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Education

National Board of Employment, Education and Training

Post-compulsory Education
and Training:

Fitting the Need

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National Board of Employment, Education and Training

Post-compulsory Education and Training

Fitting the Need

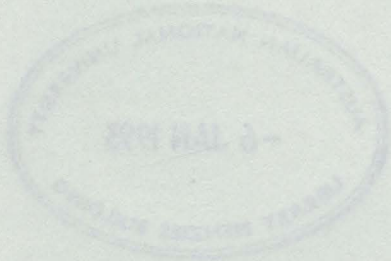


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**NATIONAL BOARD OF
EMPLOYMENT, EDUCATION AND TRAINING**

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CHAIR: Peter Laver

The Hon Kim C Beazley MP
Minister for Employment,
Education and Training
Parliament House
CANBERRA ACT 2600

Dear Minister

In July 1991 your predecessor, the Hon John Dawkins MP, asked the Board to provide advice on matters including:

- quantification and analysis of participation trends in education and training;
- advice on funding requirements for the education and training system; and
- identification of possible flexibility in the allocation of resources.

Shortly afterwards the Finn Report was released, recommending national targets for participation and attainment in post-compulsory education and training. Following AEC/MOVEET Ministers' decisions on the Finn Committee recommendations, Mr Dawkins gave a revised reference to the Board in November 1991 seeking advice on:

- the appropriate balance of growth between the education and training sectors that is required to achieve the new agreed national targets for post-compulsory education and training.

I am pleased to provide the advice of the Board on these matters and to draw your attention to the main findings in this advice.

It is the Board's view that the setting of targets in post-compulsory education and training and the allocation of resources on a sectoral basis to achieve those targets do not provide a sufficiently responsive or reliable mechanism for long-term planning in the allocation of growth. Continuing to lock growth funds into the bases of the sectors is likely to reduce flexibility and the ability to respond quickly to Australia's changing needs. It would also tend to reinforce sectoral boundaries and the defence of those boundaries, to the detriment of cooperation and collaboration in the sharing of resources. Leaving the issue to be settled by student choice is unrealistic; until there is a marked change in the way in which TAFE is perceived in the community, student choice would result in an even larger higher education sector. There are few who argue that this would be desirable; with many commentators taking the line that TAFE would be a more suitable first option for a number of students, with the possibility of later transfer to higher education should their life choices or careers require it.

Rather than directing growth towards targets and sectors, the Board argues that a more responsive, efficient and effective system would be achieved if growth were directed towards programs, not sector(s), and committed only in the short to medium term. Sectors either alone or jointly should be able to bid for the growth funds to deliver the targeted programs within a total budget provision. Once the programs had been delivered, the option would exist to reallocate that component of the budget to other programs to meet other needs.

The Board makes it clear in this advice that its proposed process of bidding for growth funds should not be fully implemented until the new base for TAFE, arising from the Commonwealth allocation of \$720 million to vocational education and training for 1993-95, has been achieved.

In a world which is changing so rapidly, it is essential that Australia's post-compulsory education and training system is able to repond readily to needs as they emerge, whether they be national priorities, industry or labour market needs or student needs. The Board believes that the mechanism proposed in its advice would provide this responsiveness using a proportion of the total funds available for education and training.

The Board presents in its advice an outline of how such a system might work. More detailed consideration of how it might be implemented is beyond the scope of this advice. Whatever method is proposed to consider the implementation aspects of this advice, the Board would strongly urge that further consultation with interest groups be an integral part of this process and that the Board itself be closely involved.

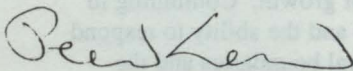
Achieving the national targets agreed to by AEC/MOVEET Ministers will require substantial growth and resources. The Board provides some estimates of this growth and the costs involved, based on the work of the consultant to this project, Associate Professor Gerald Burke. Options for financing the growth have been suggested, including greater contributions by government, business and industry, and students. The Board recommends that these options should be the subject of further study and discussion.

In conclusion, on behalf of the Board, I commend to you its advice, "Post-compulsory Education and Training: Fitting the Need", in response to the references on the allocation of growth in post-compulsory education and training.

In view of Mr Baldwin's responsibilities for higher education, I am sending him a copy of this letter.

I draw your attention to the provisions of the *Employment, Education and Training Act 1988*, for advice on formal references to be tabled in both Houses of Parliament as soon as practicable.

Yours sincerely



Peter Laver

2 November 1992

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Preface

The terms of reference which the National Board of Employment, Education and Training is required to address in this advice are set out in the Minister's letter to the Board dated 8 November 1991. A copy of this letter is provided at Appendix A.

To begin with, the Board was asked to provide advice on matters including:

- quantification and analysis of participation trends in education and training;
- advice on funding requirements for the education and training system; and
- identification of possible flexibility in the allocation of resources.

In attempting to address the first two of these, the Board commissioned a consultant, Associate Professor Gerald Burke from Monash University, to analyse trends and develop projections for participation and funding in the education and training system. Much of this work has already been published by the Board in *Education, Training and Employment Programs, Australia, 1970-2001: Funding and Participation* (Commissioned Report No. 11, January 1992). Further work by Associate Professor Burke concerning these issues is included in Chapter 2 and Appendix E of this advice.

On the question of flexibility in the allocation of resources, the Board discussed this issue in *Post-compulsory Education and Training: Balance of Growth*, released in April 1992 (see Appendix D). In this Paper, the Board expressed the view that increasing funding commitments for education and training programs, particularly at the Commonwealth level, have left very little room for flexibility in the allocation (or reallocation) of existing resources for education and training. It is in the allocation of resources for growth that the Board sees greater opportunity for flexibility. A key focus of this advice therefore explores ways to maximise flexibility in the allocation of growth across the post-compulsory education and training system for the short to medium term future and beyond.

In his letter of 8 November 1991, the Minister gave the Board additional terms of reference, which arose out of the Finn Committee recommendations in the Report of the Australian Education Council Review Committee, *Young People's Participation in Post-compulsory Education and Training*, (July 1991). These terms of reference required the Board to advise on the appropriate balance of growth between the education and training sectors required to achieve the national targets for post-compulsory education and training, as proposed by the Finn Committee and agreed to by Australian education and training Ministers. The Board was also to have regard to:

- the purpose and functions of the sectors;
- appropriate adult participation in education and training and attainment of higher level qualifications;
- relevant government policies on the roles of the sectors;
- student demand, the overall composition of skills and qualifications in the society and the capacity of these to be used effectively by the labour market; and
- the work of the Finn Committee.

In this advice, the Board has put forward a mechanism for allocating growth which takes into account the main functions of the various education and training sectors, but which places more emphasis on educational programs rather than on the sector or sectors providing the programs (see Chapter 3).

The work by Associate Professor Gerald Burke demonstrates the difficulties inherent in setting targets for educational attainment, dependent as they are on best judgements and assumptions as to likely future events, such as changes in the economy. However, some comparisons are provided of current levels of educational attainment with future projections, for younger and older age groups (see Chapter 2 and Appendix E).

In considering the capacity of the labour market to use effectively the skills and qualifications in the society, the Board has relied to some extent on the findings contained in *Australia's Workforce in the Year 2001* (Department of Employment, Education and Training (DEET) 1991), which is the most comprehensive recent work available on this issue. The report highlights the difficulties and uncertainties in labour market analysis and provides the following comment on future requirements for qualified workers.

Changes in the size and structure of the workforce mean that substantially more persons with degrees and other post-secondary qualifications will be required. The rapid expansion of the qualified workforce, however, will far exceed this requirement. This should result in a deepening of the skill base . . . There is a risk that if employers do not make productive use of these newly qualified persons, the result will be credentialism. (p. 6)

While *Workforce 2001* casts some doubt on the ability of the labour market to use a growth in qualifications and skills effectively, there seems little doubt that, since the study, developments in award restructuring and the eventual implementation of the recommendations in the Employment and Skills Formation Council's Report (Carmichael Report), *The Australian Vocational Certificate Training System* (1992), will lead to increased demand for skills and qualifications. In this advice, the Board refers to some preliminary estimates of this increased demand (see Chapters 2, 3 and 5), and has borne in mind the implications of the Carmichael Report.

Consultation Process

In his letter of 8 November 1991, the Minister also asked the Board to 'consult with all interested parties in preparing its advice'. As mentioned above, in April 1992, the Board prepared and distributed a Discussion Paper, *Post-Compulsory Education and Training: Balance of Growth*, to provide a focus for submissions by the public and for consultations with interest groups (see Appendix D). Responses to particular questions and issues raised in the Discussion Paper were most helpful in the formulation of the basic principles underlying this advice.

Between April and June 1992, the Board invited submissions and conducted consultations in all capital cities with various individuals and representatives of organisations. Thirty-six submissions were received by the Board and consultations were held with almost sixty organisations or interest groups. Lists of the organisations lodging submissions and of those groups taking part in the consultations are provided at

Appendices B and C respectively. Finally, to complete its consultations, the Board provided its preliminary views, as a draft, to a large number of individuals and organisations. Their responses have been noted and taken into consideration by the Board where appropriate.

As in any such work, the quality of the final advice to the Minister is closely correlated with the quality of the input given to those developing it; this advice is no exception to the general rule, although the extent of polarisation on some of the issues touched upon was a little surprising. The Board thanks those who took the trouble to prepare for the consultations with its representatives and to write to it in order to bring their various views to its attention.

The Board was also assisted in its work by the AEC/MOVEET Working Party on the Review of the Balance of Cross-Sectoral Growth, which was established specifically for that purpose by the Australian Education Council (AEC) and the Ministers for Vocational Education, Employment and Training (MOVEET). Members of the AEC/MOVEET Working Party met with representatives of the Board on 19 March 1992 in Adelaide and members or their nominees attended a meeting in Canberra on 5 August 1992 to discuss the outline of the advice and to provide further input into its preparation. The Board expresses its appreciation for these contributions too.

In anything as complex as an education and training system, especially one spanning three sectors, thousands of subjects and awards, and involving many thousands of people, there will be much to praise and parts to criticise. There are, of course, many committed people trying to make their particular sector better and to fit more closely to the needs of modern Australia. The energy of these people is admired, and the movement they have engineered in sectors perhaps not traditionally noted for their capacity or readiness to change is to be applauded.

Any review such as this one will seek to accelerate change for the better. The report therefore inevitably highlights where the Board believes improvements could be made. No member of the Board is unaware of the many problems confronted, and of the many solved, by the education and training sectors in recent times; but, all are fully aware that we as a nation, and they as a system, still have a way to go. This advice, the Board's advice, is formulated with all that in mind.

Introduction

In July 1991 the Board received from the then Minister for Employment, Education and Training, the Hon J S Dawkins MP, a reference on portfolio resourcing. The Board was asked to provide advice on matters including:

- quantification and analysis of participation trends in education and training;
- advice on funding requirements for the education and training system; and
- identification of possible flexibility in the allocation of resources.

Shortly afterwards, the Report of the Australian Education Council Review Committee on *Young People's Participation in Post-compulsory Education and Training*, the Finn Report, was released. This Report recommended the establishment of new national targets of participation and attainment in post-compulsory education and training. In summary, these targets required that by the year 2001, 95 per cent of 19-year-olds should have completed Year 12 or an initial post-school qualification or be participating in education or training. These targets are discussed in more detail in Chapter 2 and Appendix E of this advice.

In view of the significant implications of the Finn Review recommendations for sectoral planning, the Minister gave a revised reference to the Board in November 1991 seeking advice on the appropriate balance of growth between the education and training sectors required to achieve the new agreed national targets for post-compulsory education and training. A copy of the Ministerial reference is at Appendix A.

Labour Market Programs

In a letter to the Minister concerning the anticipated revised reference, the Board noted that the resourcing of labour market programs and services was covered to only a limited degree by the terms of the reference. The Board agreed that while the resourcing of labour market programs was an important issue, these programs needed to be considered separately from other post-compulsory education and training programs, since they were driven by different requirements. The issue of the resourcing of labour market programs was therefore considered to fall outside the scope of the revised reference. However, in considering the post-Finn resource needs of the TAFE/training sector, account would need to be taken of the substantial increases in resource commitments flowing from the enhancements to labour market programs announced in the Federal Government Statements of March and November 1991 and February 1992, in the 1991-92 Budget and particularly in the 1992-93 Budget.

Funding of Education and Training Programs

In view of the substantial levels of growth needed to achieve the new national targets, the source of funding for the expanded education and training sectors was one of the main issues on which the Board sought comment from individuals and organisations through the consultations and submissions.

The major source of funding for education and training programs in Australia is currently the public sector. It is reasonable to expect that this assumption by the public sector of the bulk of responsibility will continue, although, as pointed out by the Finn Committee, contributions from other sources, such as individuals, industry, entrepreneurial activity and greater efficiency, could be expected to increase in the future; the balance may change. As will be discussed in later sections of this advice, there was general agreement that individuals and employers should be expected to make a greater contribution to the cost of education and training.

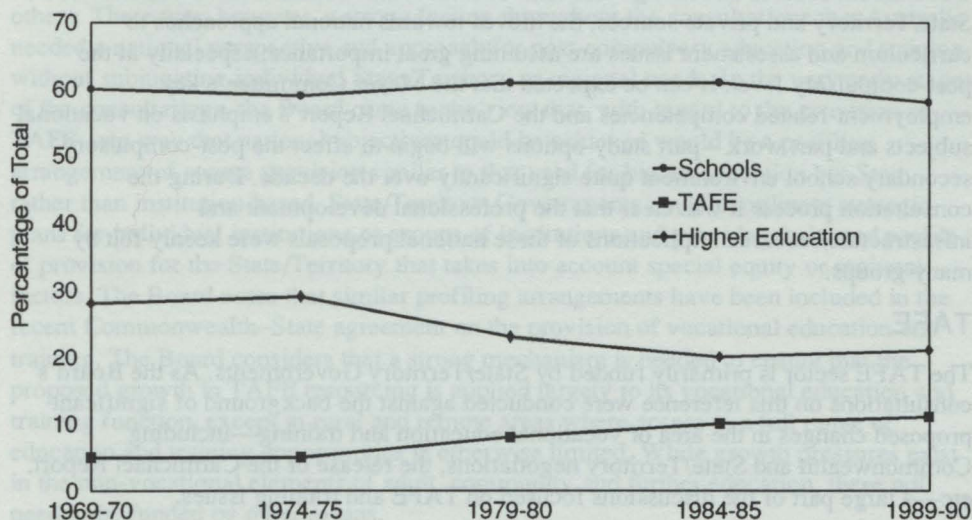
In a study commissioned by the Board, *Resource Allocation in Education, Training and Employment Programs, 1970–2001 (Commissioned Report No. 11)*, completed in September 1991, Associate Professor Gerald Burke draws attention to the following trends in funding:

- real government outlays on education and training have grown at the rate of 2 per cent per annum for the last fifteen years, but have declined substantially as a percentage of Gross Domestic Product (GDP), because education cost levels (largely salary costs) increased at a slower rate than general cost levels and because of a faster rate of growth in the GDP in the late 1980s;
- capital expenditure on education and training has fallen substantially, from one per cent of GDP in 1974–75 to 0.35 per cent in 1989–90, with a sharp decline in capital funds for higher education in the late 1970s and an expansion in TAFE into the early 1980s;
- there have been shifts in funding between sectors (see Figure 1)
 - the share of government outlays on education devoted to TAFE rose in the late 1970s and early 1980s, then stayed relatively constant,
 - the rise in the share of outlays going to TAFE paralleled a decline in the share going to higher education,
 - there was a rise in the share of outlays to non-government schools relative to government schools in the 1980s,
 - the proportion of outlays spent on higher education has fallen from a relatively high level in the early to mid 1970s but has remained at about the same level over the last decade, and
 - there was very substantial real growth in student income support in the late 1980s;
- private expenditure on education, excluding that on non-government schools, has grown slowly from a small base over the last fifteen years
 - as pointed out by Dr Martin Hayden in his recent study commissioned by the Board, *Accountability for Public Expenditure on Education within the Context of Federal Systems of Government: A Review of the Literature (Commissioned Report No. 11)*, private funding of education outlays in Australia is low (7 per cent) compared to the USA (26 per cent) but comparable to other OECD countries such as Canada (8 per cent) and (West) Germany (4 per cent); and

- the Commonwealth Government provides a high proportion of public funding for education, with its proportion in 1989-90 (38 per cent) nearly double that in 1969-70 (21 per cent), indicating a shift from State Government funding.

The proportion of GDP currently allocated to education is about 5 per cent. As discussed in Chapter 6 of this advice, this proportion declined in the 1980s. If the agreed national targets for education participation and attainment are to be achieved, expenditure on education and training programs will need to grow significantly in the next decade. The Finn Committee projected recurrent outlays to grow by 16 per cent in the 1990s, a large increase though less than the projected growth in the GDP, which could exceed 30 per cent.

Figure 1 Distribution of Government Outlays on Education, Australia, 1969-70 to 1989-90



Source: ABS (5510.0 and unpublished data).
Based on a table first published in NBEET Commissioned Report No. 11, *Education, Training and Employment Programs, Australia, 1970-2001: Funding and Participation*, p.31.

Notes: For consistency with earlier years the imputed student liability for HECS and payment of HECS through the tax system is excluded from this table. Government outlays include grants to non-government institutions and student financial assistance, as well as final expenditures by all levels of government.

Some Issues Arising from Consultations

Need for Growth

During its consultations on this reference, the Board found no disagreement with the notion that Australia needed to improve its economic performance and international competitiveness; that it needed a more highly trained workforce at the professional and para-professional levels. There was no significant disagreement with the Finn targets, or the Carmichael targets later endorsed by the Board, set for participation and attainment in post-compulsory education and training. There was concern, however, about *how* they would be achieved.

Schools

While government schools are overwhelmingly funded from State/Territory Government sources and non-government schools receive funds from Commonwealth, State/Territory and private sources, the moves towards national approaches to curriculum and assessment issues are assuming great importance, especially at the post-compulsory level. It can be expected that the Mayer Committee's key employment-related competencies and the Carmichael Report's emphasis on vocational subjects and part work – part study options will begin to affect the post-compulsory secondary school environment quite significantly over the decade. During the consultation process it was clear that the professional development and infrastructure/resource implications of these national proposals were keenly felt by many groups.

TAFE

The TAFE sector is primarily funded by State/Territory Governments. As the Board's consultations on this reference were conducted against the background of significant proposed changes in the area of vocational education and training—including Commonwealth and State/Territory negotiations, the release of the Carmichael Report, etc—a large part of the discussions focused on TAFE and training issues.

Some concern was expressed during the consultations about the present capacity of the TAFE systems to deliver the education and training to meet Australia's needs, both in terms of the kinds of programs needed and accommodating the growth they would require. Others argued that any mismatch between TAFE's programs and current needs is mainly due to industry's tardiness in articulating those needs and that demand from some industries continues to be along traditional lines recognised as outdated by TAFE teachers and by the sector. However, on the basis of the consultations and submissions, the Board could only conclude that there is room for improvement in overall strategic planning in some TAFE systems at least. Not all of the State/Territory systems seemed to have a clear vision of how the proposed significant growth in TAFE funding would be deployed in its system to meet Australia's needs for increased vocational education and training. In some cases, it was difficult to obtain a clear picture of how the additional TAFE funds allocated by the Commonwealth Government for 1992 had been or were being used.

Reliable data on what students actually do, at what level and with what success, goes hand-in-hand with adequate planning. The Board appreciates that the TAFE systems have been somewhat handicapped in this regard by the need for improvement in the quality and consistency of TAFE data collections. The Board therefore welcomes the significant program of reform in these statistics now being implemented by the Vocational Education, Employment and Training Advisory Committee's Committee on TAFE and Training Statistics (COTTS), which is expected to make a major contribution to TAFE management systems by the mid 1990s. These reforms are particularly necessary to ensure proper planning and management of the significant increases in growth proposed in the TAFE sector.

Towards a National System

During the consultations, each State/Territory argued its own special case: the need to take into account particular geographic, demographic, historical or economic circumstances which operated to the disadvantage of that State/Territory in relation to others. There was, however, a strong feeling throughout the consultations that Australia needed a national perspective and approach for post-compulsory education and training, without subjugating individual State/Territory or regional needs. In the very early stages of the consultations, the Board came to the view that, with regard to the provision of TAFE, one way that national objectives could be achieved would be a profiling arrangement of course provision similar to that used for higher education but State rather than institution based. State/Territory Governments could coordinate strategic plans for individual institutions or groups of institutions and provide a balanced profile of provision for the State/Territory that takes into account special equity or regional factors. The Board notes that similar profiling arrangements have been included in the recent Commonwealth-State agreement on the provision of vocational education and training. The Board considers that a strong mechanism is needed to ensure that the proposed growth in TAFE resourcing is applied largely to its vocational education and training function, except in rural and remote areas where access to a full range of education and training opportunities is otherwise limited. While growth pressures exist in the non-vocational elements of adult, community and further education, these will need to be funded by other means.

Coordination of TAFE profiles with higher education profiles within each State, or even reasonable awareness of what the other sector was actually doing, would minimise duplication and assist in building centres of excellence in specific disciplines, focused on particular higher education institutions or TAFE colleges, or a mix of each networked within a local area. In order for this coordination to occur, the difference in the process of preparing these profiles needs to be recognised and addressed. TAFE college profiles will be influenced by the Australian National Training Authority (ANTA), State Training Authorities and State priorities. University profiles are negotiated with the Commonwealth Government.

The Board also supports the strong arguments put forward for rolling triennial funding for TAFE, another issue which has been raised in the context of the Commonwealth and State agreement on vocational education and training.

Higher Education

The respective roles of the Commonwealth and the States in the higher education sector was the subject of a report last year to the Australian Education Council. It is agreed that the higher education system in Australia is a national system, with the Commonwealth playing the major role in policy development and funding. The States contribute to the policies through bilateral Joint Planning Committees with the Commonwealth, and multi-laterally through the joint working group set up by the Australian Education Council reporting through the Higher Education Council to the Commonwealth Minister.

After the changes introduced in 1988, the higher education system responds to priorities by means of a negotiated educational profile. A statistical base has also been developed and, while not without imperfections in coverage and accuracy, is useful in giving both a broad overview and in some areas a detailed knowledge of activity.

The higher education sector was seen by some contributors to the present process as aloof and even seemingly unaware of the changes occurring around it. Whether or not this is accurate, the general responsiveness of the sector was questioned, but not its obvious importance in the overall education and training system, particularly as it applies to vocational education. It is known, but sometimes overlooked, that enrolments in higher education are overwhelmingly focused in courses that lead to particular vocations—albeit mostly at the professional level.

Estimating Required Growth

To estimate required growth in post-compulsory education is to assume that:

- good data are available on the current position and recent trends;
- a policy position is available on what would constitute politically, socially and economically acceptable rates of growth; and
- outcome targets for sub-populations including age cohorts and areas of skill/expertise in which growth is to be achieved, can be generated.

Targets

The terms of reference for the review ask the Board to estimate required growth and its cost on the basis of the Finn Committee targets. There have, in addition, been several attempts since the report of the Finn Committee which try to estimate required growth and establish targets. They are largely refinements of, or developments from, the Finn Committee.

The Finn Committee concentrated upon 15–19-year-olds, choosing as realistic and necessary a target of 95 per cent of 19-year-olds who, by the year 2001, would have completed Year 12 or an initial post-school qualification, or be participating in formally recognised education or training.

The Committee derived this target from other specific targets:

- likely post-compulsory choices by 18-year-olds for 1995;
- likely post-compulsory choices by 20-year-olds for 2001; and
- at least a vocational certificate (Level 3) [Australian Standards Framework] or progress toward a vocational qualification above Level 3 or a diploma or degree for at least 50 per cent of 22-year-olds by 2001.

The Finn Committee completion/participation *target* for 19-year-olds (that is, persons who have completed or are participating) lead to an educational participation *rate* of about 85 per cent of 15–19-year-olds (compared with 69 per cent in 1991).

The participation rates developed by the Finn Committee involved a number of assumptions, including:

- higher education intakes would be capped at 30 per cent of the age cohort, with constant age entry rates for non school leaver entrants and with school leaver entry rising from 24 per cent in 1990;
- school enrolments would be based on an apparent retention rate of 80 per cent to Year 12 (the real rate being about 2 per cent lower when migration, overseas students and repeat grades are taken into account);
- age participation rates for students aged 20 and over in TAFE would increase by 1 per cent per annum;
- the number of 15–19-year-olds in the population in 2001 would be about the same as in 1991; and

- government recurrent expenditure would grow in line with enrolments in school and higher education, but marginally faster in TAFE because of a slight increase in contact hours per student.

The resulting projections showed a growth in total enrolments in all levels of education over the decade 1992–2001 of about 16 per cent, including:

- 34 per cent growth in total TAFE enrolments (including 55 per cent in the 15–19-year-old group);
- 18 per cent growth in higher education; and
- 12 per cent growth in schools.

The subsequent Ramsey Report (1991) provided enrolment estimates based on aggregated information from the States. For 15–19-year-olds, the Report estimated enrolments similar to those of the Finn Committee. The Report also assumed the expansion in enrolments for persons over 20 years to be at the same rate as predicted by Finn. Ramsey's projected growth in expenditure, however, was significantly greater than Finn's due mainly to an assumed increase of 35 per cent (over the 1990 base) in TAFE contact hours per student.

In 1991, AEC/MOVEET, with the advantage of later information, changed from the Finn target of 50 per cent of 22-year-olds completing a Level 3 vocational certificate or suitable alternative, to 60 per cent of the cohort progressing that far by 2001.

The Employment and Skills Formation Council's (Carmichael) Report (1992), also pressed for 60 per cent of 22-year-olds completing by 2001 a Level 3 vocational certificate or suitable alternative. Carmichael, however, set a completion/participation target for 19-year-olds of 90 per cent, rather than the 95 per cent target chosen by Finn. The later and more substantial information available by 1992 tends to support the more conservative target offered by Carmichael.

Cullen (1992), in his consideration of a skills profile for Australia, projected that 74 per cent of the 25–34 years age group will hold an educational qualification in 2001, compared with just 51 per cent in 1991. He assumed that approximately 14 per cent out of those 74 per cent would hold only Level 1 or 2 qualifications. Cullen's projection for Level 3 or suitable alternative qualification among 25–34-year-olds is the same as the Carmichael targets for 22-year-olds.

ABS data for 1991 (May survey) shown in Table 1, provide a base-line against which to compare the various targets. These data consider current levels of qualification and show attainments and educational attendance for persons aged 22 and 30 years in 1991. In that year, about 42 per cent of 22-year-olds had attained a qualification and a further 14 per cent without qualifications were attending tertiary education. Some 51 per cent of 30-year-olds had obtained a qualification and another 4 per cent without qualification were attending tertiary education.

While a total of 56 per cent of 22-year-olds have qualifications or are engaged in tertiary study it cannot be assumed that all qualifications are at Level 3 or above. But data on a better assumption are not available.

Table 1 Educational Attainment at 22 and 30, Australia, May 1991

	Age 22		Age 30	
	000s	% of population	000s	% of population
With post-school qualifications				
Still attending tertiary institution	26.9	9.8	21.7	7.4
Not attending	87.6	31.9	127.4	43.5
Total with qualifications	114.5	41.7	149.1	51.0
Degree	24.2	8.8	36.2	12.4
Trade	33.8	12.3	47.6	16.3
Certificate or Diploma	55.6	20.3	63.3	21.6
Other	1.0	0.3	2.0	0.7
Without post-school qualifications				
Still attending tertiary institution	38.4	14.0	11.0	3.8
Not attending	119.9	43.7	132.2	45.2
Total without qualifications*	158.3	57.7	143.3	49.0
Attended the highest level of secondary school available	78.5	28.6	45.1	15.4
Did not attend the highest level of secondary school available	79.0	28.8	97.3	33.2
Still at school				
	1.5	0.6	0.2	0.1
Population	274.3	100.0	292.6	100.0

Source: ABS, data supplied from May 1991 Transition Survey.

* Includes persons who never attended school or for whom school level not determined.

Some Impediments to Setting Targets

The attempts summarised above to develop a basis for determining *what* growth should occur and *how rapidly* it should occur, even without the problem of deciding *where* it should occur, indicate the complexities involved. Other factors adding to this complexity are as follows.

- Data on completion rates in TAFE and other training are not readily available nationally. The data are patchy because different States are at different stages of development in their statistical databases. Hence even if a target is set for, say, those aged 30 years, it cannot be readily translated into a particular level or pattern of enrolments necessary to reach the target.
- In TAFE, completions of subjects and qualifications are both important. Many students enrol to gain a specific skill or course component, involving only one or a few subjects, rather than complete courses. Moreover, the situation is volatile. Recent moves toward national recognition of training through the Australian Standards Framework are likely to provide encouragement for students to complete qualifications, not just subjects or modules, even in TAFE. Likewise, any trend towards full-time enrolments will exacerbate this shift.
- The ABS data refer only to highest level of qualification whereas a considerable proportion of persons in TAFE and higher education are undertaking second or further courses, including postgraduate courses and higher degrees. In addition, a substantial proportion of enrolments in both sectors is by persons aged 30 or over: in TAFE this amounts to over 370 000 students or a third of the total in 1991 (*Selected TAFE Statistics 1991*); in higher education it was roughly 40 per cent in 1991 (*Selected Higher Education Statistics 1991*). Hence a single attainment target for older adults cannot sum up all of the objectives that would be held for the system.
- The basis for setting targets at a particular level is not clear cut. Student demand, and particularly unmet demand, is one factor for consideration. Moreover, since students are often not well informed about labour market trends, the pattern of enrolments generated by student demand does not necessarily yield the distribution of individuals completing courses and subjects best suited to needs.
- Simply expanding enrolments in a general way is unlikely of itself to help much in the achievement of, say, equity objectives. For example, provision of places must be accompanied by suitable curricula and student assistance if less advantaged groups are to benefit from the expansion.
- Australia's geography, economy, population and wealth are so different from the countries with which some are disposed to compare it that such comparisons do not offer clear guidelines as to desirable target levels.
- In *Workforce 2001* (DEET 1991) the projected growth in the labour force with qualifications is greater than the projected growth in demand for labour (assuming constant qualification levels within occupations). However, if there is effective award restructuring and technological change, more qualified labour will be sought within occupations, for skill deepening. Carmichael (1992, p.3) notes that Australia needs high level skills, but that it also needs the adoption of new technology and
 high levels of workplace cooperation with efficient work organisations
 and positive industrial relations.
- Unless these are achieved there is a danger of perpetuating, through the 1990s, the problem outlined by Gregory (1992, p.36) for the period 1976 to 1990:

Most job growth has been at low pay and there is no evidence that the economy has been generating demands for an *increased proportion of the population* to be well educated and available for middle pay jobs. There must be disappointed expectations as those seeking further education are denied the rewards they might have expected if born a generation earlier.

- We do not have any precise indication of the need for individuals educated or skilled through one sector in preference to another. Higher education graduates generally have higher labour force participation rates than those with TAFE qualifications, lower rates of unemployment, and better rates of pay. However, if employers use educational attainment to discriminate between potential employees (all other things being equal) rather than actually needing the particular qualification, the superior employment characteristics enjoyed by graduates are not necessarily an indication of the underlying real need in the economy for degrees rather than TAFE or other qualifications.
- The quality and relevance of the education and training received, rather than the sector in which it was obtained, should be the main concern. This implies that if the status of TAFE and of technical qualifications could be raised in the eyes of the wider community, a truer picture of demand across the economy, for individuals educated and trained by each sector, would emerge.

The conclusion from this discussion, and from the more extensive explanatory material in the consultant's report (Appendix E), is that setting of targets should not be firmly based on student demand or estimates of labour force needs far into the future. Each of these involves masking of other important factors and, critically, requires assumptions about the manner and timing of successful restructuring of the economy, and the fluidity of the workforce underpinning restructuring. Targets for a first qualification provide only a partial indication of total enrolments. Data are inadequate for the conversion of targets to enrolments. As indicated above, at any given time, students seeking second and further qualifications, along with the enrolment of persons over 30 years, will, and must when retraining is taken into account, constitute over half of total tertiary enrolments.

Indeed, targets, at least at the macro-economic level of workforce planning, are considered to be too risky for planning growth in post-compulsory education if the balance established restricts the ability of the system to respond reasonably rapidly to changing demands. Long term labour market predictions are a notoriously inaccurate way of assessing what should be offered now. Locking growth targets into sector bases would generate infrastructure which would impede response to changes in vocational, and indeed societal, needs that we cannot anticipate now.

Micro-targets: The Board Approach

Niland (1979) argues that students who are informed about trends in the market for vocations will make better choices. This is true to a certain extent. Few students, or anybody else for that matter, can resist the attractions of a current bull market and many are tempted by the belief that they will not personally be part of the fraction of outcomes that constitute over-supply. Especially where vocational education and

training are expensive, and student demand greatly exceeds need—for example in medicine—targets have traditionally been set, and re-set as circumstances alter, by those close to the fields concerned; it has never been easy, however, because of the infrastructure shifts needed to accommodate increases or decreases in student numbers.

Many of the problems associated with setting targets are avoided if decisions of this kind are made, at the program outcome level, for the medium term, and not locked into sectoral bases. Such judgements should be taken by those close to the vocations concerned, though not exclusively by them; they need to be timely enough to respond to the inevitable cycles of demand and to be related to community needs in the broad sense as well as relating directly to specific qualifications or occupations. It needs to be possible for the resources concerned to be withdrawn, maintained or amplified, as demand shifts indicate. If individual targets set at the micro-scale do not prove prescient, no great or lasting harm will be done, since a revised demand estimation can produce a shift in resources relatively quickly. Just as there is no good reason to lock resources into a program, nor should they be locked into sectors. Just because long term workforce planning may be inaccurate, short to medium term planning, especially when re-training needs are added, need not be so.

Accordingly, the Board *recommends* that within and between sectors, *growth* should be targeted at the program outcome level and committed only in the short to medium term (depending on the length of time taken to complete qualifications and the degree of certainty associated with demand predictions). This proposal is developed further in Chapter 3.

Cost of Growth

Although the Board does not believe it is desirable to set sectoral targets within post-compulsory education and training, it accepts that it is necessary to outline the broad dimensions of growth and has therefore presented estimates of enrolment growth in Table 2. Total enrolments including all primary and secondary enrolments are shown to grow about 15 per cent in the decade. Enrolments in post-compulsory education are projected to increase by about 329 000 or around 20 per cent; numbers in Years 11 and 12 are projected to grow by about 44 000; TAFE by 160 000 (or 85 000 equivalent full-time places); higher education by 85 000 (about 67 000 full-time places); and other education by 34 000. Government supported places in post-compulsory education in full-time equivalent terms are therefore projected to grow by about 200 000.

Although the ABS May survey estimates yield 'point-in-time' figures only, its data are used as the basis of the enrolment estimates because the Finn and Ramsey Reports (1991) used these data. The AEC/MOVEET Working Party on the Review of the Balance of Cross-Sectoral Growth, when consulting with representatives of the Board, requested that the Technical Group supporting the Ramsey review be consulted. This was done and the Technical Group reinforced the use of the ABS data on enrolments. Estimates of expenditure, however, are based on the administrative collections.

Estimates of the public recurrent expenditure associated with this growth in enrolments are given in Table 3. The estimates in Table 3 were based on the cost in December 1991 prices per full-time student in schools, per EFTSU in higher education and per student contact hour in TAFE. For senior secondary schools the estimated cost in government

schools was about \$5400 (recurrent cost per student in non-government schools is slightly less—about half of it funded by government grants). For higher education the average cost per EFTSU was around \$9800. The estimated public expenditure per student contact hour in TAFE was about \$8.3 or \$6000 for a 720 hour full-time course. These expenditure estimates per equivalent full-time student are not strictly comparable. The method of estimation of expenditure differs across the sectors. For example, the government schools expenditure excludes payroll tax and employer contributions to superannuation whereas these are included in higher education expenditure. The estimates are averages over a wide range of courses, for example, in higher education undergraduate business degrees and research degrees in medicine. These matters receive further attention in Appendix E which also discusses capital costs and student assistance.

Assuming constant resources per student, constant wages per staff member, and constant public/private shares of expenditure, the total recurrent public expenditure is projected to grow from \$16.4 billion in 1991 to \$19.1 billion in 2001, an increase of \$2.7 billion or 16 per cent over the decade. This compares with an estimated growth for the same items also of 16 per cent in the Finn Report (\$2.5 billion in December 1990 prices—Finn p.174).

Because of the assumptions outlined above, the TAFE and school expenditures grow at about the same rate as the enrolment projections in Table 2. Expenditure on higher education is, however, projected to grow by considerably more than enrolments. There are two reasons for this. The first is that expenditure in 1991 is based not on the enrolments shown in Table 2 but on funded enrolments—it excludes the unfunded over-enrolments. Expenditure in 2001 is based on the projected enrolments shown in Table 2. The second reason is that the projection method underlying Table 2 assumes a relative growth in postgraduate enrolments which are assumed to be considerably more expensive than undergraduate enrolments. It must be noted that part of the projected growth in expenditure on higher education will be funded by students through HECS.

Of the total increase in expenditure shown in Table 3, about \$1.5 billion is for tertiary education and \$1.2 billion is for schools. Of the school expenditure, about \$0.2 billion is for growth in senior secondary enrolments and about \$1.0 billion for primary, junior secondary and ungraded classes. Recurrent expenditure on post-compulsory education would be \$1.7 billion higher per annum in 2001 than in 1991. Government announcements in relation to ANTA commit some \$310 million of this sum in that year, so an amount rising to approximately \$1.4 billion in 2001 would be available for distribution to the post-compulsory sectors through the program-linked approach discussed later. These are recurrent funds.

Table 2 Students—Finn Projection and NBEET Projection, Australia (000s)

		<i>Finn</i>		<i>NBEET</i>	
		<i>15-19</i>	<i>Total</i>	<i>15-19</i>	<i>Total</i>
Schools	1991	635	3051	643	3069
	2001	726	3424	700	3417
	% increase	14	12	9	11
TAFE	1991	150	480	151	586
	2001	232	645	226	746
	% increase	55	34	49	27
Higher Education	1991	135	473	131	505
	2001	160	558	161	590
	% increase	19	18	23	17
Other	1991	26	151	17	134
	2001	40	178	25	168
	% increase	54	18	49	25
Total	1991	946	4155	942	4294
	2001	1158	4805	1112	4921
	% increase	22	16	18	15
Age Participation Rates		<i>15-19</i>		<i>15-19</i>	
	1991	0.69		0.69	
	2001	0.85		0.82	

Source: as outlined in Appendix E page 28.

Notes: Enrolments in 1991 are the administrative collections for Schools and Higher Education but the total aged 15-19 and the TAFE and Other enrolments are based on the ABS May survey (6227.0). TAFE student numbers based on Selected TAFE Statistics for the NBEET projection are:

<i>TAFE</i>	<i>15-19</i>	<i>Total</i>
1991	241	986
2001	360	1256
% Increase	49	27

Age participation rates including TAFE student numbers based on Selected TAFE Statistics are as follows for the NBEET projection:

Age Participation Rates	<i>15-19</i>
1991	0.77
2001	0.96

**Table 3 Projection of Recurrent Public Outlays, Australia,
\$ million, December 1991 prices**

	1991	2001	% Increase
<i>Schools</i>			
Government	9088	10012	10
Non-government	1823	2072	14
Total Schools	10910	12084	11
<i>TAFE</i>			
15-19	586	875	49
Total	1860	2370	27
<i>Higher Education</i>			
Total	3672	4680	27
HECS	175	600	243
Total less HECS	3497	4080	17
<i>Schools + TAFE + Higher Education</i>			
Total	16442	19134	16
Total less HECS	16267	18534	14
<i>Commonwealth Student Assistance</i>	1470	1693	15

Notes: Expenditure estimates are based on the projected student numbers in Table 6 and constant expenditure per student unit: per student in schools, per student contact hour in TAFE and per EFTSU at undergraduate, research and other postgraduate levels in higher education.

The projection of HECS receipts in 2001 is a tentative estimate only. The 1992-93 Budget papers show a reduction to previous projections for the mid-1990s.

Significant changes were announced in the 1992-93 Budget in the major form of student assistance, AUSTUDY. The projection here assumes a growth in outlays on student assistance in proportion to the growth in full-time students in post-compulsory education.

For further discussion see Appendix E.

Resources per student could be assumed to increase if there were a shift in enrolments in tertiary education towards courses with higher contact hours. States have reported an increase in average student contact hours in TAFE in 1991 and 1992. Ramsey (1991, p.17) states that:

TAFE authorities have estimated that student contact hours will increase, on a national basis, on an average of 35 per cent of the 1990 pattern.

Such an increase would add over \$0.8 billion to expenditure in 2001, raising the increase from \$1.7 billion to \$2.5 billion.

An increase in real wages could add to the costs of growth. From 1985–86 to 1989–90 cost levels in education fell by 9 per cent relative to the general level of prices. Award restructuring having its main effect in 1992 has increased relative costs in education though precise estimates are not yet available. If real wages were to rise a total of 1 per cent per annum over the decade, this would add about 9 per cent to total outlays by 2001.

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Balancing Growth

There are two possible ways growth could be directed if the approach to the overall targets, developed by the Finn Committee and agreed to by Federal and State Ministers of education and training, is based on some notion of a desirable balance between the existing sectors.¹

- Leave it entirely to students to enrol in large numbers in the post-school sector and courses they believe to be most appropriate. This could be seen as a variation on the Manpower Absorption Approach discussed by Niland in an appendix to the Williams Report (1979), and described there as an approach that focuses on the question: *'Under what conditions can the occupation system absorb growing numbers of graduates and how this would affect recruitment, occupational structure, the development of occupational roles, etc.'* One assumption is that benefits flow from education, even if the higher level achieved is not immediately used in the workforce.
- Set targets for each post-school sector, influenced by some assessment of the types of qualifications needed in the workforce; the sectors would provide qualifications largely within the framework which operates at present. The problems associated with this approach have been discussed in the previous Chapter, and will not be repeated here.

A third approach assumes that a balance *between* the various sectors is essentially unimportant compared with the need for it to provide appropriate *courses* of study leading to 'qualifications'² for youth entrants as well as adults participating either for the first time or as part of retraining programs. This approach is like the modified Manpower Requirements Approach (see Niland 1979) and based on an early warning system that encourages or enables a rapid response to emerging imbalances in

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- 1 It should be noted that this advice has been developed in the context of but separate from continuing debate over Commonwealth/State Government responsibilities in provisions for TAFE and vocational education and training. Also, the developments in recent times establishing the Australian National Training Authority (ANTA) occurred when the consultations related to this reference were virtually complete. While this has led to some superficial, even tangential, criticism of the preferred position taken here, this advice was not predicated on any one outcome of the negotiations that eventually lead to ANTA. This issue is discussed further in Chapter 4.
 - 2 Qualification is used in this section as a short-hand to describe the end-point for a student enrolling in, and completing, a subject, module or course in TAFE, while, in higher education, it means an award since individual subjects or parts of courses are more rarely seen as an appropriate end-point.

qualifications and trends, not attempts at 'bulls eyes'. The need for precision in the selected response would become less important the greater the development of more general skills through a rounded education and training program, notwithstanding the need often to provide people with particular skills to serve a particular need at a given time. The adaptability and transferability of these skills to different contexts and the capacity to build upon them over time will ultimately be a reflection of a broad education and training program, not one narrowly confined to today's skill needs.

There may be a number of reasons why no earlier 'balance' (or balances) lead to a competitive Australia; one, no doubt, relates to the absolute number in education and training; the relatively low participation historically has led to fewer qualified people in the workforce than a competitive nation needs. In this context, it should be noted that in 1975, the total number of students in higher education (universities and colleges of advanced education) was about 273 000 and the total number for TAFE was about 521 000 (Streams 2100 to 4500). In 1991, the corresponding totals for higher education and TAFE were about 535 000 and 986 000 respectively (see NBEET Commissioned Report No. 11, 1992, p.36).

The numbers have increased sixteen years later, but the sectoral relationship remains the same. It is noteworthy that in the Williams Report (1979, p.145), Blandy remarked that: *'there is a widespread view that the balance of the sectors gives insufficient priority to the Technical and Further Education (TAFE) sector vis-a-vis the Universities and CAEs . . . there is wide concern that education and training are not providing young people with the balance of skills and attitudes to work that are desirable, including communication and numeracy skills and that even Ph.D.s have declined in quality.'* Blandy also claimed that there was 'widespread' mention or view, or 'wide' concern about things like lack of attention to short courses to meet vocational needs, inadequate provision for re-entry, transferability, concern about excessive overlap, and so on. Little has changed!

This particular reference to the Board had its origins in the evolving relationship between the education and training sectors and the need for greater flexibility in the allocation of resources for education and training. The reference also raises the question of how to achieve a balance in the post-compulsory education and training sectors through the allocation of growth that would be *'required to achieve the new agreed national targets for post-compulsory education and training'* (see Appendix A). The identified need overall is still one that seeks to ensure that the education and training system will help Australia become more competitive; an education and training system that is an integral element in our change. But the issue could be put differently: should any balance be related to inputs, i.e. to enrolments, or should it be focused more on outputs or outcomes—the qualifications delivered to the community and the levels achieved?

Does it follow then that simply changing the inputs will lead to something better? An over concentration on the numbers of students enrolled by sector, and the funding consequences, risks blurring important questions about the mix of qualifications and skills—the *results* of education and training—needed in the community if we are to be competitive as a nation. A move to rectify any presumed imbalance in *sectors* ought at least to be predicated on the assumption that a different *balance* would lead to a better outcome for the nation which, in turn, would relate to the mix of qualifications and

skills in the community/workforce. And for how long would it be *better* if the institutions within the sectors built up their capacity to do more of what is needed *now* and found themselves later with an infrastructure that reduced their capacity to respond quickly when the needs changed?

A third approach therefore, while not strictly 'balancing' the sectors in the sense of adjusting the boundaries of defined territories, could utilise the capacity of the education and training system to provide suitable outcomes clearly reflecting the national interest—to put the extra funds needed to achieve the agreed participation targets up for bidding³ in a *program*-linked rather than *sector*-linked way. For practical purposes, the proposal to put growth to competition combines elements of all three approaches outlined above into a single integrated policy. Institutions (and sectors) *do* need to be responsive to student demand; governments can hardly avoid setting targets or guidelines based on workforce demands for vocational courses they fund; and if government-funded provider institutions are to be responsive to needs, a program-based rather than sector-based approach is a way of fostering adaptability and innovation. It also encourages closer liaison with the labour market and sensitivity to its forces while not assuming that it, or employers alone, have the role of determining programs all to themselves.

While the proposal may help solve what is essentially the key problem—the need to get a better balance in the qualifications and skills out in the community and being able to respond relatively rapidly when the needs emerge for a different mix—it gives rise to four other issues that will need to be taken into account: (i) whether use of growth alone will introduce sufficient responsiveness into the system; (ii) the need to be able to identify programs and the numbers of 'outputs' needed; (iii) the need to minimise the potential for distorting the particular missions of the various parts of the system if they extend, on their own, their offerings beyond those traditionally part of their sector; and (iv) the need to resist the defensive positions sure to be taken up by parties who would see such a proposal as intruding on their domain.

Any approach to balancing growth, unless so bland as to be unthreatening to everybody, will give rise to argument. Such arguments could be oblique, even subtle, but are unlikely to be new—Niland (1979, p.208) wrote of the '*vested interest as a planning constraint . . . particular vested interests and attitudes that do not conform with what might be seen as national welfare*'. It is accepted that the workability of, say, the tendering proposal outlined below, will present considerable challenges although it is beyond the scope and the resources of this report to address the issue comprehensively. It is essential, however, that problems in this area are not raised as proxies for the less defensible positions taken while protecting self-interest.

3 The term 'tender' was used in an earlier draft and is used elsewhere in this advice. Use of the term is *not* meant to imply that this proposal is just one after the lowest bid—a form of auction. More factors than just cost would need to be taken into account (see discussion later in this Chapter) when determining where to allocate growth and the purpose to which it is to be put. It is, however, meant to imply that competition, through bidding or competitive expressions of interest, in the allocation of growth to identified *programs* is desirable.

Leaving Balance to be Determined by Student Demand

There is unprecedented demand for places in post-school education. The demand is semi-quantified for the higher education sector with the Australian Vice-Chancellors' Committee estimating that up to about 50 000 qualified students were unable to secure a place in a university in 1992. There is some suggestion of even higher unmet demand in TAFE, with estimates up to 124 000 in 1991 (Ramsey 1991) although the lack of hard data makes this difficult to substantiate. It is likely that the demand for places in both TAFE and higher education will increase even further as the numbers in Year 12 approach the Finn Committee targets.

In addition to pressure from the younger age cohorts, there is increasing demand from mature age entrants. While this demand is less readily quantifiable⁴—and cannot take account of those who would like a place but for some reason do not apply—it is apparent that societal and workplace change will encourage more Australians to seek further education throughout their lives. Not everybody will seek work-specific skills, or upgrading; some will seek technical qualifications for the first time, and some will seek more education for quality of life reasons. Although all are legitimate demands on the education and training system, one obvious example of emerging pressures on the education and training system flows from the restructuring of industrial awards (see Chapter 5).

Young people in Year 12, or even earlier, are under considerable pressure to make educational choices that could affect the rest of their lives. In the ideal world, they would choose the sector offering the education, or the specific courses and modules, that their lifestyle or their vocation needed. But in reality the difference in esteem between higher education and TAFE, in some cases accentuated by less than adequate careers information, could lead to a poorly informed market sometimes making ill-informed choices. The Australian National Opinion Polls (ANOP) has gauged 15–17-year-olds' interest in undertaking TAFE and university courses in its 1984, 1988 and 1990 national youth surveys, with the following results:

<i>Year</i>	<i>University</i>	<i>TAFE</i>
	<i>%</i>	<i>%</i>
1984	27	20
1988	38	15
1990	41	13

(used with permission from Higher Education Division, DEET)

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- 4 The Victorian Post-Secondary Education Commission (VPSEC) has estimated the unmet demand from applicants who apply outside the Victorian Tertiary Admissions Centre system in Victoria to be about 17 000. It is suggested that most of these are mature age applicants for part-time and distance education programs (VPSEC, to be published).

While there are doubtless several factors behind this trend, it nevertheless translates into applications for places in higher education. In New South Wales, for example, about 80 per cent of Year 12 students in 1991 applied for entry into higher education; just over 80 per cent of qualified Victorian Year 12 graduates in 1991 applied for entry, with only 43 per cent of the 28 000 entrants offered a place in their first choice; while in South Australia, the Board was advised that more students returned to repeat Year 12 in 1992 than were accepted into a university. In the Northern Territory, about 94 per cent of Year 10 students surveyed in 1991 expected to continue on to higher education after Year 12 (although it is possible that some students may have meant they intended to apply for studies within the TAFE part of the Northern Territory University but thought of their studies as being university rather than TAFE based).

It can be assumed that leaving growth to student choice would result in what some would see to be not in the national interest—a burgeoning higher education sector. This is supported to some extent by comments from within the higher education sector, which have suggested that the interests of some students now entering universities would be much better catered for in TAFE. The reasons why students make the choices they do are doubtless complex, and the solutions, if this is seen to be a problem, even more so.

The national youth survey by ANOP is again revealing. As shown in Table 4, the influences about study choices highlight the importance of parents and careers advisers in career (education) choices.

Table 4

		<i>High school students >15 years %</i>
<i>Most important influences</i>	- parent	65
	- careers adviser	56
<i>The next four</i>	- subjects studied	37
	- teachers	35
	- work experience	26
	- friends	26
<i>Lower level</i>	- staff at CES, YACs	12
	- newspapers	7
	- television	7
	- boy/girlfriend	7
	- radio	3
	- magazines	3

(used with permission of Higher Education Division, DEET)

It was generally agreed during the consultations that the perceived imbalance in esteem between the two sectors made it unlikely that the demand-driven approach would be effective. Of the various factors thought to play a part, the main ones were: perceptions, however realistic, about the starting income differences between those completing TAFE and university courses; the lower unemployment levels amongst university graduates; the varied nature of TAFE courses and confusion in the public mind between the technical and the further education or 'access' components, leading to comments about the need for a clearer focus for TAFE courses; the entrenched culture in Australia that is, at its root, somewhat sceptical of the value of the manual and technical while admiring of the professional.

There is no obvious solution available in the short-term thus reducing the likelihood that the 'market', in the sense of students choosing where to go, will establish the 'right' balance. Deeply embedded culture is hard to change, and attempts to do so are rarely successful in what we would consider a reasonable time frame. Simply capping the size of the universities, or making them more expensive to the individual, is unlikely to work. There is no hard evidence that students not offered a place in a university will readily enrol in TAFE; indeed, there is anecdotal evidence that some will not, and that of those who do, some enrol in order to get access to universities through some transfer mechanism with credit. Their sights remain set on a place in a university.

Notwithstanding the obvious problems, one or two submissions insisted that this approach may still be no bad thing, for while there are doubts that students would necessarily get the sector right, they may well be able to discriminate between courses within a sector. There are suggestions, for example, that students are better at predicting what courses are likely to lead to the best outcomes in employment terms; that they are better able, in other words, to predict the market for their qualifications. It is hard to quantify, indeed to confirm, that this is the case (data provided by the Universities Admissions Centre (NSW and ACT) for students applying for places in New South Wales and the Australian Capital Territory, showed that first preferences in 1992 as a percentage of all first preferences rose for Arts, Education, Health and Science when compared with 1989, while they fell for Engineering and Business Studies, amongst others).

In the higher education sector, essentially all courses get the students they need, but by no means all students get entry into the course of their choice—obtaining a place seems to be the driving force for students—although course selection seems to be often driven more by predictions of school results relative to likely cut-off scores (and by parental influence) than any true sense of vocation. It is also true that for this approach to have a hope of working, students would need to be well informed, and there were few during the course of these consultations who argued that the market information was anywhere near adequate.

There are, however, additional issues to be considered. One such is the cost to the community generally of graduates and the return from those graduates to the community. Some commentators have suggested that a 'law' of diminishing returns operates and that there may be a point beyond which the number of graduates in the community begins to cost the community more than they contribute. Niland (1979, p.196) drew attention to the fact that in 1954 there were 1000 people in the labour force for every university graduate produced that year while twenty years later, in 1974, the

relationship was 300 to one (because) '... over the last twenty years (to 1979) in Australia governments have delivered what is broadly viewed as the nation's birthright of more and more education to larger and larger numbers'. In 1991, the relationship was closer to one graduate for each eighty people in the workforce. It seems unlikely that the proportion of 'skilled' jobs has grown at the same rate; and it does focus on the issue of credentialism—but who knows what the relationship should be now and into the future?

A second and possibly more immediate issue is the infrastructure that naturally follows student load. It is likely that students are enrolled in certain areas in 1992, not so much because there is a particular, or a high demand for the qualifications they seek, but because there is infrastructure (staff, laboratories, equipment, etc) that institutions need to utilise, and they enrol students to make use of it. The more popular courses fill first and students are displaced until the combination of their score and quotas yield them a place.

No doubt a good deal of the infrastructure in the education and training system was appropriate once, and some may continue to be now and into the future. There is also no doubt that stability in planning and development is important in such a complex system. But given this need, and the consequences that flow from it, should Australia invest even greater quantities of public money in its education and training system without using the opportunity of the occasion to introduce even a relatively small level of flexibility into the system—something that would otherwise be difficult? The Board believes that the opportunity should be used.

It is the Board's view that more weight needs to be given to 'outputs' or outcomes, such as the level and type of qualifications in the community generally and in the workforce in particular. While student demand for particular courses ought always to be a consideration in any planning, what is needed in the national interest is an approach which focuses on shorter term needs, at a broad level and without probably futile attempts at precise estimates, and which develops a more flexible system able to respond regardless of sectoral territories. One way that this could be achieved is discussed in the next section.

Allocation of Growth in a Program-linked Rather than Sector-linked Way

If the objective of the education and training system is to provide Australia with suitably qualified people able to take their place and contribute to the community through applying some of their skills at work and elsewhere, it needs to be flexible with the capacity to adapt to pressures which will surely change over time.

If the resources that need to be committed in order to meet the agreed targets arising from the Finn Committee, or as modified here, are allocated to sectors in some way, we need to ask whether this flexibility could be achieved. Based on past experience, we would have to doubt that it could. In his report on the *Review of the Structure of the Commonwealth Tertiary Education Commission and Arrangements for Co-ordination and Consultation with States and Institutions* (1985, p.11), the Chairman, Mr Hugh Hudson, commented that: 'each sector (sought) to defend its own bailiwick ... the

concentration on sectoral boundaries saps energies, causes disputation and achieves very little in terms of identifiable benefits to the community or to students'. So, would the national interest be served by continuing to reinforce the existing territories; should this advice be based on whose *turn* it is for growth—whose *turn* at the honey pot, as it has been put—even though we apparently have not been able to achieve a suitable level of international competitiveness with *any* previous balance? The Board believes that it would not, even though a good number of the arguments put during the consultations were based on comparisons as if the post-school sectors had some predetermined equilibrium that had been disturbed and should be regained.

The national interest, in the view of the Board, would be best served if a part of the resources set aside for the education and training sectors were used, alone by institutions or in collaboration with others, to offer courses for first chance education as well as for retraining in *programs* of study. In this context, the Board believes that these programs could develop from existing bases, with the TAFE base being that achieved after the current Commonwealth offer is absorbed (i.e. after 1995). In other words, the Board suggests that a way should be found that, while leaving the bases intact in the first instance, would allocate growth funding, not by *sector*, but by *programs* of study that may be delivered by one sector, by two together, or by any combination including other accredited providers.

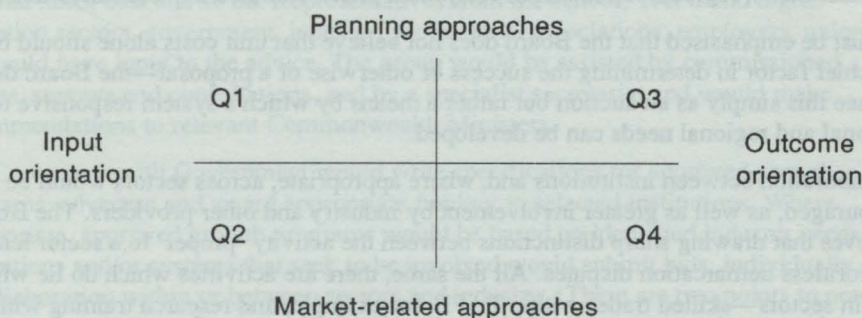
Such an approach would mean that the growth in post-compulsory education and training that is proposed in order for the agreed targets to be met, could be targeted to programs and open to bids from sectors, either alone or jointly. Programs of study could be delivered by drawing on relevant expertise and facilities regardless of the part of the sector in which they were placed, including private providers, and at least the bulk of the funds could be redirected once the program had been delivered.

This approach could be open to the criticism that, by using growth alone in the first instance, the chances of changing the nature of the output from the system in any significant way are slight. Indeed, it has been argued that limiting the proposal to growth alone at this stage reveals constraints put upon the Board when formulating this advice. The Board, more interested in what can be achieved in the short to medium term at this stage than other agendas, would take another view. It would agree, for example, that established courses funded by government should be subject to periodic review to ensure that they are still meeting valid needs, particularly in areas where clear oversupply becomes evident. But it would also argue that some stability in the 'base' funding of the sectors is desirable, indeed essential; so the timing in any shift in the base funding of higher education and TAFE needs careful consideration. In the interests of outcomes, therefore, using growth to introduce a level of flexibility that does not now exist is a good place to start—that is, the Board would argue that there should be no further entrenching of territories by adding growth money to the base beyond that already committed after 1995.

The Board believes that the following proposal, based on competitive bids using a form of tender, though *not* an auction, is worthy of consideration as it would provide a useful mechanism for achieving the objectives for growth that were implicit in the setting of the overall targets in the first place: but it could be made responsive to labour market needs as well as national priorities while remaining at least partly responsive to student

demand. It would also encourage greater collaboration among institutions and between sectors and a greater involvement by industry and other private providers, all within a competitive framework.

A diagrammatic view of the way the Board sees the various approaches to resource allocation, in terms of input versus output and planning versus market-related elements is presented below. It is presented to demonstrate the options available or in use. The Board's proposal falls within Q4 (these quadrants reflect the main locus—some approaches could arguably be placed in more than one quadrant).



Q1 Planned, input-based funding through providers

- Planning in this context takes place through, for example, higher education profiles.
- Enrolment numbers are funded at a set funding rate with the overall allocation determined by the targets.
- Close to present system.
- This approach is responsive to national *participation* requirements.

Q2 Demand-driven, input-based funding through clients

- An example of market-based approaches is a fee or voucher system.
- Enrolment numbers are funded at differentiated course costs.
- This approach is responsive to individual participants' demands.

Q3 Performance-based funding of providers

- Examples are equity funding on performance against plan.
- Course completions in relation to targeted supply of skills.
- This approach is responsive to cost-effectiveness of delivery.

Q4 Competitive purchasing from providers

- This could include bids for supply of particular skills or qualifications.

- Course completion focus.
- Can be made responsive to both community expectations and labour demand.

Main Features of a 'Tendering' Process

The process should be outcome oriented; for example, it should result in a specified number of completions of a particular qualification (level and type) in a specified time frame. The process would encourage competitive bidding in terms of cost per qualification obtained, but other competitive factors such as particular equity considerations, regional needs and development plans would be key considerations.

It must be emphasised that the Board does not believe that unit costs alone should be the chief factor in determining the success or otherwise of a proposal—the Board does not see this simply as an auction but rather a means by which a system responsive to national and regional needs can be developed.

Collaboration between institutions and, where appropriate, across sectors would be encouraged, as well as greater involvement by industry and other providers. The Board believes that drawing sharp distinctions between the activity 'proper' to a sector leads to profitless demarcation disputes. All the same, there are activities which do lie wholly within sectors—skilled trades within TAFE, for example, and research training within higher education. If the proposals are constrained by the limits proposed in Table 5, there should be no fear of blurring the distinctive missions of the various parts of the system, but better outcomes through collaboration could be achieved for the community.

Once the targeted completions have been obtained, the funds involved would, in principle, become available for new tenders to meet changing needs for qualifications.

Judgements could be made on a rolling basis (that is, prior to the completion of a contract). Of course, there may well be a need for continued completions at the same, or a lower rate, and some funds will need to be left in the sectors and added to the base when this is the case.

Competitive pressures would tend to maximise course completion rates and minimise drop-outs. Some bids may be at marginal course cost, making use of spare capacity in a given institution, and this would ensure optimum utilisation of resources, but with suitable quality assurance. Otherwise, though, sector growth would be close to full average cost.

How it Might Work

State or Territory education and training authorities would identify their current unmet and projected medium term needs for qualifications, based on the labour market and industry needs, and taking into account special equity or regional factors. The value of education and training programs of a more general and less specifically vocational nature should also be recognised in this process, particularly in view of their contribution to society in general and of the transferability of the knowledge and skills they provide. Broadly, areas could be identified where there were acute needs, i.e. serious undersupply, through to serious oversupply. Niland (1979, p.286), expressed these as a five-point scale: demand falling (severe); demand falling (moderate); demand

stable; demand growing (moderate); demand growing (strong) and sought to link them to programs that were occupation preparation specific or occupation preparation general (he was discussing primarily university-level programs at this point). The degree of precision needed would doubtless vary from time-to-time—but the Board does not envisage that highly specific qualifications will be identified but rather broad areas of need or oversupply.

A group advisory to Commonwealth Ministers would relate State/Territory proposals with national priorities, outlined broadly as described above, so as to determine targets to be achieved and specifications, which would include elements such as priority, regional need, cost and so on. Representatives from the school, TAFE and higher education sectors, government, industry, professional associations, employers, unions, etc would have input to the advice. The group would be assisted by commissioned studies, surveys and consultations, and by a specialist secretariat and would make recommendations to relevant Commonwealth Ministers.

The Commonwealth Government would write specifications for approved growth programs, advertise and award appropriate funding to selected institutions. Where appropriate, approved growth programs would be based on identified industry needs. Institutions and/or systems that seek to be involved would submit bids, individually or in collaboration within or between sectors and industry. (There are two points to note here that seem to have been overlooked by some: bidding is not compulsory, and institutions unable, unwilling or uninterested in bidding for growth funds are free not to participate; there is a difference between submitting an expression of interest and being successful.) Bids could include a component for infrastructure costs where necessary; they would be additional to an agreed funded institutional or State base profile for the sector concerned. Capital costs associated with the growth would be budgeted separately.

Expressions of interest would be considered by the advisory group and recommendations made to relevant Commonwealth Ministers, taking into account the extent to which the proposals meet the advertised objectives, relate to social and equity needs, contain mechanisms for quality assurance and quality control; and provide value for money. All of this would need to be set against consideration of the balance between States and Territories.

The proposed mechanism would apply, initially at least, only to allocation of growth, and not to base operating grants. In the long-term, however, a shift in the funding bases would occur where need appeared to be stable, or where programs leading to a serious oversupply were identified. This approach would allow opportunity for regular review of the needs of a labour market which, though it does exhibit long term trends, is also responsive to shorter term factors. Furthermore, labour market planning, essential though it is for rational planning of vocational education and training, is nonetheless an inexact science whose predictions should not be locked in. Although mistakes will be made from time to time in identifying programs (a reason for not falling into the trap of trying to be too precise), the funding that goes with the prediction is not added to the base so expanding a territory. In an acceptable time-frame, the funding can be retrieved and re-deployed.

Under the proposed arrangements, existing resources are likely to be efficiently utilised before new facilities and people are provided. There are, however, some reasons to proceed cautiously. As mentioned above, special care would be needed to ensure that programs which provide more general education and training and which are less explicitly linked to commercial and industrial needs are not disadvantaged. The liberal arts and sciences within higher education come to mind in this context; and the valuable cultural enrichment and social dimensions that are available within TAFE programs, and in adult and continuing education too. The latter appear likely to become increasingly important as more adults seek education, with some needing the support given by adult education centres when participating for the first time, or after a long time. It will be important that the roles of all elements in the education and training system do not become blurred and overlapping except where planned.

Education and training infrastructure has constraints on the purposes to which it can be put. It is important that the process outlined here does not reinforce use of existing capacity at the expense of all incentive for development of new capacity whilst existing facilities are not fully utilised. There are, too, industrial relations issues which might arise from inter-sectoral collaboration and the need for more flexible staff employment.

Since the \$720 million allocated by the Commonwealth Government to vocational education and training for the 1993–95 triennium will provide a new base in sectoral funding, and allow education and training providers to prepare for more effective competition, the Board believes it would be premature to implement a form of tendering before this new base is achieved. Accordingly, the Board *recommends* the following timetable for testing, refining and implementing of a tendering system.

- In 1993 guidelines be developed for tendering across post-compulsory education and training.
- In 1994 pilot testing of program tendering to commence.
- In 1997 full implementation of program-linked tendering of growth to commence.
- In 2001 a review and evaluation of the process and, if necessary, adjustment to the base to be undertaken.

More detailed consideration of how the allocation mechanism might be implemented is outside the scope of this advice. Whatever method is proposed to consider the implementation aspects of this advice, the Board would strongly urge that further consultation with interest groups be an integral part of this process and that the Board itself be closely involved.

Roles of the Sectors Given the Program-linked Approach

Higher Education and TAFE

The Board has been asked by the Minister to bear in mind the purpose and functions of the different sectors. It feels, however, that growth based on proposals for programs of study could still leave undistorted the essential missions of the various parts of the education and training system. It is proposed that bids, in terms of sectors, be seen in

the light of Table 5: only a university could bid on its own for a program leading to a degree (competition would be *intrasectoral*), and TAFE could only bid jointly with a university at this level; the outcome of a joint bid would be a university award and whether bids were sole or joint would be for the institutions to reflect on when considering the strength of their proposal. Only TAFE could bid for awards below Associate Diploma and Diploma (see Table 5)—again, competition would be *intrasectoral*—but if a college, say, were to bid jointly with a university, the outcome would be a TAFE qualification. In the middle area, where both sectors are currently active (the ‘battleground’ according to Hudson, 1985), then either could go it alone (competition would be *intersectoral*).

The Board believes that these restrictions will safeguard the essential missions of the sectors, while encouraging collaboration and still focusing resources available for growth on outcomes, not gross enrolments that is the characteristic of base funding. (It is noted that the demarcation between TAFE and higher education in the sub-degree area may be blurred because different states and territories may designate particular courses of study over which they have control differently from each other.)

Table 5

Sector:	<i>Higher education</i>	<i>TAFE</i>	<i>Schools</i>	<i>Other accredited providers</i>
Level				
Year 11	-	x(+)	x	x
Year 12	-	x(+)	x	x
Level 1	-	x	x	x
Level 2	-	x		x
Level 3	+	x		x
Level 4	+	x		x
Assoc. Dip.	x	x		x
Diploma	x	x		x
Degree	x	+		x
Higher Deg.	x	+		x

Key: x = programs which could be offered by the designated sector on its own.
+ = programs offered jointly with one or more providers from the same sector or elsewhere.

‘Other accredited providers’ includes private universities.

Levels 1–4 are as designated in the Australian Standards Framework.

It is anticipated that ‘Schools’ would be able to bid, alone or jointly with TAFE, for funding to support, say, work-related programs of study in Years 11 and 12—provided that these were courses that could be used for credit in further TAFE studies. Otherwise, funding for growth in school enrolments would continue essentially as at present.

Schools

Schools at Years 11 and 12 are currently facing an array of new curriculum and assessment demands arising from the unprecedented increase in student retention and the need to cater for a much greater diversity of student talent, interests and motivation. A national approach to the development of new employment related key competencies through the Mayer Committee and the Australian Education Council's attempts to develop National Curriculum Statements and Profiles from Years 1 to 12 are part of the response of schools to these pressures. At the same time, almost every State and Territory authority has recently focused upon the most appropriate curriculum and assessment arrangements at Years 11 and 12. Related to this, it is clear that various and diverse approaches to post-compulsory provision in structural terms are developing around the country.

Curriculum and structural matters have been highlighted recently with the release of the report by the Employment and Skills Formation Council, *The Australian Vocational Certificate Training System* (Carmichael Report). This report calls for a greater emphasis on vocational provision by schools as well as the development of new pathways for students post Year 10, e.g. part study, part work options, all leading to certificates aligned to the Australian Standards Framework (ASF). Structurally the report suggests that senior colleges may be the best way of *concentrating* resources to allow for effective and efficient vocational provision of Years 11 and 12. Some State systems appear to have already repudiated this notion, preferring to develop Years 7 to 12 or 8 to 12 secondary schools with a particular focus e.g. metals, commerce, manual arts, creative arts. Others have begun to develop multi campus models as the best way of concentrating provision for Years 11 and 12 students.

These diverse developments include a range of school-TAFE arrangements. Some systems are developing reasonably close intersectoral relationships with appropriate levels of cross-credentialling and utilisation of staff. In others, 'demarcation' agreements have been established concerning the respective roles and responsibilities of schools and TAFE. It is argued that such agreements provide an efficient and effective outcome in terms of student access to a range of program offerings at this level. It is in this diverse and complex context that the issue of tendering for growth as it relates to schools must be considered.

The Board is not questioning the right of continuing students at Years 11 and 12 to continue to undertake studies of their choice. Nor is it assumed that school systems will necessarily seek to participate in the bidding process, depending on the definition of 'growth' in the schools sector. In this regard there appears to be at least two possibilities. The first would be to define growth in a program sense; for example the demand for new vocationally oriented programs leading to ASF Levels 1 and 2 via school and TAFE based pathways could be seen as new growth open for bidding. Secondly, growth could be defined as the increasing retention of continuing students. In these circumstances, systems with fast growing retention in Years 11 and 12 may face competition from other providers such as TAFE and private providers in meeting the demand for particular kinds of course provision under a tendering system. However it is likely that the majority of continuing students would wish to undertake their studies in the traditional school situation.

In all States and Territories, TAFE already offers a Higher School Certificate or its equivalent to mainly adult (19 years plus) students. In some circumstances it may be appropriate for TAFE to offer such studies to a wider age cohort. As is already the case in some States/Territories, if it were decided to further develop programs for students at Years 11 and 12 which constituted alternatives to traditional academic studies, TAFE colleges or private providers could be given the opportunity to offer such courses. The proposals in this paper, by linking growth funds to programs rather than to an exclusively sectoral approach, provide that opportunity.

In fact it is much more likely that a program-linked system of allocating growth funds will see a greater degree of cooperation and collaboration between TAFE colleges and schools. The process will enable the strengths of both sectors to be combined in ways to the benefit of students. Certainly, this sort of cooperation is envisaged and advocated in the report on *The Australian Vocational Certificate Training System* (Carmichael Report) and could be expected to be enhanced by a system which demands planning and an appropriate allocation and concentration of resources in Years 11 and 12.

There are a range of other issues which need to be closely examined in considering the feasibility of creating a scheme for bidding for growth funds to provide particular programs in the schools sector. They include the following.

- The issue of students returning to Year 12, either immediately in an attempt to improve their Tertiary Entrance scores, or later as adult re-entrants. Are these people to be regarded in the same way as are continuing students in relation to an education and training guarantee, or should they be considered as an element of growth which can be bid for and from which some level of student contribution can be derived?
- Whether or not some school systems may be interested in providing a Year 13 which constitutes the first year of a university award. This would only arise with the agreement and full cooperation of the university concerned and does not necessarily require a tendering system to proceed. However, it does represent a situation where funds allocated to the higher education sector would need to be diverted to the schools sector.
- What constitutes the source of funds for growth in the schools sector, even if an agreed definition for growth could be established? Funding for government schools (non-government school issues are considered below) is provided overwhelmingly by State Governments. In addition the considerable retention growth in some States in recent years has been funded almost exclusively from excess capacity, i.e. there has been little direct cost to the system concerned. For the purposes of growth, Commonwealth funds are already relevant in relation to TAFE and higher education. This complication concerning the schools sector needs to be further considered.
- The level of bidding, i.e. whether systems or individual schools would bid to provide appropriate programs? While it is difficult to imagine individual schools bidding, it is possible that clusters or groups of schools could be given authority to do so.

- The position of non-government schools. To the extent that such schools operate within systems then the comments above would be applicable. Independent non-government schools would probably need to develop links with other non-government, government or TAFE institutions to be able to participate. This is likely to be the case with private providers at this level. It can be expected that the focus on provision at Years 11 and 12 will represent more difficulties for some non-government schools if a system linking growth funds to identified programs were to be implemented. In this situation a strong collaboration between government and non-government schools may represent a very beneficial outcome. Growth funds, to the extent that non-government schools are more dependent on Commonwealth support than are government schools, may be more easily identifiable in this sector.
- The need for factors other than price to be taken into account in the bidding process. As indicated earlier in this advice, the Board is not proposing an auction system to determine which institutions provide certain programs. Social and equity needs, for example, will certainly be taken into account. Equity issues are of particular significance to the schools sector, especially given the range of students now attending Years 11 and 12. Therefore students disadvantaged by poverty, disability, language, background, isolation and gender will need to be considered in developing tender briefs and in the selection of bids. The impact of programs on such students could be monitored through the recently announced National Equity Program for Schools (NEPS).

It is clear from this brief overview that there are a number of matters which need further consideration concerning the relationship between the schools sector and the process of bidding for growth funds. The Board is not, however, prepared to argue that the schools sector should be automatically quarantined from the implementation of tendering in the post-compulsory years. This is because the principle has a number of benefits outlined in this advice and because the number of interface issues relating to schools-TAFE and even schools - higher education cannot be avoided.

Retraining

One feature of the proposal outlined in this Chapter is the need to identify programs leading to particular qualifications or skills. Few have confidence in workforce planning in the long term—hitting the bulls eyes with regularity—but the actual workforce needs encourage a more radical approach than the one traditionally followed.

Hints at the emerging need for retraining are frequent in the recent *Workforce 2001*, for example: '*... the workforce will become more clever. Above average growth is expected for occupations with above average skill levels (particularly for those with the highest skill levels) (p.5) ... The occupational structure is continually evolving ... the nature of occupations themselves will also change, particularly as a result of award restructuring and an increased emphasis on multi-skilling (p.20) ... the range of tasks performed by individual occupations will vary (p.28) ... The changes to the structure of the economy over the next ten years will require a flexible workforce to capitalise on new opportunities as they arise. A well educated workforce is a major source of this flexibility' (p.67).*

The bulk of Australia's present workforce, however, is the product of the education and training system of the past and the newest entrants will be members of it for a long time. A good number of the participants are in need of retraining or further development now, and the changes in the skills likely within the decade could hardly be expected to reduce the need (see Chapter 5). Retraining will thus need to take care of those who will require increased levels of skill in the same or related areas of work and/or those who will seek or be required to shift between different 'industries'.

In addition to these needs, ones that emerge through changes in the workplace, and in the community, there is another need that flows from a recognition that not all students (or workers) get their choice of field of study (or work) right at the time they must first select their paths.

It is clear by now that it is the Board's view that some of the flexibility expected of the workforce must extend to the education and training sector—for it will underpin much of the capacity of the workforce to change. Is it sensible to talk about a multi-skilled, flexible workforce without considering the capabilities of the education and training system to provide the appropriate foundation? Given the predicted nature of changes over the next ten years, and the fact that roughly 70 per cent of that workforce is *already* at work, a major part of the education and training needs that will emerge as the changes manifest themselves will be related to taking the existing workforce at any point and helping it adapt to change.

While it might not be easy to predict the bulls eyes over the next fifty years (and the Board does not propose that it be attempted), the Board does suggest that:

- medium-term projections using all available information and expertise are more likely to be projections of the right order; and
- that if we are unable to predict retraining needs in the medium term in terms of both type and numbers with all the expertise available, we need to examine seriously our capacity to influence any of our future.

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ANTA and this Advice

The Board's advice is based on the need for a national approach to resourcing post-compulsory education and training, a need broadly agreed by most groups met during the consultations, with strong Commonwealth involvement. It is also based on the assumption that the bulk of funding for growth will derive from the Commonwealth Government.

This advice has been developed in the same national context as, but separate from, the recent agreement over Commonwealth-State Government responsibilities in the provision for TAFE and other elements of vocational education and training, their management and funding, and the establishment of the Australian National Training Authority (ANTA).

The ANTA announced by the Prime Minister on 21 July 1992 and the objective of this advice, share a common approach based on a national collaborative effort, a competitive training market and a stronger role for industry, with agreed State profiles forming a fundamental part of both schemes. However, the two differ in their overall scope and structure; in particular, ANTA is not constituted to exercise its responsibilities across the whole of post-compulsory education.

The Prime Minister's announcement outlined a general framework for the operation of ANTA in relation to the allocation of funding (both base and growth) for vocational education and training through to the end of 1995; the agreement itself is to be reviewed before the end of 1995.

In this advice the National Board attempts to lay down what it sees to be important principles and a framework for the allocation of future growth in all post-compulsory education and training. The Board believes that Commonwealth Ministers would need separate independent advice in order to carry out their responsibility for the allocation of growth funds across and between sectors and across States, as proposed in this advice, with the allocation mechanism to be fully operational from 1997 (in line with the timetable for tendering proposed in Chapter 3).

The allocation of *growth* funds already committed to TAFE and training (i.e. to the end of 1995) is one function that ANTA is to perform. The Board proposes that arrangements for planning and policy in relation to the provision and allocation of funds for the *base* should continue to operate as constituted for each particular sector. Thus the Board would see ANTA as continuing to fulfil this function with respect to vocational education and training provision beyond 1995.

The Board's proposed mechanism for allocating growth funds on a program basis would allow providers, as defined in Chapter 3, to compete for all growth funds, rather than quarantining both funds and levels of provision within particular sectors and/or institutions. However, as pointed out in Chapter 3, the \$720 million allocated by the

Commonwealth to vocational education and training for 1993-95 will provide a new base for TAFE and training, and this needs to be in place before the process of bidding for growth funds is fully implemented.

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The Board's proposed mechanism for allocating growth funds on a program basis would allow providers, as defined in Chapter 2, to compete for all growth funds, rather than quarantining both funds and levels of provision within particular sectors and/or institutions. However, as pointed out in Chapter 3, the \$720 million allocated by the

Meeting Industry Needs

In its Discussion Paper, *Post-Compulsory Education and Training: Balance of Growth* (see Appendix D), the Board briefly raised the issue of labour market needs. In particular it discussed the DEET publication, *Australia's Workforce in the Year 2001* (1991), which basically argued that, although there would be a need for substantially more persons with post-secondary qualifications over the next decade, current expansion plans in higher education and TAFE would exceed these requirements. The Report discussed the possibilities of skills deepening as a consequence of this projected excess of supply of skills over their demand, or its opposite, credentialism.

Credentialism

Credentialism will occur if the skills of the workforce are not productively utilised. During the Board's consultations on this reference, some employers claimed that credentialism was rife, with little regard being paid to the effective use of qualifications largely acquired for promotion purposes. At the same time, the employers accepted that it was chiefly their responsibility to ensure that the skills and knowledge of their workforce should be productively used. Niland (1979) has argued that employers often use qualifications or educational attainment to discriminate between job applicants and that this is an inevitable consequence of the 'Manpower Absorption Approach'. This raises the essential point that, by itself, skills deepening, measured by educational attainment, will not necessarily lead to greater productivity. Higher qualifications need to be combined with appropriate capital and equipment, and more importantly, the issues of job design, strategic management and workplace reform are paramount in increasing enterprise productivity. Nevertheless, as *Workforce 2001* points out, increased education could be seen to equip people better to deal with and manage an increasingly complex and technological society.

Identifying Areas of Growth

Workforce 2001 itself, and many groups with whom the Board consulted, cautioned against a too precise approach to labour market projections. The uncertainties of such projections ten years ahead are legion. However, most groups accepted that a broad attempt, such as that undertaken by *Workforce 2001*, can provide a useful planning tool for educational institutions and policy planners.

Most State and Territory Governments relatively recently, and partly driven by the current economic difficulties, have undertaken strategic economic development projections and investigations. The aim of these exercises is mainly to seek to identify the strengths and weaknesses of state economies and areas where growth (in terms of output and employment) is likely to occur, the barriers to such growth and what sort of state government activities can help generate it. There are, of course, strong overlaps in

the States' assessments of their growth potential and the sorts of areas identified by *Workforce 2001*, which argued that employment is expected to grow fastest in recreation and personal services, building and construction, wholesale and retail trade, community services and health, and public administration. Contraction in employment is expected in agriculture, electricity, gas and water due to continued technical advances and micro-economic reform.

It is important to note that the areas in which growth is most critical in terms of Australians' future standard of living, i.e. the export and import competing industries, are not necessarily those which will require large increases in employment. Many industries in these categories, for example, agriculture, mining and advanced manufacturing, may well increase output over the decade and achieve substantial growth and export penetration with little or no increase in employment. However, skills deepening is very likely to be required, and on a substantial scale. In fact the orientation and dimension of Australia's future export growth, critical to our future, is a speculative matter. In terms of orientation we do know that Australia's exports to East Asia have increased from about 42 per cent of total exports to more than 50 per cent over the decade 1980 to 1990. Over the same period exports to Singapore, Indonesia and Thailand increased from less than 5 per cent of the total (a small base) to nearly 9 per cent (Australian Pacific Economic Cooperation Committee, *5th Report to the Australian Government 1991* (1992)). This fact is strongly reflected in the States' strategic plans, as well as in some of their responses in terms of the study of languages other than English.

In *Western Australia*, following the Department of State Development's *Western Australia's Prospects 1991-2001*, the Office of Higher Education has produced a Discussion Paper on post-compulsory education and training issues. The Office has produced an analysis of qualifications held by persons in a range of industries and has concluded that growth in certificate-level qualifications is necessary over the decade. It notes that the Finn projections assume that TAFE will become more attractive to 17-19-year-olds than higher education, i.e. current trends will be reversed. It states also that cross-sectoral cooperation (school-TAFE, TAFE-higher education) and a regional emphasis will be essential to achieve the required growth in the qualifications base.

Both the Office of Education and Training and the Chamber of Mines and Energy in Western Australia emphasised in their submissions to the Board the need for *flexibility* in the provision of post-compulsory education and training and warned against the establishment of rigid institutional barriers. The Confederation of Australian Industry (CAI) urged that governments should ensure that educational processes and offerings be related to work requirements. This was echoed by other employer groups; one implication being that a cross-sectoral or program approach might best ensure the link between offerings and the needs of the workplace.

Queensland, in its recent document, *Leading State*, argued for a concentration on agriculture and mining, (important export earners), and manufacturing and tourism, with an orientation to Asia and the Pacific. The policy here, as it is in most State strategic plans, is one of *market enhancement*, where education and training are seen as part of the micro-economic reform agenda, designed to facilitate and enable, rather than directly influence, the development of market opportunities.

A similar approach is seen in *South Australia* where a report by consultant Arthur D Little has proposed a range of strategic measures designed to reinvigorate a static economy. Once again it is suggested that an emphasis on tradeable services with an Asian orientation be developed and that education and research, described as a major source of competitive advantage, be included as an important component of advanced infrastructure. The report also makes the point that, in a situation of a rapid transformation of the economy, it is difficult to forecast accurately future skills requirements. There is therefore a need for an 'improved mechanism' to determine course content.

In *Tasmania*, the Curren Report has sought to analyse the strengths of current contributors to the State's wealth, including fisheries and forestry, manufacturing and tourism. A recent statement by the *Victorian* Government has emphasised the need to develop an advanced manufacturing sector and the State Government's role in providing infrastructure and facilitating an appropriate market environment within which this can take place. The *New South Wales* TAFE Commission, responding to an earlier State Development Plan, has identified industry growth areas in New South Wales such as tourism and hospitality, computing and information systems, rural industry and mining, business services, manufacturing, design and the metals industry. The Commission has developed a range of courses of various nature and length to play its part in responding to this projected growth.

In one way or another all States and Territories are placing a great emphasis on the growth of the tourism and hospitality industry. A recent Commonwealth Government initiative, the National Tourism Strategy, which projects an employment growth for the industry of 200 000 persons over the next decade with at least a doubling of export earnings from about \$7.2 billion to more than \$14 billion, has developed a wide ranging and detailed Training, Employment and Standards strategy for tourism. This has been produced in consultation with the industry, including the Tourism and Hospitality Industry Training Council.

This brief survey has deliberately not gone into great detail concerning the States' own assessments of future growth patterns. What is instructive is how closely they align to the *Workforce 2001* national assessments and how most are placed in the context of the need to productively utilise current skills and the need to upgrade the skills of those currently less skilled. Precise 'manpower planning' proposals these are not, but they do provide at least a broad general view of the likely demands for skills in the future. We must assume that these assessments need to be taken seriously and into account by education and training policy planners.

Other Demands for Education and Training

The following are other factors which are likely to increase demand.

- The need for retraining over the decade, especially for older disadvantaged workers. As argued earlier in this advice, the needs of the workforce in terms of retraining those either currently without skills or those who change their jobs during their working life (which can be expected to accelerate for a large percentage of the workforce) require a high degree of flexibility in our education and training provision. There has always been a high turnover of people in the trades area, the

question is how many of those leaving will require retraining and be offered the opportunity for retraining. If, in fact, the key to productivity improvement lies in concepts such as 'high performance work organisation' which stresses the idea of 'strategic' training (Wurzberg 1991) then it is possible that retraining on a continuous basis will be necessary. All current sectors of education and training provision can expect to participate in this process, including the adult and community education sector whose social and cultural motivation can be said to provide an important base for developing an information society. This sector, probably in collaboration with others, could also play an important role in the provision of shorter, non-award, refresher, retraining courses, including those with a strong on-the-job component. Examples might include continuing professional education as well as more specifically targeted non-professional areas.

- The need to extend training opportunities into the rural and remote areas of Australia, probably on a cross-sectoral basis.
- The development of award restructuring. The CAI, in its submission to the Board, has pointed to the probable demand for entry level type training from many currently unqualified workers. The CAI points in particular to the development of the Engineering Production and Vehicle Industry Certificates. The unions involved in these industries have estimated likely future demands for qualifications as the process of tying awards to skill levels takes hold. For example, the Metals and Engineering Workers' Union (MEWU) estimated an increase in demand for qualifications to Australian Standards Framework (ASF) Level 3 over the years 1992-94 at 20 per cent and the demand to move from ASF Level 3 to 4 and ASF Level 1 to 2 at a massive 80 per cent. They see the great majority (80 per cent) of this training taking place in TAFE. In like manner the Vehicle Builders Employees' Federation of Australia (VBEF) has estimated a growth in demand of about 40 per cent for qualifications at ASF Levels 1 to 4 over the same period, with 60 per cent being provided by TAFE, the remainder in-house.

Estimates provided by the ACTU also point to increased demand arising from award restructuring. In particular, the ACTU is proposing much greater proportionate increases in annual participation rates in external training for lower skilled workers within the Australian manufacturing industry, for example:

- professionals from 23 per cent to 25 per cent (30 per cent);
- para-professionals from 14.5 per cent to 18 per cent (25 per cent);
- trades from 7 per cent to 12 per cent (20 per cent); and
- plant operators/labourers from 3.5 per cent to 10 per cent (20 per cent).

The figures in brackets indicate a more 'optimistic' scenario, in the sense of providing a larger high-skills base, which is favoured by the ACTU and the major industrial parties in the manufacturing sector.

Another point to note here is that the ACTU estimates relate to the manufacturing industry only. This reflects the fact that the award restructuring process has proceeded more quickly in this industry, which accounts for a relatively small proportion of employed persons. Should award restructuring develop strongly in

some of the high employment service industries, many of which also have large numbers of unqualified or less qualified workers, significantly increased demand for training could be expected.

- Demands arising from the Australian Vocational Certificate Training System (the Carmichael Report) which sees ASF Levels 1, 2 and 3 being provided by combinations of schools/TAFE/senior colleges/private providers/on-the-job.

The Award Restructuring impact on demand and the impact of the Carmichael proposals are very difficult to estimate. However, if they do take hold in the ways suggested and estimated, it is probable that there will be a significant growth in demand for qualifications in the range ASF Level 1 to 6 over the next few years. If, in addition, there is a 'gap' in the current qualifications structure at the associate diploma/diploma/three-year degree level for technological subjects, as suggested during the consultations, this could also generate significant new demand. One of the great difficulties in this area is how to determine whether or not the base load of students currently being carried by the post-compulsory education and training system will be sufficient to meet these needs. The methodology adopted by *Workforce 2001* would suggest that it is sufficient, although the issue of the impact of award restructuring was not, understandably, closely considered.

The national training reform agenda with its emphasis on competency standards and training is likely to improve the capacity of the training providers, especially TAFE, to meet some of these demands. The development of Industry Training Advisory Boards and the introduction of the Training Guarantee are also important examples of the creation of an appropriate infrastructure to help increase the quality and quantity of the supply of vocational training to Australian industry.

Need for Flexibility in Provision

In the uncertain and dynamic environment described above, the messages which seem to come through most strongly in terms of meeting industry needs are those of flexibility, relevance and a de-emphasising of institutional rigidities. An institutional or solely sectoral approach to industry training is not likely to provide the flexibility required partly because an appropriate response to skills formation in industry may require a cross-sectoral approach. Skills deepening and the proper utilisation of the skills and knowledge of the workforce are most likely to be forthcoming when industry can specify its needs in a competitive market. This, to some extent, is already occurring. And to be fair to the TAFE systems in particular, industry has not always been precise in its specifications. Nevertheless, the Board believes that a tendering system as described above in Chapter 3, can most readily, efficiently and effectively meet the diverse and changing needs of Australian industry.

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Department of Employment, Industrial Relations and Training, Tasmania, 1992, Submission to NBEET.

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NSW TAFE Commission 1992, Submission to NBEET.

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Queensland: Leading State, 1992, State Economic Development Policy, Government Printer, Qld.

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References

Arthur D Little 1977, *Workforce Development: A Study for the Australian Government of Training Issues*, Submission to NBEET.
Australian Council of Trade Unions 1992, Submission to NBEET.
Australian Pacific Economic Co-operation Committee 1992, *The Report to the Australian Government* 1991.

Financing Growth

The proportion of GDP expended by governments on education declined from 1982–83 (5.6 per cent) to 1989–90 (4.7 per cent). This decline was mirrored in some other areas of government activity, particularly social security and welfare where the decline over the corresponding period was slightly less in percentage terms but greater in real dollar amounts. Conversely health expenditure, for example, has increased as a percentage of GDP over this period.

Australia now compares unfavourably internationally in its proportion of GDP expended on education; it is fourth last on OECD tables. Conversely, according to recent modelling work undertaken by the Victorian Post-Secondary Education Commission, Australia has a relatively high level of post-secondary qualifications within its population aged 24–35 (fifth highest).

Australia has a long tradition of education and training being funded very largely from government revenues. The decline reflects in some part pressure for reduced involvement of government in community activities and for reduced taxation levels, as well as declining relative salary levels of teachers and academics. Associated with these trends has been encouragement for greater financial contributions by individuals for benefits and services. Examples have included employer and employee financed superannuation and contributions by employers under the Training Guarantee legislation. In the case of higher education, recent growth in places is being financed to a large extent by students and their families through up front and deferred HECS charges, and not from government revenues. The Commonwealth contribution has been critical of course for it has been used, effectively, to bring forward the funding for growth projected (and for capital development) and will decrease as the return from HECS increases (Cullen & Smart 1992).

While nobody has yet suggested that this should be the way that *all* post-school education should be funded, there is clear incompatibility between pressure for reducing overall taxation levels and expectations that growth in general educational and vocational educational and training opportunities be funded from government revenues. Further, the fall in the proportion of GDP allocated to education and training at a time of increasing student participation threatens both the quality of provision and government and industry strategies for Australia to develop a more highly skilled and educated workforce and to become more internationally competitive.

Options for Financing Growth

It was generally argued during the consultations and in the submissions that the Commonwealth should provide additional funding for growth and that growth in one sector should not be at the expense of other sectors. However, a majority of groups

appeared to accept the proposition that governments alone could not be expected to fund all the growth required. Students, business and industry it was argued should be expected therefore to make a greater contribution.

Options for financing growth in education and training include the following.

- From government revenues—The proportion of outlays spent on education and training, as discussed earlier in this advice, and the public good that flows from such expenditure, all show that there is room for more to be spent. Even so, this is likely to be a source of financing for only a part of the growth required.
- By employers, particularly business and industry, and particularly for specific skills or knowledge required on-the-job in an enterprise and for post-initial qualifications related fairly directly to the individual's employment. Private providers could have a greater role in providing this training.
- By individuals, through both up front and deferred fees. Deferred fee options are preferable from an equity viewpoint, but are not helpful in the short-term for cash-strapped governments. Possible options (to apply in respect of total student places, not just growth) include the introduction of HECS in TAFE, a more progressive HECS (either in TAFE or higher education) and a tertiary education and training entitlement. These options are discussed in turn below.

HECS in TAFE

Comments during the consultations on the operation of HECS in higher education were generally favourable; HECS appeared to be generally accepted and was seen to be working well.

On the other hand, the charging of up-front fees in TAFE with no deferred payment option was regarded as inequitable. In this context, there was clear support for the introduction of a HECS-type scheme to replace upfront fees in TAFE. Groups which did not support fees for TAFE courses agreed that if fees were to be charged, a HECS-type arrangement for payment would be the preferred option.

From both the point of view of equity and of cost effectiveness, the Board considers that such an arrangement should only apply to TAFE or vocational education and training courses at Level 4 of the Australian Standards Framework, and Associate Diplomas and Diplomas. The costs involved in collecting contributions for lower level courses are likely to far outweigh the returns, given that deferred charges would be recoverable only when income reached average weekly earnings. The level of the fee charged should be set at 20 per cent of the average cost of TAFE courses, similar to the situation applying in higher education, or indeed could be set at a level a TAFE system determined. The key is providing an opportunity for TAFE students to defer payment should they be so inclined. The Board recognises that the current predominantly State/Territory Government responsibility for TAFE funding would have implications for the administration of a HECS scheme in TAFE. Administrative difficulties, however, should not be used as a sole reason for rejecting the proposal.

More Progressive HECS

The Board considers that whether in the TAFE (ASF Level 4, Associate Diploma, Diploma) or higher education sectors, the option of a more progressive repayment structure in HECS has merit, i.e. students who chose to defer payment could be required to repay the loan at a faster rate once they reached an income threshold. The Board believes that this would be a reasonable and effective way of returning funds more quickly to the system by those most able to afford a higher rate of repayment.

Tertiary Education and Training Entitlement

It is the Board's view that public funds for tertiary education should be used primarily to enable as many people as have the capacity to gain a first qualification. Although limited data are available on attrition rates and average course completion times, there is some indication that resources are not being used to maximum benefit. Too many students are either not completing their courses (or modules or subjects in TAFE), and therefore not acquiring the associated 'qualification', or are completing courses (or subjects or modules) in longer than the minimum period required. The Australian Vice-Chancellors' Committee (AVCC) expressed concern about this issue in its *Foundations for the 'Clever Country'* published in 1991. The AVCC referred to the 'considerable waste of human potential and of academic resources' and commented that a 'substantial effort will be required to change this situation significantly' (p.23).

During the course of consultations with interest groups on this reference, a proposal for a tertiary education and training entitlement was discussed. While reaction was mixed, the Board considers that there was sufficient initial interest in the proposal to warrant its closer examination.

This option would make available to all individuals offered a place in higher education or TAFE (post-Year 12), a specified maximum number of full-time years (or the equivalent part-time) of post-school education and training at other than higher degree level, to be funded mainly by government with a small contribution from the student (i.e. fees or the current HECS charge). For students studying beyond this period at other than higher degree level, the ratio of contributions from the government and student would be changed, with the student's contribution meeting a greater part of the cost (with the option of deferring payment until income reaches average weekly earnings, as under HECS). The number of *equivalent* full-time years of study that could be undertaken before the individual's contribution increased to the higher rate and the government subsidy decreased (i.e. the entitlement) could be either related to the length of the actual course undertaken (e.g. $n + 1$, where n is the number of full-time years in the course) or it could be a fixed number of *equivalent* full-time years to apply to all students regardless of the length of the course undertaken. 'Extra' years would be funded at maximum government subsidy only where extenuating circumstances applied to the particular student, such as illness, deferral etc. In general, students who have already completed one university course would be required to make a greater contribution to the cost of a further university course at other than higher degree level. A similar principle would apply to students undertaking an additional TAFE course. However, this principle would not apply in the case of students articulating from TAFE to higher education, and in certain cases where students transfer from higher education to TAFE.

For higher degree studies, such as masters or Doctor of Philosophy, a maximum of three further years of full-time study, or its equivalent part-time, would be available at maximum government subsidy, with the individual's contribution rising to meet a greater part of the cost beyond that point. (Of course, postgraduate scholarships would continue to be available.)

The returns from such a system would be two-fold. Students would be encouraged to complete their courses in as short a time as possible, freeing up places for students who would otherwise miss out altogether. The increased contributions from students who have already used up their entitlement would also be used to fund additional places.

The Board believes that the principle of limiting the maximum public subsidy to an individual participating in post-school education is reasonable, given the considerable cost, the high levels of unmet demand and given that payment of student contributions could be deferred under a HECS-type arrangement until the student's income reached the level of average weekly earnings.

The Board has not been able, with the time and resources available for this reference, to quantify the funds that could be expected to flow from implementing any of the above proposals. As is the case with government revenues, contributions from employers for employment related skills or knowledge are likely to finance only a part of the growth required, but are still an attractive option. The Board believes that the three options for financing growth through greater individual contributions, i.e. HECS in TAFE, a more progressive HECS and an education and training entitlement, have merit and should be the subject of further study and discussion.

References

Australian Vice-Chancellors' Committee 1991, *Foundations for the 'Clever Country': Report for the 1992-94 Triennium*, Canberra.

Cullen, R B & Smart, N C 1992, *A Higher Education Model for Australia*, VPSEC.



Minister for Employment, Education and Training
Parliament House, Canberra, ACT, 2600

Mr P Laver
Chairman
National Board of Employment,
Education and Training
GPO Box 9880
CANBERRA ACT 2601

8 NOV 1991

Dear Mr Laver

On 26 July 1991, I asked the Board to:

'Provide advice to inform policy deliberations and possible future references to NBEET, including:

- quantification and analysis of participation trends in education and training;
- advice on funding requirements for the education and training system; and
- identification of possible flexibility in the allocation of resources.'

In the light of AEC/MOVEET Ministers' decisions on the recommendations of the Finn Review, I request the Board, in conjunction with its work on this reference to provide advice on:

the appropriate balance of growth between the education and training sectors that is required to achieve the new agreed national targets for post-compulsory education and training

- having regard to the purpose and functions of the schools, TAFE/training and higher education sectors;
- having regard to appropriate adult participation in education and training and attainment of higher level qualifications;
- taking account of relevant government policies on the roles of the sectors;
- taking into account student demand and the overall composition of skills and qualifications in the society and the capacity of the labour market to utilise those skills effectively; and
- building on the work of the Finn Committee.

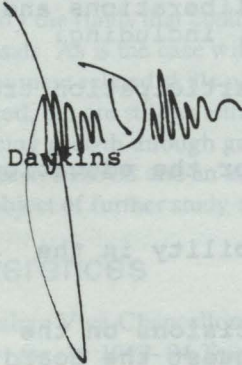


I would expect that, in undertaking this work, the Board would take account of labour market programs insofar as they relate to the TAFE/training sector and that its approach would be informed by the findings and recommendations of the current ESFC review of entry-level training arrangements and related issues.

In providing its advice I would ask the Board to identify the resource implications of its recommendations, including with regard to income support arrangements.

I would also request that the Board consult with all interested parties in preparing its advice and that it work with the AEC/MOVEET working party that has been established to consider the Board's report and advise AEC/MOVEET Ministers on its findings and policy responses.

Yours sincerely


John Dawkins

- the appropriate balance of growth between the education and training sectors that is required to achieve the new agreed national targets for post-compulsory education and training
- having regard to the purpose and functions of the schools, TAFE/training and higher education sectors;
- having regard to appropriate adult participation in education and training and attainment of higher level qualifications;
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- taking into account student demand and the overall composition of skills and qualifications in the society and the capacity of the labour market to utilise those skills effectively; and
- building on the work of the Yinn Committee.

Written Submissions

Abbott Hames International
 Australian Council of Social Service
 Australian Library and Information Association
 Australian National University
 Australian Parents Council Incorporated
 Australian School Library Association Incorporated
 Australian Secondary Principals' Association
 Australian Vice-Chancellors' Committee
 Castles, Prof F G, Public Policy Program, Australian National University
 Catholic Education Centre, NT and St John's College, NT
 Catholic Education Commission, NSW
 Catholic Education Office, Archdiocese of Canberra and Goulburn
 Chamber of Mines and Energy of WA Incorporated
 Confederation of Australian Industry
 Council of Adult Education
 Council of Australian University Librarians
 Department of Education and the Arts, Tasmania
 Department of Employment & Technical & Further Education, SA
 Department of Employment, Industrial Relations and Training, Tasmania
 Federated Australian University Staff Association and the Union of Australian College Academics
 Higginson, Ms Clair, Independent Consultant and member of the State Employment and Skills Development Authority, WA
 Industry Education Forum
 National Council of Independent Schools' Associations
 National Library of Australia
 National Union of Students Incorporated
 New South Wales Technical and Further Education Commission
 Office of Adult, Community and Further Education Board, Ministry of Employment, Post-Secondary Education and Training, Victoria
 Office of Education and Training, WA
 Polya, Dr G M, La Trobe University
 Principals of Adult Secondary Colleges and Campuses, Department of Education, SA
 Queensland Catholic Education Commission
 State Libraries Council, Queensland
 Swinburne Institute of Technology
 Tamworth Association Incorporated Training for Retailing and Commerce
 University of Technology, Sydney
 Victoria University of Technology

Groups Attending Consultations

Queensland (29 April 1992)

Department of Education (Schools)
 Department of Employment, Vocational Education, Training & Industrial Relations
 Office of Higher Education
 Queensland Confederation of Industry
 Queensland Trades and Labour Council
 University of Queensland
 Vocational Education, Training & Employment Commission

Western Australia (6 May 1992)

Curtin University of Technology
 Department of Employment, Vocational Education and Training
 Industry Education Forum Inc.
 Ministry of Education
 Office of Higher Education
 State Employment & Skills Development Authority

Victoria (11–12 May, 3 June 1992)

Australian Council of Trade Unions
 Australian Teachers Union
 Business Council of Australia
 Confederation of Australian Industry
 Council of Adult Education
 Council of Australian Postgraduate Associations
 Department of Employment & Training
 Federated Australian University Staff Association
 Melbourne College of Textiles
 Ministry of Education and Training
 National Union of Students
 Office of Higher Education
 Swinburne Institute of Technology
 Tourism Training Victoria
 Union of Australian College Academics
 Victorian Post-Secondary Education Commission

Tasmania (15 May 1992)

Department of Education and the Arts
 Department of Employment, Industrial Relations and Training

South Australia (21 May 1992)

Department of Education
Department of Employment & TAFE
National Institute of Labour Studies
Office of Tertiary Education
United Trades & Labour Council of South Australia

New South Wales (25-26 May 1992)

Australian Parents Council
Board of Adult & Community Education
Department of School Education
Higher Education Unit, Ministry of Education & Youth Affairs
Ministry of Education & Youth Affairs
National Metal & Engineering Training Board
National Retail Industry Training Council
New South Wales Technical & Further Education Commission

Northern Territory (28 May 1992)

Department of Education
Northern Territory Employment and Training Authority
Northern Territory University

Australian Capital Territory (5 and 9 June 1992)

ACT Department of Education and Training
ACT Institute of TAFE
Australian Association of Adult and Community Education
Australian Council for Libraries and Information Services
Australian Library and Information Association
Australian Secondary Principals' Association
Australian Vice-Chancellors' Committee
Chapman, Dr Bruce, ANU
Commonwealth Department of Employment, Education and Training
Institution of Engineers Australia
National Library of Australia

Executive Summary

Post-compulsory Education and Training: Balance of Growth

Discussion Paper

April 1992



NATIONAL BOARD OF
EMPLOYMENT, EDUCATION AND TRAINING

Executive Summary

In July 1991 the National Board of Employment, Education and Training received from the then Minister for Employment, Education and Training, Mr Dawkins, a reference seeking advice on the allocation of resources for the education and training system.

Shortly afterwards the Finn Committee Report was released, setting new national targets of participation and attainment in post-compulsory education and training. In brief, the Finn Committee recommended that by the year 2001, 95 per cent of 19-year-olds should have completed Year 12 or an initial post-school qualification or be participating in education and training. In addition, under a proposed post-compulsory Education and Training Guarantee, all young people would be guaranteed a place in school or TAFE after Year 10 for two years of full-time education or training or its equivalent part-time for up to three years. These main recommendations were subsequently agreed to by all Australian education and training Ministers.

In view of the significant implications of the Finn Review recommendations for sectoral planning and resource allocation, in November 1991 the Minister gave a revised reference to the Board seeking advice on the appropriate balance of growth required between the education and training sectors to achieve the new agreed national targets. Following a decision by Australian education and training Ministers at a joint meeting of the Australian Education Council (AEC) and the Ministers of Vocational Education, Employment and Training (MOVEET) in October 1991, an AEC/MOVEET working party was established to assist the Board in this work.

The discussion paper, prepared by a working group of the Board, outlines an approach to the development of advice on the reference. It looks briefly at labour market needs, international comparisons of participation in education, recent trends in education and training participation and funding, and at factors contributing to the growing levels of demand for post-compulsory education and training. These current trends and pressures have significant implications for future funding levels and achieving the Finn Committee targets will increase cost projections even further.

A consultant has been commissioned by the Board to develop a projection model for enrolments, expenditure, student income support and staffing in Australian education to the year 2001. The projections from this model will be used to derive for each education and training sector, projected growth in recurrent and capital costs, student income support and staffing. The Board will be seeking comment on the feasibility of this growth and on the Finn targets themselves.

The paper also looks at limits on government flexibility in allocating resources for education and training.

The Ministerial reference requires the National Board to consult with all interested parties in preparing its response. The Board working group has already and will continue to consult with the AEC/MOVEET working party established to assist the Board in this work.

Following the distribution of the discussion paper, the Board will consult with various individuals and organisations between late April and early June 1992. The Board will be seeking comment in particular on a number of broad issues which have an important bearing on decisions for government funded growth and on the feasibility of the Finn targets. Submissions are also being invited.

A further source of input to the Board's advice are the findings and recommendations of the review of entry-level training arrangements recently completed by its Employment and Skills Formation Council and presented in the Council's Report *The Australian Vocational Certificate Training System*. The response of the Australian education and training Ministers to the Report will be an important consideration.

Discussion Paper

Preface

The Minister for Employment, Education and Training has asked the National Board of Employment, Education and Training to advise on funding requirements for the education and training system and the appropriate balance of growth between the post-compulsory education and training sectors. To assist in preparing its response to this request, the Board is inviting submissions and also will be consulting with various individuals and organisations.

This discussion paper has been prepared by the Board to provide a basis for these consultations and submissions. In particular, the responses to questions and issues raised in this paper will help to determine the range of issues to be covered in the Board's final advice and to shape the advice itself.

Submissions should be sent to:

Project Officer
Sectoral Resourcing
National Board of Employment, Education and Training
GPO Box 9880
CANBERRA ACT 2601

The closing date for submissions is 1 June 1992.

Background

In July 1991 the Board received from the then Minister for Employment, Education and Training, the Hon J S Dawkins MP, a reference on portfolio resourcing. The Board was asked to provide advice on matters including:

- quantification and analysis of participation trends in education and training;
- advice on funding requirements for the education and training system; and
- identification of possible flexibility in the allocation of resources.

Shortly afterwards, the Report of the Australian Education Council Review Committee on *Young People's Participation in Post-compulsory Education and Training*, the Finn Report, was released. This Report recommended the establishment of new national targets of participation and attainment in post-compulsory education and training. In summary, these targets required that by the year 2001, 95 per cent of 19-year-olds should have completed Year 12 or an initial post-school qualification or be participating in education or training. These targets are discussed in more detail in a later section on trends, projections and targets.

In view of the significant implications of the Finn Review recommendations for sectoral planning, in November 1991 the Minister gave a revised reference to the Board seeking advice on the appropriate balance of growth required between the education and training sectors to achieve the new agreed national targets for post-compulsory education and training. A copy of the Ministerial reference is at Appendix 1.

In a letter to the Minister concerning the anticipated revised reference, the Board noted that the resourcing of labour market programs and services was covered to only a limited degree by the terms of the reference. The Board agreed that while the resourcing of labour market

programs was an important issue, these programs needed to be considered separately from other post-compulsory education and training programs, since they were driven by different requirements. The issue of the resourcing of labour market programs was therefore considered to fall outside the scope of the revised reference. However, in considering the post-Finn resource needs of the TAFE/training sector, account would need to be taken of the substantial increases in resource commitments flowing from the enhancements to labour market programs announced in the Federal Government Statements of March and November 1991 and February 1992, and in the 1991-92 Budget.

Funding of Education and Training Programs

The predominant source of funding for education and training programs in Australia is the public sector. This situation will probably continue, although, as pointed out by the Finn Committee, contributions from other sources, such as individuals, industry, entrepreneurial activity and through greater efficiency, could be expected to increase in the future. The source of funding for education and training programs, particularly in view of the substantial levels of growth needed to achieve the new national targets, is an issue on which the Board will be seeking comment through consultations and submissions from individuals and organisations.

In a study commissioned by the Board, *Resource Allocation in Education, Training and Employment Programs, 1970-2001 (Commissioned Report No. 11)*, completed in September 1991, Associate Professor Gerald Burke draws attention to the following trends in funding:

- real government outlays on education and training have grown at the rate of 2 per cent per annum for the last fifteen years, but have declined substantially as a percentage of Gross Domestic Product (GDP) because education cost levels (largely salary costs) increased at a slower rate than general cost levels in the late 1980s and because of a faster rate of growth in the GDP;
- capital expenditure on education and training has fallen substantially, from one per cent of GDP in 1974-75 to 0.35 per cent in 1989-90, with a sharp decline in capital funds for higher education in the late 1970s and an expansion in TAFE into the early 1980s;
- there have been shifts in funding between sectors with the share of resources in TAFE rising in the late 1970s and early 1980s, and in non-government relative to government schools in the 1980s; the proportion of outlays on higher education has fallen from a relatively high level in the early to mid 1970s but has remained at about the same level over the last decade; there has been very substantial real growth in student income support in the late 1980s;
- private expenditure on education, excluding that on non-government schools, has grown slowly from a small base over the last fifteen years. As pointed out by Dr Martin Hayden in his recent study commissioned by the Board, *Accountability for Public Expenditure on Education within the Context of Federal Systems of Government: A Review of the Literature (Commissioned Report No. 11)*, private funding of education outlays in Australia is low (7 per cent) compared to the USA (26 per cent) but comparable to other OECD countries such as Canada (8 per cent) and (West) Germany (4 per cent); and
- the Commonwealth Government provides a high proportion of public funding for schools, TAFE and higher education, with its proportion in 1989-90 (38 per cent) nearly double that in 1969-70 (21 per cent), indicating a shift from State Government funding. For example, under present funding arrangements, shifts in enrolments from government to non-government schools since 1978 have increased Commonwealth Government outlays for schools and decreased State Government outlays.

The proportion of GDP currently allocated to education is about 5 per cent. Assuming reasonable growth after the recession, the possible growth in GDP by the end of the decade could be in excess of 30 per cent. The allocation of the education and training share of this growth among the various sectors is a crucial issue that needs to be addressed. Factors to be taken into account include:

- international comparisons of education and training participation and completion rates;
- projections of labour market needs;
- pressures on demand within sectors and between sectors; and
- extrapolation of past trends in rates of participation, completion, retention, transfer and relative costs.

International Comparisons

For this paper the National Board has compared the range of twenty-five countries constituting the OECD. The latest year for which comparative data are available is 1988. On this basis the Board is able to make some analysis of the position of Australia vis-a-vis its OECD partners and their education and training performance. Performance here is defined as both inputs (e.g. expenditure) and outputs (e.g. participation rates, completion rates).

It should be pointed out that valid international comparisons are difficult to make in a field such as education and training where there are conceptual and definitional problems and difficulties in aligning distinctive national arrangements. In addition, economic, geographic, demographic, historical and a range of attitudinal and cultural factors are significant in determining the character of a nation's education and training arrangements. For these reasons, international comparisons need to be used with caution. However, they may be useful in lending weight to other arguments for policy development.

Two OECD countries, Canada and The Netherlands, for different reasons, provide a basis for specific comparison with Australia. Canada has geographical and historical similarities, a federal-provincial system of government and an economy also reliant on use of natural resources; The Netherlands is of comparable population size and wealth. In Appendix 2 general and specific comparisons are made in terms of the level of public expenditure in education; GDP on a per capita basis; a range of education and training participation measures (upper secondary education, tertiary education including non-university and university education) and measures of university graduation and minimum completion times.

The major conclusion drawn from this brief analysis is that, on the basis of the available OECD data, Australia compares favourably. This is not to say that Australia could not or should not do better—but in terms of the indicators considered it would appear that Australia does better than most. Specifically, we do better than The Netherlands in most regards but not as well as Canada. Considering the significantly greater wealth of Canada, Australia's performance seems reasonable.

It is important to stress that the comparators in this exercise included only OECD countries, mainly European and North American. Of Australia's major Asian trading partners only Japan is included in the comparative data. Comparisons with some of Australia's other major Asian trading partners would be of interest if appropriate data were to become available.

Labour Market Needs

The proportion of Australia's labour force with post-school qualifications is rising. However, while there has been growth in the proportion holding certificate, diploma or degree qualifications, the proportion with trade qualifications in 1991 was less than it was in 1988. A table showing the distribution of post-school qualifications in the labour force over the last five years is provided at Appendix 3. The Board is proposing to undertake work to disaggregate this distribution according to age group and to make corresponding projections for the next decade (see also a later section on trends, projections and targets).

In *Australia's Workforce in the Year 2001*, (Department of Employment, Education and Training 1991), it is projected that substantially more persons with post-secondary qualifications will be required over the next decade. However, it is argued that the rapid expansion of the qualified workforce already underway or planned before release of the Finn Report will far exceed requirements, resulting in a deepening of the skill base as workers undertake further education and training.

Generally, the outlook over the decade for skilled occupations is considered to be much brighter than for the unskilled. Occupations with best prospects are professionals, sales workers and tradespersons while occupations with poorest prospects are machine operators and labourers. However, the prospects for employment growth of individual occupations within these broad groups are variable. For example, there is likely to be lower employment growth for school teachers than most professionals while construction labourers could benefit from expected expansion of construction.

Employment is expected to grow fastest in recreation and personal services, building and construction, wholesale and retail trade, community services and health, and public administration. Contraction in employment is expected in agriculture, electricity, gas and water.

The *Workforce 2001* report warns that if the nation does not make productive use of the projected growth in newly qualified workers the result will be credentialism. In other words, the workforce needs to become more productive as a result of using the qualifications acquired and not just more credentialled. At the same time, a balance needs to be reached between utilitarian views of education and training and the social and cultural value for individuals and society generally. As *Workforce 2001* points out, increased education could be seen to equip individuals better to deal with an increasingly complex and technological society.

On the supply side, it might be argued that Australia should set a target for the proportion of the workforce/population holding particular post-compulsory education qualifications. It is relevant to note that in the United States a Hudson Institute Report (Johnston, William B 1987, *Workforce 2000: Work and Workers for the 21st Century*) projects that, by the year 2000, nearly a third of new jobs in the workforce will be occupied by those holding a university qualification, an increase from 22 per cent in 1984.

Projections of labour market needs in the next ten years or so cannot be made with any certainty. Unexpected developments such as fluctuations in the domestic and international economies, growth or decline of particular industries, technological developments and changes in government policy and in society generally can dramatically affect future trends.

Demand Pressures

There is unprecedented demand for participation in post-compulsory education and training in Australia, and demand is expected to increase in coming years. There is no question that the gap between the demand for and the supply of funded places is an important influence on government policy. The question is how much weight should be placed on this factor in allocating growth among the sectors. It should be remembered that responding to pressures from one sector or from a group within a sector reduces the opportunities for other groups or sectors.

There are a number of factors contributing to demand. In relation to demand from young people:

- the Year 12 retention rate has been rising dramatically, in response to encouragement by the Federal and other Governments and other factors; the national retention rate has risen from 35 per cent in 1976 to 49 per cent in 1986 and 71 per cent in 1991, and is expected to reach 75 per cent or higher in 1992;
- the transfer rate from Year 12 to higher education (including nurse education) over the last couple of years has been 43 per cent and has been around this level since the early 1980s;
- the higher education participation rate has also increased dramatically for the 17–19 and 20–24 age groups; in 1983, 10 and 9 per cent respectively of these age groups were in higher education compared to 15 and 12 per cent respectively in 1990; and
- there has been a trend towards full-time entry to the workforce at an older age and there are high levels of youth unemployment nationally. Over the last twenty-five years, the number of 15–19-year-olds in full-time employment has fallen from 58 per cent of the 15–19-year-old population to 28 per cent. Young people clearly
 - are 'sheltering' in education and training from the difficult job market with the prospect of seeking employment when the economy picks up, and
 - believe they will be more likely to secure suitable employment with recognised post-compulsory qualifications.

In relation to increased demand from people of all ages:

- participation in TAFE grew rapidly in the early 1980s but there has been little change in the last three years. In 1990 TAFE participation was about 20 per cent for 15–19-year-olds and about 7 per cent for 20–64-year-olds. The new national targets and recent proposals for a new vocational education and training system will have very significant implications for participation in TAFE and accredited private courses;
- there is likely to be increased demand for further education and training arising from increased adult and community education and lifelong learning, and from general improvements in literacy and in the proficiency of those from a non-English speaking background in reading, writing and speaking English;
- there is a projected increased demand for improving skills in existing occupations and retraining for changed occupations flowing from industry and award restructuring;
- there is a push for Australia to become more internationally competitive, able to deliver high quality goods and services by means of a more highly skilled and productive workforce; and
- there are changing perceptions of the social and cultural value of education and training for individuals and society generally.

Demand pressures may also be affected by demographic and social factors which are difficult to predict confidently. Demographic predictions of raw numbers for births, deaths and net migration are necessarily inexact. For example, immigration levels may well fall over the coming decade, leading to a reduction in demand, and changes in the composition of immigration intakes may also affect demand. Conversely, for example, fertility levels could rise for older women who have previously delayed having children; expectations of educational attainment for such children could also differ from those held by younger parents. These possible examples illustrate the difficulties in modelling growth in demand.

Although a range of factors are outlined above which are expected in the main to increase demand for education and training significantly, it is reasonable to expect at least some of that demand could be met through increased efficiency without reducing the quality of teaching and learning undertaken. Opportunities for cost savings may be available, for example, by means such as:

- more efficient use of buildings, facilities and other infrastructure;
- new technology for teaching, alternative teaching methods and improvements in administrative practice; and
- award restructuring efficiencies.

This process may also be assisted by some measure of appropriate competition between course providers within a publicly funded education or training sector.

It is also acknowledged that the education and training 'market' is far from perfectly informed. The market should operate more efficiently if it were better informed. Of particular importance is the extent or lack of information—or misinformation—on which students choose courses and subsequent careers. A range of bodies could play a valuable role in better informing students of course and career options and assessing students' aptitudes for them. This question is important in light of the resource implications of course choices and the society's capacity to fund and deliver the necessary course places.

Trends, Projections and Targets

Youth Participation

Comment has already been provided on the rapid growth in participation in post-compulsory education and training by young people. This is particularly evident in the dramatic rise in the Year 12 retention rate, the relatively constant transfer rate from Year 12 to higher education and the high rates of increase in participation in higher education.

Putting into effect the new agreed national targets arising from the Finn Report will add considerably to this growth. These targets of participation and attainment in post-compulsory education and training, including schools, higher education, TAFE and other training are encapsulated by a single summary target 'that, by the year 2001, 95 per cent of 19-year-olds should have completed Year 12 or an initial post-school qualification or be participating in education or training'. To support this goal, the Finn Committee recommended the introduction of 'a post-compulsory Education and Training Guarantee whereby all young people would be guaranteed a place in school or TAFE after Year 10 for two years of full-time education or training or its equivalent part-time for up to three years'.

The summary target and the concept of an Education and Training Guarantee were agreed to by all Australian education and training Ministers at the joint meeting on 18 October 1991 of the Australian Education Council (AEC) and the Ministers of Vocational Education, Employment and Training (MOVEET). Other national targets agreed to by the Commonwealth, Territory and most State Governments were:

- by 1995 all young people by the age of eighteen should have attained sufficient vocational skills to achieve at least a base-level traineeship (or other vocational qualification recognised by the National Training Board (NTB) as Level 1) or be participating in Year 12 or progressing toward a higher level qualification;
- by 2001 almost all people by the age of twenty should have attained at least a higher-level traineeship (or other vocational qualification recognised by the NTB as Level 2) or progress toward a higher level vocational qualification or a post-Year 12 academic qualification; and
- in relation to higher levels of qualifications, by the year 2001 at least 60 per cent of people by the age of twenty-two should have attained at least a vocational certificate (or other vocational qualification recognised by the NTB as Level 3) or progress toward a vocational qualification above Level 3 or a diploma or degree.

It needs to be emphasised that these are starting point rather than end point targets and that they refer to completion and attainment as well as participation. This means that given current attrition rates, levels of participation need to be substantially greater than the relevant target completion/attainment rate.

The Finn Committee estimated that its proposed targets would involve an increase of about \$450–\$500 million or 2.5 per cent in recurrent expenditure over the current trend level by the year 2001, and \$1600 million overall for the post-compulsory Education and Training Guarantee.

Mature Age Participation

The Finn Committee was specifically concerned with the participation of young people and the setting of national targets for people up to age twenty-two. However, people twenty-three years of age and over make up around 60 per cent and 45 per cent of total participation in TAFE and higher education respectively. Clearly, providing growth in participation for young people but not older age groups would reduce opportunities relatively for those older groups. Yet there are increasing pressures for greater participation by these older age groups, arising from award restructuring, retraining and increased skill needs, as already referred to. What then should be the balance between younger and older age groups?

One approach might be to set an arbitrary target of qualification attainment for the 23–65-year-old group and use this to determine participation levels for this group. It needs to be noted, however, that given the broad base of this group, a relatively small change in participation or attainment rates has very significant resource implications.

Moves to provide more systematic arrangements for credit transfer, articulation and recognition of prior learning will also have significant implications for mature age participation. In addition, pressure for further education and training will increase as the pool of people with 'first' post-compulsory education qualifications grows. The rate of growth of this pool is highlighted by the fact that the number of students completing higher education courses in 1993 is expected to be nearly double the number in 1981. The increasing pressure for additional qualifications is also indicated by the strong growth in postgraduate enrolments over the last decade.

More established pathways, particularly from TAFE to higher education, will have significant implications for decisions on relative levels of growth allocation.

Due to lack of data, the current and future role of private providers in post-compulsory education and training delivery is difficult to assess both in terms of the kinds of training provided and the size of the market. It is likely however, that the numbers of private providers will increase as their courses become accredited and aligned with the framework being established by the National Training Board. This activity will need to be taken into account in decisions on government funded provision, particularly if the students undertaking these privately provided courses are drawn from the same pool as students in the TAFE and higher education sectors.

The expected increasing activity of private providers will also increase the pool of persons with some post-compulsory education qualification, and hence add to the demand for further education and training.

Projection Model

Associate Professor Gerald Burke has been commissioned by the Board to develop a projection model for enrolments, expenditure, income support and staffing in Australian education to the year 2001. The model will project student flow from senior secondary school to TAFE/higher education/labour market (including employment/unemployment/labour market programs)/other as primary destinations for the 15–24-year-old population. Some projections will also be provided for the 25+ age group. Figures will be nationally rather than state based, at least initially, and where possible a breakdown will be provided for full and part-time and male and female components. It is hoped to be able to provide some breakdown of higher education data between undergraduate and postgraduate.

The Burke model will be largely based on the Finn projections because the Ministerial reference requires the Board to build on the work of the Finn Committee. No more suitable starting point for building such a model was readily available in any event. Any differences between the Finn assumptions and those used in the Burke model will be clearly stated. These differences could arise from the use of more up-to-date data, or from a difference in opinion as to the likelihood of certain of the Finn assumptions. For example, it might be considered that the Finn-assumed rate of students in Year 11/12 undertaking studies in TAFE is too high.

Work on the Burke model is still at a preliminary stage. A table of enrolment projections prepared by Professor Burke is provided at Appendix 4. As part of its consultation process the Board will be specifically seeking comment on the feasibility/appropriateness of various assumptions and targets including those from both the Finn and Burke models. It is intended that the Burke model will allow for various parameters to be tested, allowing for adjustments in assumed retention rates, transfer rates, participation rates, etc.

The Burke model and its participation rates will be used to derive, for each education and training sector, projected growth in:

- recurrent costs;
- capital costs;
- income support assistance for students; and
- qualified teachers/lecturers and other staff.

The feasibility of successfully acquiring and deploying the resources and qualified staff predicted to be necessary to meet these participation rates will then be assessed.

The relative government recurrent cost per full-time student in post-compulsory education in the various sectors will need to be taken into account, as will the relative share between the different levels of government of any increased education and training expenditure.

The Board is aware of very recent national modelling work of similar scope being undertaken by the Victorian Post-Secondary Education Commission (VPSEC) and would hope to be able to use relevant results of the VPSEC model (and any other models) as they become available to better inform its policy advice.

It is worth noting here that even without increased participation in education and training, there are likely to be substantial increases in costs of education and training if:

- salaries of teachers, academic and other staff 'catch up' some of the relative salary drop over the last fifteen years without compensating efficiency savings (this factor is generally not built into growth projections);
- governments respond to pressure for building refurbishment and improved facilities and infrastructure (e.g. libraries, science and language laboratories in schools, technical facilities in TAFE), including pressures resulting from higher education overcrowding; and
- there is any change in mix of courses towards those of higher average cost.

Flexibility in Allocation of Resources

The Board was asked by the Minister in its earlier reference to advise on any flexibility in the allocation of resources for education and training. The Commonwealth and State Governments have very little flexibility due to a number of factors. The rapidly rising school retention rates to Years 11 and 12, current levels of demand for higher education and TAFE and the additional funding required to meet recently increased salaries for teachers and academics, all lead to reduced flexibility. In addition, the following factors need to be taken into account:

- Commonwealth school funding arrangements post-1992 are being locked in by legislation, incorporating real increases in recurrent grants per student for both government and non-government schools;
- increased recurrent and capital growth for higher education on a triennial basis is being locked in by legislation;
- the Commonwealth has undertaken to fund 40 000 extra TAFE places (and associated AUSTUDY income support) in 1992;
- the Commonwealth gave a commitment to greatly increased outlays on labour market programs in the March and November 1991 economic statements and in the 1991-92 Budget context; and
- Commonwealth proposals announced in the February 1992 economic statement involve further substantial commitments for education and training programs.

It is in this context of increasing funding commitments for education and training programs, particularly at the Commonwealth level, that the issue becomes more one of apportioning balanced growth rather than seeking flexibility in the allocation of existing resources across portfolio programs.

Availability of Data

The Board is not the first to find that comparisons between the sectors and analysis of the education and training system as a whole are hampered by the lack of reliable and comparable data. It can only encourage moves which are already underway to improve this situation.

Consultation Process

In preparing its response to the reference on the allocation of growth for Australia's post-compulsory education and training system, the Board has been asked to consult with all interested parties. The Board has already and will continue to consult with the AEC/MOVEET working party established to work with the Board on this issue.

In addition, the Board will be taking into consideration the findings and recommendations of the review of entry-level training arrangements recently completed by its Employment and Skills Formation Council, and presented in the Council's report, *The Australian Vocational Certificate Training System*. The response of Australian education and training Ministers to the report will be an important consideration.

Consultations with various individuals and organisations will take place following the circulation of the discussion paper and will mainly occur between late April and the middle of June 1992. In addition submissions will be invited.

Proposed groups to be consulted include:

- State and Territory Government authorities responsible for schools, TAFE, and higher education;
- schools and TAFE teacher unions;
- higher education institutions and interest groups (e.g. AVCC, NUS, CAPA, FAUSA, UACA);
- employers and employer associations (e.g. BCA, CAI, MTIA);
- National Training Board;
- ACTU; and
- appropriate peak community groups, including ACOSS, adult education and parent bodies.

Issues for Consultation

Apart from the issues already raised in this paper, the Board is seeking comment on a range of matters which have an important bearing on decisions for government-funded growth.

The views put forward in submissions and during consultations will help determine which issues will be taken up by the Board in its final advice. Possible issues include:

- whether there are particular industries or groups of occupations for which substantially greater numbers of entrants with post-compulsory education qualifications are required and if so what kinds of qualifications/skills are needed by those industries or occupations;
- whether the emphasis in growth should be focused on the broadly defined professional, para-professional, technical/trade, operator or other categories, and how and by whom this should be decided;
- whether governments alone should be expected to fund the considerable growth envisaged in post-compulsory education and training and the associated income support for students. Whether government-funded participation rates in these sectors should be

capped. If limits on government funding are imposed, whether alternative sources of funding should be sought to provide opportunities for students who miss out on a place (e.g. contributions from individuals, business, industry, etc.);

- the effect on the balance of growth of different fee structures in the various sectors; what might be the likely effect of changing these structures?
- what kind of mechanism or process could be put in place to ensure ongoing sectoral balance in participation?
- the likely growth in the delivery of education and training by private providers;
- ways of raising the profile of TAFE as a preferred option for appropriate students, rather than as a second choice after higher education. The use of TAFE as a means of entry to higher education has significant implications for decisions on relative levels of TAFE/higher education growth;
- the delivery of TAFE-type courses to Years 11/12 students. While places in Years 11 and 12 in schools should be available to those who seek them, the relative uptake of courses delivered by TAFE versus schools will affect the required growth apportionment. Also relevant are the extent of cross-accreditation of courses, credit transfer and flexible TAFE-school funding, industrial relations and teaching arrangements;
- the impact on TAFE needs of recommendations by the Employment and Skills Formation Council concerning the entry level training system;
- the implications for adult and community-based education if the emphasis in TAFE moves more towards training and away from further education, thereby reducing opportunities for people seeking a 'second chance' with their education;
- the extent of possible efficiency savings that may be realised to help offset costs of growth in the education and training systems, through means such as more efficient use of facilities, alternative teaching methods and better informed course choices by students;
- whether the education and training infrastructure can be made sufficiently flexible to enable it to be more responsive to change, such as fluctuations in demand levels and enrolment patterns;
- whether there is any natural limitation on the size of any education and training sector, for reasons such as capacity to supply qualified staff or the need to maintain standards in the quality of the education or training provided;
- the structure and content of courses providing entry to the professions. Whether a first component of general higher education should be undertaken as a foundation for a more professionally oriented component;
- the extent to which the demand for post-compulsory education and training is being driven by 'credentialism creep';
- what special measures are needed for students outside the Finn targets (i.e. the remaining 5 per cent not in education or training)? There is a danger they could become more disadvantaged than currently.

Targets, Technical Issues and Projections

Gerald Burke

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October 1992

Prepared for the National Board of Employment, Education and Training
Canberra

1. Targets for Attainment and Participation

The Fife committee set a completion/participation target for 19 year olds:

by the year 2001, 95 per cent of 19 year olds should have completed Year 12 or an initial post-school qualification or be participating in formally recognised education or training.

This target was distilled from three more specific targets (Fife p.14). The first of these targets concerned 18 year olds in 1995, the second concerned 20 year olds in 2001. The third of these targets was:

- at least vocational certificate (Level 3) or progress towards a vocational qualification above Level 3 or a diploma or degree for at least 50 per cent of 22-year olds by 2001.

At the AECMOVRET Meeting of 18 October 1991 the third target was agreed as

- in relation to higher levels of qualifications, by the year 2001 at least 60 per cent (my emphasis) of people by the age of twenty-two should have attained at least a vocational certificate for other vocational qualifications recognised by the VET in Level 3) or (progress towards a vocational qualification above Level 3 or a diploma or degree (NBEET 1992, p.7).

This higher target for 22 year olds was endorsed by Carmichael (1992, p.2) but in that report the target for 19 year olds was reduced from 95 per cent to 90 per cent.

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Introduction and Summary

This paper considers data and conceptual issues and provides projections for 2001 of enrolments and public recurrent outlays. The paper has three sections. In the first section there is discussion of the setting of targets for attainment and participation. Matters considered are the Finn and Carmichael targets and a range of issues relating to targets such as student demand and the needs of the economy. The problems in converting targets to enrolments are considered, such as lack of data, the issue of second qualifications, and enrolments of persons over the target age.

The second section discusses projection assumptions and a set of enrolment projections for 2001. The overall rate of expansion is similar to the Finn Report at about 15 per cent over the decade, and, as in the Finn Report, faster in TAFE than in other sectors, though the overall growth rate in TAFE is somewhat lower than in Finn.

The third section provides projections of *public* recurrent outlays and details a number of further issues such as possible changes in the average hours per student in TAFE. Given the assumptions of constant real resources per student in schools, TAFE and the main levels of higher education, the set of projections considered in section 3 shows total recurrent expenditure to grow at about the same rate as enrolments. However expenditure on higher education is seen to grow faster than enrolments because of a projected relatively fast growth in more costly postgraduate enrolments and because the projections assume full funding of enrolments in 2001 whereas a considerable number of enrolments in 1991 was unfunded.

1. Targets for Attainment and Participation

The Finn committee set a *completion/participation* target for 19 year olds:

by the year 2001, 95 per cent of 19-year-olds should have completed Year 12 or an initial post-school qualification or be participating in formally recognised education or training.

This target was distilled from three more specific targets (Finn p.ix). The first of these targets concerned 18 year olds in 1995, the second concerned 20 year olds in 2001. The third of these targets was:

- at least vocational certificate (Level 3) or progress towards a vocational qualification above Level 3 or a diploma or degree for at least 50 per cent of 22-year olds by 2001.

At the AEC/MOVEET Meeting of 18 October 1991 the third target was agreed as

- in relation to higher levels of qualifications, by the year 2001 at least *60 per cent* [my emphasis] of people by the age of twenty-two should have attained at least a vocational certificate (or other vocational qualification recognised by the NTB as Level 3) or progress towards a vocational qualification above Level 3 or a diploma or degree (NBEET 1992, p.7).

This higher target for 22 year olds was endorsed by Carmichael (1992, p.2) but in that report the target for 19 year olds was reduced from 95 per cent to 90 per cent.

NBEET in the current study is considering provision not only for young people but also for adults. The Discussion Paper (NBEET 1992, p.7) indicated that one approach might be to set an arbitrary target for the 23–65 year-old group, but noted that a relatively small change in participation or attainment rates has very significant resource implications.

Several matters need consideration in relation to possible targets:

1. student aspirations and unmet demand in TAFE and higher education
2. attainment levels in countries we desire to emulate
3. the projected labour needs of the economy
4. current qualification levels in society
5. completion rates, persons above the target age participating in education and persons seeking a second or third qualification.

Demand

There are various measures of student aspirations and demand. Demand is conditional on the costs of post-compulsory education, and the forms of student assistance and alternative job prospects—which are extremely poor in the recession. Actual entrants to post-secondary courses plus estimated unmet demand could be used as an estimate of apparent demand for higher education and TAFE¹. The AVCC and TAFE systems produce estimates of unmet demand. The high estimate of unmet demand for university places has grown from 20 900 in 1989, or 12 per cent of actual intakes, to 50 000 in 1992 (see AVCC 1992) or *over 20 per cent of total commencements*. Less detailed estimates are available for TAFE though in 1990 it was estimated that 100 000 persons were unable to enrol in the TAFE course of their choice (Deveson 1990, p.39). Ramsey (1991) reported unmet demand of 119 000 students in 1990, 124 000 in 1991 and a projected 153 000 in 1992.

These estimates of unmet demand include demand by persons who were at school the previous year but also include persons who left school in earlier years, a proportion of whom have already attempted tertiary education. Persons who completed secondary school in the previous year made up only one third of students actually commencing higher education courses in 1991 and only 43 per cent of undergraduate commencers.

There is clearly a case, if governments are concerned to meet student demand, for an increased provision of places beyond that currently provided. However the case for trying to meet student demand for subsidised education needs to be demonstrated, on equity and efficiency grounds. The expansion of education for example may not enhance the relative position of disadvantaged groups unless accompanied by measures to ensure their successful participation. Provision of places must be accompanied by suitable curricula and student assistance if less advantaged groups are to profit from the expansion. Efficiency grounds for meeting student demand may include the need for skilled workforce discussed below and also the desire in a democracy for a well educated community. However there are no simple ways for quantifying these factors.

1 Miles Nicholls has suggested that some potential students may not have applied because—like discouraged job seekers—they believe no places are available.

Unmet demand could be eliminated by raising user charges in education. A recent paper by Gannicott (1992) suggests that increased user charges could not only reduce unmet demand somewhat, but also provide funds for an increased provision of places and if necessary provide fee offsets to those current students who might drop out as a result of the increased charges. The introduction of HECS served the purpose of raising revenue for the expansion of higher education with, to date, apparently little effect on demand.

It is therefore not easy to draw a firm conclusion about the appropriate level of provision for any cohort on the basis of recent student demand for places. It is a factor to be considered along with other indicators of society's needs.

Consideration of demand focuses on the proportion of an age group likely to wish to enrol. But it is also necessary to consider the age composition of the population. Changes in age distribution are considered in section 2.

International Comparisons

NBEET (1992) provided a brief review of international trends in attainment and participation. Cullen (1992) provided comparisons specifically related to targets for 25 to 34 year olds. He argued that a 74 per cent completion rate would place Australia towards the lower end of the upper quartile of OECD countries in the period 2001–2011. There are of course enormous difficulties in ensuring comparability. And it is not clear whether it is on the basis of economic needs or other grounds that we should try to match other countries' patterns of attainment.

Labour Needs of the Economy

Recent ABS data on income and labour force status by educational attainment (e.g. ABS 6235.0 and 6546.0) show that persons holding post-school qualifications have higher incomes, lower unemployment and, particularly for females, higher labour force participation. Persons with degrees in general have a more favourable experience than non-graduates². This broad pattern has, with some changes, been maintained over a long period, though the relative position of persons with degrees fell notably in the 1970s. As far as any *individual* is concerned a qualification and particularly a higher education qualification has led to superior employment opportunity and earnings.

That is not to say that the economic advantage lies in the *content* of the courses. If employers use qualifications to a substantial extent just to select the inherently able then the superior earnings of graduates are not necessarily an indication of the need of the economy for degrees rather than TAFE qualifications (see Maglen 1990). Perhaps one

2 The mean earned income in 1990 among persons aged 35–44 in full year full-time employment according to highest qualification was:
\$35 400 for those with post school qualifications (\$44 400 for Degrees, \$32 730 for Certificate (non-trade/diploma), \$30 570 for Trade certificates);
\$27 300 for those without qualifications (\$31 370 for persons who left school at 17, \$24 840 for those who left at 14 or 15) (Source: ABS 6546.0).
See also Marginson (1992).

indication of this is that while persons with degrees have relatively superior earnings they achieve them in a context in which low paid work is expanding relative to middle income jobs. Professor Gregory (1992, p.36) argued that for the period 1976 to 1990:

Most job growth has been at low pay and there is no evidence that the economy has been generating demands for an *increasing proportion of the population* to be well educated and available for middle pay jobs. There must be disappointed expectations as those seeking further education are denied the rewards they might have expected if born a generation earlier.

The DEET study *Australia's Workforce in the Year 2001* (1991, p.72), with a different set of data and different research questions, found that the trend in employment by occupation has in fact been raising the average educational requirements of work in Australia.

However for the 1990s the projected growth in the labour force with qualifications may outrun the growth in demand for labour—assuming constant qualification levels within occupations. Total employment was projected to grow by 16 per cent over the decade to 2001. Particularly because of faster growth in occupations with above average levels of education, the demand for graduates is projected to grow by 27 per cent. The demand for persons with 'technical' qualifications is projected to grow 18 per cent.

The growth in the number of persons with qualifications was projected in *Workforce 2001* (p.70):

Specifically the number of persons with degrees will grow substantially in the 1990s (50 per cent) but will still make up a small proportion of the employed labour force (13 per cent). This compares with 10 per cent of the employed labour force at the start of the decade. Similarly the number of persons with technical qualifications will grow rapidly over the coming decade (27 per cent) and will represent 34 per cent of the workforce in 2001 (this compares with 31 per cent at the start of the decade)³.

The enrolment assumptions of *Workforce 2001* were quite close in total to those in the Finn Report. If the implicit course completion rates in *Workforce 2001* still hold, the broad conclusions also still hold⁴.

In *Workforce 2001*, therefore, the projected growth in the labour force with qualifications is greater than the projected growth in demand for labour (assuming constant qualification levels within occupations). This finding, along with those of

3 Labour Force Status by Educational Attainment (ABS 6235.0) shows about 35 per cent of the workforce to have trade or certificate or diploma levels in 1990; *Workforce 2001's* estimate, a projection based on 1986 census data, shows 31 per cent with technical qualifications.

4 Unpublished projected enrolments in 2001:
Higher Education—557 000 *Workforce 2001*; 558 000 Finn (excluding overseas)
TAFE (based on Selected TAFE Statistics)—1 330 000 *Workforce 2001*;
1 271 000 Finn.

Gregory (1992) relating to the decline in middle paid jobs, gives cause for concern about the size of the projected expansion in education. However, if there is effective award restructuring and technological change, more qualified labour will be sought within occupations for skill deepening, rather than better qualified workers taking the jobs of less qualified persons well able to carry out the tasks. This need for effective restructuring is also indicated by Carmichael (1992, p.3). He notes that Australia needs the adoption of new technology and

high levels of workplace cooperation with efficient work organisation and positive industrial relations.

Current Levels of Attainment

Table 1 based on data from the ABS May survey shows the attainment and educational attendance of persons aged 22 and 30 in 1991. About 42 per cent of 22 year olds had attained a qualification and a further 14 per cent without qualifications were attending tertiary education. Some 51 per cent of 30 year olds had obtained a qualification and another 4 per cent without qualification were attending a tertiary institution.

While a total of 56 per cent of 22 year olds have qualifications or are engaged in tertiary study it cannot be assumed that all qualifications are at ASF level 3 or above. But data on a better assumption are not available⁵.

Table 2 shows the educational attainment for several age groups at February 1991. As for 30 year olds in Table 1, just over 50 per cent of the 25–34 age group held post school qualifications. In the 25–34 group about 13 per cent held degrees, about 16 per cent had trade qualifications, 23 per cent held certificates and diplomas (including about 6 per cent with nursing and education qualifications).

Cullen (1992) notes that teaching and nursing certificate and diploma courses are being converted to degree status. He suggests that for comparison with future targets, the current certificate-diploma holders (6 per cent) could be added to degrees (13 per cent) to give a total of 19 per cent⁶.

Completion Rates, Second Enrolment and Older Students

Even if a target were to be set for 30 year olds it cannot be readily translated into a particular level or pattern of enrolments necessary to reach the target. Data on completion rates in TAFE and other training are not readily available. Analysis of ABS

5 Cullen (1992, p.25) in his consideration of a skills profile for Australia projected qualifications among the 25–34 age group at 74 per cent in 2001, compared with 51 per cent in 1991. Cullen assumes that about 14 of the 74 per cent hold qualifications at level 1 or 2; that is, Cullen's projection for 25–34 year olds with qualifications *at level 3 or above* is the same as the Carmichael targets for 22 year olds.

6 This can be compared with his projection for degrees of 27 per cent of the population aged 25–34 in 2001. Finn and Carmichael do not specify a separate target for degrees though the target for 22 year olds refers to progress beyond level 3.

May survey data over several years may provide some clearer information on TAFE completion rates. This would allow the estimation of enrolment levels that could yield a particular level of attainment.

A further complication is that the ABS data refer only to highest level of qualification whereas a considerable proportion of persons in TAFE and higher education are undertaking second or further courses, including postgraduate courses and higher degrees. Of persons aged 15 to 64 attending tertiary institutions in May 1991 41 per cent had already obtained a qualification—38 per cent of TAFE students, 40 per cent of higher education students and 55 per cent of those in other education. Data shown in Table 1 indicates that of the 22 year olds attending a tertiary institution 41 per cent had already completed a qualification. Of 30 year olds attending tertiary education 66 per cent had already completed a qualification⁷.

Further analysis of the ABS data shows that of those attending tertiary education:

- 68 per cent are aged 30 or less—and 32 per cent are over 30;
- 43 of the 68 per cent aged 30 or less are seeking a first qualification and 25 have already obtained a qualification.

This age distribution is confirmed in the administrative data collections. In TAFE about 40 per cent of students in 1991 were aged 30 or over and in higher education 26 per cent (DEET 1991a, b).

Conclusion on Targets

Three conclusions are drawn from this discussion.

- *Targets cannot be based simply on current evidence on student demand or on evidence of labour force needs and must involve reasonable and optimistic judgement about the needs of the society and the economy.*
- *Data on completion rates are inadequate for the conversion of targets to enrolments (except perhaps for 15 to 19 year olds).*
- *The large numbers of students aged over 30 and the large number of students seeking a second or third qualification mean that a target for a first qualification by age 30 would provide an indication of only about half the total size of tertiary enrolments.*

2. Projection of Enrolments

A projection of enrolments in 2001 is set out in Table 6 along with the projections prepared for the Finn report. Projections are provided only for Australia as a whole. The assumptions on which the table is based are set out in the accompanying box.

7 The high proportion of students who have already completed a qualification is confirmed by the ABS survey of How Workers Get Their Training. Of workers attending an educational institution in 1989 about 44 per cent had already completed a qualification.

Before considering the projections, this section provides an outline of the assumptions underlying the Finn projections and the issues considered before the assumptions were made for the current set of projections.

In the Finn report the completion/participation target for *19 year olds* was converted into an educational participation rate target for *15–19 year olds* of about 85 per cent, compared with 69 per cent in 1991. The conversion of completion/participation targets to participation rates involves a number of assumptions, assumptions which were *not* explicitly considered in the Finn Report. The method used in the Finn report roughly enlarged the present pattern of completion/participation of 15–19 year olds. Much of the resulting growth in enrolments was forced into TAFE by assuming apparent school retention rates stopped rising when they reached 80 per cent, and by capping higher education intakes at about 30 per cent of the age cohort.

Finn's targets did not give explicit attention to enrolments for persons aged 20 and over. However, the Finn report did include projections for total enrolments. The enrolment projections included in the Finn Report for the 20 and over age group were based on:

- an assumption of a 1 per cent per annum increase in age-participation rates for TAFE (continuing the trend of recent years);
- the DEET projections for higher education, which involved an increase in school leaver entry from about 24 per cent of the age cohort in 1990 to nearly 30 per cent of the age cohort, and *constant age-entry* rates for non-school leaver entrants, who are the majority of entrants.

The resulting projections showed a growth in total enrolments in all levels of education over the decade of about 16 per cent:

- 34 per cent in total TAFE enrolments;
- 18 per cent in higher education; and
- 12 per cent in schools.

Among 15–19 year olds an increase of 55 per cent in TAFE enrolments was projected. The population aged 15–19 was expected to be about the same in 2001 as in 1991 so the projection also represented a 55 per cent increase in the age participation rate of teenagers in TAFE.

Flows

The Finn Report (p.168) summarised the projected flows after Year 10. By Year 12 + 1 some 80 per cent of a cohort are assumed to have entered post-secondary education: 30 per cent to have entered higher education, 50 per cent to have entered TAFE (and 5 per cent still at school)⁸. Cullen (1992) in his modelling assumes that a further proportion

8 In the Finn report Year 12 retention was projected to grow to 80 per cent and the transfer rate to higher education was projected to decline from around 40 per cent to 37.6 per cent: so that the proportion of a cohort entering higher education direct from school was capped at 30 per cent. The DEET/Finn method neglected the impact of migration on retention rates but this is offset by its leaving entrants to basic nursing outside its projection of entrants. The net effect is that the DEET projection implies entrants direct from school at about 30 per cent of the cohort by

enter post-secondary education by the age of 30 (e.g. so that by age 30 some 37.8 per cent of an age cohort have entered degree courses—including basic nursing and teaching). Such older entry was not explicitly considered by Finn but the Finn assumptions outlined in the previous paragraph implicitly allowed for entry to post-secondary education by persons other than school leavers though it provided no clear indication of the size in relation to the age cohort⁹.

Postgraduate Intakes

As mentioned, the DEET projections for higher education involved constant age-entry rates for non-school leaver entrants, including entrants to postgraduate courses. This assumption has been queried by Cullen and Smart (1992) in the light of current needs for academic staff and the desire of graduates to upgrade qualifications. They have prepared alternative projections.

Tables 3 and 4 compare the two sets of projections for higher education. Cullen and Smart do not set an attainment target for post-graduate qualifications but suggest intake levels:

- *coursework* postgraduate entry at 3 per cent of the number of graduates in the population aged under 50 (compared with an actual rate in 1991 of 3.3 per cent);
- *research* degree commencements at 10 per cent of the number completing an undergraduate degree the previous year.

Cullen and Smart project a growth of 64 per cent over the decade in postgraduate commencements compared with only 9 per cent in the DEET projection. Total EFTSUs for Australian students grow by 12 per cent over the decade in the DEET projection and by 24 per cent in the Cullen and Smart projection. The difference is almost all in the postgraduate enrolment.

The Cullen and Smart projections can also be compared with those in the study of the academic labour market prepared by Sloan et al (1990, p.48). Sloan's high projection of postgraduate and higher degree EFTSUs grows by 49 per cent in the period 1990 to 2001. Cullen and Smart project an increase of 91 per cent from 1991 to 2001 in Australian postgraduate and higher degree EFTSUs.

the mid 1990s.

- 9 For reasons discussed in the previous section the enrolment projections considered below do not rely on the translation of targets to enrolments except for 15–19 year olds. Hence completion rates are not given further attention here. Cullen's analysis assumed a 66 per cent completion rate in higher education (see also DEET 1992). Cullen assumes a 90 per cent completion rate in TAFE. This is an assumption for 2001 and not an estimate of current completion rates. Richard Sweet (1992) gives a rate of 39 per cent for a sample of major award courses in NSW TAFE for the years 1986 to 1989. However it appears that the eventual completion rate of some sort of TAFE qualification, including second and later commencements, must be greater than 39 per cent per cent to yield the current levels holding Trade, Certificate and Diploma levels, i.e. 33 per cent of 25–24 year olds excluding nursing and education qualifications. More detailed ABS data from the Transition survey (6227.0) may throw some light on this.

Sloan et al (1990, p.126) in their high scenario project higher degree *completions* to rise from about 5100 in 1990 to 8600 in 2001 an increase of about 70 per cent. They expect about 25 per cent of higher degree completions to be employed as academic staff (p.128). On their estimates, and assuming 1989 staffing ratios and cessation rates of 5.6 to 5.9 per cent, this will only suffice to supply about half the projected requirements for academic staff. If, as they argue should occur, staffing ratios improve, the shortfall will be greater.

Cullen and Smart project research degree EFTSUs and all other postgraduate EFTSUs but do not present a separate estimate for higher degrees. The larger growth they project in the total postgraduate enrolment and in research degrees would very substantially reduce the shortfall of academics as estimated by Sloan et al. When preparing their report in 1990 Sloan et al would have been sceptical of a growth in student demand for postgraduate courses at the rate projected by Cullen and Smart. Sloan et al (p.38) noted a decline in the transfer rate to postgraduate and higher degrees, and later stated:

There are many pass and honours graduates who are lured away from an academic career before they even reach the stage of beginning a higher degree (p.77).

The recession has at least temporarily increased the attractiveness to students of postgraduate degrees and of an academic career.

School Enrolments

The Finn Committee's target projections for school enrolments assumed school enrolments based on an 80 per cent average *apparent* retention rate to Year 12. DEET's current projections are based on 1990 to 1991 student movement and imply a national apparent retention rate of 76 per cent (actual 71 per cent in 1991). In some states the 80 per cent target may have been exceeded in 1992.

Apparent retention rates over-estimate the proportion of an age cohort actually reaching Year 11 or 12, because there is no explicit consideration of migration/overseas students and grade repetition. An estimate of the real retention rate is included in the Report of the Statistics Group of the Finn Committee (pp38–40). It suggests the real rate in 1989 was about 2 per cent lower than the apparent rate. A further view on this: in 1990 the population aged 17 in Australia was 281 000 compared with a population aged 12 in 1985 of 270 000—an increase of 4 per cent in the age group over the period when retention rates are calculated¹⁰.

The split of enrolments between government and non-government schools was assumed constant among 15–19 year olds in the Finn Report. The DEET projections based on 1990 data show the proportion of all enrolments in non-government schools continuing to rise; from 27.9 per cent in 1990 to 29.1 per cent in 2000. In fact there was a tiny

10 It is presumed that targets for schools are meant to relate to the age-cohort. It would be possible to deal with the effects of migration by projecting Year 11 and 12 enrolments adjusted for approximate migration gain over the period. It would be necessary to make a further approximation for grade repetition, though the size of this adjustment is more speculative at the moment.

proportional movement to government schools in 1991. However this was attributable to the massive rise in retention to Year 12 and may not be sustained beyond 1992. The state of the economy, and state aid, will be major factors in the future trend.

TAFE Enrolments

In the DEET TAFE collection an enrolment exists when, at any time in the year, a person has paid or been exempted from compulsory fees and attended at least one class or returned at least one assignment for marking. Total TAFE students for 1991 were estimated by DEET at 986 000.

The ABS estimate for TAFE for May 1990 was 474 000 compared with 967 000 in the DEET collection: i.e. the ABS figure at a point in time was less than 50 per cent of the year long total recorded by TAFE colleges and reported to DEET. The ABS estimate for Schools at 622 000 was very close to the AEC collection's figure of 629 000. The ABS figure for Higher Education was 527 000 compared with the DEET figure of 485 000¹¹: the ABS estimate was about 9 per cent above the DEET figure.

These comparisons for 1990 are shown in the Table 5. It presents data from the May survey data (6227.0), the ABS September survey—*Participation in Education Australia* (6272.0), and the administrative collections for the main sectors of education¹².

The Finn Committee based its enrolment data for TAFE on the May survey data rather than on the administrative collection, so that enrolments in all sectors were based on estimates at a point in time.

The projections of enrolments in the Finn Report imply a growth in the educational participation rate of 15–19 year olds from 69 per cent in 1991 to 85 per cent in 2001. If the Finn Report's projections had been based on the administrative data for TAFE the age participation rate for 15–19 year olds would have been projected to rise from 77 per cent in 1991 to 100 per cent in 2001.

11 In 1991 the ABS estimate for Higher Education was 588 000 compared with the DEET figure of 535 000: ABS about 10 per cent higher than DEET. The ABS estimate for TAFE was 519 000 compared with the DEET figure of 986 000.

12 A major factor in the difference in the May and Administrative TAFE estimates is that enrolments may be concluded through course completion or withdrawal before May, or courses commenced after May. It is possible that some TAFE enrolments are recorded as Higher Education in the responses to the ABS survey. It is also possible that the responses to the ABS survey by the head of the household understate part-time study by other members of the household. A further possibility is error in the recording or reporting of enrolments by educational institutions.

In the Ramsey Report, data from the DEET collection for 15–19 year olds was multiplied by 0.6 and the adult enrolments by 0.5 to approximate the May ABS estimates.

The DEET full-time estimates for TAFE for Australia as a whole are reasonably close to the May survey data. The differences are mainly in the part-time enrolments.

However the May data clearly underestimates in TAFE the numbers actually participating at some time in the year. The ABS survey provides no data on student contact hours or TAFE Streams, and little useful data for smaller states. It is necessary to base much of the analysis on Selected TAFE Statistics and projections on that basis are included in the notes to Table 6 below. It is only the *presentation* of enrolments that is based on the ABS Survey data.

Projection Methods and the Projections

The Finn Projections of student numbers 1991 and 2001 and a set of projections prepared for NBEET are given in Table 6. The NBEET projections are similar to the Finn projections in that they represent one judgement on what it might be reasonable for the community to provide in relation to student demand for places, labour force needs, concern for less advantaged and other society needs.

Details of the main assumptions used in the projections are given in the box accompanying Table 6. The NBEET projections for 15–19 year olds are based on the Carmichael target for 19 year olds. The projections for older students derive from trends and other assumptions as set out below.

The NBEET estimates differ from the Finn projections for three main reasons:

1. The base data in the NBEET projection for 1991 are derived from actual 1991 enrolments or ABS survey estimates whereas the Finn data for 1991 were projections. The most notable change here is in the level of higher education enrolments.
2. Total enrolments are constrained to equal the total in the ABS May survey less estimated overseas students in schools and higher education. This inflates the total 1991 TAFE numbers compared with those in the Finn Report.
3. The projection methodology differs from that described earlier for Finn:
 - a. The reduction in the target for 19 year olds to 90 per cent is associated with a reduction in the age participation rate of 15–19 year olds in 2001 from 85 per cent to 82 per cent.
 - b. The higher education projections are not based on the DEET projections. They follow the methodology of Cullen and Smart (1992) though postgraduate intakes are assumed at only 80 per cent of the level assumed by Cullen and Smart discussed earlier.

Overall the NBEET projection shows a slightly lower rate of growth (but from a higher starting point) over the decade than the Finn report: 18 per cent for 15–19 year olds compared with 22 per cent in Finn; and 15 per cent overall compared with 16 per cent in Finn. The projection in Table 6 shows a total of 590 000 Australian higher education enrolments in 2001 compared with the Finn total of 558 000. However the percentage increase is 17 per cent compared with 18 per cent in the Finn Report because of the higher base figure in 1991¹³. TAFE student numbers are projected to grow fastest at 27 per cent in total and 49 per cent among 15–19 year olds.

13 The age distribution has been estimated in the NBEET projection but the estimates in the Finn Report assumed that the age distribution of higher education

However, no particular precision should be attributed to the relative growth rates. For example an expansion of senior colleges could mean that some of the growth in enrolments currently projected in TAFE could occur in the schools sector. Assuming an 85 per cent (rather than 80 per cent) apparent retention rate to Year 12, with the current projection methodology, would transfer more than 20 000 students from TAFE to schools and reduce the growth rate for 15–19 year olds in TAFE from 49 per cent to about 35 per cent.

Demographic Change

Chart 1 shows the projected changes in the population in various age groups over the next decade. It is based on population projection Series F. A comparison of some aspects of projections C and F and the projections by the Bureau of Immigration Research are included as Table 7. The differences among the projections are small compared with the likely projection error that can arise for other reasons.

Changes in the age distribution of the population have important effects on the projection of enrolments. The most significant change affecting education is that the population aged 15–19 is projected to decline in the mid 1990s and only recover to its 1991 level by 2001. Hence the increase in students aged 15–19 shown in Table 6 is due entirely to the increase in the educational participation rates from 69 per cent to 82 per cent.

Population change contributes little to the growth in total enrolments in tertiary education. If age participation rates remained constant the total enrolments in TAFE would increase only 6 per cent and in higher education by only 3 per cent compared with the estimated 27 per cent and 17 per cent shown in Table 6¹⁴.

3. Expenditure

Assuming constant resources per student and constant real wages per staff member, the growth in recurrent funding to provide the expansion in Table 6 will be close to the projected growth rates in student numbers: about 15 per cent overall compared with 16 per cent in the Finn Report (p.174). This can be compared with a growth in GDP that might be expected to exceed 30 per cent over the decade. Hence recurrent expenditure on education could still be expected to fall as percentage of the GDP.

While total enrolments including all primary and secondary enrolments are shown to grow about 15 per cent in the decade, enrolments in post-compulsory education are projected to increase by about 320 000 or around 20 per cent: numbers in Years 11 and 12 are projected to grow by about 44 000; TAFE by 160 000 (or 85 000 equivalent

enrolments remained unchanged over the decade and probably underestimated the number of 15–19 year olds that would be enrolled.

14 The relative importance of demographic change in relation to changes in participation rates and to other cost factors in the 1990s is projected in Burke (1992, section 1.4). Note also that Cullen and Smart (1992) used a projection series which for the relevant age groups was similar to Series C considered in Table 7.

full-time places); higher education by 85 000 (about 67 000 full-time places); and other education by 34 000. Government supported places in full-time equivalent terms in post-compulsory education are therefore projected to grow by about 200 000.

Recurrent expenditure is estimated on the basis of *average* costs per student unit for the areas under consideration. There do not appear to be any data that would permit estimation based on marginal costs.

Real resources per unit under investigation are held constant at the level in the latest data available. In simplest terms this means constant ratios of students to both staff and non-staff resources.

Estimates are made at the level of disaggregation for which expenditure data are available or can reasonably be estimated. For example, in government schools estimates have been made for senior secondary and for junior secondary and primary. The projections for non-government schools are based on 1990 real levels of Commonwealth and State assistance. The expenditure projection assumes the slight trend to non-government schools in the DEET school enrolment projections.

Differences in course costs by field of study have not been considered in projections. In higher education the estimates by Cullen and Smart (1992 p.46) based on the relative funding model have been used to provide estimates for undergraduate, coursework post graduate and research degree enrolments¹⁵.

In schools and higher education the estimates are on the basis of full-time students or EFTSU. In TAFE the basic unit is the student contact hour. Estimates of hours per student in TAFE are based on data from Selected TAFE Statistics. For senior secondary schools the estimated cost in government schools was about \$5400 and for higher education the average per EFTSU around \$9800. The estimated public expenditure per student contact hour in TAFE was about \$8.3 or \$6000 for a 720 hour full-time course. These expenditure estimates per equivalent full-time student are not strictly comparable. The method of estimation of expenditure differs across the sectors. For example the government schools expenditure data excludes payroll tax and employer contributions to superannuation whereas these are included in higher education expenditures. The practices for TAFE varied among states in 1991. Approximate adjustments for Australia (not any particular state) to add employer contributions to superannuation and to remove payroll tax from the estimates for 1991 would be an increase of about 10 per cent in government school costs, 5 per cent in average TAFE costs and a reduction of 4 per cent in higher education costs. A further reason for caution in making comparisons is that the estimates are averages over a wide range of courses, for example in higher education ranging from undergraduate business degrees to research degrees in medicine.

15 Cullen and Smart give year costs as \$7813 undergraduate, \$8989 postgraduate coursework and \$18 094 for research degree. These have been adjusted approximately to December 1991 price levels.

The estimates have been prepared for government recurrent outlays, on the assumption of constant private and public shares over the 1990s. Separate projections have not been prepared of State and Commonwealth expenditure.

Table 8 provides estimates of the public recurrent outlays associated with the projections in Table 6. Assuming constant resources per student, constant wages per staff member, and constant public/private shares of expenditure, the total recurrent public expenditure is projected to grow from \$16.4 billion in 1991 to \$19.1 billion in 2001 an increase of \$2.7 billion or 16 per cent over the decade. This compares with an estimated growth for the same items also of 16 per cent in the Finn Report (\$2.5 billion in December 1990 prices—Finn, p.174).

Because of the assumptions outlined above, the TAFE and school expenditures grow at about the same rate as the enrolment projections in Table 6. Expenditure on higher education is however projected to grow by considerably more than enrolments. There are two reasons for this. The first is that expenditure in 1991 is based not on the enrolments shown in Table 6 but on funded enrolments—it excludes the unfunded over enrolments. Expenditure in 2001 is based on the projected enrolments shown in Table 6. The second reason is that the projection method underlying Table 6 assumes a relative growth in postgraduate enrolments which are assumed to be considerably more expensive than undergraduate enrolments. Part of the projected growth in expenditure on higher education will be funded by students through HECS which is tentatively projected to raise \$0.6 billion in 2001.

Of the total increase in expenditure shown in Table 8 about \$1.5 billion is for tertiary education and \$1.2 billion is for schools. Of the school expenditure about \$0.2 billion is for growth in senior secondary enrolments and about \$1.0 billion for primary, junior secondary and ungraded classes. Expenditure on post-compulsory education would be \$1.7 billion higher in 2001 than in 1991.

The current pattern of full and part-time participation in each sector is projected to hold to 2001. The faster expansion of TAFE implies a slight increase in the overall proportion of students aged 15 and over that is part-time. Resources per student could be assumed to increase if there were a shift in enrolments in tertiary education towards courses with higher contact hours or to full-time enrolment. States have reported an increase in average student contact hours in TAFE in 1991 and 1992. Ramsey (1991 p.17) stated that:

TAFE authorities have estimated that student contact hours will increase, on a national basis, on an average of 35 per cent of the 1990 pattern.

Such an increase would add over \$0.8 billion to expenditure in 2001, raising the increase from \$1.7 billion to \$2.5 billion.

The need for retraining associated with award restructuring and the Australian Vocational Certificate could lead to a larger growth in projected enrolments of persons aged 20 and over in TAFE. If for example the age participation rate of students aged 20 and over grew at 2.0 per cent per annum rather than 1.0 per cent per annum (as for Table 6) this would add nearly 50 000 to TAFE student numbers in 2001 and about \$0.14 billion to the TAFE expenditure shown in Table 8.

An increase in real wages could add to the costs of growth. From 1985–86 to 1989–90 cost levels in education fell by 9 per cent relative to the general level of prices. Award restructuring having its main effect in 1992 has increased relative costs in education though precise estimates are not yet available. If real wages were to rise a total of 1 per cent per annum over the decade this would add about 9 per cent or \$1.7 billion to total outlays by 2001¹⁶.

Commonwealth outlay on student assistance is shown in Table 8. The projection assumes that outlays increase in line with the number of full-time students in post-compulsory education—15 per cent or \$0.2 billion over the decade. Any support for young people associated with the Commonwealth training allowance, discussed in the Carmichael report could be additional to the amounts shown. Modifications to AUSTUDY announced in the 1992–93 Budget and the introduction of loans could however offset some of the projected expansion of Commonwealth outlays on student assistance.

Capital expenditures will be needed to support the expansion but the estimates are even more speculative than those for recurrent outlays. The matter was discussed in the Finn Report (pp180–82) and in the Ramsey Report (p.18). Important factors are the level of spare capacity, the potential to use existing capacity more intensively and the cost of new capacity. Assuming half of the expansion could be accommodated in existing capacity the Finn committee estimated that an additional \$1.7 billion was needed for schools and \$1.5 billion for TAFE and higher education over the decade. This means an average of \$0.3 billion per annum—but more in the earlier years in the decade so that the capacity was available when needed. The ABS estimated total public expenditure on new fixed assets to exceed \$1.3 billion in 1989–90 so the estimated costs of growth are a small proportion of total capital requirements.

The need for capital facilities could be reduced somewhat if the Open Learning Initiative expands to accommodate a significant number of students. However Open Learning appears mainly designed to take up unmet demand that would not be accommodated within the expansion discussed above. \$19 million is provided for this initiative in 1992–93 but no government financial support will be provided after 1995.

Conclusion and Comment

The estimates in this paper are for Australia as a whole. The current position varies among states and their future needs will also vary.

In this paper I have considered the setting of targets for attainment of qualifications. Matters reviewed included student demand for places and the labour needs of the economy. These do not provide the same signals on the size of expansion in the proportion of the population holding qualifications. Student demand clearly exceeds current provision, though its likely growth in the 1990s is not easily predicted.

16 It could be argued that 'productivity increase' in the form of reduced staffing could offset any increase in real wages. If this is considered a likely event it seems appropriate to provide a separate estimate to show the effects explicitly.

Attempting to meet student demand will not necessarily promote equity in education unless consideration is also given to matters such as the curriculum and student assistance.

The expansion of the level of qualifications held by the labour force could exceed the growth in the needs of the economy unless there is successful restructuring that will allow skill deepening rather than credentialism. Efficient workplace cooperation and positive industrial relations must be achieved along with the growth in education and training.

Even if we agree on a target level for qualifications in the population there are problems in estimating the level of enrolments necessary to attain the targets. The conversion of targets to enrolments requires better data on course completion rates in TAFE than are currently available.

In addition about 40 per cent of students in tertiary education already hold a first qualification. It is likely that this proportion could rise with the current stress on retraining.

For these reasons the projections of enrolments presented in section 2 are not closely linked to targets except for the estimates for 15–19 year olds. The estimates for adults in TAFE are based on a continuation of recent trends. In higher education the projections are based on assumptions about target levels, for enrolments by students over target age and for second qualifications including postgraduate qualifications.

The projections in Table 6 in total show increases of much the same order of magnitude as in the Finn report, about 15 per cent over the decade. Structural changes in the education system such as the expansion of senior secondary colleges could alter the relative expansion rates in separate sectors. The total increase in enrolments is less than might be expected with the rapid expansion in participation rates particularly among 15–19 year olds. The reason is that demographic change offsets the effect of part of the increase in participation rates. The 15–19 years population declines in the first half of the decade and the 20–24 age group declines in the second half.

Government recurrent expenditure was projected assuming the maintenance of current resource levels and the current public and private shares of expenditures. Government recurrent expenditure is projected to grow by about 16 per cent over the decade or about 14 per cent excluding HECS. The GDP can be expected to grow considerably more than 16 per cent so public expenditure on education as a percentage of the GDP, which fell in the 1980s could fall in the 1990s.

The expenditure required would be larger if there were a marked increase in resources per student as indicated in the Ramsey report, which suggested an increase of 35 per cent in average contact hours per student in TAFE. Outlays will also rise if real wages of staff in education rise.

Increased outlays will also be required for student assistance and for capital expenditure though it is not clear that these will rise any faster than current outlays.

Data difficulties have been referred to in several sections of the paper. These relate to completion rates and to comparability across sectors for both enrolment and expenditure data. Further analysis of ABS survey data and improvements in administrative collections offer prospects of reducing these difficulties.

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Chart 1: Population in Selected Age Groups

Australia 1991-2001, 000s

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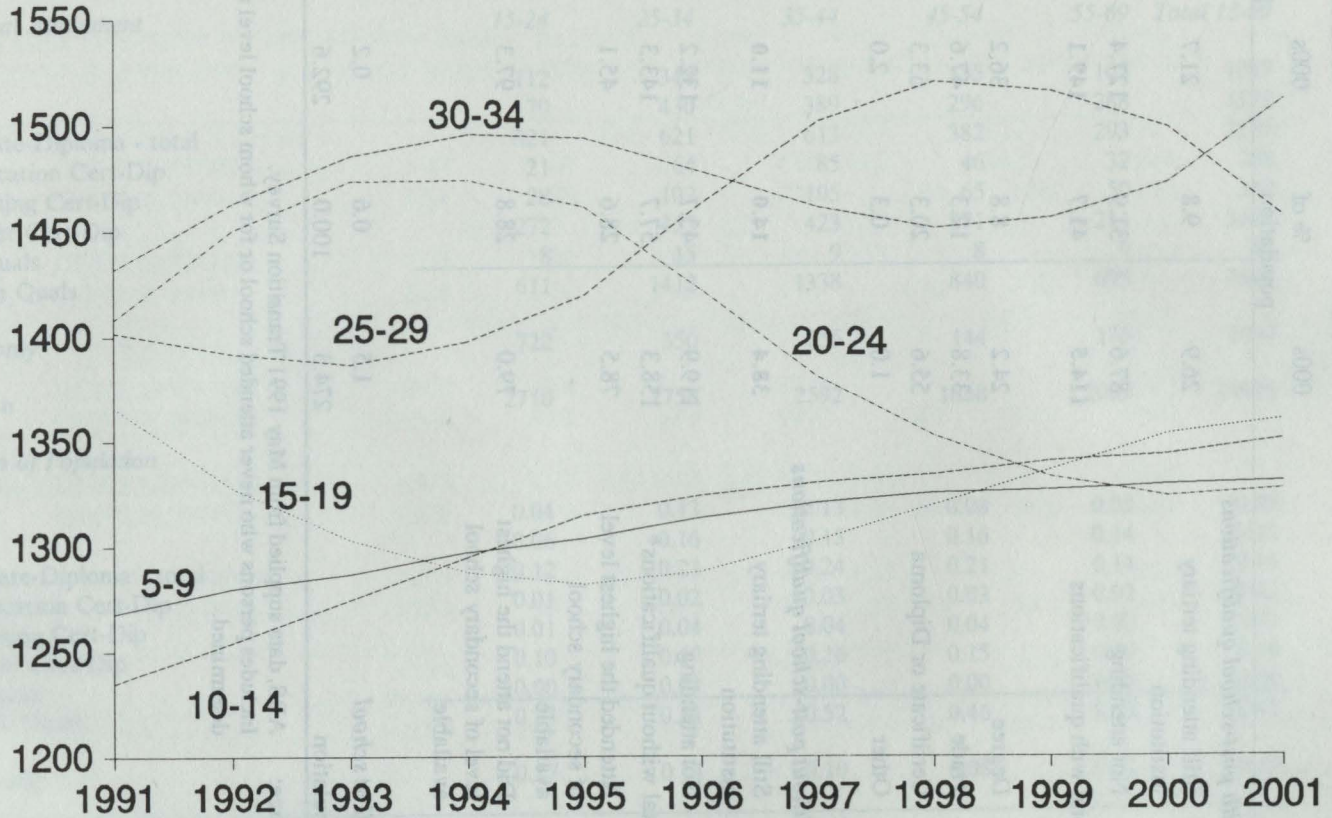


Table 1: Population in Selected Age Groups, Australia 1991-2001, 000s

Table 1: Educational Attainment at 22 and 30, Australia, May 1991

	AGE 22		AGE 30	
	000s	% of population	000s	% of population
<i>With post-school qualifications</i>				
Still attending tertiary institution	26.9	9.8	21.7	7.4
Not attending	87.6	31.9	127.4	43.5
Total with qualifications	114.5	41.7	149.1	51.0
Degree	24.2	8.8	36.2	12.4
Trade	33.8	12.3	47.6	16.3
Certificate or Diploma	55.6	20.3	63.3	21.6
Other	1.0	0.3	2.0	0.7
<i>Without post-school qualifications</i>				
Still attending tertiary institution	38.4	14.0	11.0	3.8
Not attending	119.9	43.7	132.2	45.2
Total without qualifications*	158.3	57.7	143.3	49.0
Attended the highest level of secondary school available	78.5	28.6	45.1	15.4
Did not attend the highest level of secondary school available	79.0	28.8	97.3	33.2
<i>Still at school</i>				
Population	274.3	100.0	292.6	100.0

Source: ABS, data supplied from May 1991 Transition Survey.

* Includes persons who never attended school or for whom school level not determined.

**Table 2: Persons aged 15-69 - Educational Attainment,
Australia February 1991, ('000)**

<i>Educational Attainment</i>	<i>15-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-69</i>	<i>Total 15-69</i>
Degree	112	348	328	155	105	1047
Trade	170	430	389	296	288	1572
Certificate-Diploma - total	321	621	613	382	293	2229
Education Cert-Dip	21	64	85	46	32	248
Nursing Cert-Dip	28	102	105	65	50	350
Other Cert-Dip	272	455	423	271	211	1631
Other quals	8	15	9	8	9	48
Total with Quals	611	1412	1338	840	695	4896
Year 12 only	722	350	255	144	136	1607
Population	2710	2758	2592	1838	2089	11986
<i>Proportion of Population</i>						
Degree	0.04	0.13	0.13	0.08	0.05	0.09
Trade	0.06	0.16	0.15	0.16	0.14	0.13
Certificate-Diploma - total	0.12	0.23	0.24	0.21	0.14	0.19
Education Cert-Dip	0.01	0.02	0.03	0.03	0.02	0.02
Nursing Cert-Dip	0.01	0.04	0.04	0.04	0.02	0.03
Other Cert-Dip	0.10	0.17	0.16	0.15	0.10	0.14
Other quals	0.00	0.01	0.00	0.00	0.00	0.00
Total with Quals	0.23	0.51	0.52	0.46	0.33	0.41
Year 12 only	0.27	0.13	0.10	0.08	0.07	0.13

Source: ABS, Labour Force Status and Educational Attainment, February 1991 (6235.0)

Table 3: Higher Education - Commencing Students

Cullen and Smart estimates are in EFTSU, DEET estimates are for Students

		Total Under Grad	From School	Other U/grad*	Total Post Grad	Research Degrees	Other Post Grad	Total Aust	O/seas	TOTAL
1991	Cullen & Smart	129.7	66.1	63.7	28.4	4.7	23.7	158.1	12.4	170.5
	DEET Projection	153.4	68.3	85.0	45.7			199.0		
1996	Cullen & Smart	137.8	71.1	66.7	37.2	6.6	30.6	175.0	13.2	188.1
	DEET Projection	158.3	71.5	86.9	49.0			207.3		
2001	Cullen & Smart	157.5	87.2	70.4	46.5	9.1	37.4	204.1	15.1	219.1
	DEET Projection	166.3	79.0	87.3	50.0			216.3		
Ratios										
1996/1991	Cullen & Smart	1.06	1.08	1.05	1.31	1.41	1.29	1.11	1.06	1.10
	DEET Projection	1.03	1.05	1.02	1.07			1.04		
2001/1991	Cullen & Smart	1.21	1.32	1.11	1.64	1.94	1.58	1.29	1.21	1.28
	DEET Projection	1.08	1.16	1.03	1.09			1.04		

Source: Cullen, R B and Smart, N C (1992), A Higher Education Model for Australia, VPSEC, Melbourne, May.
DEET projections supplied February 1992

* Undergraduate entry includes persons entering with credit from TAFE.

Table 4: Higher Education - TOTAL Student Load (EFTSU)
Cullen & Smart and DEET Projections for Higher Education

		Under- Grad*	Research Degrees	Other Post Grad	Total Aust	O/seas**	TOTAL	Non Award etc	Grand Total
1991	Cullen & Smart DEET Projection	341.4	12.8	37.6	391.8 399.2	27.3 24.5	419.1 423.7	3.8	422.9 423.7
1996	Cullen & Smart DEET Projection	357.1	20.4	52.7	430.7 422.8	33.7	464.4		
2001	Cullen & Smart DEET Projection	390.2	29.1	67.1	486.5 446.5	37.7	524.2		
Ratios									
1996/1991	Cullen & Smart DEET Projection	1.05	1.59	1.40	1.10 1.06	1.24	1.11		
2001/1991	Cullen & Smart DEET Projection	1.14	2.27	1.79	1.24 1.12	1.38	1.25		

Source: Cullen, R B and Smart, N C (1992), A Higher Education Model for Australia, VPSEC, Melbourne, May.
DEET projections supplied February 1992

Notes: * Cullen and Smart omit non-award, enabling, cross institutional enrolments from undergrad. totals.

** Overseas students - the DEET figure is for full-fee students only; Cullen & Smart is total overseas students.

Table 5: Attendance at an Educational Institution, Australia 1990, 000s

School	<u>15-19</u>	<u>20-24</u>	<u>15-24</u>	<u>25-64</u>	<u>Total</u>
6227.0 May Full-Time	604	3	607	1	608
6227.0 May Total	606	4	611	11	622
6272.0 September	673	5	679	-	-
4221.0 July	629	-	629	0	629
TAFE					
<i>Full-time</i>					
6227.0 May	48	23	71	17	89
6272.0 September	44	28	73	-	-
STS whole year	44	18	62	21	84
<i>Part-time</i>					
6227.0 May	101	78	179	206	385
6272.0 September	88	71	158	-	-
STS whole year	230	169	399	484	883
<i>Total</i>					
6227.0 May	149	101	250	223	474
6272.0 September	132	99	231	-	-
STS whole year	275	187	461	506	967
Higher Education					
<i>Full-time</i>					
6227.0 May	137	137	274	49	323
6272.0 September	105	132	237	-	-
DEET June 30	123	123	245	54	300
<i>Part-time</i>					
6227.0 May	10	42	52	152	204
6272.0 September	7	38	46	-	-
DEET June 30	8	52	61	125	186
<i>Total</i>					
6227.0 May	147	179	326	201	527
6272.0 September	112	170	282	-	-
DEET June 30	131	175	306	179	485
Other					
<i>Full-time</i>					
6227.0 May	14	12	26	18	44
6272.0 September	9	9	17	-	-
<i>Part-time</i>					
6227.0 May	12	16	27	80	107
6272.0 September	7	16	23	-	-
<i>Total</i>					
6227.0 May	26	27	53	98	151
6272.0 September	15	25	40	-	-
Total					
<i>Full-time</i>					
6227.0 May	803	175	979	85	1064
6272.0 September	831	175	1006	-	-
<i>Part-time</i>					
6227.0 May	125	137	262	448	710
6272.0 September	102	125	227	-	-
<i>Total</i>					
6227.0 May	929	312	1240	534	1774
6272.0 September	933	300	1233	-	-

Source: ABS (6227.0), (6272), (4221.0), DEET Selected TAFE Statistics, DEET Selected Higher Education Statistics.

Notes: The DEET higher education data are based on Selected Higher Education Statistics adjusted to provide age estimates at 30 June.

Table 6: Students - Finn Projection and NBEET Projection
Australia 000s

		Finn		NBEET	
		15-19	Total	15-19	Total
Schools	1991	635	3051	643	3069
	2001	726	3424	700	3417
	% increase	14	12	9	11
TAFE	1991	150	480	151	586
	2001	232	645	226	746
	% increase	55	34	49	27
Higher Education	1991	135	473	131	505
	2001	160	558	161	590
	% increase	19	18	23	17
Other	1991	26	151	17	134
	2001	40	178	25	168
	% increase	54	18	49	25
Total	1991	946	4155	942	4294
	2001	1158	4805	1112	4921
	% increase	22	16	18	15
Age Participation Rates		15-19		15-19	
	1991	0.69		0.69	
	2001	0.85		0.82	

Source: as outlined on following page.

Notes: Enrolments in 1991 are the administrative collections for Schools and Higher Education but the total aged 15 to 19 and the TAFE and Other enrolments are based on the ABS May survey (6227.0). TAFE student numbers based on Selected TAFE Statistics for the NBEET projection are:

	15-19	Total
1991	241	986
2001	360	1256
% Increase	49	27

Age participation rates including TAFE student numbers based on selected TAFE Statistics are as follows for the NBEET projection:

	15-19
1991	0.77
2001	0.96

Main Assumptions Table 6: NBEET Enrolment Projection

- 90% completion/participation rate for 19 year olds which leads to an estimated 82% educational participation rate of 15-19 year olds. (The estimate depends on additional assumptions about 15 to 18 year olds and that e.g. that proportion of 19 year olds with year 12 and not in education falls from 19% to 15%). The rate is applied to the Series F population projection (see Table 7) to give enrolments aged 15-19 in 2001.
- School - 80% apparent retention to year 12, achieved by 1996 and held at that level.
- Higher Education -
 - * Undergraduate projection of students derived from the EFTSU projections of Cullen and Smart (1992): by age 30 about 38 per cent of an age cohort enter degree courses including 30 per cent directly from secondary school.
 - * Degree courses include basic nursing and teaching.
 - * Numbers aged 15-19 in 2001 are derived from current ratio of enrolments aged 15-19 applied to school leaver intakes.
 - * Postgraduate intakes are assumed at 80 per cent of the levels assumed by Cullen and Smart which were: *coursework* postgraduate entry at 3 per cent of the number of graduates in the population aged under 50; *research* degree commencements at 10 per cent of the number completing an undergraduate degree the previous year.
- TAFE and Other - enrolments aged 15-19 derived by subtracting school and higher education enrolments from projected total enrolments aged 15 -19. For persons 20 and over the age-participation rates are projected to increase at 1% per annum or about 10.5 % over the decade.

Source: ABS 3222.0, 6227.0 and 4221.0.

DEET, Selected TAFE Statistics and Selected Higher Education Statistics.

Cullen, R.B. and N.C.Smart 1992, *A Higher Education Model for Australia*, VPSEC, May.

Table 7: Comparison of Population Projections, Australia, '000s

	<i>Series F</i>		<i>Series C</i>		<i>BIR</i>		<i>Series C/Series F</i>		<i>Series C/BIR</i>	
	5-14	15-19	5-14	15-19	5-14	15-19	5-14	15-19	5-14	15-19
1991	2509	1367	2509	1367	2503	1366	1.00	1.00	1.00	1.00
1992	2534	1328	2534	1328	2523	1324	1.00	1.00	1.00	1.00
1993	2561	1303	2561	1303	2546	1298	1.00	1.00	1.01	1.00
1994	2592	1288	2592	1288	2575	1281	1.00	1.00	1.01	1.01
1995	2618	1282	2620	1283	2608	1275	1.00	1.00	1.00	1.01
1996	2638	1288	2640	1290	2637	1282	1.00	1.00	1.00	1.01
1997	2651	1303	2653	1307			1.00	1.00		
1998	2660	1320	2660	1327			1.00	1.01		
1999	2668	1337	2667	1348			1.00	1.01		
2000	2674	1354	2671	1368			1.00	1.01		
2001	2683	1361	2675	1379			1.00	1.01		

Source: Projections supplied by ABS, as described in ABS 3222.0

BIR: Bureau of Immigration Research, Australia's Population Trends and Prospects 1991.

Table 8: Projection of Recurrent Public Outlays, Australia
\$ million, December 1991 prices

	1991	2001	% Increase
Schools			
Government	9088	10012	10
Non-Government	1823	2072	14
Total Schools	10910	12084	11
TAFE			
15-19	586	875	49
Total	1860	2370	27
Higher Education			
Total	3672	4680	27
HECS	175	600	243
Total less HECS	3497	4080	17
Schools + TAFE + Higher Education			
Total	16442	19134	16
Total less HECS	16267	18534	14
Commonwealth Student Assistance	1470	1693	15

Notes: Expenditure estimates are based on the projected student numbers in Table 6 and constant expenditure per student unit: per student in schools, per student contact hour in TAFE and per EFTSU at undergraduate, research and other postgraduate levels in higher education.

The projection of HECS receipts in 2001 is a tentative estimate only. The 1992-93 Budget papers show a reduction to previous projections for the mid 1990s.

Significant changes were announced in the 1992-93 Budget in the major form of student assistance AUSTUDY. The projection here assumes a growth in outlays on student assistance in proportion to the growth in full-time students in post-compulsory education.

National Board Publications and Advices

Advice on Commonwealth General Recurrent Funding Arrangements: The Future of Resource Agreements (November 1988)

Workshop on Skills in Australian Industry (20–22 November 1988, Report of Proceedings) (December 1988)

Higher Education Council First Report to the National Board of Employment, Education and Training on the Operation of Section 14 of the *Higher Education Funding Act 1988* and the Higher Education Contribution Scheme (February 1989)

A Review of the Commonwealth Postgraduate Awards Scheme (April 1989)

Industry Training in Australia—The Need for Change: Interim Report on Consultations by the Employment and Skills Formation Council (May 1989)
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New Face of TAFE: Workshop on Industry-TAFE Collaboration (9-10 October 1989, Report of Proceedings) (October 1989)

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