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Working in harmony: The links between the labour market and the education and training market in Australia

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In this paper we examine the linkage between tertiary education and the labour market in Australia. Tertiary education is, quite obviously, a very important element in shaping the size and character of current and future labour supply. The labour market, in turn, provides 'signals' back to the workforce about which skills are more or less valued by employers, and this informs people's choices on participation in tertiary education. The linkages in a highly developed country like Australia are manifold and well established, and it is not our intention here to merely describe them. Rather, our main interest is in exploring the degree of fit between tertiary education and the labour market in a period, such as Australia is presently experiencing, where there is both a rapid rise in tertiary education participation and attainment, and a fundamental restructuring of the labour market. Can the two be said to be working in harmony? To the extent that this is the case, which this paper argues is mostly true, what aspects of the linkages have enabled this to happen?

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I. Introduction

The contents of this paper are as follows. In the next section we describe the structure and size of tertiary education in Australia, including the scale of its growth over the past decade or so. In section III, the changing nature of the Australian labour market is described, with some discussion on the extent to which it can be characterised as consistent with a 'knowledge-based' economy. The two are then brought together in section IV where we examine the employment status of those holding tertiary qualifications, for both recent and less recent study leavers. This shows there to be good employment outcomes for those with tertiary qualifications. Most are employed at the skill level for which they have been trained, and they earn a high wage premium relative to those without tertiary qualifications. In section V a number of linkages between tertiary education and the labour market are put forward as factors contributing to this outcome. Section VI concludes.

II. The structure and size of tertiary education in Australia

Tertiary education in Australia is comprised of higher education and technical and vocational education and training (TVET). They are distinguished from one another by the institutions which provide the education, including how those institutions are regulated, and by the qualifications they are able to award.

Higher education providers are predominantly universities, but higher education courses can be offered by other education providers who meet the necessary registration and quality requirements. Technical and further education (TAFE) institutes are the main providers of TVET in Australia. There are fewer than 100 of these, though many are large with multiple campuses. In addition, there are several thousand other TVET providers, generally referred to as registered training organisations (RTOs), many of which are enterprises providing training for their workforce. TVET courses may be delivered as part of work-based training arrangements, such as an apprenticeship or traineeship, or may be undertaken as a course of study prior to employment in that field.

It is the level of the qualification awarded upon completion of the course, not the content of the course (noting, in particular, that many higher education courses, such as medicine and accounting, are vocational in intent) which determines whether it is a higher education or TVET offering. Higher education providers only are able to award bachelor degrees or postgraduate qualifications. Both higher education providers and registered training organisations are able to award diplomas and advanced diplomas, while only registered training organisations are able to award vocational certificates. Box 1 explains the structure of the Australian Qualifications Framework (AQF).

The demarcation between higher education and TVET is becoming increasingly blurred. For example, many of Australia's larger universities are 'dual sector', that is, they offer both higher education and TVET qualifications. There are also a number of TAFE institutes which offer degrees. Many students progress (or 'articulate') from a TVET qualification to a degree, and an increasing number are doing the reverse.

Box 1 The Australian Qualifications Framework

The Australian Qualifications Framework is a national and consistent set of qualifications issued for all post-compulsory education, ranging from senior secondary school certificates through to doctoral degrees. The framework is described in the table below. Introduced in 1995 and implemented over a five-year period, the framework is designed to recognise outcomes achieved in education and training in a consistent fashion. This promotes the development of flexible pathways by providing the basis for recognition of prior learning. The main emphasis of the Australian Qualifications Framework is on the provision of a flexible system allowing for articulated pathways between the sectors (Stanwick 2003).

Schools sector	TVET sector	Higher education sector
		Doctoral degree
		Master's degree
		Graduate diploma
		Graduate certificate
		Bachelor's degree
	Advanced diploma	Associate degree, advanced diploma
	Diploma	Diploma
Senior secondary certificate of education	Certificate IV	
	Certificate III	
	Certificate II	
	Certificate I	
	Statement of attainment (part qualification)	

Table 1 provides some statistics on the level of tertiary education participation and attainment in Australia from 1992 to 2002. As can be seen from this, participation has grown substantially, up by a third for higher education and close to two-thirds for TVET, well in excess of the 15 per cent rise in the adult population over that same time period. This is a continuation of a trend which began in the 1970s. It is not unreasonable to describe this change as the introduction of mass tertiary education in the space of a generation. A symbolic indicator of this is that more than half of the workforce now holds a tertiary qualification.

The number of Australians of working age with a tertiary qualification has risen from 4.83 million in 1992 to 6.23 million in 2002, a 29 per cent increase. The largest increase has been in the number with a higher education qualification, defined for this paper as a degree or higher, which more than doubled over the period. The numbers holding a TVET qualification (as their highest educational attainment) grew much more slowly, a five per cent increase, in part because many of those with a TVET qualification in 1992 subsequently completed a degree. Qualification completion, particularly in the TVET sector, indicates only part of the story of the growing skill level in the Australian workforce. Many people consciously undertake a sub-set of a TVET qualification in order to gain skills or boost their competencies in particular areas.

Table 1 Participation and attainment in Australian tertiary education, 1992–2002

	Participation		Highest educational attainment,[b] 15 to 64-year-olds	
	Higher education[a]	TVET	Higher education	TVET
	´000s	*´000s*	*´000s*	*´000s*
1992	525.3	1042.5	1112.2	3672.7
1993	538.5	1121.4	Na	Na
1994	544.9	1131.5	1348.4	3224.5
1995	558.0	1272.7	Na	Na
1996	580.9	1347.4	1541.3	3540.4
1997	595.9	1453.2	Na	Na
1998	599.7	1514.2	1764.7	3406.1
1999	603.2	1619.7	Na	Na
2000	599.9	1713.4	1986.4	3555.4
2001	649.7	1684.5	2174.0	3721.4
2002	711.6	1690.1	2301.0	3852.2
% change 1992–2002	35.5	62.1	106.7	4.9

Notes: a Domestic students only.

b For highest educational attainment a degree or higher is defined as higher education, while all other tertiary qualifications are defined as TVET. Note that a small amount of people with a tertiary qualification are not included, as it is unknown whether the qualification is higher education or TVET.

Sources: Higher education participation—Department of Education, Science and Training; TVET participation—NCVER; Attainment—Survey of Education and Work, Australian Bureau of Statistics.

III. The Australian labour market and its occupational structure

The Australian labour market, like most industrialised countries over recent times, is very different from what it was just a generation ago. The main features of this change are:

- rising participation rates of women (and, perhaps a corollary of this, declining participation rates of men)
- much greater heterogeneity in working-time arrangements, with those working a standard full-time week now constituting a minority of total employment
- an increase in the average age of labour market entry, a consequence of rising school retention rates and greater rates of participation in tertiary education
- a large decline in award protection and union membership, as labour markets have been de-regulated.

Underlying all these changes is the continued evolution of the economy from labour-intensive agrarian/commodity production, through labour-intensive Fordist manufacturing, to labour-intensive flexible service provision. More than three-quarters of Australian employees now work in service industries of one kind or another. This evolution has been observed by many commentators in the past, an early Australian example being *Sleepers wake!* (Jones 1982).

Over the past decade the Australian economy has grown strongly, with almost two million new jobs created since 1993 and the unemployment rate declining from around 11 per cent to around six per cent. As implied in the preceding discussion, the growth has been far from uniform. Table 2 illustrates this point by showing job growth across the major occupational categories.

Table 2 Occupational composition of Australian employees, 1993–2003

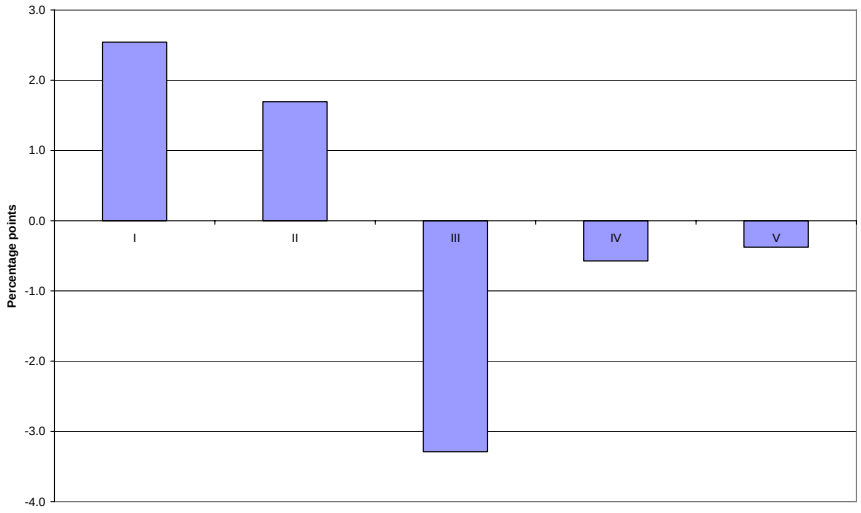
Occupational group	February 1993	February 2003	Net growth	Growth due to changing share
	´000s	*´000s*	*%*	*´000s*
Managers & administrators	362.9	491.5	35.4	18.2
Professionals	1069.4	1586.3	48.3	191.7
Associate professionals	641.2	976.2	52.2	140.0
Tradespersons & related workers	836.8	923.7	10.4	-167.6
Advanced clerical & service	326.5	321.5	-1.5	-104.3
Intermediate clerical, sales & service	1190.1	1571.9	32.1	19.9
Intermediate production & transport	600.9	716.4	19.2	-67.2
Elementary clerical, sales & service	625.7	906.6	44.9	90.6
Labourers and related	684.5	770.9	12.6	-121.8
All employees	6337.9	8265.0	30.4	0

Sources: Cully (1999); ABS (2003).

Employment has grown fastest of all for professionals, associate professionals and elementary clerical, sales and service workers, while the number of advanced clerical and service workers has fallen. The final column shows the employment growth that is over and above what would have occurred if the growth had been uniform across all occupational groups. For example, with the uniform increase of 30 per cent, the number of professional employees would have risen by 325 000, instead of, as it did, more than half a million. The difference, 191 700, is clear evidence of a substantial shift towards more professional employment.

The occupational classification used in table 2 incorporates an ordinal skill level classification made up of five skill levels. Each level is said to be commensurate with completion of various educational qualifications at different AQF levels. These are based on the skills required to do the job, not the skills held by people currently working in those jobs. Skill level I, the highest, is commensurate with a higher education qualification (or at least five years relevant experience), while skill levels II to IV are commensurate with different TVET qualifications. Using this skill level classification, figure 1 represents the data from table 2 to show the change in the percentage point share of employment at different skill levels. This very clearly illustrates that there has been a structural shift towards more highly skilled jobs, with an additional four jobs at the top two skill levels per 100 employees, such that they now constitute 37 per cent of all jobs in Australia. This has occurred largely at the expense of middle-ranking skill jobs, that is, tradespersons and related and advanced clerical and service jobs, with the share of less skilled jobs falling slightly.

Figure 1 Changing skill level of Australian employment, 1993–2003



Source: Derived from table 2.

What do these changes say about the shift towards a knowledge economy? There are several points which can be made here (see Cully 2002 for a more detailed discussion). The first is that the incorporation of knowledge as a factor of production cannot be seen as unambiguously good, or even benign, for workers. Consider the call centre, the archetypal new factory of the age. Employees have little discretion over their work, having to follow a predetermined script, which is where the knowledge is embedded; in other words, for some jobs at least, the introduction of new technology can be deskilling (Braverman 1974). Second, introduction of new knowledge technologies can be either labour-enhancing or labour-shedding. In some areas the new technology has allowed higher-quality service work to develop, for it to become 'professionalised' (for example, from payroll administration to human resource management). In others, it has rendered whole occupations obsolete (for example, telephone switchboard operators). Third, much of the recent growth in service work is low-skilled, and has been created by knowledge workers' demand for services which previously would have been provided within the household. Examples include cleaning, waiting and other food preparation services, and gardening.

Overall, opportunities in Australia have blossomed for professionals, but also for less-skilled service and support tasks, while they have lessened for skilled trades and for routine clerical jobs. There is good evidence that the playing-out of these forces has contributed to widening income inequality in Australia (Borland, Gregory & Sheehan 2001). The issue for this paper is whether there have been sufficient opportunities, and whether these have been of the right kind, for those undertaking tertiary education.

IV. How have tertiary graduates fared in the labour market in recent times?

The preceding two sections have identified some significant changes in both the acquired and the deployed skill of the Australian workforce. To reprise, the number of people with a higher education degree or better more than doubled between 1992 and 2002, rising by over a million Australians. Over the same period, around two million new jobs were created, with around a million of these new jobs going to managers, professionals and associate professionals. On the face of it, these aggregate numbers suggest the tertiary education sector and the labour market to be working in harmony. The purpose of this section is to unpack and partially test this claim.

In table 3 we compare the employment status of those with tertiary qualifications in 1992 and 2002. We restrict the comparison to 25 to 64-year-olds, as many 15 to 24-year-olds are in the midst of acquiring qualifications. The overwhelming point to arise from the comparison is the very high degree of persistence in employment status. The ability of the Australian labour market to absorb the new graduates, particularly the very substantial rise in higher education graduates, is remarkable.

Table 3 Employment status of Australians aged 25–64 years with tertiary qualifications, by gender, 1992 and 2002

	Higher education qualifications		TVET qualifications	
	1992 %	2002 %	1992 %	2002 %
Males				
Employed full-time	85	84	78	79
Employed part-time	6	7	5	7
Unemployed	4	3	8	4
Not in the labour force	5	7	9	10
All males	**100**	**100**	**100**	**100**
Females				
Employed full-time	57	53	37	38
Employed part-time	23	27	29	31
Unemployed	3	2	5	4
Not in the labour force	17	17	28	28
All females	**100**	**100**	**100**	**100**

Note: Qualifications based on highest educational attainment, with degree or higher defined as higher education, and all other non-school qualifications defined as TVET.

Source: Survey of Education and Work, Australian Bureau of Statistics.

For both men and women, there has been a slight shift from full-time to part-time employment and a slight reduction in unemployment (noting that in 1992 Australia was in the trough of a recession). For men only there has also been a slight shift out of the labour force, which is consistent with generally declining participation rates for men. Those with TVET qualifications improved their position somewhat, relative to those with higher education qualifications, although the more notable differences—the male/female employment differential and the corresponding share of women not in the labour force—are extremely persistent. Of course, because there are now many more women with higher education qualifications, the overall effect has been a rising level of female employment and participation in the labour market.

There are two deficiencies in table 3. The first is that the group of 25 to 64-year-olds with tertiary qualifications includes many people whose qualifications were acquired many years ago, which, therefore, may have little connection with their current employment status. We take account of this by examining the employment status of the most recent cohort of higher education and TVET graduates (based on annual 'destination' surveys of tertiary graduates) and comparing that with the group of 25 to 64-year-olds with tertiary qualifications. The results of this are shown in table 4.

Overall, recent study leavers fare less well in the labour market than people whose tertiary qualifications were acquired some time ago. This is especially the case for men. Employment rates of male study leavers with higher education qualifications are 17 percentage points lower than they are for 25 to 64-year-olds, while they are 11 percentage points lower for those with TVET qualifications. This is partly explained by study leavers going on to undertake further study. However, the percentage of unemployed is roughly three times higher for study leavers than it is for 25 to 64-year-olds for both higher education and TVET qualifications and for both men and women. These relatively poorer outcomes for recent study leavers may reflect the timing of the

destination surveys, undertaken for higher education in the April of the year following completion and for TVET graduates in May. It may be that some recent study leavers take a longer period of time than this to obtain work.

Table 4 Employment status of Australians with tertiary qualifications, by gender, 2002

	Higher education qualifications		TVET qualifications	
	Study leavers	25 to 64-year-olds	Study leavers	25 to 64-year-olds
	%	%	%	%
Males				
Employed full-time	60	84	60	79
Employed part-time	14	7	15	7
Unemployed	9	3	12	4
Not in the labour force	17	7	11	10
All males	**100**	**100**	**100**	**100**
Females				
Employed full-time	56	53	32	38
Employed part-time	23	27	35	31
Unemployed	7	2	14	4
Not in the labour force	14	17	16	28
All females	**100**	**100**	**100**	**100**

Note: Qualifications based on highest educational attainment, with degree or higher defined as higher education and all other non-school qualifications defined as TVET.

Sources: Higher education study leavers—Graduate Destination Survey; TVET study leavers—NCVER Student Outcomes Survey; 25 to 64-year-olds—Survey of Education and Work, Australian Bureau of Statistics.

The second deficiency with table 3 is that no regard is given to the kinds of jobs in which tertiary qualification holders are employed. This is shown in table 5, again for recent study leavers and 25 to 64-year-olds as a whole. This indicates that once employment status is taken into account, there is a high degree of correspondence in the occupational destinations of recent study leavers and the occupation in which people who gained their tertiary qualification some time ago are employed. Around three in five higher education graduates are employed as professionals, and around a quarter are employed as managers or associate professionals. TVET graduates are much more dispersed throughout the occupational structure than higher education graduates. Recent study leavers are somewhat less likely to be employed as managers and associate professionals, and are somewhat more likely to be employed as either intermediate or elementary clerical, sales and service workers.

Table 5 Occupational profile of employed Australians with tertiary qualifications, 2002

	Higher education		TVET	
	Study leavers	25 to 64-year-olds	Study leavers	25 to 64-year-olds
	%	%	%	%
Managers & administrators	10	12	4	8
Professionals	59	60	13	13
Associate professionals	14	12	10	15
Tradespersons & related workers	0	1	22	24
Advanced clerical & service	3	2	3	5
Intermediate clerical, sales & service	14[a]	8	24	16
Intermediate production & transport	1	1	4	8
Elementary clerical, sales & service	na[a]	2	11	5
Labourers and related	0	1	8	6
Total	**100**	**100**	**100**	**100**

Note: a The Graduate Destination Survey groups intermediate and elementary clerical, sales and service workers.

Sources: Higher education study leavers—Graduate Destination Survey; TVET study leavers—NCVER Student Outcomes Survey; 25–64 year olds—Survey of Education and Work, Australian Bureau of Statistics.

The final issue we touch on briefly in this section is the return to skill, as measured by the wage premium which accrues to tertiary qualification holders. This has been recently examined by Cully (2005) in a multivariate analysis of the 2001 Survey of Education and Training, a major quadrennial household survey conducted by the Australian Bureau of Statistics. Table 6 reproduces a table from the report. This shows the wage premium which accrues to an individual with a given level of educational attainment relative to the earnings of an individual who has not completed Year 12, controlling for a wide range of other contributing factors (such as age, experience, hours of work, industry and sector of employment, and so on). For example, men with a degree or higher qualification earn 43 per cent more than otherwise identical men who left school before completing Year 12.

These wage premiums are substantial for those with a higher education qualification, and are also high for those with a higher-level TVET qualification (that is, an advanced diploma or diploma or a certificate III or IV). On the other hand, those with lower-level TVET qualifications (that is, a certificate I or II) earn less of a wage premium than do those who have completed Year 12 and have no non-schooling qualifications.

Table 6 Wage premium attributed to completed education (per cent), 2001

Highest educational attainment	Men	Women
Degree or higher	43.2***	41.2***
Advanced diploma or diploma	28.3***	20.4***
Certificate III or IV	13.1***	7.6***
Certificate I or II	7.5***	4.8***
Year 12	13.8***	8.9***

Notes: The wage premium is the percentage difference in earnings of an individual with a given level of educational attainment relative to the earnings of an individual who has not completed Year 12, controlling for a wide range of other contributing factors.

*** indicates probability of a zero wage premium is less than 1%.

Source: Cully (2005) based on multivariate analysis of the 2001 Survey of Education and Training.

Taken together the analysis in this section suggests the following summary points.

- Those with tertiary qualifications have high employment rates.
- These employment rates have been very stable over a period of tremendous growth in tertiary education participation and attainment.
- Recent study leavers fare less well in gaining employment than those who gained their qualifications some time ago.
- The occupational destinations of recent study leavers has a high degree of correspondence with those who gained their qualifications some time ago.
- Substantial wage premiums are earned by those with tertiary qualifications, particularly those with higher education qualifications and higher-level TVET qualifications.

V. Factors promoting a better fit

The overall assessment from the preceding section must be that the acquired skill and deployed skill of the Australian workforce have been growing in concert over the past decade, with some caution attached to this statement as it applies to recent study leavers. One might naively attribute this generally positive outcome to the smooth operation of market forces, but given that tertiary education in Australia is predominantly funded and delivered by government and is also heavily regulated, it is worth investigating how government has facilitated this outcome.

A useful framework for thinking about this is provided by Wurzburg (1998) of the Organisation for Economic Co-operation and Development (OECD). He examines, from first principles, how to promote and finance an increase in lifelong learning. The two main conditions to meet are raising the rate of return to education and training and finding some way of overcoming capital market imperfections through financing investment on the basis of future benefits. He puts forward a number of suggestions on how governments might encourage these conditions to be met:

- improve the quality of education and training
- improve information available to individuals and employers about the nature and quality of education and training
- ensure that acquired skills and competencies are visible, portable and recognised
- ensure that the labour market is flexible
- ensure that the education and training market functions smoothly and consumers can exercise choice of provider
- institutionalise arrangements that allow education and training to be treated as a source of wealth.

All of these conditions have been the subject of considerable reform in Australia over the past decade or so, and would appear to be factors which have contributed to the rising demand and supply of skilled labour in Australia, documented in previous sections. We discuss the main features of these reforms below.

Quality assurance systems

The common bridge to quality assurance in tertiary education in Australia is the Australian Qualification Framework (described above in box 1). This helps to ensure that skills and competencies acquired in tertiary education are visible, portable and recognised. Outside that, there are different quality assurance arrangements in place for higher education and for TVET.

Quality in higher education has several aspects which involve a mixture of observing national protocols, institutional 'self-accrediting' and periodic audit of quality by an external agency. Together, these arrangements are known as the Higher Education Quality Assurance Framework.

The Australian Government, through the Department of Education, Science and Training (DEST) plays a key role in the quality assurance of higher education. It does this by monitoring and publishing performance data and, since 1998, requiring all triennially funded institutions to submit an Institutional Quality Assurance and Improvement Plan (DEST 2002).

The Australian Universities Quality Agency (AUQA) was established in March 2000 to audit the quality assurance arrangements in Australian universities on a five-yearly basis. It manages a program of periodic audits of the quality assurance arrangements of Australian universities, other self-accrediting institutions and state and territory higher education accreditation bodies. It does this by monitoring, reviewing, analysing and providing public reports on quality assurance arrangements in self-accrediting institutions, and on processes and procedures of state and territory higher education accreditation authorities, and on the impact of those processes on the quality of programs.

The Australian Universities Quality Agency does not impose an externally prescribed set of standards upon institutions, but rather uses, as its primary starting point for audit, each institution's own objectives and strategic plans. This approach recognises the institution's autonomy in setting its objectives and in implementing processes to achieve them. The core task of these audits is to consider the institution's performance against these objectives. In keeping with the Australian Universities Quality Agency's orientation towards quality improvement, the

process emphasises the importance of a critical self-review undertaken by the institution itself as a basis for the audit investigation (2004).

The Australian Quality Training Framework (AQTF) is a set of nationally agreed recognition arrangements (mutual recognition) and standards for the provision of quality TVET throughout Australia. The framework, which was fully implemented in June 2002, replaced what was known as the Australian Recognition Framework. These arrangements provide an emphasis on registering training organisations and the establishment of quality assurance procedures. The previous system accredited actual training courses, rather than the organisations that delivered them.

The Australian Quality Training Framework introduced clear and specific requirements for registered training organisations, improved auditing arrangements, and uniform standards and agreed processes for state and territory registering and course accrediting bodies.

Under this framework, registering bodies with Australian states and territories can register organisations for a period of up to five years to provide training and/or assessment services. These registered organisations can then issue nationally recognised qualifications in accordance with the Australian Qualifications Framework. As part of meeting these registration requirements, organisations must show that they comply, and can continue to comply, with standards set under the framework.

A review of the standards was conducted in 2004 (KPA Consulting 2004). The review found the standards to be a considerable improvement on their predecessors. Their strengths included removal of unethical training providers, increased assurance for clients and stakeholders through national consistency, improved attitudes to quality management and improved administrative and organisational practices for providers. However, there are a number of areas where action would be profitable. Notable is a view that a quality system must do more than focus on minimum standards. Hence, there is discussion on what is needed for continuous improvement and a suggestion that outcomes rather than inputs and processes need attention.

Career advisory services and labour market information

There is a broad range of career advisory services and labour market information available in Australia. This has increased in volume and utility over the past decade, especially with the advent of new information technologies. These include CD-ROM or internet-based computer techniques to assist career exploration and decision-making and call centre technology for telephone advice and counselling services (Sweet 2001).

The *Job Guide* is an Australian Government initiative provided to all Year 10 secondary school students and aims to help students select the most suitable career pathway with up-to-date information on occupations, as well as the qualifications and the steps required to pursue these careers. It also helps young people to prepare for job searching, with information about what government help is available and useful contact addresses.

A new government initiative generally aimed at young people is the *My Future* website. This provides information and descriptions for a large number of jobs, as well as information on training and qualifications, career development and work and employment. It allows users to build a resume online, search for information on occupations using a variety of techniques and is linked to a number of university and TAFE websites. Importantly, it incorporates data from the annual Graduate Destination Survey, so that prospective students can assess for themselves the likelihood of gaining employment, and the associated wage, upon completion of a particular course.

Handbooks and tertiary education guides are widely available and consulted by Year 12 secondary school students. They are produced by individual institutions, by government agencies and, in the

case of the *Good University Guide* by private publishers. OZJAC is another resource for detailed course and career planning information accessed through search options via a CD-ROM or the internet.

Most tertiary education institutes offer career guidance services as a part of their general counselling services. However, the OECD reports that these services tend to focus on providing assistance with study and choosing courses, rather than providing career guidance and information about career implications of course choices (OECD 2004).

There are also a variety of private sector agencies and organisations that offer career guidance and information to the general public, especially to job seekers. The number of job advertisements placed on internet search sites (such as <seek.com.au> and <careerone.com.au>) now outnumber by a factor of three or four the number of jobs advertised in newspapers.

Industry-designed curricula

One of the major reforms in the TVET system has been the introduction of 'training packages', designed to fundamentally alter how training is delivered. Training packages are the centerpiece of the system, which is intended to be industry-led. There are several important features of them to note.

First, training packages are national, with the idea of promoting portability of qualifications. Second, they are intended to specify the skills needed, rather than how they are to be taught or learnt. The third point is that they have been developed by industry. They are not curriculum documents, although there are associated materials providing training resources.

Their essence is the specification of competences. These competency standards are focused on the skills and knowledge required by employees to operate effectively in the workplace. Training packages are composed of units of competency, which can be combined to build a nationally recognised qualification. In keeping with the competency approach, training packages are industry- (or sometimes enterprise) specific. Once a training package has been developed, certain essential components of the packages are submitted for endorsement. These components comprise competency standards, Australian Qualifications Framework qualifications for a particular industry or enterprise, and assessment guidelines. Training packages can also contain other support materials describing assessment tools, learning strategies, and professional development resources. However, these components are not endorsed, and have no formal standing (Stanwick 2003).

Training packages have become the most important way of delivering training in Australia, but they are not the only way. In 2003 close to half of TVET students were doing training delivered through training packages, up from nine per cent in 1999 (Blythe 2003). Almost all apprenticeships and traineeships are now undertaken under the auspices of training packages.

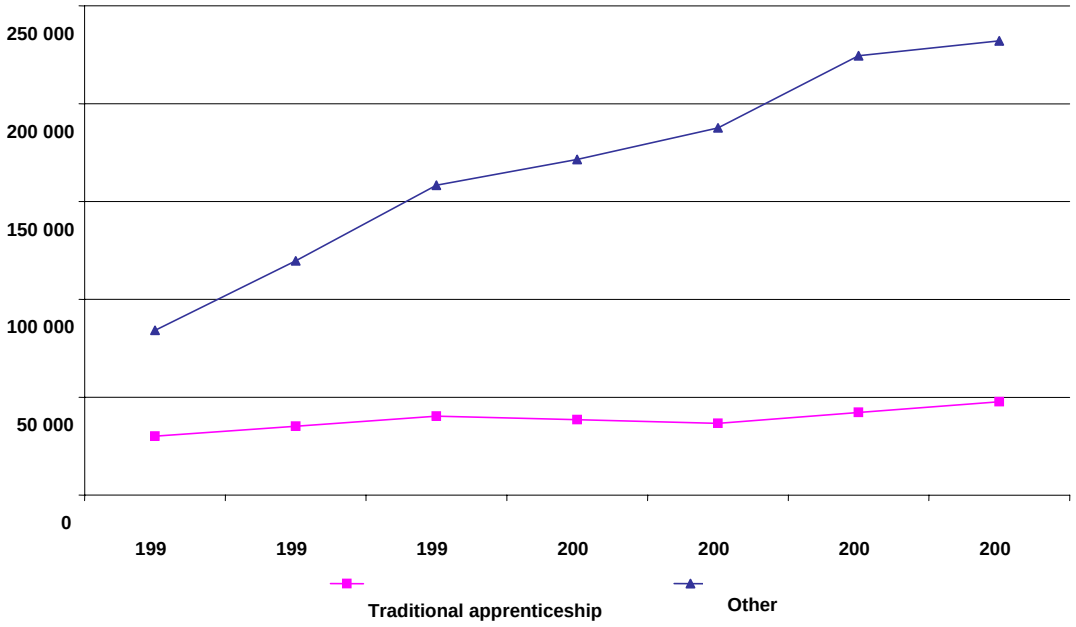
Expansion of work-based training arrangements

Another area where the Australian TVET sector has seen considerable reform is in work-based training arrangements. Under the New Apprenticeship system introduced in 1998 there has been remarkable growth as work-based training has been broadened to cover 'non-traditional' occupations and existing workers in addition to new entrants. Growth has been stimulated through the provision of incentive payments to employers to offset some of the costs of hiring apprentices and trainees.

Figure 2 shows the growth since 1997 of the number of commencements of 'traditional apprentices' (for example, butchers and bakers) and 'other' apprentices and trainees. While the number of traditional apprentices has seen modest growth, it is the other group that has grown spectacularly, as the reach of the system encompasses a broader range of occupations. Industries

such as retail, transport and distribution, and business services now have very large numbers of apprentices and trainees. Traditionally, apprenticeships and traineeships went only to young people and new entrants, but now existing workers can obtain an apprenticeship or traineeship, and there are large numbers of adults and older workers taking advantage of the system. In 2003, of the 280 000 commencements, over 80 000 were existing workers. This is reflected in the age profile, where, at the end of 2003, 45 per cent of apprentices and trainees were aged 25 years or more, including 13 per cent aged 45 years or more.

Figure 2 Annual apprenticeship and traineeship commencements, 1997–2003



Notes: Traditional apprentices are those undertaking training in a trades occupation towards a certificate III or higher qualification with an expected duration of at least two years.

Source: NCVER New Apprenticeship Collection.

The rapid growth in the system has raised a number of issues. Currently (2004), the Australian Government is reviewing aspects of the New Apprenticeship system, paying particular attention to the structure of the incentives to employers that have no doubt assisted the rapid growth in numbers. Other issues being considered include the conditions under which it is appropriate to allow existing workers to become apprentices or trainees, and quality issues in relation to apprenticeships and traineeships of shorter duration (traditional apprenticeships were three or four years, while some of the newer traineeships are only of one year duration), and those where there is very little off-the-job training.

Opening-up of the education market

One of the key reforms in the Australian education system has been the 'opening up' of the market to competition and a wider range of providers, including the emergence and growth of private registered training organisations (especially in the TVET sector). Another reform has been the ability of institutions to charge tuition fees for some programs and courses, with a consequent lesser reliance on direct government funding.

In higher education, much of the reform has been in relation to deregulation of the market and increased capacity for universities to generate non-government funding. Institutions can now offer full-fee-paying domestic student places within ranges set by the Australian Government, especially in courses and programs with significant unmet demand. These places are funded

directly through student fees, as opposed to the mix of government funding and part-student contributions made through the Higher Education Contribution Scheme (HECS). Universities are also expanding the number of graduate courses available on a full-fee-paying basis, especially graduate certificates and diplomas that address the specific needs of employers and or industry (Australian Vice-Chancellors Committee 2001)

To a more limited extent than has happened in the TVET sector, there has also been some growth of private higher education providers in Australia (such as Bond University and Melbourne University Private).

Reforms in TVET have seen the creation of a more market-based environment, in which public TAFE institutes and private providers are now required to compete for some of the total available government training dollars. The *Review of the training costs of award restructuring; Report of the Training Costs Review Committee* (known as the Deveson report) in 1990 was the catalyst for the development of a 'contestable training market'. After this review, governments in Australia increasingly opted for using market forces as a key method for achieving stated policy goals and agendas (Anderson 2004). Elements of this include:

- competitive tendering in selected training areas and programs
- user choice funding, whereby employers and employees determine the provider to whom government funds are distributed (essentially a de facto voucher system) for apprentice and trainee training
- fee-for-service activities and off-shore and export delivery of programs (Loveder 2003).

The opening-up of the training market has significantly changed the way publicly funded institutions operate, as they are now required to be competitive in terms of both price and quality. The reforms have fundamentally changed the orientation of providers of training away from education and training towards providing a business service. Australia over the last decade has drawn heavily on the proposition that there is a market for training and that government should increasingly play the role of training purchaser rather than training provider (Peddle 1999).

This has been aided by and prompted the expansion of the private training sector in Australia. In Australia there are now approximately 6000 private registered training organisations offering a myriad of training and assessment services. Of these, approximately 1400 are in receipt of some public funds.

Income contingent loans

The Higher Education Contribution Scheme was introduced in 1989. It is a way of ensuring that students contribute to the cost of their higher education, which between 1973 and 1986 was free of charge to students. The scheme is based on the premise that students who directly benefit from higher education should pay part of the cost of their studies, while the Australian Government pays the major part of the costs involved. The scheme provides a loan to students that is indexed to maintain its real value but is otherwise interest-free, with deferred repayment contingent on students' income reaching a certain level. The deferred payment arrangements mean that students are not prevented from participating in higher education if they are unable to pay the contribution up front.

The current fee ranges from $3800 to $6300 per annum for enrolment in a bachelor degree course (depending upon the content of the course, with medicine and law courses costing the most). This is estimated to cover close to 30 per cent of all higher education recurrent costs (Chapman & Ryan 2002). Students currently commence repayment when their earnings reach $35 000 per annum, around three-quarters of average weekly earnings for full-time adult employees. There are now parallel schemes in place for meeting the tuition fees of postgraduate students.

From time to time some have advocated the introduction of a similar scheme for TVET, but governments have not shown much interest in this path. As it is, student contributions to the cost of TVET are relatively low, with student fees and charges generally falling under $1000 per year for a full-time course; many students obtain exemptions or discounts if they meet certain criteria relating to social disadvantage (Watson 2003).

VI. Conclusion

The basic argument of this paper is that the Australian economy has, over the past decade, clearly shifted up a gear, with a sustained surge in productivity growth. The preconditions for this were laid in the 1980s with the creation of a more flexible labour market and the opening-up of the economy. During the 1990s there was widespread diffusion of information and communication technologies across all industries, which have had, in many cases, quite fundamental implications for how work is organised. This has prompted a substantial increase in the demand for skilled labour, particularly for qualified professionals and associate professionals. That demand has called for a substantial increase in tertiary education participation and attainment. The confidence with which people decide to participate in tertiary education is driven by an expectation that the skills they acquire will be deployed. For most people in the past decade that confidence has proven to be well-founded.

Australian governments have been able to encourage this virtuous circle through a range of reforms which have improved the value of qualifications by improving choice and better assuring their quality and relevance, enabling better labour market matching through improved information on career pathways and outcomes, and encouraging a greater investment in skill acquisition through a mix of subsidies and new financing mechanisms.

In higher education, the main factors have been enhanced information on labour market prospects, greater diversity of course offerings as the curricula has become more industry-relevant, and the introduction of a co-financing mechanism which has enabled the costs of a rapidly growing student intake to be met.

In TVET, the main factors have been the creation of a competitive market for training providers in combination with the so-called 'three pillars' of quality assurance; namely, the qualifications framework, the system for accrediting registered training organisations, and the introduction of training packages. The effect of this has been to make the offerings of the TVET sector more relevant to industry, and of more value to those individuals undergoing training (with some doubt, however, about the value of lower-level TVET qualifications).

The general conclusion, therefore, is that the labour market and the education and training market in Australia are working in harmony. To be sure, there are many areas where further improvements are desirable, such as resolving the current high level of labour shortages in the skilled trades, but in the broad the two markets are moving very much in tandem. Looking forward, the most likely area where there will be contentious issues is how to finance a continued increase in skill acquisition, in particular resolving what should be the respective contributions of government, employers and individuals.

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