge additional fees outside government policy guidelines. Finally, published information on the cost of courses is inadequate.

Standard and concession rates

All states and territories offer generous fee concessions to disadvantaged students undertaking TAFE courses. Students eligible for concessions are either exempt from tuition fees or pay a substantially discounted fee in all states and territories. The general framework of concession policies is similar across jurisdictions, although the content differs greatly. For example, in New South Wales and the Northern Territory, the concession rate is free tuition, whereas Victoria imposes a maximum \$40 tuition fee for concessional students. In the remaining states and territories, the concession rate is a percentage of the standard rate per hour, ranging from 25% in Queensland, to 53% in Western Australia. In South Australia the concession rate is 50 cents lower than the standard rate per hour (Watson 2003, table 1, p.10).³

Generally speaking, there are four distinct client groups who are eligible for fee concessions in the charging policies of states and territories:

- ❖ Aboriginal and Torres Strait Islander students
- ❖ AUSTUDY recipients
- ❖ pensioners⁴
- ❖ apprentices and trainees.

Structure of training

The structure of training in Australia makes it difficult to compare 'like with like' in VET courses, because any given VET course will differ between institutes in terms of its hours of tuition and the units of study involved. All states and

² In mid-2003, the New South Wales Government announced a significant rise in TAFE fees to take effect from 2004 (see Watson 2003, appendix A). Victoria also increased its tuition fees by 25% in 2004.

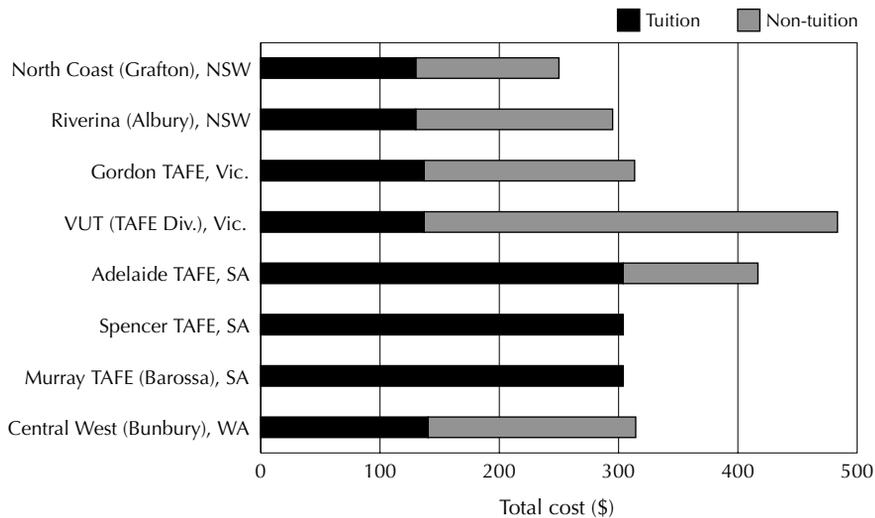
³ In all jurisdictions, courses funded for specific purposes, such as adult literacy education, tend to be free of charge, but these courses were not included in our survey.

⁴ Pensioners include a range of beneficiaries of government pensions, usually administered by Centrelink, such as Disability and Service pensions, Parenting Payment and Training Allowances.

territories (except New South Wales) charge tuition fees on an hourly basis, so the rates per course vary according to the hours of course delivery. In 2003, the hourly rates for tuition ranged from 91 cents per hour in Queensland to \$1.50 per hour in Tasmania. In South Australia, the hourly rate varies by type of course, ranging from 50 cents per hour to \$6.15 per hour (Watson 2003, pp.10–11).

The differences in state and territory charging policies are compounded by differences in the hours of course delivery. All VET courses involve units of compulsory study (core units of competence) as well as a range of electives. The elective units of competence differ according to institutional offerings and student preferences. Each elective unit involves different hours of delivery, a factor which will affect the total tuition fee paid. In most jurisdictions, state and territory policies are well known, but hours of training are determined at the institutional level. As students may choose different electives (with different training hours) to meet the requirements of a course, the only level at which TAFE courses are comparable across institutes is in terms of the core units of competence. The core units of competence are a major component of courses but do not represent the full delivery. The cost of the core units of competence for one course of study in eight institutes (standard rate) is illustrated in figure 1.

Figure 1: Total fee for core units of competence in Hospitality Certificate Level I (Kitchen Operations), by provider, 2003 (\$)



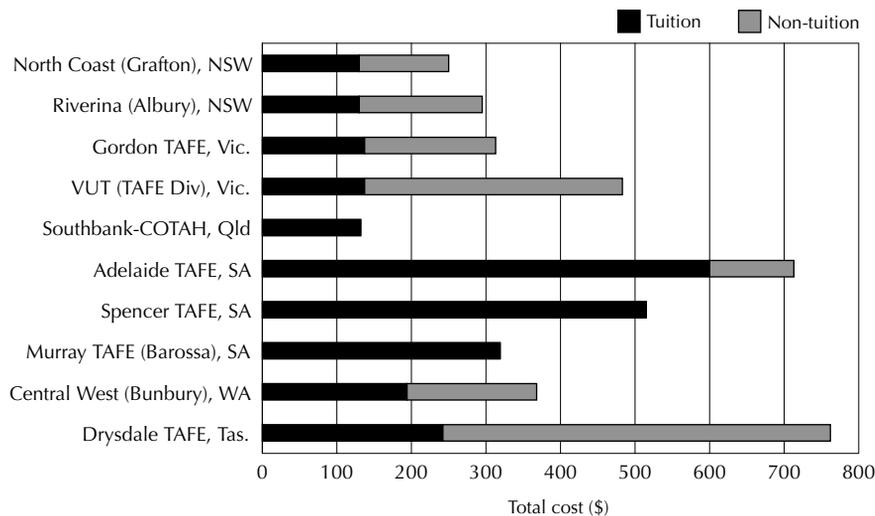
Notes: The Victorian University of Technology (VUT) amenities and services fee includes a \$40 building levy for on-campus study. Miscellaneous charges are excluded.
 The New South Wales figure is based on the certificate course rate for less than one semester (\$130). 'Tuition' refers to the standard tuition fee rate and 'non-tuition' refers to charges for materials/resources, amenities and services and tools of trade.
 Source: Watson (2003, table 10, p.27)

The variation in tuition fees between institutes is influenced by the different charging policies of each state and the different hours of tuition determined by each institute. In New South Wales, the standard tuition fee is not based on hours, so it is the same across all institutes. In South Australia, the standard fee

includes materials and resources charges. The hours of tuition for the core units of competence range from 116 hours in the Central West (Bunbury) Institute in Western Australia to 137 hours in the Victorian TAFE institutes on the chart. Within this small sample, the hours of tuition balance out differences in the rates per hour between Victoria and Western Australia to make the total tuition fee for core units of competence similar between the institutes in New South Wales, Victoria and Western Australia depicted on the chart.

Students' choice of electives accounts for much of the variation in the cost of the same course between institutes, because the hours associated with elective units of study vary widely. Institutes may influence a student's choice of electives either by offering a limited range of elective units, or by mandating a set of elective units within a particular course in response to industry requirements (Watson 2003, p.29).

Figure 2: Total student fees and charges for Hospitality Certificate Level I (Kitchen Operations), by provider, 2003 (\$)



Notes: The Victorian University of Technology (VUT) amenities and services fee includes a \$40 building levy for on-campus study. Miscellaneous charges are excluded. The New South Wales figure is based on the certificate course rate for less than one semester (\$130). 'Tuition' refers to the standard tuition fee rate and 'non-tuition' refers to charges for, materials/resources, amenities and services and tools of trade.

Source: Watson (2003, table 11, p.29)

Figure 2 illustrates the impact of additional training hours associated with elective units of study on total tuition fees, compared with the cost of core units of competence (figure 1). For example, the tuition fee at Adelaide TAFE and Spencer TAFE in South Australia increases from \$303 for the core units (figure 1) to \$600 and \$515 respectively (figure 2) due to the training hours associated with electives. In Murray TAFE in South Australia, the additional cost of electives is only 5% and in Western Australia it is 38%. There is no additional cost for electives in New South Wales because the policy specifies a fixed rate by level

of course. In the two Victorian institutes illustrated, the elective units are not specified by the institutes. Therefore the additional cost of electives is determined by the student's choices.

In summary, the total fee paid by a TAFE student will be governed by the following factors:

- ❖ state/territory charging policy on tuition fees
- ❖ hours of training set by the TAFE institute⁵
- ❖ elective units chosen by student, or offered by the institute
- ❖ cost of materials or resources specified by the TAFE institute.⁶

A large proportion of the cost of courses is found in the non-tuition costs, such as materials and resources fees. These fees differ according to course type, as discussed in the following section.

Materials or resources fees

Of the additional charges imposed by TAFE institutes, the highest costs appear to be associated with fees for materials and resources consumed during the course and the compulsory purchase of tools of trade (see figure 2). Many institutes also charge amenities and services fees, but these are the least significant charges imposed under the 'non-tuition' category.

A Western Australian Government review recently concluded that non-tuition costs accounted for, on average, 40% of total course fees, and that the major component of non-tuition costs is charges for course materials. It also noted that the total materials or resources fee payable differed widely between courses and fields of study. The Western Australian Auditor-General's report found significant inconsistencies in resource fees charged by TAFE institutes and commented that most TAFE colleges lack a clear and consistent understanding of exactly what costs should be covered by the fee, with uncertainty over whether indirect costs (such as library costs, computing costs and lecturing support costs) should be included. The Auditor-General also found that most colleges could not substantiate the basis for charging their resource fee (Auditor-General Western Australia 2000).

The compulsory purchase of tools of trade also differs between courses, usually depending on the industry focus of the course. Courses in the field of art and design, such as animation, ceramics, fashion textiles design, fine art, jewellery or photography, may impose materials charges as high as \$2788 per year. However, these courses are a small proportion of the total courses. In many TAFE courses, the materials charges would seldom exceed \$100 per semester (Watson 2003).

⁵ This applies to all jurisdictions except New South Wales, where tuition fees are not based on an hourly rate (see Watson 2003, table 1, p.10).

⁶ South Australia is the exception, as materials or resource costs are included in the tuition fee.

The impact of non-tuition fees—materials and resources, tools of trade, amenities and services—on the total fee paid for the same course in ten institutes is illustrated in figure 2. Of the ten courses shown, the course at the Drysdale TAFE in Tasmania is the most expensive, mainly due to the high non-tuition costs imposed by the institute, which are more than double the tuition fee. The non-tuition costs at Victoria University of Technology are two-and-a-half times higher than the tuition fee. In the other institutes shown (except those in South Australia and Southbank College of Tourism and Hospitality in Queensland), non-tuition costs effectively double the official cost of the course.

Differences in the cost of materials or resources between institutes offering the same course also reflect variations in the industry sub-sectors served by the Hospitality Training Package. For example, the level I course at Southbank College of Tourism and Hospitality in Queensland is specifically designed to train, through flexible delivery, kitchen hands employed in nursing homes. As a result, there are no materials charges and students are not required to purchase uniforms or tools of trade. By contrast, a level I hospitality course that requires students to purchase expensive tools of trade (such as Drysdale TAFE in Tasmania) is more likely to be the first stage of training towards higher-level qualifications such as a chef.

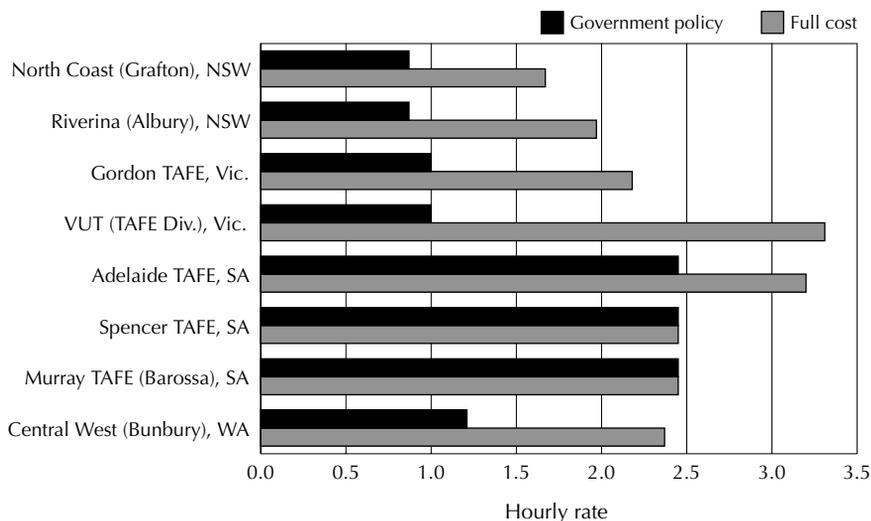
In summary, the materials and resources fee imposed by course convenors at the institute level is likely to increase the cost of a TAFE course by 50 to 100% (except in South Australia). In some TAFE courses, the materials and resources fees would be lower than average, and in a few courses—mainly in the field of art and design—the charge for materials and resources would be much higher than average.

Inadequate information

While state and territory charging policies are well known, very few institutes publish the hours of training delivery per course or the materials or resources fees. This makes it difficult to calculate the cost of tuition for either core units or electives. In New South Wales, the tuition fees are known because they are set at a fixed rate per type of course, regardless of hours of delivery.

To obtain information on non-tuition costs, such as materials and resources fees or tools of trade, the course convenor within each institute of TAFE had to be contacted. Western Australia is the only state which requires institutes to publish materials and resources fees. Although this information is made available to students prior to enrolment, it is not available more widely. Due to the difficulty in obtaining information on non-tuition charges, the scope of our research had to be confined to one course of study—the Certificate Level I in Hospitality (Kitchen Operations). By telephoning course convenors at the institute level, we obtained information on the non-tuition costs in this course of study in at least eight institutes around Australia. This enabled us to calculate the real rate per hour for this course, compared with the rate specified in government policy (which only covers tuition).

Figure 3: Real rate per hour of VET provision by provider, 2003 (\$)



Note: Based on the student fees and charges (tuition and non-tuition) for Hospitality Certificate Level I (Kitchen Operations), for a notional course delivery time of 150 hours in all institutes. The rate for concession students is not shown.

Source: Watson (2003, tables 1, 11)

The real rate per hour of VET provision, compared with the official rate per hour is shown in figure 3. The real rate per hour includes the cost of both tuition fees and non-tuition fees, such as materials and resources fees, tools of trade and amenities and services fees. The real rate per hour varies between the eight providers shown, between institutes within the same state and between states. In all jurisdictions except South Australia, the real rate per hour is more than double the official rate per hour. South Australia is the only state where the charging policy for tuition fees includes materials and resources charges.

The lack of publicly available information about total course costs means that potential students have no capacity to compare the cost of courses between institutes. It also limits the scope for researchers to compare total student fees and charges between institutes. Given that courses cost, on average, 50 to 100% more than the amount specified in government charging policies (except in South Australia), this has implications for debates about whether TAFE fees and charges are too high.

Are TAFE fees and charges too high?

For the course of study, the Certificate Level I in Hospitality (Kitchen Operations), the research concluded that the standard student fee (including materials and resources charges) is between 2 and 10% of the full cost of course delivery, depending on the institute (Watson 2003, p.30). This is considerably less than the contribution made by university students to the cost of higher education courses. Some people might therefore conclude that the VET student contribution

is not 'too high' compared with higher education. On the other hand, the level of student contribution to the cost of higher education is justified by the relatively high rates of return—in terms of wages—to university degrees. The wage returns to TAFE qualifications are considerably lower, which might suggest that TAFE students should *not* be expected to make a significant contribution to the cost of their education.

A major question for policy is whether TAFE fees and charges deter participation in TAFE courses. The answer to this question was beyond the scope of our research—all we could indicate was the real cost of courses compared with the official cost. When charges for materials and resources and tools of trade are taken into account, we found the student fees and charges for one course were around double the official rate. The course we studied in detail—Certificate Level I Hospitality (Kitchen Operations)—is a course with above-average materials fees, because it involves food preparation. The total cost of the one-semester course ranges from \$132 in one TAFE institute to over \$700 in other TAFE institutes. It is possible that course fees of this magnitude would deter some students from participation and this issue warrants further investigation.

The form of payment required by TAFE institutes would also influence a student's capacity to pay course fees. In six of the eight jurisdictions, TAFE institutes offer students the option of paying their tuition fees by instalments, but this may not include the materials and resources component. A few institutes offer assistance in the form of student loans. By comparison, most higher education students have the option of avoiding up-front fees by paying their student contribution as a deferred income-contingent loan.

It is important to remember that around one-third of TAFE students qualify for a concession rate on their tuition fees, which means that, in New South Wales, for example, their tuition is free. But when the cost of materials and resources is taken into account, the concession policies appear less generous, as illustrated in figure 4.

Across the eight institutes shown in figure 4, the concession rate ranges from 48% of the standard rate in the North Coast (Grafton) Institute in New South Wales to 84% in Adelaide TAFE, South Australia.

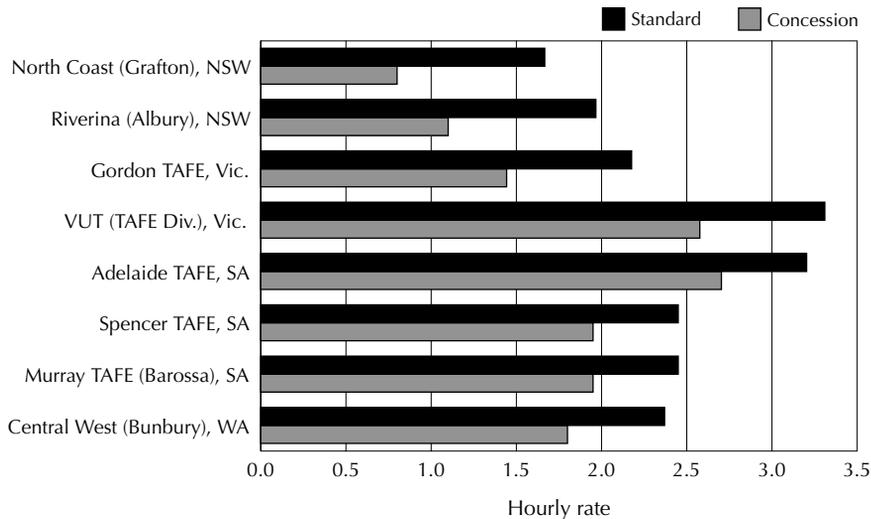
The issue of whether TAFE fees and charges are 'too high' in the sense that they deter participation would also be influenced by the student's employment status. Fifty-one per cent of VET students are employed at the time of their enrolment in a course (NCVER 2003, table 10)⁷ and 90% of VET students study part-time. A student's capacity to pay would obviously be influenced by whether they have a job and if their job is full-time.

In summary, the issue of whether TAFE fees and charges are too high is influenced by the different state and territory charging policies and the student's choice of course (which determines their non-tuition costs). The student's eligibility for a concession rate would also influence the total fee they have to

⁷ For a large proportion of enrolling VET students (24%), their labour force status is 'not known'.

pay, although in all jurisdictions except South Australia, the concession rates are not as generous as they might appear at first, due to the additional costs of materials and resources. Student characteristics such as income and employment status would contribute to an assessment of whether TAFE fees and charges were too high. Finally, a student's decision to undertake a course of study may also be influenced by the payment options available.

Figure 4: Real rate per hour (standard and concession) by provider, 2003 (\$)



Note: Based on the student fees and charges (tuition and non-tuition) for Hospitality Certificate Level I (Kitchen Operations), for a notional course delivery time of 150 hours in all institutes.

Source: Watson (2003, tables 1, 11)

Will student fees and charges in TAFE rise?

Since undertaking our research, the New South Wales Government introduced a new schedule of TAFE fees to take effect from 2004. The new charges involved the introduction of additional fee categories and a rise in standard tuition fees, ranging from a 20% increase for a graduate certificate to an increase of 188% for a certificate level IV (Watson 2003, appendix A). Fee exemptions for disadvantaged students continue to apply. The Victorian Government also increased its TAFE tuition fees (standard and concession) by 25% in 2004.

In a review of trends in TAFE fees and charges, Kronemann (2003) argues that, although there is a commitment to a low fee system overall, resource pressures on TAFE institutes are likely to lead to greater reliance on funding from non-government sources, with implications for student equity. The cost burden faced by students will increase if state and territory governments raise tuition fees and if TAFE institutes increase the charge for materials and resources.

Income from student fees and charges as a proportion of public VET providers' total revenue increased from 3.8% in 1997 to 4.0% in 2000. Australia-

wide, student fees and charges represent an average of 20% of VET providers' revenue from non-government sources. But in some states, such as Western Australia and Queensland, income from student fees and charges represents more than 30% of VET revenue from non-government sources. In these two states, VET revenue from student fees and charges increased in real terms by 38% and 16% respectively, between 1997 and 2000, compared with a national average increase of 6.2% (Watson, Wheelahan & Chapman 2002).

Australian governments—along with many overseas nations—appear to be no longer prepared to fund the full cost of education and training, arguing that the cost of education and training provision must be shared between governments, industry and individuals (OECD 1996; ANTA 1998). Given recent trends in TAFE fees and charges, it is possible that government funding will not keep pace with the costs of course delivery in the VET sector in the future. If government funding is inadequate, TAFE institutes may need to increase student fees and charges to maintain present standards of delivery.

Should TAFE fees and charges be more consistent?

There is no consistency in the fee regimes for VET tuition or non-tuition costs between the Australian states and territories. We also found variations between TAFE institutes within the same state or territory. As all states and territories, except New South Wales, calculate tuition fees at an hourly rate (where the number of training hours is determined by institutes) and TAFE institutes are free to charge additional non-tuition costs, it is impossible to determine the total fee paid by a VET student anywhere in Australia without collecting data at the institutional level. Even then, students enrolled in the same course in the same institute could be paying different tuition fees due to different hours of enrolment.

The imposition of different student fees and charges in each state and territory reflects the historical development of eight different VET systems. Although a key strength of TAFE institutes is their responsiveness to local industry needs, the state and territory VET systems now operate within a national training framework. The primary deficiency of the current system of student fees and charges is its lack of transparency. Researchers, policy-makers and students have difficulty understanding the full extent of fees and charges imposed by TAFE institutes. By requiring all institutes to publish their tuition and non-tuition costs on a central database or website, this could be rectified at the state and territory level. The public would then be better informed about the real cost of student fees and charges in the VET sector.

Yet if the differences in course costs were to become more widely known, through, for example, publication on a central database, prospective VET students would be better equipped to 'shop around' for the cheapest courses. The lack of consistency in TAFE fees and charges between states and territories could then contribute to a form of 'welfare migration' in the VET sector. 'Welfare migration' refers to citizens moving from one jurisdiction to another to maximise

their own welfare. Welfare migration is common problem in federations like Australia and provides a justification for national consistency in service provision. If prospective VET students were to move to the jurisdiction with the lowest fees and charges (to maximise their welfare), it would place unfair pressure on the government (or institute) with the most generous fee regime. Industries located in jurisdictions with less generous fee regimes would also be disadvantaged by welfare migration among VET students.

The anomalies and inconsistencies in VET fees and charges highlighted in our research suggests that it may be timely to review VET fees and charges with a view to achieving greater consistency between the eight VET systems. It may be wise to return to first principles and assess the relative merits and disadvantages of all the charging policies throughout Australia with the intention of developing a nationally consistent system of VET fees and charges.

If such a nationally consistent policy for VET fees and charges were to be developed, it should be developed from a set of agreed principles such as:

- ❖ maximising access to VET courses, particularly at the foundation levels
- ❖ providing a transparent and simple fee structure for students
- ❖ maximising access to VET courses for students from disadvantaged social groups
- ❖ improving consistency between the fee regimes across sectors which overlap with vocational education and training, such as schools and higher education.

Conclusion

It is difficult to compare the student fees and charges in the VET sector around Australia because government policies in each jurisdiction are different. Further complexity is added by the existence of concession rates in all jurisdictions, differences in the hours of course delivery and the fact that institutes impose additional fees and charges for materials and resources (except in South Australia). While the government policies regarding tuition fees and concession rates are known, the hours of course delivery and materials and resources charges are not generally published. The total cost of a course of study is therefore not known.

Based on the data for one course of study—Certificate Level I in Hospitality (Kitchen Operations)—offered in ten institutes across four states, we found that the materials and resources component increased the real cost of a TAFE course by between 50 to 100%. Concession rates also appear less generous when the cost of materials and resources is taken into account. The total fee paid by a concession student ranges from 48% to 88% of the standard rate, depending on the institute.

It was beyond the scope of our research to assess whether TAFE fees and charges deter participation in VET courses. This issue is likely to be influenced by the student's personal financial circumstances, the payment options offered

by the TAFE institute and the student's choice of course. Income from student fees and charges remains a relatively small proportion of total TAFE revenue, but student fees and charges are likely to increase if funding from other sources is inadequate to maintain present standards of delivery.

There is no consistency in the fee regimes for VET across Australian states and territories. If, in the public interest, information on student fees and charges were made more accessible, it is possible that the differences between institutes and jurisdictions could lead to welfare migration among prospective VET students. This would place unfair pressure on the jurisdictions with the most generous charging policies. Given that VET systems now operate within a national training framework, it would be timely to develop a nationally consistent policy on student fees and charges in TAFE.

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Acknowledgements

This chapter is based on research funded by NCVER. The author is grateful to the personnel at NCVER, officials in state and territory education departments and staff in TAFE institutes who assisted in providing information for this study. The conclusions and any errors or omissions are the responsibility of the author.

Getting employers to spend more on training: Lessons from overseas

Andrew Smith and Stephen Billett

There is widespread belief amongst many Australian commentators that Australian employers do not provide their employees with enough training. In recent years this belief has led to calls for the re-imposition of compulsory levies on employers to ensure that they spend more on training. This belief is largely based on the analysis of data from the Australian Bureau of Statistics (ABS), particularly data on training expenditure. In this chapter we challenge this interpretation of the data and make the case that Australian employers do not spend much less than their international counterparts on training for their employees and that the way to get employers to invest in training is not through the use of compulsory levies.

Introduction

ANALYSIS OF EMPLOYER training expenditure data, together with the results from some international comparisons of incentive schemes to promote higher levels of enterprise investment in training provided a significant part of the case for the then federal Labor Government enacting the Training Guarantee Scheme in 1990. This scheme operated from 1990 to 1996 (although it was suspended in 1994) and required Australian enterprises with payroll costs of over A\$200 000 to spend at least 1.5% of their payroll on the provision of 'structured' training for their employees or pay an equivalent levy to the Australian Taxation Office. Assessments of the effectiveness of the Training Guarantee in raising the level of training expenditure in Australia vary. However, it is generally accepted that the scheme failed to lift training provision for the majority of employees in any significant or permanent fashion (Teicher 1995) or build commitment to employee training. Indeed, it is possible that the imposition of the levy served to draw attention to the cost of training within enterprises as it became easier to calculate cost and benefits. Subsequent iterations of the Employer Training Expenditure Survey have tended to confirm the original rather gloomy assessment of the state of enterprise training in Australia.

The data from the Training Expenditure Survey have also prompted commentators to draw the conclusion that Australian employer commitment to training has declined since the abolition of the Training Guarantee in the mid-1990s. For instance in a paper for the Dusseldorp Skills Foundation, Hall, Buchanan and Considine (2002) argue cogently that there has been a flight of employers from training since the repeal of the *Training Guarantee Act* in 1996. This, combined with Australia's poor comparative performance on investment in knowledge, education and the creation of high-skill jobs, they argue, means that the Australian economy is in a low-skills equilibrium (Finegold & Soskice 1988), and that there is little evidence of a strong training culture amongst Australian employers.

However, these are very broad claims to be basing on a selective interpretation of the employer training statistics. It is far from clear that this pessimistic view of the state of industry training in Australia is justified, given the range of data now available on the incidence of enterprise training. Data from 2001 Survey of Training and Education Experience Survey (ABS 2002) show that the incidence of employer-sponsored training appears to be increasing. The proportion of Australian workers undertaking work-related training grew from 30% of the workforce in 1993 to 45% in 2001. Thirty-seven per cent of workers completed at least one work-related training course in 2001, and the proportion of workers completing on-the-job training grew from 65% in 1996 to 69% in 2000. So, despite the apparent decline in employer training expenditure since the mid-1990s, the majority of Australian workers claim they are receiving some form of training from their employers and many are undertaking formal, off-the-job training in their firms.

Data from the 2002 Training Practices and Expenditure Survey also strongly suggest that employer-sponsored training is on the increase. In the 1997 Training Practices Survey, 61% of all employers reported providing training to their employees during 1996. This increased to 81% in the 2002 survey. Thirty-five per cent provided structured training, while 53% provided unstructured training in 1996, increasing to 41% and 79% respectively in 2002. In 1996, 93% of large enterprises claimed to provide structured training, as did 30% of small enterprises. By 2002, this had increased to 98% of large enterprises and 39% of small enterprises. But given the perception of a low level of enterprise expenditure on training in Australia, it may seem surprising that figures from the European Union's Continuing Vocational Training Survey show Australia lying in the middle of the normal range of employer training expenditure of about 0.5 to 1.7% of payroll costs. Table 1 displays data from the most recent Training Expenditure and Practices Survey (ABS 2003) with data from the Continuing Vocational Training Survey. While not strictly comparable, the data are very consistent, in that they measure the direct net training costs borne by employers.

Table 1: Percentage of wages and salaries spent by employers on employee training: Australia (2002) and selected European Union countries (1999)

Country	% payroll	Country	% payroll
Australia (2002)	1.3	France	1.3
Denmark	1.7	Finland	1.3
Netherlands	1.7	Germany	0.9
Norway	1.6	Austria	0.8
Ireland	1.5	Spain	0.5

Source: European figures from the Eurostat CVTS II database; Australian figures ABS (2003)

Although these figures are only broadly comparable, it is nevertheless clear that assumptions that Australia lags well behind other developed nations in employer training expenditure are questionable and probably inaccurate. The data suggest that Australia lies in the middle of the normal range of employer expenditure on training of existing workers of between 0.5 and 1.7% of payroll costs, but the same as or higher than countries which are often perceived as being high performers in this area such as Germany, France and Finland.

In summary, we propose that there may well be a higher level of training than has been acknowledged hitherto, particularly that taking place in large Australian enterprises and even more so when encompassing a wider set of criteria about learning-related activities in the workplace. This is important because it suggests an interest in, and action and engagement by employees, as well as a commitment to skill development by employers which provides a positive platform upon which to base policy. The recent Training Practices and Expenditure Survey data indicate that there is a growing interest and willingness on the part of Australian enterprises to sponsor skill development. However, while the picture being painted may be more positive than anticipated, it is necessary to engage another kind of reality—that of comparisons with other countries, including those with whom we compete in the global marketplace.

Goals for policy in enhancing enterprise expenditure on training

Apart from the overall level of training activity as suggested by the training expenditure figures, there are other matters requiring consideration. Principal among these is an identification of the purposes for which enterprises should be expected or encouraged to enhance their expenditure. For instance, is it to merely subsidise an overwhelmed public vocational education and training (VET) system, or should it be directed to improving the quality of skill development or access to training by a greater percentage of the workforce. Some reasons why governments in many developed countries have sought to introduce measures to regulate or enhance employer expenditure on training are given below.

Improving the distribution of the training effort between employers

In all developed countries, the distribution of training expenditure across enterprises is uneven. Large and medium-sized enterprises spend more on training than small enterprises. Training is also skewed by industry sector, although European Union data suggest that the degree of skewedness is less marked in countries with higher levels of employer training expenditure (Nestler & Kailis 2002). In Australia, as in the European Union and the United States, the financial services sector is a particularly high performer in training, while the building and construction sector tends to spend less on training in most countries.

Improving the distribution of expenditure across industry sectors

This is also an important goal. The provision of publicly funded vocational education in countries such as Australia is a product of history rather than planning. This has led to certain industry sectors with comprehensive provision of vocational education, often over a very long period of time, while other industry sectors have done less well from publicly funded courses. In Australia, the requirement to provide the off-the-job component of apprenticeships led to the establishment of vocational education colleges to provide for the manufacturing, construction, automotive, hospitality and some service sectors. However, other sectors (for example, food processing, secondary processing, extractive industries) have fared less well from the public purse, while contributing to this public provision through taxation. Therefore, governments might seek to enhance the equity of provision of the public VET system across the entire spectrum of industry sectors.

Improving the distribution of training between different groups of employees

Certain groups of employees are more disadvantaged in terms of access to employer training than others. International studies consistently report that older, less-educated, blue-collar workers and workers from a migrant background tend to receive less training than the younger, better educated and native workers. As above, workers in certain industries will tend to have greater access to training than those in other sectors.

Increasing the national stock of skills

Employer training is often seen in the developed nations as a critical element in the formation of the national skills profile (Keep & Payne 2002). A belief in the importance of skills to national progress has been at the heart of the efforts of some south-east Asian nations, notably, Singapore, Malaysia, Taiwan and South Korea, to regulate the training activity of employers—with mixed success (Ashton et al. 2002).

Increasing employers' contributions to the development of the VET system

Interest in the German 'dual system' has often focused on the role of employers, particularly in their financing of the system (Berger & Gunter 2002). However, despite numerous efforts, it has proved very difficult for other countries to adopt the dual system approach. A key reason for this has been the reluctance of employers in other countries to finance initial vocational training in the manner of the dual system. In South America some success was experienced in the 1970s and 1980s with the use of employer levies to finance the development of vocational training colleges (Gasskov 2001), but these efforts have largely been abandoned in recent years.

There are, therefore, a variety of reasons for policy interest in increasing employer financial contributions to training. A number of mechanisms have been developed to increase employer investments in training in different countries. However, governments have often been unclear in identifying their policy goals in this effort, and have adopted models from overseas, with little consideration given to their social, cultural or economic compatibility with conditions in the host country (Schmidt 2002). Nevertheless, despite the difficulties of identifying sources and histories underpinning policy in these countries, it is possible to identify a number of broader approaches to employer financing of training.

Employer approaches to financing training

A multiplicity of arrangements have been trialled worldwide to increase employer investment in training. As Keating et al. (2002) remark, most developed economies have been wrestling with the issue of demand management in enterprise training for many years and none has yet developed the perfect solution:

It is in this area that the ideological divides are the most prominent, exemplified by the UK on the one hand with its voluntarist traditions and France on the other with its high degree of state intervention. (Keating et al. 2002, p.171)

One could add to this that national arrangements for the financing of employer training are also heavily influenced by the economic and social structures of these nations (Maurice, Sellier & Silvestre 1986). This means that, although national approaches have tended to be uniquely developed to suit their economic, social and cultural circumstances, there are significant common elements between them—partly based on shared cultural and social values. Therefore, it is possible to identify some commonalities in approaches across these economies. Gasskov (2001) developed a typology of government–employer financing arrangements for training. He identifies five different approaches:

- ❖ Enterprises have no legal obligations for training, for example, Canada, the United Kingdom, the United States, the Netherlands and Sweden.

- ❖ Employers voluntarily take significant responsibility for the financing of training, for example, Germany, Switzerland and Japan.
- ❖ Employers and unions set up training development funds under collective industrial agreements, for example, Belgium, Denmark and the Netherlands.
- ❖ Government offers tax exemptions to enterprises which train their workers, for example, Belgium, Chile, Germany, South Korea, Malaysia and Pakistan.
- ❖ Governments introduce compulsory financing of training by employers, for example, Denmark, France, Ireland, South Korea, Malaysia and many South American countries.

Others have developed typologies more explicitly based on the social, economic and cultural differences between nations. Ashton, Sung and Turbin (2000) developed a framework to explain skills formation practices in a variety of nation states, based on the development of different forms of capitalism since the early nineteenth century. Using the frameworks of Ashton, Sung and Turbin and that of Gasskov, it is possible to identify four broad types of national approaches to regulating employer training:

- ❖ laissez-faire systems
- ❖ high employer commitment systems
- ❖ sectoral training funds
- ❖ levy schemes.

Laissez-faire systems

These systems apply in countries such as Australia, the United Kingdom, the United States and Canada (with the exception of Quebec which has a training levy in operation). In these systems there are few regulations imposed on employer training activities. Employers are free to train or not in accordance with their perceived business needs. The laissez-faire approach has attracted much criticism in all these countries in which all have been famously characterised as tending to a low-skills equilibrium (Finegold & Soskice 1988). Here the need for skills is replaced by work simplification and deskilling in a mass production environment. More modern commentary has tended to repeat this theme, viewing the persistence of skills shortages in these countries as proof of market failure in training (Hall, Buchanan & Considine 2002; Ashton & Green 1996). However, as the figures quoted in table 1 suggest, it is not clear that employers in these countries spend significantly less on training their workers than countries with a more regulated approach.

A good example of the laissez-faire system is provided by Britain. The Blair Government introduced a regionally based, employer-led system of learning and skills councils reporting to a national Learning and Skills Council. The Learning and Skills Council has also recently established a network of sector

skills councils which will operate in a similar fashion to the now defunct Australian industry training advisory bodies advising governments on skills shortages and coordinating training plans for their industry sectors. In keeping with the voluntarist spirit, there has been no attempt to enact legislation to promote training. Instead, the emphasis for the improvement of training for existing workers has been focused on the Investors in People scheme, which provides public recognition for qualifying enterprises. This has sat alongside governmental exhortation for enterprises to invest more in their employees' development.

The Investors in People program operates in a similar fashion to the International Standards Organization accreditation in the area of quality management, but with a specific focus on human resource development practices in enterprises. Those enterprises meeting the Investors in People standard are permitted to use the Investors in People kitemark for publicity. This scheme has resulted in some gain in coverage. However, take-up has been concentrated amongst large and, to a lesser extent, medium-sized firms. A survey conducted for the Department Education for and Employment in 2000, revealed that only 16% of United Kingdom firms had been formally recognised in the Investors in People program (Department for Education and Employment 2001). Recognition is also concentrated in certain industry sectors—particularly the public sector. The skewed distribution of Investors in People recognition by size and industry bears an uncanny resemblance to the skewed distribution of training expenditure found in Australia (ABS 1997) and suggests that the program has achieved little in the improvement of access to training.

Moreover, this skewed distribution of training amongst enterprises has led commentators to remark that Investors in People has been used to highlight those enterprises which already invest significantly in training rather than encouraging firms which do not invest to undertake more training of their employees (Goodwin, Hills & Ashton 1999). The scheme appears to work in a similar fashion to the International Standards Organization and other forms of quality accreditation: it improves internal processes for those already providing training, but it is not clear that it increases overall employer investments (Emberson & Winters 2000). Investors in People has been trialled on a limited basis in Australia through the Australian Institute of Management.

High employer commitment systems

These systems occur in those countries covered by Gasskov's category of systems in which employers voluntarily take a high degree of responsibility for skill formation. There is legal obligation on employers to train, but the training systems are based on workplace-based training financed by employers. The major international example of a high-commitment training system is the German 'dual system' of apprentice training. The dual system is focused on initial vocational training, providing large-scale apprenticeship training across most sectors of commerce and industry. The system, which has been very popular in Germany and covers 370 occupations from all sectors in the economy, is founded on the federal *Vocational Training Act* passed in 1969. The act defined

the role that the parties play in the system, with employers playing the dominant role. Around 70% of the youth cohort participate in the system.

The federal government brokers the relationship between the social partners. State governments provide the vocational training schools which offer the off-the-job instruction. However, employers provide the bulk of the funding for the system (over 70%) through the Chambers of Commerce and the Craft Chambers (Berger & Gunter 2002). In recent years the dual system has come under strain as employers seek to meet the demand for places which has been increased by the absorption of the former East Germany into the federal republic. In essence, there are fewer training places offered by fewer employers. It has also proved difficult to persuade former East German employers to take part in the dual system because there was no tradition of employer-sponsored training under the communist regime (Cockrill & Scott 1997). Furthermore, in recent years fewer employers in the former West have taken on apprentices because of the ongoing economic problems of the country (Deissinger 2004). Other problems highlighted in recent years in the dual system include the following.

- ❖ There is a perceived lack of flexibility to accommodate new and emerging occupations. The dual system appears to be slow-moving and cumbersome in its recognition of new occupations. However, it appears that the system is becoming more responsive to occupational change and the Federal Institute for Vocational Training is concerned to ensure that quality training standards are put in place for new occupations (Sauter & Schmidt 2002).
- ❖ There is a push by employers to reduce the length and time-serving nature of apprenticeships. Concerned by the increasing number of young people who are choosing the higher education pathway through the academic high schools, German employers have suggested that new two-year apprenticeships be introduced to combat the drift away from the system.

The financing of the system has also been called into question. Under the *Vocational Training Act*, employers who employ apprentices bear the financial burden of the running the dual system. However, the majority of employers who do not participate in the dual system are seen to be relying on the larger employers who train apprentices who may be later be employed by non-training employers. Unions have argued that the system should be financed through an employer levy or through a sectoral levy (as is already the case with the construction industry in Germany). However, employers have resisted calls for a wider employer levy claiming that it will not impact on the quality of the training system and that small and medium-sized firms will benefit disproportionately from access to funds (Kath 2002).

Nevertheless, employer financial commitment to initial training in the dual system does not translate into a similar commitment to continuing vocational training. At only 0.9 and 0.8% of payroll respectively, Germany and Austria are amongst the lower-spending countries on continuing vocational training in the European Union. Continuing vocational training is largely unregulated

in Germany and is viewed as an individual expense. Hence, skilled workers wishing to obtain the 'Meister' qualification largely do so in their own time and at their own expense. This is despite the fact that German enterprises cannot employ apprentices under the dual system without having a suitable number of meisters on staff (Pischke 2000). Again, German unions have proposed that a levy be introduced on employers to finance continuing vocational training, but this has been strenuously opposed by the employer organisations (Cockrill & Scott 1997). Although participation in continuing vocational training is high in Germany at around 84% (Giraud 2002), individuals rather than employers finance much of this training. It seems that, in Germany, high employer investments in initial vocational training are traded off against lower investments in continuing vocational training.

Sectoral training funds

This approach accords with Gasskov's category in which employers and/or governments establish training funds based on industrial agreements between the social partners, and Ashton and colleagues' model, whereby sectoral training funds cover industry sectors and allow employers to provide training, with funding provided by the training funds. The best known example of sectoral training funds overseas is demonstrated by the Netherlands.

The financing of Dutch initial vocational training remains overwhelmingly in the hands of the government (Brandsma 2003). By contrast, the funding of continuing vocational training in the Netherlands is overwhelmingly within the private sector or with individuals. In the 1980s, the recommendations of the Wagner Commission and various subsequent commissions led to the establishment of the tripartite regulation structure for continuing vocational training. From the tripartite approach grew the concept of sectoral training funds established under collective industrial agreements in all the major sectors of the economy. These Training Research and Development Funds (known by their Dutch acronym as O+O Funds) have become the principal route for introducing social partnership arrangements into an area of activity normally the preserve of employers (Romijn 1999). There are some 66 O+O funds operating in the Netherlands under 134 collective agreements. Most of the collective agreements also specify other training provisions, particularly with reference to on-the-job training and training for target groups in the workforce. The O+O funds are managed by collective bodies with employer and union representation. The funds are based on levies of all firms covered by the collective agreement under which the fund is established. The levies differ across sectors and range from 0.1 to 0.7% of gross wages. Although there are no uniform rules by which the O+O funds are administered, there are three main ways in which funds tend to be expended (Waterreus 1997):

- ❖ awarding collective training days for a certain sector. In this case, employers in the sector can bid for funds to support a number of training days which the employer then allocates amongst employees
- ❖ awarding individual training days. This provision finances leave to enable individual training and can be taken at the employee's discretion

- ❖ awarding funds to support training programs detailed in training plans submitted by employers. The fund may support up to 50% of the costs of a training program.

It follows that the O+O funds are an expression of the collective regulation of continuing vocational training in the Netherlands. However, it is important not to overstate their importance in the financing of continuing vocational training. The firms themselves provide the bulk of funding for continuing vocational training in Dutch firms. In 1996, the O+O funds accounted for less than 5% of the total private expenditure on continuing vocational training. Funding from employers accounted for over 50% of expenditure, with individual expenditure accounting for the balance (Hendriks & Westerhuis 1997). Not all the monies placed in the O+O funds are spent on training. The proportion spent directly on training varies from 5% to 100%. Waterreus (1997) estimated that an average of only 40% of O+O funds are allocated directly to training.

Levy schemes

Based on Gasskov's category of arrangements, whereby employers and/or governments establish training funds based on industrial agreements between the social partners, and found in Ashton's corporatist and developmental state model, sectoral training funds cover industry sectors and allow employers to provide training with funding provided by the training funds, for example, the now-defunct United Kingdom levy grant scheme. The most commonly quoted means of increasing employer investments in training are universal levy schemes in which all or most employers are required to pay into a training fund from which they can apply for funding to support training (levy grant systems) or pay into a fund if they do not meet a predetermined level of training expenditure (levy exemption systems). In Australia, the Training Guarantee Scheme was a form of levy exemption scheme. Although, as noted earlier, it appears that the Training Guarantee increased employer training expenditure for some time in the mid-1990s, evaluations of the scheme have found little evidence for its impact on increasing training activity at the enterprise level, and have instead highlighted its effect in stimulating a wider interest in training amongst employers (Baker 1994; Teicher 1995). It may have even resulted in the commodification of training, which has taken almost a decade to subside.

The most widely quoted international example of levy systems is the French scheme. In fact, the French system is not a single integrated levy scheme but a series of levy schemes which have developed since the 1920s, and which finance different aspects of the initial vocational training and continuing vocational training provision of French firms. For this reason, the scheme has often been viewed as unnecessarily complex and possibly ineffective, certainly if measured against the skill formation system of Germany, which does not operate a comparable levy system (Giraud 2002). Since 1925, French firms have been obliged to pay an apprenticeship tax of 0.5% of wages and salaries. Since the 1971 *Further Training Act*, French firms are also obliged to spend 1.5% of their wages and salaries bill on further training activities or pay the equivalent into funds set up for this purpose. This act also established the right of the individual

to personal training leave and established bipartite mechanisms at the regional and industry level to manage the training funds created through the operation of the levy. The funds are collected from firms through agencies working for the Ministry of Labour and are paid into over 100 local and industry-based training funds where they are managed by joint union and employer committees (Brochier & Meiaux 1997 cited in Giraud 2002). In practice, however, employer associations tend to jealously guard their right to manage funds contributed by their members.

The levy applies to all firms employing more than ten workers. Firms employing fewer than two workers pay an overall 0.25% of wages and salaries as their levy. The French levy system is clearly convoluted and contested. Nor is it clear that the operation of the levy has led to a better system of continuing vocational training. As Goux and Maurin (cited in Giraud 2002) point out, access to training for French workers is confined, as in other European countries (and Australia), to the already educated and professional groups. French enterprise expenditure on training remains lower than the voluntarist United Kingdom where there is no levy system (Giraud 2002). Participation in continuing vocational training in France is around 58%, considerably lower than that in Germany with little regulation of continuing vocational training. Training is often viewed as a perk or reward for performance rather than undertaken to meet the strategic needs of firms (Giraud 2002). Similar criticisms were made of the Australian Training Guarantee at the time of its operation.

Enhancing enterprise expenditure on training

Securing an enhanced commitment by Australian enterprises for initial preparation and ongoing development of their employees is no easy task, nor is it likely to be achieved in the short term. Although it is possible to compel enterprises to make significant contributions to the cost and provision of training, to date such actions have been unsuccessful—they may have even eroded rather than encouraged enterprise commitment to and sponsorship of vocational training by enterprises. Schemes such as the Training Guarantee highlighted the cost aspect of training by mandating a certain level of required expenditure, and compelling enterprises to pay the shortfall as a tax. Linking the Training Guarantee with the tax system did little to encourage the view of training as an investment rather than a cost amongst Australian employers. It seems that Australian enterprises will often only expend funds on training if they are either compelled externally, or identify an urgent need within the company. For instance, Billett and Hayes (2000) reported that enterprises in the food processing sector, which admittedly has little history of structured training arrangements, would expend funds on staff to meet the requirements of food handling legislation or when they wanted to change their manufacturing processes, but were reluctant to expend beyond that.

Nevertheless, the recent data on training practices (ABS 2003) show that employers nominate the need for staff development and enhancing the currency of skills of existing workers as the main reasons for providing training. Given

current attitudes and from previous experiences, it would seem that enterprises and the national bodies representing their interests would need to be convinced that expenditure on training would provide a direct return in terms of improved productivity or services. Traditionally it has been considered that cost-benefit analyses of training and vocational education are perilous and impractical. They have difficulty in identifying and appraising the contributions that training makes to increased productivity or enhanced service (for example, Hedges & Moss 1996), let alone measuring those contributions (Bartels 2000; Robinson & Robinson 1989). However, recent research in Australia shows that the returns to training investments may be identified and quantified if the correct methods are used (Smith 2001). These studies have shown that the returns to training investments are high, potentially in the order of hundreds to one.

Yet, internationally, few enterprises use cost-benefit analysis to make decisions about expenditure on training (Coopers & Lybrand 1996). Instead, they seem to rely on perceptions of its utility or capacity to achieve strategic goals (Davidson et al. 1997). A key challenge for the VET sector is to more effectively disseminate information about different means of equating benefits, and to enable employers to identify the different kinds of benefits and returns that training can make to their businesses.

By contrast, in some European countries there is a stronger commitment to skill development and this shapes how enterprises expend funds. However, as suggested in the first section, the actual quantum of funds expended on training as result of the sentiment may not be so different from that occurring in Australia. Moreover, some of this difference may be illusory. The basis of this voluntary commitment is to maintain control or avoid external control of enterprises' expenditure on training (for example, Schweri 2002). Moreover, the French experience (Giraud 2002) suggests that even when enterprises have contributed to a levy system, they are reluctant to provide all staff with access to further training, to avoid additional costs (for example, worker absenteeism). Analogously, Wolf (1996) reports from research across Organisation for Economic Co-operation and Development (OECD) countries that employers will pay for the development of current specific skills and some generic skills towards achieving strategic goals. So worker experience within Australian enterprises, albeit without a national levy, may not be so different from those overseas. However, the greater commitment to skill development by enterprises in these countries appears to be shaped by institutional sentiments and practices from which some lessons can be learnt and policy options considered.

In considering increasing enterprises' commitment to the skill development of their workers, the following are worth noting. Firstly, enterprises of all kinds and sizes already make considerable contributions to the initial preparation and ongoing development of their staff through the support for learning which occurs as part of everyday work activities (Bishop 1997) and also through structured programs such as apprenticeships. As noted in the first section, total expenditure by Australian employers on training is not low by international standards. At over \$4 billion in 2002, employer expenditure is higher than government expenditure on vocational education and training at a little over

\$3.5 billion. Indeed, if this reality reported by Australian workers is accepted, it may well be the quality and the distribution of the training provided that is a key priority, rather than the quantity. However, there is a need to improve the quantum.

Secondly, enterprises in many industry sectors often hold the view that the existing VET system fails to meet their needs, for example, small businesses (Roffey et al. 1996). Thirdly, it is not always clear what goal the government is trying to achieve by seeking enhanced expenditure on vocational training by Australian enterprises. Responses to government policies may be quite different when enterprises view them variously as intending to:

- ❖ pass onto enterprises the cost of training
- ❖ secure greater equity in enterprise expenditure
- ❖ have a clear focus on building skills
- ❖ develop the capacities of the enterprise, regional or national workforce.

The purposes of the policy will also shape the goals they are trying to achieve. If, for instance, the goal of policy is for enterprises to carry a greater share of the cost of existing expenditure on vocational education, then these measures will be largely focused on enterprise sponsorship of accredited courses. If, however, the government is seeking an increase in the overall enterprise sponsorship of activities associated with skill development, then a broader range of policies would come into play. These might include an interest in the degree of expenditure on in-house training, the general education of employees as well as their participation in accredited programs, along with the support for effective on-job learning.

Overall, two kinds of policy option emerge from this study: compelling or encouraging participation. The first uses legislation and mandate to either stipulate engagement in structured training or levy funds to cover the cost of training. The second focuses on changing the view of enterprises about expenditure on training to achieve an ongoing voluntary commitment to and sponsorship of vocational skill development.

Compelling enterprises to contribute to skill development

Options for compelling enterprise contributions to skill development probably fall under two broad categories. The first is concerned with organising levies to cover the costs of training. The second is concerned with mandating training for the commission of licensing arrangements and occupational certification. Both have different strengths and weaknesses and also different prospects of being accepted.

Universal levies

Universal levies can be used to ensure that all enterprises contribute to the cost of developing the skills of the national workforce. As a broad policy tool, such levies may be useful for either generating revenue or encouraging expenditure on training (as was the intent with the Training Guarantee Scheme). So they

might assist shifting expenditure from the private to the public sector, achieve greater equity in the distribution of the burden of the training effort across the nation's enterprises and, arguably, increase expenditure on training. However, the evidence suggests that the quality of vocational skill development which occurs under these arrangements may not be high. For instance, simply using participation in accredited training programs as measures of legitimate training is misleading. In France, this kind of scheme has failed either to secure a high level of employer commitment to training or the kinds of high-skill jobs being sought in Australia (Hall, Buchanan & Considine 2002). Also, despite having a national training levy, the opportunities for individuals to access training are shaped by enterprise characteristics (for example, size) and the worker's standing within the enterprise.

Moreover, because they are mandated, levies are likely to be resisted or complied with only superficially. Interestingly, despite having a national training levy, only 58% of French workers reported receiving further training compared with 84% of German workers (Giraud 2002). Therefore, there can be no guarantee that mandated levies will produce higher levels of participation in enterprise-based training nor provide training of high quality. Furthermore, such measures may lead to the commodification of training, with all forms of assistance to learning being viewed as a cost. As discussed earlier, there is also little evidence that this approach leads to the development of highly skilled workforce (Hall, Buchanan & Considine 2002). In conclusion, the potential benefits of a national general training levy appear to be more than outweighed by their disadvantages and potential to erode the level of employer investment in training.

Sectoral levies

Sectoral levies have been shown to work in some industry sectors (for example, building and construction). This kind of levy may be more palatable to enterprises. In the Netherlands, the O+O Funds have achieved a high level of employer acceptance. This is partly a function of the fact that they are not legislated, but are bargained for on a sectoral basis through collective agreements. Thus, the arrangements for the fund and the uses to which the funds can be put are unique to each industry sector and give the employers a significant degree of control. However, the level of employer acceptance in the Netherlands does not alter that fact that only about 40% of the funds collected through the O+O Funds are spent on training, and that the funds only account for about 5% of total expenditure on employer training.

Industry-based levies provide a mechanism that could be used to shift the costs of vocational education to industry and achieve some sharing of expenditure across the industry sector. If tangible evidence of the benefits of industry-specific training are available, this approach may even increase expenditure on training by enterprises. However, a levy on its own cannot guarantee increases in the quality of skill development, nor the equity of the distribution of the expenditure within the workplace. It has been shown that neither the mandated approach in Germany nor the legislated approach in France has been able to influence how funds are spent within enterprises (Giraud 2002). However, the industry levy may be a useful sector-wide device to promote

the strategic goals of the industry and enterprises within it when it is coupled with a body (for example, professional or trade association, guild) which can promote the importance and standing of vocational skills. A recent example of this arrangement is the brick and block levy in Victoria, although here it is individuals purchasing bricks and blocks, rather than employing enterprises, who pay the levy. It will be interesting to observe the impact of this industry, semi-voluntary levy in the future. So, where there is a concerted industry sector interest in training, a sector-specific levy may well operate effectively and with the support of the local employers. However, even here it is likely that transparent and identifiable outcomes and some form of localised governance will be required to establish and garner support from contributing enterprises.

Regional levies

Levies operating at the local or regional level are often highly visible and pertinent to the enterprises in the local area. However, taking again the French experience, there would need to be arrangements which would convince the local enterprises of the need for such a levy. Enterprises demand direct involvement with the expenditure and administration of the levy (Giraud 2002). They also need to be able to witness its direct consequence for the local skill base of their particular enterprises. Moreover, such arrangements are more likely to be successful in a community which has clearly identifiable parameters, rather than where the local area is ill-defined. Alternatively, the skill needs may not always be required in the area where the funds are gathered. Nevertheless, if there are particular needs in particular communities, there may well be some consensus about the gathering and expenditure of funds. For instance, unlike the rest of Canada, an industry training levy still operates in the province of Quebec. This is a product of particular needs, which include the negotiation of localised arrangements by trade unions to support its enactment and continuity.

In summary, compulsion on employers to increase their investments in training through the use of levies does not enjoy a history of success. Universal levies in particular may inspire only the lowest kind of employer commitment—compliance—and often, outright resistance. The more targeted the system and the more localised the control (as in the Dutch O+O Funds and the French system), the more likely are employers to accept the levy. However, employer acceptance does not necessarily involve an increase in the level of commitment, or investment than that which is apparently being generated in Australia, as the Dutch and French examples demonstrate.

Licensing arrangements

Another compulsory approach to increasing training investment is achieved through licensing arrangements. In many instances, the government mandates vocational training for a variety of reasons. Risks inherent in a number of trades (for example, plumbing, electrical work, pilots) mean that some tasks cannot be undertaken without licensing (for example, forklift, crane handling, boiler attendance). Moreover, occupational health and safety requirements or industry work that has particular requirements for care (for example, food handling), requires that individuals undertake training and assessment before the work

can be done. Thus broader bases for licensing and certification could be required in the workplace, since many forms of work have direct consequences for consumers, carry occupational health and safety risks and are more complex than are assumed. In England, the government often stipulates that workers engaged in publicly funded activities (for example, aged care) have to possess particular certification. Therefore, employers ensure that their employees undertake courses and assessment in order to secure the appropriate certification.

There is a perception that this policy is being employed by the government with the intent of leveraging greater commitment to training from employers. So another policy option for financing enterprise expenditure on training is to open up the licensing and occupational certification requirements, thereby engaging more workers and their employers in sponsoring provision of vocational education. Although governments in the past have felt it important enough to license particular occupational activities rather than rely on voluntary compliance, such measures still may not lead to a total commitment to these practices. Nevertheless, the possibility of increasing the range of licensed and certified occupations focuses on the importance of the quality of the work to be done rather than simply on cost issues.

Encouraging enterprise expenditure on training

There are two broad approaches to changing enterprises' views on training. The first is making it more attractive to enterprises. This could range from making vocational education provision more relevant by providing enterprise-based learning arrangements to augment those provided by the public VET system. The second is changing enterprises' views of the value of vocational learning. This includes both long- and short-term measures to enhance the standing of vocational education and training.

Enterprises may be more attracted to sponsoring training which they feel closely addresses their needs. Small businesses are a case in point. While small businesses are often accused of not contributing to national expenditure on training (Burke 1995), research indicates that, overwhelmingly, they feel the provision of training courses fails to address their needs (Coopers & Lybrand 1996). Consequently, there is little incentive for them to contribute to something they believe is inappropriate and ill-focused. There are also certain industry sectors which have little or no history of participation in the vocational education system. Enterprises in these sectors may well question why they should expend funds on courses not designed for the sector. In some instances, emerging industry needs are dealt with in ways which are quite distinct from existing provisions. For instance, provision for the food processing industry is largely through workplace-based training resources (Billett & Hayes 2000), which contrasts with the college-based approach afforded to the metals, hospitality and automotive sectors. Therefore, making training provision more pertinent and responsive to enterprise needs might be a way of encouraging greater enterprise engagement in vocational skill development.

However, research in Australia and overseas has shown that the primary drivers for enterprise investment in training are internal—most commonly

concerned with making business sense. Smith and Hayton (1999) showed that the main drivers of training provision in enterprises were quite simple: they were related to organisational change and the introduction of new technologies, but that the training arrangements which eventually developed were the product of a variety of internal 'moderating' factors, such as the size of the enterprise, the occupational structure of the workforce and the industrial relations climate. Further work on the relationship of organisational change to training has shown that, while change processes are an important factor in driving investment in training at the enterprise level, the critical factor in the process is the relationship of training to the business strategy of the enterprise (Smith et al. 2003). Thus, if attempts to encourage employers to make greater investments in training are to succeed, they will need to appeal to the strategic interests of enterprises.

However, it needs to be understood that there are differences between enterprise perception of the value of vocational education and its actual contributions. For instance, Robinson (1998) found that, despite small business claims of the inappropriateness of training provided by the vocational education system, there was a high level of satisfaction among those who actually participated in programs. So those who had actual experience in vocational education programs valued them in quite a different way from those who had not. Moreover, during the last decade, Australian industry has been given significant input into and control over the nation's vocational education curriculum and system. However, there is little evidence to suggest that involvement in and efforts to address industry needs have led to an increased or even sustained commitment by Australian enterprises—if an indicator such as employer expenditure on training is used. Therefore, it cannot be assumed that a greater involvement or tailoring of vocational education provisions will necessarily lead to increased interest or an enhanced expenditure by enterprises.

One policy option could be to accept that there is a need to develop both industry-wide skills and enterprise-specific capacity, and that the training system should reflect these twin goals. An approach would be for government to be concerned with national or industry-wide skills needs and that enterprises sponsor and secure enterprise-specific skill development. This leads to the notion of 'leverage' or government spending to encourage greater financial and other contributions from employers. Currently, there are trends within Australia and overseas to explore how localised social partnerships can develop a responsive and robust vocational education system. The most notable example is that of the Local Learning and Employment Networks in Victoria. Other examples in Australia include the 'voucher' system developed in New South Wales, in which small businesses are encouraged to use a \$500 training voucher from the state government to buy training from the public VET system, or the TAFE Queensland Mining Services venture in which the TAFE system shares the costs of training in the mining industry with major employers.

Internationally, there are differences across countries in enterprises' sentiments and approaches to expenditure on training. Some of these differences are the product of particular cultural values or societal practices. In North America there tends to be a higher expectation that individuals rather than enterprises will take responsibility for their vocational skill development, in ways

that are remote from government policy (International Labour Organization 2000). Yet, in Germany (Giraud 2002) and Switzerland (Schwieri 2002), further training is also seen as the individual's responsibility, whereas in France individuals look to the enterprise as a sponsor of that training, and also more in the public sector than the private. In Scandinavia, there is a long-standing social consensus on the value of training to business and on the rights of workers to receive training from their employers. Thus, European-style laws on training do not bind employers in Denmark, Norway and Finland, but they provide training as part of the employment contract with the employee, which is premised on a sentiment of social obligation. Regulation in these circumstances is more focused on the distribution of training opportunities than the provision of training per se.

In Australia, a quite different set of perceptions exists amongst employers. It could be argued that the Training Guarantee Scheme led to a heightened sensitivity about the cost of training. In the shorter term, the Australian Government might:

- ❖ promote the need for equity in financial support for the national effort which is otherwise unfairly distributed across industry sectors
- ❖ promote the importance of skill renewal to avoid problems of skill shortages for Australian enterprises
- ❖ illuminate instances of the contribution of skills to enterprise success, thereby highlighting the shared national goal of highly skilled workforce.

By contrast with previous approaches, there is probably a need to build a consensus about and commitment to expenditure on training within Australian enterprises. In the longer term, the goal might be to change the perceptions of enterprises towards expenditure on training. Measures here might include:

- ❖ government championing the importance of vocational knowledge and skills and the significance of its acquisition for skilled work and national wellbeing
- ❖ establishing the equivalents of trade associations and guilds which could become advocates for vocational knowledge and the worth of its development
- ❖ seeking the advice and requirements of enterprises in the formulation of the curriculum development planning process, including credentialing systems.

However, beyond the goals of enhancing enterprises' commitment and contribution to the initial and ongoing development of its workers is an equally important goal. This is for the expenditure on training by enterprises to be distributed more evenly across the workforce. Study after study (for example, O'Connell 1999; Brunello 2001) from many countries (for example, Groot, Hartog & Oosterbeck 1994) have noted that the distribution of training opportunities in workplaces is inequitable. Often it is those who are most vulnerable and precariously placed in the workplaces who miss out. Those most likely to secure enterprise support are often the young, the well-educated, and the mobile worker who is male and white. Yet, influencing practices in decision-making in workplaces seems to be beyond the scope of the processes described above.

Both the mandated and regulated approaches adopted in France and Germany (Giraud 2002), as well as those in Australia, have been unable to address this issue. Even when enterprises are required to publish their annual training plans (as in Germany), or form bipartite enterprise committees to discuss training-related matters, there still is little or no impact on enterprise decisions about how training opportunities will be allocated.

This equity goal will be more likely to be achieved through a process of emphasising the need for ongoing development for all workers throughout their working lives. The need for learning for a working life is not restricted to the young, well-educated, and mobile. All workers increasingly require assistance in learning for their working life. The workplace is often the only and sometimes the most appropriate place to learn what is required for improving vocational practice.

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Alternative mechanisms to encourage individual contributions to VET in Australia

Jack Keating

In the context of a highly globalised and rapidly changing world and the consequent requirement for lifelong learning, governments and industry can no longer bear a substantial burden, as in the past, in investing in vocational education and training (VET). This chapter¹ examines a number of alternative mechanisms for encouraging individuals to fund their vocational education. The chapter draws attention to the Higher Education Contribution Scheme (HECS) in use in the higher education sector and notes that its application to the VET sector is inappropriate.

Introduction

RESPONSIBILITY FOR INVESTMENT in vocational education and training (VET) has, in the past, been shared between industry, government, and individuals. Industry has been the major investor, with direct costs and loss of worker production time; governments have made financial investments; and individuals have invested their time, including lost earning time and fees. In the VET sector in Australia, the amount of individual investment in fees has been minimal.

This balance is maintained today. However, global changes in industry and work practices and the emergence of the agenda of 'lifelong learning' are constraining the contributions of industry and governments. The trend towards smaller firm size, a decline of occupation-based regulations, shorter product cycles, and the growth of contingent employment are all factors associated with restraints upon firm-based training investment. Governments face high levels of demand for investment in health and aged care, and recently for security. At

¹ A summary of the report, *Alternative mechanisms to encourage individual contributions to vocational education and training*, by S Haukka, J Keating & S Lamb 2005, NCVER, Adelaide.

the same time, high levels of demand for investment in schooling and higher education continue.

Rapid changes in work practices and the prospect of higher levels of occupational mobility are factors which have influenced the recent policy focus on the concept of lifelong learning. The justification for a shift towards individual responsibility for investment in vocational education and training is based upon the private rates of return realised by individuals from this investment. This study attempts to identify mechanisms which can be introduced into the financing and management of VET that will maximise the incentives for individuals to invest.

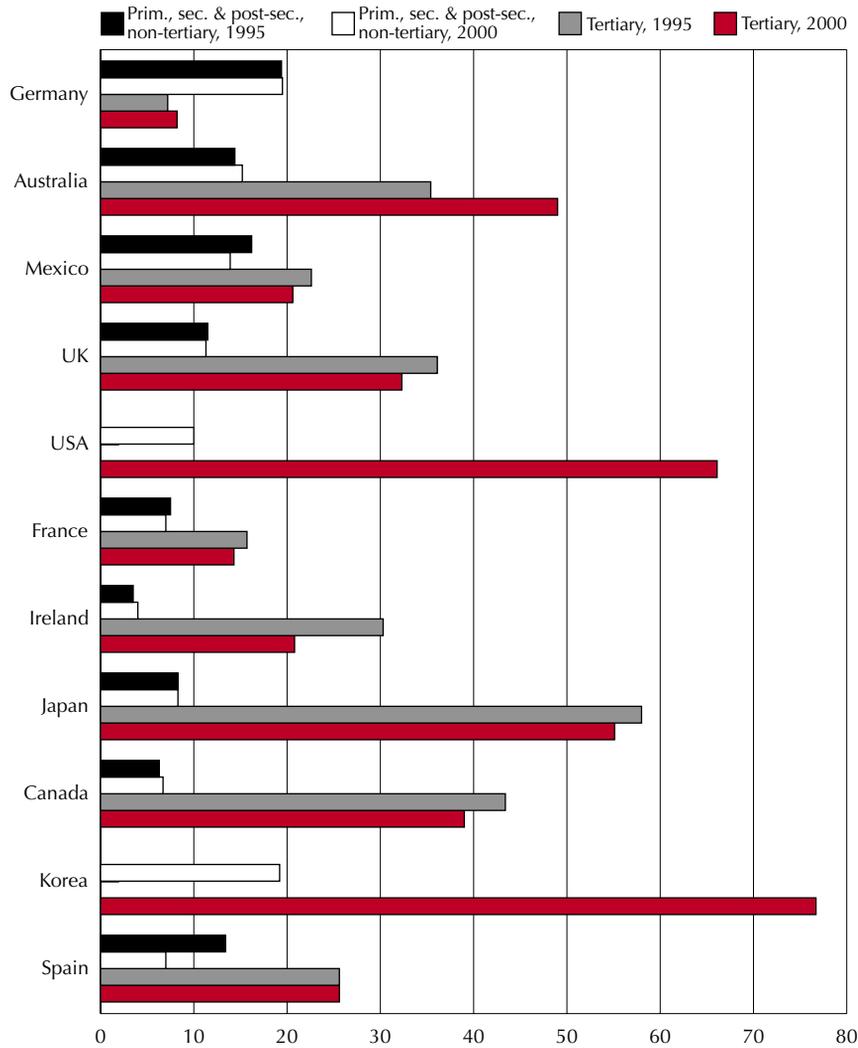
Some conceptual issues

Individuals invest in all sectors of education and training in Australia. Australia has relatively high levels of individual investment in school education and higher education compared with levels in other Organisation for Economic Co-operation and Development (OECD) countries. Furthermore, these levels are increasing. As shown in figure 1, Australia appears to be the only OECD country which has both high levels of private investment in school and tertiary education, and increasing levels in both sectors. Given that the OECD data relate to 1995 and 2000, they do not account for the increases in Higher Education Contribution Scheme payments implemented in 2004 in Australia.

When the level of private or individual investment in vocational education and training is compared with that for higher education in Australia, there is an ostensible case for an increase. Table 1 indicates the percentages of the revenue for higher education from government fees and charges. The data indicate that the VET sector has a considerably lower percentage of its revenue from fees and charges. Overall, 30% of investment in education and training was from private sources in 2000–01, and has grown from 13.3% in 1980–81 (ABS 2002b). The VET sector has not shared equally in this growth.

There has been a major increase in recent years in higher education revenue from fees and charges, and a smaller increase for the school sector. The increased private investment in schooling is caused mainly by an enrolment drift from the government to the independent school sector, especially at the secondary level, together with an increase in full-fee-paying overseas students. Over the past decade only, this sector has benefited from increased government investment. While there has been a major increase in Australian Government expenditure on private schooling, there has also been an increased state government expenditure on public schooling, despite relative stability in enrolments. The school sector is characterised by three sub-sectors: government, Catholic and independent. There is evidence that students from higher-income families are drifting from both the government and Catholic school sectors to the independent school sector, which has the highest fee levels (Burke, White & Long 2004). Thus there is an increasing tendency for higher-income groups to invest in secondary education to gain the positional advantages that can be delivered, especially in the form of university entrance.

Figure 1: Relative proportions of public and private expenditure on educational institutions, 1995–2000, selected OECD countries



Source: OECD (2003)

Table 1: Sources of finance for school education and higher education, Australia (%), 2002

	Higher education	VET
Australian Government	40	22.2
States and territories	4	56.7
Fees and charges	37	15.5
Other	19	5.8

Source: ABS (2002a); Australian Vice-Chancellors' Committee (2004) and NCVET (2003)

Increased private investment in higher education is mainly in the form of increased Higher Education Contribution Scheme payments, the imposition of fees for postgraduate courses, increased enrolments of fee-paying foreign students, and most recently, the introduction of full-fee undergraduate courses for domestic students. The major shift in the balance of higher education financing towards private investment is related to a major growth in demand, as indicated by the high levels of unmet demand for undergraduate places, which increased during the early 2000s, despite the rapid increase in overall enrolments (Australian Vice-Chancellors' Committee 2004).

The major contribution to the increased private investment in vocational education and training has been in the form of fee-for-service contributions. There have been increases in fees and charges for technical and further education (TAFE) courses in recent years. However, given the low base of TAFE course fees, these increases have not had a major impact upon the balance of revenue sources.

The VET sector in Australia provides programs for 1.7 million people annually, and is the major provider of education and training for adults. It is therefore the key sector in supporting lifelong learning and the associated demands of re-skilling and occupational mobility. Yet it appears to have the weakest capacity to attract 'individual' investment.

Private investment is made up of investment by individuals and industry organisations. The VET sector has increased its levels of industry investment, as shown in the increases in fee-for-service revenue. However, the levels of individual investment, in the form of enrolment fees and individual fee-for-service payments, remain low. In percentage terms, they are lower than those in the higher education sector, and even the school sector, and in absolute terms, they are even lower.

These weak levels of individual investment are related to two sets of factors: the rates of returns or perception of rates of return for VET investments; and the segmentation of the Australian community in relation to participation in the three sectors and their sub-sectors.

Rates of return and demand elasticity

Public investment in education and training is justified by the social rates of return they deliver. While some (for example, Wolf 1997) have questioned the assumption that increased investments in education and training will automatically produce societal economic benefits, there is a strong international consensus that nations who wish to trade in high valued-added products must have a strong educational foundation. The traditional purpose of mass schooling in promoting nation building and social cohesion has now been complemented with an international consensus that a strong and widely distributed base of secondary education is a necessary skills base for advanced national and regional economies (OECD 2001). This justifies the principle and practice of free schooling which is accepted and practised in all OECD countries.

With the exception of a few nations, such as Germany, the relative percentage of private investment in tertiary education is more than in school education. This is justified by the private rates of return achieved by individuals for their investment. Figure 2 shows that private returns for degree (tertiary type A) and diploma level (tertiary type B) qualifications are higher than those for a completed secondary education in almost all OECD countries, and are growing in most. However, they are significantly higher for degree-level qualifications. These typical patterns apply to Australia, and lead to the question of the extent and elasticity of demand for VET.

The diversity of providers and clients and the lack of single application and entry systems for vocational education and training in Australia make it difficult to measure unmet demand for VET, compared with the relatively precise calculations for higher education. There have been regular reports of skills shortages in Australia. However, as Shah and Burke (2005) point out, the patterns of these shortages are cyclical, and skill shortages do not necessarily translate into VET demand from individuals or employers. Some estimates place unmet demand at about 10%.² However, the state training profile procedures do not necessarily lead to a good match between supply and realised demand, as opposed to expressed demand. In the early 2000s, a significant number of TAFE institutes either failed to meet their profile allocations, or sold off some of their profiles. There continue to be examples of such demand shortfall.³

Access Economics (2004) has estimated that a 10% increase in VET fees would result in a 0.6% fall in demand for vocational education and training. Given, as they point out, that fees are relatively low, and constitute only 15.5% of VET revenue in Australia, this estimate indicates a relatively high rate of price elasticity in VET. This is by comparison with the higher education sector which has been able to increase the percentage of its revenue derived from fees and charges to over 40% without a fall in demand. Moreover, higher education in Australia has a higher level of individual compared with industry-based demand by comparison with the VET sector.

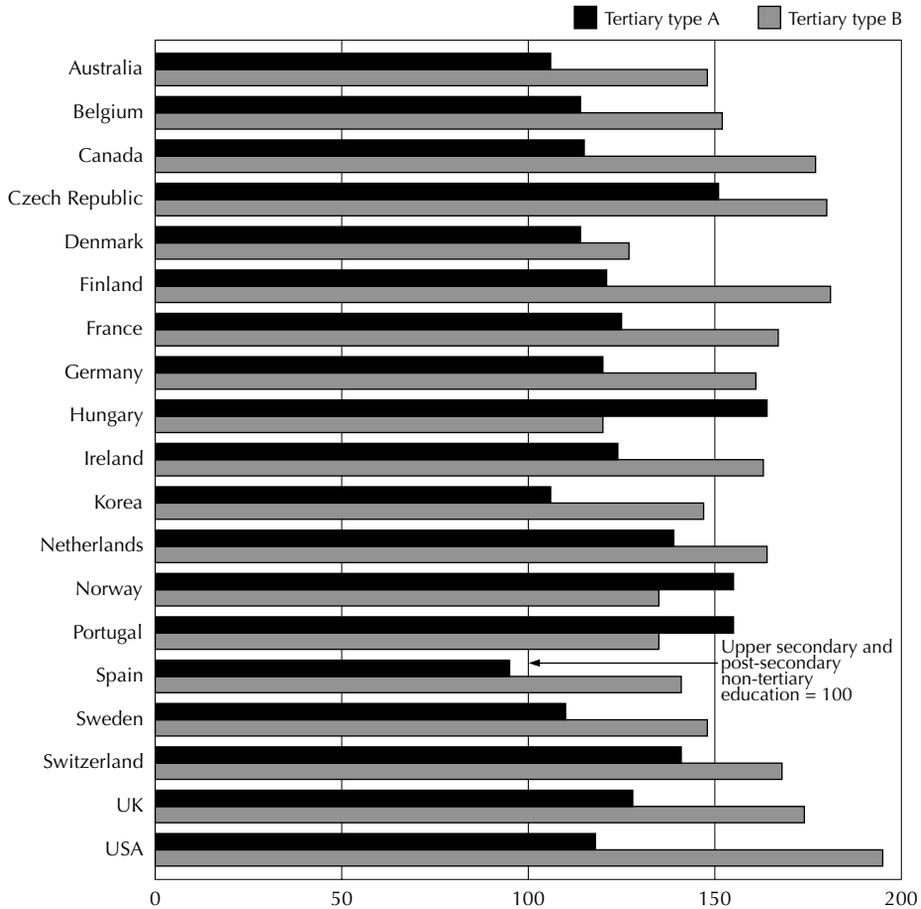
The problem lies in these comparisons. Rising private incomes for higher-income groups in the context of rising private rates of return for degrees have fuelled higher individual demand for higher education. This is reinforced by changes in the patterns of industry skills demand. The 'knowledge' industries are shifting their skills demands towards the university sector, such that the 'knowledge workers' in the high-tech, large and transnational firms are typically degree-holders. On the other hand, low-tech, smaller and more localised firms are more likely to demand intermediate and low-level skills. Globalisation is also leading to the growth of contingent employment and falling relative incomes for lower-income workers. Typically, workers who require middle and low-level skills are now more likely to be in contingent employment and have lower levels of disposable income. Thus the VET sector is facing segmentation in both

² Estimates from the Victorian Office of Training and Tertiary Education.

³ Interviews with four Victorian TAFE directors.

industry and in the labour force, which will reduce its relative capacity to attract industry and individual demand.

Figure 2: Relative earnings of 25 to 64-year-olds with income from employment—tertiary type B and tertiary type A and advanced research programs, 2002



Source: OECD (2004, table A11.1A)

However, it does need to be highlighted that vocational education and training does provide private or individual returns. Based on the estimated returns to VET qualifications in Australia and an analysis of existing literature on the returns to VET qualifications, Ryan (2002, pp.7–8) drew the following conclusions:

- ❖ Individuals who complete VET qualifications generally receive higher wages than similar individuals who do not complete VET qualifications.
- ❖ The wage effects are higher for males who complete VET qualifications than females.
- ❖ Wages vary by VET qualification level.

- ❖ VET qualification effects provide a continuing benefit to individuals throughout their careers.
- ❖ VET study that does not lead to a qualification may have little effect on wages.
- ❖ Estimated returns to VET qualifications depend critically on the work/ study combination used by individuals to undertake their courses.
- ❖ Returns to VET qualifications are highest for those who work full-time and study part-time while undertaking their course.
- ❖ Those who undertake follow-up VET qualifications receive higher wages for doing so. Lifelong learners who work full-time and study part-time enjoy modest, positive returns for further VET qualifications.

Any mechanisms adopted to encourage individual investment in vocational education and training need to take account of the likely behaviour of individuals within sets of incentive and barriers. The incentives for private investment are relatively weak in the absence of interventions that can reduce costs or raise returns. Therefore, what is known about the patterns of VET demand for, and private returns from VET needs to be considered against other factors which have the potential to influence behaviours. Other factors include the following.

- ❖ Private rates of return are not homogeneous and consistent. As Ryan (2002) shows, there are different patterns across different VET qualifications, different combinations of work and study, and different time periods.
- ❖ Individuals are not homogeneous. There are different patterns of returns for males and females, and there are likely to be different patterns for different social and occupational groups.
- ❖ There is a need to take account of life cycles. The predicted increase in occupational mobility needs to be factored into likely individual demand behaviours. The much-cited practice of post-degree participation in vocational education and training, the greater capacity for occupational mobility amongst more highly educated workers, and the concentration of occupational change amongst 'knowledge workers' all might be considered when attempting to locate the most robust demand for VET.
- ❖ The idea of multiple transitions should be considered. Schmid (2002) has argued that workers are increasingly facing multiple transitions during their working lives. These transitions include: education to work; full-time to contingent work; unemployed to employed; work to education/retraining; in and out of the workforce etc. He also argues that the institutional arrangements, including education and training systems originally designed for the era of stable, full-time careers, are now obsolescent. Table 2 indicates the rates of unemployment for people in Australia with different levels of education compared with overall OECD patterns. The data confirm Ryan's observation that returns from VET for women can be greater than for men. However, unemployment rates for degree holders are substantially lower.

- ❖ Incentives can include the removal and reduction of barriers. Wurzburg (2002) argues that mechanisms such as the recognition of prior learning have the capacity to reduce both the monetary and time (opportunity) costs for individuals who invest in VET.
- ❖ Conversely, vocational education and training suffers relative to higher education in its lack of status demand.⁴ The Australian National Training Authority (ANTA 2000) locates different categories of learners, ranging from ‘passionate learners’ to ‘forget it’. This does suggest that at least some VET learners do see the intrinsic value in learning. However, as Teese (2000) notes, learners who have experienced poorer scholastic success are less likely to see the intrinsic value.

Table 2: Unemployment rates by level of educational attainment and gender of 25 to 64-year-olds and 30 to 44-year-olds, 2001

	25 to 64-year-olds				
	Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programs	All levels of education
<i>Australia</i>					
Males	8.1	4.5	4.5	2.5	5.2
Females	7.0	5.2	3.9	2.6	5.1
<i>Country mean</i>					
Males	8.9	4.8	3.3	2.8	5.0
Females	9.4	6.4	4.0	3.5	6.1

Source: OECD (2002, table A11.2)

The Australian Bureau of Statistics (ABS) data (2002a) reveal diverse reasons for individuals not undertaking training. The most prominent (76%) is that they simply did not want to, which suggests that most individuals do not see significant returns, whether financial or intrinsic. The next most frequently cited reasons were ‘too much work’ and ‘lack of time’, followed by financial reasons.

Mechanisms

A review of international practices suggests that there are four main mechanisms which have been used to encourage higher rates of individual demand for and investment in VET. They are individual learning accounts, paid educational leave, student loan schemes, and vouchers.

⁴ Education qualifications, especially at the higher levels, until relatively recently have been driven by their status value (see Collins 1971). This value still accounts for part of the individual demand for higher degrees.

Individual learning accounts

'Individual learning accounts' were initiated in the United Kingdom, and subsequently have been tried in Sweden, United States, and the Netherlands. They imply individual responsibility for learning, choice and shared costs. The schemes vary in their size and ambition across these countries. The mechanism is typically based upon a government grant (or employer or individual deposits encouraged by taxation concessions) into an account which can be spent upon further education and training. Employers and individuals can then make further investments in the accounts. The schemes are voluntary, and vary in their targeting of age groups and categories of individuals. Typically, public contributions are contingent upon individuals also making a contribution. The most ambitious application of this scheme has been in the United Kingdom (see Department for Education and Skills 2002). They are designed to increase individuals' contributions to their own learning, and they have the flexibility of varying the relative levels of public and individual contributions. The schemes face the potential problem that many recipients don't need the public contributions, on the one hand, and some may not be able to afford their contribution, on the other (see Scottish Parliament 2001).

Paid educational leave

Paid educational leave is most common amongst European countries (CEDEFOP 2001). In many of these countries, paid educational leave is combined with job rotation, and together are referred to as 'combined training programs'. Educational leave 'provides the opportunity for individuals in the labour market to engage in continuing training and education' and job rotation is 'an agreement between one or more employees and their employer that an unemployed person will replace the employee while they attend an educational program' (Hansen 1999, p.60).

This approach suffers from the obvious handicap that the Australian industrial context is different from the social partnership and high taxation context of the northern European countries which provide the best examples of these schemes. Denmark (Hansen 1999), Sweden (Gould 2002), and Belgium (European Foundation for the Improvement of Living and Work Conditions 1995) provide three of the strongest examples. In Denmark, for example, participation was highest during periods of high unemployment, and firms in these and especially other Germanic countries, have been more inclined to invest in training during the low period of the economic cycles than Australian firms. In any event, there appears to be a general decline in these schemes as the economies face the impact of trade liberalisation.

Student loan schemes

The financing of vocational education and training has become increasingly challenging over recent years and is likely to become even more so as Australia moves towards the creation of a mass system of tertiary education. Building a mass system of tertiary education is expensive, and some have argued that it

requires public funding to be supplemented on a significant scale from private sources (for example, Barr 2001). One approach to increasing funds from private sources is student loans. A cost-recovery mechanism so that students pay for at least part of the cost of education and training—student loans—has been advocated as an approach with the potential to yield resources on a large scale (Palacios 2003).

Student loans may take several very different forms, but all forms have in common the assumption that some of the costs of education and training—either the costs of instruction (that is, tuition), or other educational costs (such as books and supplies), or the costs of student living (such as room, board, and other expenses)—are met by the student, not at the time of study, but at some time in the future. Under each form, a lender (whether the education provider, government, a bank, or similar agency) bears the up-front costs, but will be repaid, often with interest, by the student as borrower (perhaps with the government's help).

There are several types of student loan schemes: conventional or mortgage-type loans; graduate taxes, and income-contingent loans.

Mortgage loans and graduate taxes

Mortgage loans require fixed payments, and can be underwritten with public grants or interest relief. Two examples of mortgage loans are found in the Netherlands and Canada where the loans have been used for university, community college and private college study (Human Resources Development Canada 1997). Unlike schemes involving the repayments of a loan determined by an amount borrowed or applied to study, graduate tax schemes involve a tax which is levied over an individual's working life. Graduate taxes have the potential for a higher realisation of payments, and could be constructed into a progressive form of taxation, although this would potentially penalise graduates by comparison with non-graduates.

Income-contingent loans

An income-contingent loan involves cost recovery for education and training fees through the payment of a percentage of income from a graduate or former participant, once they start earning. Payment is dependent on reaching an income threshold. The Australian Higher Education Contributions Scheme provides one of the foremost examples of this, and has had a major impact upon the balance of higher education revenue since its introduction.

The Australian scheme has been hotly contested. On the one hand, Chapman (1992) has argued that the Higher Education Contribution Scheme had little impact on demand for higher education by full-time students. More recently, he has argued that the scheme has had minimal effects on the earnings returns from higher education qualifications (Chapman & Ryan 2002). Borland (2001) found that the lifetime gain of Australian-born males who completed a three-year university degree is significant. On the other hand, while the Higher Education Contribution Scheme may not be a notable deterrent to enrolment for disadvantaged students, an Australian Government study has reported

that participation in higher education by people from low socioeconomic backgrounds remains low, and proportionately has become gradually lower (Department of Education, Training and Youth Affairs 1999).

The application of a Higher Education Contribution Scheme-type scheme to vocational education and training has been proposed in New Zealand (New Zealand Ministry of Education 1998) and Australia (Department of Education, Science and Training 2002; Chapman, Doughney & Watson 2000). There is no doubt that such an application would lead to increased VET revenue, if demand could be maintained. Estimates of this revenue based upon 1997 data are indicated in table 3 below.

Revenue would depend upon two factors: the rate of cost recovery, which would be largely influenced by the income threshold and workforce status of the graduates; and the maintenance of demand for vocational education and training.

Table 3: Estimated revenue from the application of an income-contingent loan scheme to VET based on 1997 data (\$ millions)

	Fees received ¹	Rate of cost-recovery from the income-contingent loan ²	
	5%	25%	33%
<i>With exemptions</i>			
Full-time students	52	140	185
Part-time students	114	315	416
All students	166	455	601
<i>Without exemptions</i>			
Full-time students		172	227
Part-time students		387	511
All students		559	738

Notes: Amounts are based on 1997 financial data and student numbers.

- 1 In 1997 student fees and charges represented 5% of the income for VET from government funding and student fees and charges. The fees for full-time students were derived by taking the number of full-time students, reducing this number by 20% for students who were exempted or obtaining concessions, and multiplying the result by \$400 (estimated average cost for full-time students [Borthwick 1999]). The part-time student rate was derived in the same way except that the estimated average cost for part-time students was \$100.
- 2 The income-contingent loan revenue figures were derived by estimating the amounts derived from cost-recovery (25 or 33%) based on 1997 income from government sources, adjusted for the gap in annual revenue due to deferred payments. The adjustment was set at 55%, in line with the revenue in 2000 derived from HECS for higher education in Australia compared with the HECS liabilities for that year (Department of Education, Science and Training 2001). The VET figures assume that the revenue will commence a year well after the introduction of the income-contingent loan, not at the commencement of the scheme.

The returns to VET qualifications are far less consistent than those for higher education. Borland's analysis of higher education returns suggests a 14.6% return, on average, all else equal (Borland 2002). The average return to VET qualifications is about five points below the higher education rate, according to the figures provided by Ryan (2002). The figures generated by Lamb, Long and

Malley (1998) are consistent with this. This suggests that the same assumptions used to support and justify the introduction of Higher Education Contribution Scheme in higher education cannot be applied with the same certainty to the VET sector. If earnings returns are not as strong for VET qualifications, then there is potential for students to form a negative view of investment in vocational education and training (with investment represented by the debt associated with income-contingent loan fees).

In short, individuals may judge that the returns do not warrant the investment. In this situation, an income-contingent loan scheme applied to vocational education and training may work to discourage rather than encourage participation, and reduce the potential levels of individual contributions. This is likely to vary according to the type of qualification, since returns also vary by qualification type. This issue could be addressed through the use of varying tariff levels similar to those applied to higher education. This also has the potential to address the considerable issue of equity with such a scheme, given the nature of VET participants and their income contexts and futures.

Vouchers

An education or training voucher is defined as an 'earmarked payment made to a training consumer for use at the education or training institution of their choice' (West et al. 2000). In most cases, the government or employer is obligated to pay a predetermined amount to the training provider selected by the person.

The most notable example of vouchers in vocational education and training have included those introduced in Chile in the 1980s and 'training credits' introduced in the United Kingdom in the 1990s, but since discontinued. Other examples of their use have been in the United States, Belgium and Austria. They also have been used in Australia through the Work for the Dole Scheme and the Youth Allowance.

They have been highly contested ideologically, but problems with efficiency have been their major problem. User choice also has many of the features of a voucher scheme. Vouchers, however, are essentially a measure to generate greater supply-side competition, responsiveness, and quality. Moreover, it is doubtful whether they have the capacity to generate additional resources.

Conclusions

A review of various national and international mechanisms to encourage individual contributions to vocational education and training suggests that there are difficulties in all cases. If the vision of lifelong learning is to be realised in Australia, it will be necessary to achieve higher levels of non-state funding in VET. There is an emerging consensus that individuals should be contributing to their education, especially to continuing education and training for the purposes of career and occupational mobility and renewal. There is ample evidence, in the form of unmet demand, of the willingness of the population, or elements of it, to

invest in higher education. The evidence is not so apparent in vocational education and training, and the relative rates of return between vocational education and training and higher education must go a long way to explaining this.

It also is the case, however, that higher education tends to serve the elite economic and educational market. Students entering higher education tend to come from higher-income households and have stronger scholastic records. Within a limited demand, market vocational education and training mainly serves a constituency which has fewer financial resources and weaker scholastic records. Both of these variables have a major negative impact upon the demand for education and training.

While the structural changes in the youth labour market have reduced the opportunity costs for young people to continue in education and training, this is less so for males. Furthermore, the currency of VET qualifications for entry into occupations is variable. These factors need to be considered along with yet another major difference between vocational education and training and higher education—higher education is predominantly full-time, and VET is mainly part-time.

The establishment of fees for full-time post-school VET courses is problematic because of:

- ❖ the potential impact upon demand
- ❖ the relative costs between VET certificate programs and government subsidies for higher education courses (which mostly are equivalent, or more for some high-cost courses)
- ❖ the economic circumstances of the VET clients.

The fundamental difference between the Higher Education Contribution Scheme mechanism as a means of gaining individual contributions to higher education and options in the VET sector is that the VET sector does not have the excess demand which provides the foundation for the scheme. Without excess demand, neither the Higher Education Contribution Scheme nor the full-fee options would have been possible. Essentially, therefore, the scheme met a supply-side problem by exploiting the demand-side capacity. Therefore, in the VET sector, for either of these options to be feasible, the demand will have to be built. However, the capacity to exploit VET demand in order to increase the financial base for VET supply (as the Higher Education Contribution Scheme has done in higher education) is unlikely to be sustainable, at least in the short term.

In the context of alternative mechanisms for encouraging individual contributions to VET, the following issues should be considered.

- ❖ Mechanisms should concentrate upon expanding demand for continuing vocational education and training among, in the main, people in paid employment.
- ❖ Learning accounts, and to a lesser extent, paid educational leave, offer the most potential as mechanisms to achieve increased demand and investment.

- ❖ Mechanisms need to offer incentives for individuals to invest, preferably in conjunction with incentives for employers.
- ❖ Incentives could include taxation breaks, for both workers and employers, and superannuation.

Given the higher propensity for higher-income and better educated workers to invest in education and training, any schemes would need to have mechanisms to target the lower-paid and least educated groups. Without these, schemes may simply subsidise existing individual investment in a similar manner to a number of past initiatives in the VET sector, whereby existing employer investment was subsidised. Superannuation incentives should also be considered, especially for older workers.

There is a need for governments to look at the big picture, especially when this issue is framed within the ideal of lifelong learning. The big picture includes the ageing workforce, the funding of superannuation, regional and group poverty, as well as the knowledge economy. Governments should not address this issue of individual contributions to VET in isolation for two reasons. First, opportunities to serve other social and economic agenda may be missed. For example, schemes that encourage older workers to invest in training allow them to remain in work longer and assist them to contribute to superannuation to an older age. Second, thinking about the ingredients of the schemes could be limited. For example, it may be that the issue of health benefits could be exploited. Health and safety training will have an impact on health costs, and indeed education and training in general has a positive relationship with good health.

Thus it can be seen that the question of individual contributions to VET is tied up with other issues concerning taxation, possibly superannuation, health, and federalism. Equity is another issue. The wide variety of options which are demonstrated internationally offer broad tools which, to varying extents, can be tested in the Australian context. A capacity for innovation will be required if this is to happen.

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New estimates of the employers' contribution to training

Sue Richardson

This chapter¹ is an attempt to estimate the full extent of the learning that takes place in the workplace on the job, and how much of this learning employers pay for. To do this, the chapter focuses on the on-the-job training provided to both established workers and new entrants to the workforce. The approach adopted here differs from previous approaches, in that employer inputs into training (hours or dollars) are not measured; rather, an indirect measure of the increase in the productivity of employees (that is, an increase in wages) as a result of learning on the job is provided, enabling a quantification of the extent of skills development which takes place as a result of on-the-job training. The chapter posits a direct relationship between employee experience, tenure and wages, which can be used to infer the extent of investment in training.

Introduction

ECONOMIES IN THE twenty-first century are under relentless pressure to increase the skill levels of their workforce. High skill levels are widely seen as being a requirement for prospering in a globalised world characterised by rapid technological change. But the development of high levels of skills in the workforce is expensive, requiring a major investment of learner time, large public expenditure on the formal education system, and high levels of formal and informal skill development on the job facilitated by employers. There is understandable tension between just how much should be spent on skills development, and what share of this total should be borne by each of the main players—individuals and their families, governments and firms.

In contemplating the answers to these questions, it is important first of all to have an accurate view of the current size of the investment in skills, and who

¹ A more detailed presentation of the argument and data of this paper can be found in Richardson, S 2004, *Employers' contribution to training*, NCVER, Adelaide.

pays. The answer to this apparently straightforward question is surprisingly elusive. One reason is that skills are acquired in a variety of formal and informal ways. Post-school, the main pathways to obtaining skills are through the higher education system, the vocational education system (public and private) and through learning on the job. Good information on the budgetary cost to government of the public education system and the subsidies provided to private formal education is available. Less good information on the direct costs of the private training system is also available, and some not very reliable information, derived from surveys of firms, on what employers spend on direct training can be identified, along with estimates based on surveys of workers of the incidence of skills development on the job. But these sources leave out two very large components of the costs of skills. One is the cost of learners' time. The other is the cost to employers of provision of informal training on the job.

Economists have identified this informal way of learning as a major contributor to the productive capacity of workers. It is unlikely that its cost to the firm can be captured in surveys of employer expenditure on training, since much of it happens in unstructured settings. But it leaves a gaping hole in our estimates of the quantity of training, and of who pays, if it is left unmeasured. This chapter provides a first serious attempt to quantify the full extent of the learning that takes place on the job and to estimate what share of this is paid for by employers, the remainder being paid for by the workers themselves. The approach being used draws on economic theory to infer levels of learning. This is in contrast to estimates which rely on employer answers to survey questions.

Current incidence of employment-based training

The main purpose of this study is to quantify the current contribution made by employers to the costs of vocational learning. The most widely used estimates of the total cost of vocational education, and of the employers' share in this cost, comes from the Australian National Training Authority (ANTA 1999). ANTA estimates the former as \$8.545 billion in 1996, and the latter as \$3.886 billion (or 45% of the total).

Vocational learning is interpreted in a broad sense to mean the development of job-related skills and attributes which increase a person's productivity in the workplace. Economists refer to this as human capital. This paper focuses on the skills development that occurs less formally, as a result of learning on the job. Economists attribute a large part of the stock of work-related skills to learning which has occurred informally on the job (see, for example, Brunello & Medio 2001). Table 1 shows where on-the-job training—the subject of this report—fits in to the quantification of the employers' contribution to the costs of training.

Most evaluations of the contributions made by individuals, government and employers to the costs of skills development focus on the first and second columns in table 1. It is common, however, to exclude the costs of student time in such estimates, and, in some cases, to include the costs of in-house training courses.

Table 1: Form and source of funding for skills development

	Contribution to development of work skills		
	School and higher education	TAFE and private vocational education	On-the-job training
Individual	Fees plus student time	Fees plus student time	Accept lower wages
Government	Costs of education institutions plus scholarships	Costs of education institutions plus scholarships	As an employer
Employers	Limited support for staff doing degrees—fees and time off	Support for staff doing formal courses—fees and paid time off	Pay wages higher than productivity; time of experienced workers; mistakes and wasted resources; in-house training courses

In this study, the employer contribution is evaluated by concentrating on the third column—on-the-job training. Learning provided to new entrants to the workforce, and learning provided to established workers is not differentiated. It seems obvious from looking at the bottom row of the table that the employer contribution in the third column is substantially greater than that defined by the other two columns. The estimates reported below provide strong support for this view. Further, the employer contribution which occurs via training on the job is much greater than just the direct provision of formal in-house instruction. It includes two major additional costs to employers. One is the cost of the time spent by experienced employees in imparting their knowledge to less skilled new workers. Most of this is done informally, but nonetheless diverts the experienced employees from their productive tasks. In addition, new and less skilled workers make mistakes while they are learning. These are costly—in wasted materials, in damage to customer and supplier relations, in time taken to unravel the error. These costs of learning are borne by the employer, at least in part. The second cost borne by the employer occurs when they pay new workers more than they are initially contributing, in the expectation that, with learning on the job, their productivity will come to exceed their wage.

Data from the Australian Bureau of Statistics (ABS) Survey of Education and Training (1997) (a survey of employees) is used to identify the major types of training workers receive, and to determine how this varies according to selected worker and employer characteristics. These data indicate the following.

- ❖ On-the-job training, whereby workers learn informally from co-workers while doing their job, is the most commonly experienced form of skills development provided by employers. This is true for men and women, for native and non-native speakers of English, for those with a little and those with a lot of formal education. On-the-job learning occurs at all ages, although it does decline somewhat with age. A thorough understanding of skill development in the workforce needs to recognise the contribution of skills learned informally on the job.

- ❖ Employer-based training reinforces skill differences which arise from differences in formal education. Those with the least education (less than Year 12) systematically report receiving less of the main forms of employment-based training. The more formal the training, the more it is focused on those with more education.
- ❖ The public sector is an important source of employer-based training. The hours of training received by public sector workers are much higher than the hours received by private sector workers; and the latter are much more likely to receive no training. Estimates of the employer contribution to training should not be confused with estimates of the private sector contribution to training.

New estimates of the employer contribution to skills

The approach of this paper to estimating the value of the employer contribution to the development of workplace skills differs from previous approaches. Employer *inputs* into training (hours or dollars) are not measured; rather, a (indirect) measure of the increase in the productivity of workers caused by the learning of skills on the job is provided. This indirect approach is adopted because it is very difficult to obtain reliable information from surveys on what firms spend on the provision of skills development. Much of the learning that firms provide is informal and is thus hard for the firm to quantify with any precision. Even where more formal instruction is given, it would be most surprising if the typical firm kept a careful log of the costs of providing the training and the hours and pay of those undertaking it. Thus, answers to these questions from firms are likely to be quite imprecise—especially for smaller firms with less formal human resource development structures. Such firms employ almost half of the total workforce. Surveys of employees, while able to provide reasonable information on the incidence of training, cannot quantify the cost to employers.

Economists infer that workers gain skills on the job from the fact that wages are systematically higher for people who have more work experience than for people who have less. This is true even when other factors which might influence a person's wage, such as sex, formal education, occupation, industry and so on, are held constant. Economists interpret this to mean that more experienced workers are more productive (which is why employers will pay them more), and that they have become so because of skills learned on the job. Some of the skills learned will only be of value to the current employer, for example, unique work processes, firm culture or customer details, and whether the job is a good match for worker and firm. It is these firm-specific skills that are rewarded by wages which rise with length of tenure on the current job. An estimate of the extent of on-the-job learning from observing how fast wages grow with additional years of experience and tenure can be obtained. To do this, we must assume (as theory implies) that workers with more years of work experience and longer tenure in their current job are paid more because they are more productive, and they have become more productive because of the skills learned while working.

The human capital explanation of the observed positive link between general *experience* and *wages* is that people learn general skills as they work, which increases their value to a range of employers. As their productivity rises with these increased skills, employers are willing to pay them more (indeed, must pay them more in order to prevent them from moving to a different employer who will). The human capital interpretation of the positive link between *tenure* and *wages* is that people also learn skills that are of use only with their current employer. Since the employer would lose the benefit of these skills should the worker leave, they pay more to induce the more skilled worker to stay.²

For reasons discussed in the longer paper (Richardson 2004), an individual's productivity increases with experience faster than does his or her wage. Thus estimates of how wages rise with experience are likely to underestimate the true increase in productivity from firm and worker investment in skills learned on the job, and the true level of that investment. But they do give an approximation of the level of such training. They do not, however, enable us to determine how the cost of training is divided between the workers (by accepting a lower wage) and the firm.

It may be helpful to give an example of how, by linking wages and the number of years of work experience, the amount of skills is estimated. Suppose a person who has worked with a given firm for five years receives a wage that is 2% higher than an otherwise similar person who has worked for the firm for four years. It is inferred that, in the fourth year of employment, the person learned additional skills which increased her or his productivity to the firm by at least 2%. This productivity gain will persist as long as the worker continues to work with the firm. Future productivity benefits will be discounted by the firm, for two reasons. Firms will discount future productivity benefits because immediate results are valued more highly, and because of the risk that the worker may quit or be fired. It is thus likely that the firm will apply a high discount rate, or short pay-back period, to investments in worker skills. If the firm is a rational profit-maximiser, it will invest in skill development to the point where the cost equals the net present value of the increase in productivity. Assume a pay-back period of three years, for example. Then the firm would be willing to spend an amount approximately equal to 6% of the worker's wage in providing training for that person in their fourth year of employment. It would gain from this investment an increase in the worker's productivity of 2% per year for as long as the worker remained with the firm, and get its money back in three years. For a number of reasons, this will not be a precise estimate of the firm's investment in training. Nonetheless, if skills learned on the job are as important as the literature suggests, then we would expect to see a robust relation between experience, tenure and wages which can be used to infer the extent of investment in on-the-job training. It is this framework which is used in the estimates presented below. In this framework, the increase in skills can accrue from undertaking formal—external or internal—courses, or from informal learning on the job. However,

² The term 'experience' is used to mean the number of years that a person has spent (full-time equivalent) in paid employment, for any employer or even as self-employed. The term 'tenure' is used to mean the number of full-time equivalent years spent working for the current employer.

skills which result from undertaking a formally accredited course which leads to a qualification are not included, because the effects of accredited education are estimated separately.

Obviously the picture presented is broad-brush. It does not deal with the fact that the workers who get training are likely to be the ones who can benefit most. It is also impossible to determine how much of the growth in skills is paid for by the worker rather than by the employer. There is scope for a further, more nuanced, study of returns to training which follows this broad approach.

Empirical estimates

Data from the 1997 Survey of Education and Training are used to estimate the increase in wages associated with an additional year of general work experience on the one hand, and of employment with the current employer on the other hand.

The data used are from the unit record file and comprise 22 700 respondents in Australian households. The data include information about their employment and the extent and form of any education and training respondents had participated in over the previous year. Because the data are in unit record form, it is possible to conduct multiple regression analysis. For technical reasons the analysis is confined to people who worked full-time, and for whom their current employer was the one they mainly worked for during the year. This gave a total sample of 9386.

Abundant empirical work conducted by others tells us that wages vary systematically with a variety of worker and employer attributes. In the context of this project, it is necessary to isolate the rise in wages caused by an extra year of general work experience, or an extra year of tenure with current employer. Estimates of the rate of return to experience and to tenure will be biased if we do not control for these other influences, if they are correlated with the two variables of interest. Thus the independent influence on wages of the following are removed:

- ❖ sex
- ❖ education
- ❖ firm size
- ❖ occupation
- ❖ public or private sector
- ❖ industry
- ❖ union membership
- ❖ marital status
- ❖ permanent or casual employment status.

As noted above, the research is concerned with estimating the wage gains from each of an additional year of general work experience and an additional

year of tenure with the current employer. An additional year of tenure implies an additional year of experience, so the total gain from an extra year of tenure is the sum of the returns to experience and to tenure. Wages may rise for a variety of reasons, including general rises in inflation and in average productivity, and from incremental progression up an internal wage ladder. But the statistical techniques allow us to isolate the rises 'caused' by an additional year of experience and tenure from rises which accrue from other sources. For example, we ask, does a man with Year 12 as his highest formal education, who works for a firm which employs 50–99 people in the private sector, as an intermediate service worker, in business services, who is married and does not belong to a union and has a continuing job, earn more if he has more years of work experience than does another man who has the same characteristics, but has less work experience. If workers with more work experience do earn more in a systematic and statistically significant way, then we infer that this is because they are more productive. In turn, we infer that they have become more productive because of their growing capacity to do their job well, arising from what they have learned while working.

Table 2: Increase in weekly wage 'caused' by an additional year of experience and tenure among full-time workers, by industry, \$ per week, 1996

Industry	Number	Adj R2	Experience \$	Exp2 \$	Tenure \$
Total	9386	0.51	14	-.264	3.5
Community services	2036	0.49	12	-.230	3.7
Manufacturing	1766	0.45	14	-.264	4.0
Wholesale/retail	1474	0.51	13	-.227	2.8
Finance	1110	0.56	20	-.383	4.3
Public admin	827	0.59	13	-.230	3.5
Transport	556	0.34	13	-.240	6.9
Recreation	468	0.50	10	-.210	8.0
Construction	453	0.45	20	-.365	1.7
Communications	224	0.54	10	-.220	5.1
Mining	176	0.15	11*	-.228*	1.1
Agriculture	175	0.25	11	-.228	0.2*
Electricity etc.	121	0.34	16**	-.307**	5.2**

- Notes: 1 * means that the coefficient for experience or for tenure in the regression was not significantly different from zero at the 10% confidence level.
 2 ** means that the coefficient for experience or for tenure in the regression was significantly different from zero at the 5–10% confidence level.
 3 All other coefficients are significantly different from zero at the 5% confidence level.
 4 Adj R2 = the measure of the extent to which people's weekly wage is 'explained' by the independent variables (e.g. differences in their education, sex and age) used in the estimating equation.
 5 Exp2 \$ = the numbers of years a person is estimated to have been in the workforce, squared, with the increase in wages caused by an extra year of experience expressed as \$ per week.

Source: ABS Survey of Education and Training (1997)

Table 2 shows the results of the estimates of the wage gain arising from an additional year of experience and an additional year of tenure, holding constant the worker attributes described above. The results are presented only for full-

time workers, employed with their main period employer. They are given for the whole workforce and for the workforce of each major industry. The returns to on-the-job training are estimated separately for each industry, in the expectation that some industries provide more training than do others. This expectation is confirmed by the results.

In estimating the wage gain from another year of experience, a variable measuring the value of experience squared was included. This is to recognise that the gain from an additional year of experience falls as the level of experience rises. The average employee in the survey has about 19 years of work experience. For such a person, the increase in wages associated with an additional year of experience is only \$5 per week,³ compared with \$14 for a person new to the workforce. After 27 years of experience, the estimations show that additional years of employment cease to add to productivity.

We can infer from table 2 that, for the average worker, an additional year of work experience with their current employer will add \$8.50 to their weekly wage (\$5 for the general experience and \$3.50 for the extra tenure). Given the interpretation being placed on experience and tenure, this implies that their general productivity rises by an amount worth \$5 and their unique value to their employer rises by \$3.50. This further implies that learning worth this amount has occurred in the previous year.

Some industries contribute more to the development of general skills among their workers than do others. Table 2 suggests that the highest rates of general skill enhancement occur in finance, construction and electricity, gas and water. To illustrate: for the whole sample, a person who has the average level of experience, 19 years, earns \$171 per week more than an otherwise similar person with no experience.⁴ In the case of the finance industry, a person with 19 years of experience earns \$242 more than the novice. The comparable figure for construction is \$249.

The coefficients reported in table 2 imply that the wage gain from an additional year of experience depends on the current level of experience. In order to estimate the gain for the whole workforce of an additional year of experience, we must take account of the distribution of levels of experience across the workforce. Specifically, the gain from an additional year of experience is calculated for workers at each level of experience (up to 27 years), with zero imputed for higher levels. This annual gain is then multiplied by the number of people (full-time with main period employer) who have that level of experience. The sum of all the wage gains from experience in a year, across full-time workers employed with their main period employer, is \$1 111 872 900. In calculating this figure, we take account of the actual distribution of experience across the entire workforce. In order not to suggest that this figure is known with any precision, we call this \$1.1 billion.

³ This is calculated as follows: $19(14-.264*19)-18(14-.264*18)$.

⁴ A person with the average (19) years of experience earns $19(14-.264*19)$ dollar per week more than a person with no experience.

This figure does not reflect the whole of the gains from an additional year of employment, because it covers only a sub-set of the workforce. We must add in the gains to people who were employed part-time by their main period employer, and those who were employed, but not by their main period employer. There were 1.65 million part-time workers who had average weekly earnings of \$257 in 1996. Their annual gain from an additional year of experience is estimated to be about \$170 million. There were a further 1.47 million workers who, at the time of the survey, were not working for their main period employer, earning on average \$412 per week. Their gains from experience are estimated to be about \$200 million per annum.

From these estimates, the total increase in annual wages arising from an additional year of experience for the Australian workforce in 1996 was approximately \$1.47 billion dollars.

The returns to tenure have to be added to the returns to general experience to obtain a complete picture of the gain in wages (and by inference, in productivity) from an additional year of employment.

The total return to tenure is estimated to be approximately \$940 million.

The total gain in wages/productivity for the Australian workforce from an extra year of employment is thus the gain from general experience (\$1.47 billion) plus the gain from tenure (\$0.94 billion), for a total of \$2.41 billion.

The gain in general productivity will persist for each worker for the remainder of her or his working life (less any obsolescence). The gain in firm-specific productivity will persist for as long as the worker remains with her or his current employer. How much, then, is it worth employers (or workers or government) paying to obtain an ongoing increase in the productivity of the workforce of \$2.41 billion per annum? The answer to this depends crucially on the discount rate applied to the expected future flow of productivity. The social discount rate to apply to the value of general skills should match the general social discount rate. There are no special risks for the economy as a whole for this investment, provided that the workers remain employed.

Two discount rates are applied in order to illustrate the sensitivity of the figures to choice of discount rate. One is 6% and the other is 10%. This gives the following values for the net present value, to the whole economy, of the general experience (on the assumption that there is no obsolescence):

Discount rate (%)	Value (\$)
6	24.5 billion
10	14.7 billion

The returns to tenure need to be discounted more heavily, since they are lost when a worker changes employer. Again high and low discount rates are applied to obtain the following net present value of the gain from an extra year of tenure:

Discount rate (%)	Value (\$)
20	4.7 billion
30	3.1 billion

At a relatively low discount rate, the total net present value of the gain in wages/productivity from an extra year of work experience is therefore approximately \$29.2 billion. At a relatively high discount rate, the net present value is approximately \$17.8 billion. Respectively, these represent approximately 9 and 6% of the total wage and salary bill (of about \$300 billion in 1996). While we can argue over the precise numbers, it is clear that the value to the economy of the skills developed from working on the job is very high.

Employers' contribution

The growth in wages identified is clearly of benefit to the workforce. It is not itself, however, a benefit to the employer. Employers benefit only where the growth in productivity exceeds the growth in wages. It is accepted in the literature that this will occur for firm-specific skills (that is, the returns to tenure). It is also standard to argue that, in a competitive labour market, wage growth will match productivity growth, so there is no benefit to firms from general training. Thus a starting point is that firms will not pay for the provision of general skills, but will pay some, probably quite a large share of the costs of provision of firm-specific skills.⁵

The last point provides a lead into estimating the employer contribution to the costs of informal skills development. It is widely agreed among economists that employers will pay for a large share, although not all, of the development of firm-specific skills. The net present value of the investment in firm-specific skills (that is, the returns from an additional year of tenure) was estimated to be between \$3–4.7 billion. Profit-maximising firms would be willing to pay up to this amount in order to increase the productivity of their workers. However, empirical estimates of the share of the costs of firm-specific training firms are willing to bear do not appear to be readily available. Theory suggests that it will be high, but less than 100%. For the purposes of this research, a figure of 80% of the mid-point of the estimated range will be used. This gives an employer contribution to the development of firm-specific skills of \$3 billion for Australian employers in 1996.

While theory concludes that workers, rather than employers, will pay for the costs of general skills, a number of studies have concluded that this is not the whole story in practice. It is therefore justifiable to attribute some of the costs of the provision of general skills to employers. The total net present value of these skills acquired in a year came to between \$15 billion and \$25 billion, depending on the discount rate used. If we take the middle of this range, and suppose that employers pay for a bit less than half of the value of the skills developed,

⁵ These points are made in most labour economics text books.

then the employer contribution would be of the order of \$9 billion. Add to this the \$3 billion for development of firm-specific skills, and the total employer contribution to skills development amounts to about \$12 billion. To find the total employer contribution, the direct costs paid out by firms need to be added. These amounted to \$3.9 billion.⁶ This gives a total of \$15.9 billion, or about 5% of the wage bill.

This sum is much larger than the amount estimated by other means. But so too is our estimate of the total amount of training which occurs in Australia. Note that all of the extra value of training identified in the analysis arises from investments by firms and workers: no extra government contribution is involved.

Three main conclusions are drawn from this analysis.

- ❖ At roughly \$30 billion per annum, the estimate of the total investment in employment-based training in Australia is much larger than previously believed, and than is shown by surveys of training effort.
- ❖ The government share in this larger training effort is much smaller, and the share of employers and workers is much larger than previous estimates have concluded.
- ❖ The total value of the employer contribution is estimated to be in the order of 5% of the wage bill, or roughly \$16 billion in 1996.

Conclusion

The strength of the approach used in this paper is that it enables a quantification of a dimension of skills development which is undoubtedly large and important, yet is routinely ignored. The limitation of the approach is that it involves views about how the labour market works that are not beyond dispute. It has also been necessary to make judgements about how the costs of obtaining skills on the job are shared between workers and employers. For these reasons, it is appropriate to view these estimates as approximations, rather than as precise quantification. Where judgement has been required, the analysis has erred on the side of being conservative in valuing the employer contribution. Unless this approach is entirely rejected, it is clear that a great deal of skill enhancement does occur informally on the job. It is implausible to suppose that this learning is costless to employers: indeed, the subsidies given to firms to take on apprentices and trainees imply a belief that developing work skills on the job is costly to the employer. It is probable that employers (and workers) contribute much more to the costs of developing work skills than is revealed by conventional estimates. This estimate of an employer contribution of \$16 billion per annum is less than accurate. But I am confident that it is closer to the mark than is the conventional figure of \$4 billion. This approach to estimating the employer contribution to skills development in the workforce appears to offer a promising alternative to that currently used and would benefit from further refinement.

⁶ Here it is appropriate to exclude the costs of employee wages for time receiving training, since these will already be counted in the return-to-training estimates.

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Acknowledgements

I express my great appreciation for the excellent help that I have received from John Breckenridge of the National Institute of Labour Studies in writing this report.



The National Vocational Education and Training Research and Evaluation (NVETRE) Program is coordinated and managed by the National Centre for Vocational Education Research, on behalf of the Australian Government and state and territory governments, with funding provided through the Department of Education, Science and Training.

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