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### ***Forming the Productivity Commission***

*The Industry Commission, the former Bureau of Industry Economics and the Economic Planning Advisory Commission have amalgamated on an administrative basis to prepare for the formation of the Productivity Commission. Legislation formally establishing the new Commission is before Parliament.*

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## FOREWORD

The Review of Higher Education Financing and Policy offers a valuable opportunity to develop policies that will enhance the higher education sector's contribution to the economic and social goals of this nation.

This submission does not seek to address the many issues raised by the Review's broad terms of reference. Rather, the Commission has elected to focus on two fundamental issues on which it considers it can make a useful contribution — the appropriate role of government and the efficacy of different reform options for funding higher education.

The submission comprises three distinct sections. The Commission's main findings are outlined in the first section. A detailed overview of the main issues covered by the submission is presented in the key messages section. The appendices provide background information together with detailed assessments of different reform options and related policy issues.

The Commission is grateful for the assistance of the following members of staff in preparing this submission: Ian Monday, Brett Janissen, Ruth Thomson, Timothy Geer, Paulene McCalman and David Richardson.

The views in this submission are not necessarily shared by Gary Banks, Executive Commissioner, who is also a member of the Review Committee on Higher Education Financing and Policy. He was not directly involved in the preparation of this submission.

W Scales AO  
Chairman

July 1997

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## ABBREVIATIONS

ABS	Australian Bureau of Statistics
APESMA	Association of Professional Engineers, Scientists and Managers, Australia
ATO	Australian Taxation Office
AVCC	Australian Vice-Chancellors' Committee
CIT	Canberra Institute of Technology
CSHE	Centre for the Study of Higher Education
DEET	Department of Employment, Education and Training
DEETYA	Department of Employment, Education, Training and Youth Affairs
EFTSU	Equivalent full-time student unit
GDP	Gross domestic product
HEC	Higher Education Council
HECS	Higher Education Contribution Scheme
HEEP	Higher Education Equity Program
IC	Industry Commission
IRR	Internal rate of return
NBEET	National Board of Employment, Education and Training
NCA	National Commission of Audit
NCC	National Competition Council
NPV	Net present value
OECD	Organisation for Economic Co-operation and Development
OLA	Open Learning Australia
OLDPS	Open Learning Deferred Payment Scheme
PPP	Purchasing power parity

SCRCSSP	Steering Committee for the Review of Commonwealth/State Service Provision
TAFE	Technical and Further Education
UNS	Unified National System
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational education and training



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## GLOSSARY

ABSTUDY	Similar to AUSTUDY, but provides assistance to Aboriginal and Torres Strait Islander students who are 14 years of age and over. In addition to a means-tested living allowance, ABSTUDY provides a range of non-means tested supplementary allowances to assist with education costs.
AUSTUDY	Provides means-tested income support to students who are 16 years of age and over for approved study in secondary schools, TAFE colleges, approved TAFE equivalent courses offered by private providers and higher education institutions.
Block operating grant	A general grant provided to support the teaching, research and capital development activities of the unified national system institutions. The grant comprises three main components — a teaching related component, a research related component (the research quantum) and a capital component (the capital roll-in).
Capital roll-in	A component of the block operating grant provided to support infrastructure development for all publicly funded higher education institutions under the unified national system. Funding allocated to individual institutions reflects their agreed student target loads.
Educational profile	An agreement between the Commonwealth and individual unified national system institutions, defining the institution's broad mission and responsibilities, and establishing its particular areas of teaching and research activity and specified goals in areas such as capital management and equity programs.
EFTSU (Equivalent Full-time Student Unit)	One EFTSU represents a standard annual full-time study workload. This represents one way of reporting the size of an institution (ie its student load). Student load is a standard unit against which resource inputs can be measured and is the basis of Commonwealth funding.

Higher education	In Australia, the term refers to all institutions offering education and/or professional training to at least first degree level.
HECS (Higher Education Contribution Scheme)	The HECS was introduced by the Commonwealth in 1989 as a mechanism for collecting contributions from higher education students towards the cost of their tuition. Charges under the scheme can be paid upfront or deferred and repaid via the tax system on an income-contingent basis.
Research quantum	A component of the block operating grant provided to support basic research activities that are separate from those directly linked to teaching and research training. Funds are allocated to institutions on a performance basis having regard to an institution's success in attracting research funding, number of publications and the number of higher degree research completions.
Teaching component	The largest component of the block operating grant provided for teaching and research training-related activities across disciplines and levels of study. It covers basic operating costs, including academic and general salaries, minor capital works and non-salary items associated with teaching, such as libraries.
TAFE (Technical and Further Education)	The public system of technical and further education, mainly offering certificates in various grades and other awards below the level of degree.
Tertiary education	A term used to cover all post-secondary level education. It includes both vocational education and training (eg TAFE) and higher education.
Unified National System (UNS)	Consists of public institutions beyond a minimum size of 2000 EFTSU with specific missions agreed with, and funded by, the Commonwealth Government. Institutions that are members of the unified national system receive the block operating grant for a target student load based on an agreed educational profile.

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## Main findings

- ◆ The higher education sector plays a prominent role in the intellectual, social, cultural and economic life of the nation. In 1996, public higher education institutions were involved in teaching some 634 000 students (53 000 from overseas). The sector spent about \$2 billion on research and generated direct export revenue of about \$600 million.
- ◆ Governments have an important role to play in enhancing the contribution of the higher education sector to the nation. The main justifications for government involvement include:
  - supporting the generation of ‘external’ or ‘spillover’ benefits arising from the activities of the sector;
  - addressing weaknesses in the capital market, which impair the capacity of some students to finance their higher education; and
  - improving access and equality of opportunity, particularly for disadvantaged students.
- ◆ Given the substantial injection of public funds into higher education institutions — some \$5.4 billion in 1996 — governments also have a role and responsibility to develop mechanisms to promote accountability and monitor their performance.
- ◆ Major reforms have been made to the higher education sector over the past decade or so. These reforms have centred around the introduction of fees/charges and modifications to institutional funding arrangements. But fundamental problems with the current policy framework remain.
  - The existing structure of fees: generates inequities in the treatment of students and institutions; artificially distorts student demand; significantly constrains the capacity of institutions to offer students different course packages; and impairs the capacity of institutions to retain quality staff, maintain/improve standards and introduce innovations to teaching/research programs.
  - The current public funding mechanism for teaching: discriminates in favour of public providers; emphasises growth in student numbers over other aspects of service delivery (eg quality); and constrains the scope for direct competition between educational institutions.
- ◆ Incremental reforms to the existing structure of fees and institutional funding arrangements could alleviate some of the present shortcomings. However, they would leave many fundamental problems unaddressed. The task of building a better policy framework for Australia’s higher education sector requires a more ambitious reform agenda.

## Main findings (Cont'd)

- ◆ To improve the performance of Australia's higher education sector, the policy framework must increase the exposure of institutions to competitive pressures. This will provide greater incentives for institutions to contain costs, adapt courses to meet student needs better and to innovate. While recognising the ongoing need for both public and private involvement in the higher education sector, in essence, the reform choice is between two broad approaches — administratively-based reform or market-based reform.
- ◆ In the Commission's assessment, the market-based approach has greater merit. Accordingly, the Commission favours the adoption of a policy framework with the following key attributes:
  - a cost sharing arrangement involving public and private contributions to meet the costs of financing higher education teaching and research training.
  - the split of public and private contributions should be 50:50 until more evidence is available on the 'spillover' benefits of higher education.
  - a portable scholarship system for delivering the public contribution to the teaching and research training functions of higher education with the following features:
    - undergraduate scholarships allocated on a national basis to students who satisfy the necessary eligibility criteria;
    - these scholarships to cover 50 per cent of course fees at accredited institutions (perhaps with a funding cap);
    - a fixed number of full fee remission scholarships for postgraduate students of exceptional ability (also allocated on a national basis); and
    - the scholarships to be available for accredited courses provided by public and private higher education institutions, including equivalent TAFE courses.
  - a charging system giving institutions full autonomy in setting course fees within a framework incorporating the following features:
    - all students would be able to pay fees for which they are liable upfront or on a deferred basis;
    - a HECS-style income-contingent loan would be available to all students opting to defer the payment of course fees at both public and private institutions; and
    - loans would attract a real rate of interest and have a repayment regime designed to minimise adverse effects on student's incentives to seek employment and income progression.

## Main findings (Cont'd)

- the merits and feasibility of extending the scholarship and charging system applying to higher education institutions to other TAFE courses should be addressed.
- provision for the continued delivery of targeted equity programs, including the higher education equity program, the merit-based equity scholarship scheme and AUSTUDY assistance.
- continued funding of specific (non-teaching) research through the research quantum (but under the oversight of the Australian Research Council) and various selective and contestable funding mechanisms.
- ◆ In view of the significant changes associated with the adoption of a market-based approach, a transition period would be necessary to address design, operational and implementation issues. The transition will need to be carefully managed to avoid unnecessary costs and unwarranted delays. While a number of alternative transitional strategies need to be explored, two possibilities would involve:
  - a detailed planning phase culminating in the introduction of all necessary changes on a pre-determined date; or
  - progressive adoption of the main elements of a market-based approach.
- ◆ If the market-based approach is not considered appropriate, a package of administratively-based reforms could be introduced. It would encompass significant modifications to the current charging system and a progressive shift in the orientation of the institutionally-based public subsidy towards a performance-based funding mechanism. These reforms would yield some worthwhile gains although, in the Commission's assessment, they are a second-best option. Equity and specific research funding arrangements would correspond to those outlined for the market-based approach.

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## KEY MESSAGES

Higher education institutions play a prominent role in the intellectual, social, cultural and economic life of nations. Their main functions include teaching, professional training and research.

Over the last decade or so there has been active debate within Australia and overseas about the potential contribution of these institutions to economic and social objectives and the appropriate policy framework to apply to them.

The last major review of Australia's higher education sector was in 1987–88. It led to a number of significant policy changes including:

- the abolition of the binary system;
- rapid growth in a progressively more diverse student intake;
- the re-introduction of undergraduate fees;
- greater flexibility in institutional funding arrangements; and
- increased reliance on competition to fund research.

Despite these changes, there has been continuing debate about the performance of Australia's higher education sector. A diverse range of issues has been canvassed including: the appropriate scale of the sector; the quality of entrants and graduates; the resourcing of teaching compared with research; the appropriate level of public and private funding; and the merits of different funding mechanisms. More intense competition for public funds, advances in information and communication technologies and the growing internationalisation of the sector have produced additional challenges for service providers and policy-makers alike.

These issues and challenges are not peculiar to Australia — they are being debated in many countries. In response, several governments have initiated policy reviews.

Against this background, the current West Review of Australia's higher education sector is timely. The terms of reference for the review are wide ranging and its public nature provides scope for extensive public consultation and debate. It offers a valuable opportunity to create a policy framework that promotes a more dynamic and effective higher education sector which is better equipped to meet future challenges.

This submission does not seek to address the many issues associated with all of the five key themes identified by the Review Committee (box 1). Instead, the

Commission has elected to focus on two fundamental issues to which it believes it can make a useful contribution:

- the appropriate role of government and related policy issues; and
- the efficacy of different reform options for the financing of higher education.

#### Box 1: Key themes identified by the Review Committee

The five key themes encompass:

- the role of higher education in Australia's society and economy, including the role governments should play;
- factors affecting the demand for, and provision of, higher education over the next 10 to 20 years;
- the regulatory and administrative framework for higher education — including the implications of national competition policy principles for the sector;
- financing higher education teaching and research training — including the determination of the balance between private and public contributions and the assessment of the costs and benefits of different approaches to the financing of higher education; and
- funding of higher education research.

As a backdrop to an examination of these issues, some key characteristics of Australia's higher education sector are set out below.

## 1 The higher education sector — a snapshot

The higher education sector is a large and important sector within the Australian economy (box 2).

The sector comprises over 80 service providers — 36 public universities, 4 public colleges, 3 other public providers, 2 private universities and over 40 other private providers. In terms of students, funding and research, the 36 public universities dominate the sector. There is also a significant vocational education sector which offers education and training courses to a large number of post-secondary students.

**Box 2: Some distinctive features of Australia's higher education sector**

- In 1994–95, higher education accounted for about one-quarter of the \$22.6 billion spent by Australian Governments on all levels of education.
- The Commonwealth Government provided the bulk of public higher education funding in that year — some \$5.0 billion.
- Direct expenditures from non-government sources exceeded \$4 billion in 1994–95.
- The main 'outputs' comprise teaching and research:
  - in 1996, the sector had 634 000 students — 53 000 from overseas;
  - in 1995, the sector spent about \$2.0 billion on research — around one-quarter of Australia's total research and development effort; and
  - the five major fields of research on an expenditure basis in 1995 were medical and health sciences, biological sciences, humanities, general engineering and agricultural sciences.

These service providers offer different course combinations and various levels of qualifications and there is competition within the main sub-markets (eg between universities) and between them (eg between universities, private providers and the vocational sector). There is also a degree of co-operation and collaboration. Examples include the development of course articulation, credit transfer and more flexible admission arrangements, as well as the sharing of teaching and research infrastructure.

**Sources of funds**

In common with most countries, Australia has a mixed funding system involving a combination of public and private contributions. Funding arrangements vary considerably across the different types of higher education institutions.

The 36 public universities are guaranteed Commonwealth funding on a rolling triennial basis. In contrast, the teaching activities of the four public colleges are funded on an annual contract basis. The three other public providers are partly government funded. The private universities receive no direct public funding for teaching, although they compete with other institutions for government research funding.

Over the last 15 years or so, the main sources of revenue for Australia's publicly-based higher education institutions have changed considerably:



- the share contributed by governments has fallen from 91 per cent in 1983 to 58 per cent in 1995;
- the share from student fees and charges has risen from 3 to 24 per cent; and
- other income sources (eg investment income and donations) have increased from 7 to 18 per cent of total revenue.

The Commonwealth remains the major source of funds. In 1996, it provided \$5.4 billion in direct funding to institutions and \$0.8 billion to students via income support programs.

Nearly 90 per cent (\$4.7 billion) of institutional funding takes the form of a block operating grant. This grant includes three main components — teaching, research and capital roll-in. The teaching and capital components are based on an institution's agreed student load, while the research component is performance-based. The balance of institutional funding covers various specific areas, including equity-based programs and research programs. Institutional funding is expected to remain largely unchanged over the period between 1996 and 1999.

The significant increase in the share of revenue accounted for by student fees and charges reflects a number of policy initiatives:

- the application of full fees to a growing number of overseas students since 1986;
- the imposition of fees on an increasing proportion of postgraduate courses since the late 1980s; and
- the reintroduction of fees for undergraduates in 1987.

The Higher Education Contribution Scheme (HECS) used for collecting fees was, at the time of its introduction, the first income-contingent student fee mechanism in the world. From 1998, publicly-funded higher education institutions will be able to charge 'full' fees for up to 25 per cent of Australian undergraduate students, once agreed HECS funded places have been filled.

## **Participation in higher education**

Participation in higher education in Australia has increased significantly. From 1970 to 1996, the proportion of the population studying within the higher education system more than trebled — rising from 13 to 46 persons per 1 000.

A broad profile of movements in enrolment levels and selected characteristics of the higher education student population for 1986 and 1996 is presented in box 3.

### Box 3: Profile of higher education students: 1986 and 1996

- In the decade to 1996, total enrolments in publicly funded higher education increased from around 390 000 to 634 000 (an increase of 63 per cent).
- Females accounted for 60 per cent of this increase. As a result, their share of total students rose from 49 to 54 per cent over the period.
- The proportion of students studying full-time increased from 55 to 59 per cent.
- The age profile of students has changed:
  - the share of the 19 and under age cohort declined from 29 to 27 per cent of the total;
  - the share of the 20 to 24 age cohort increased from 29 to 32 per cent;
  - the share of the 25 to 29 age cohort declined from 14 to 13 per cent; and
  - the share of the 30 years and over cohort remained unchanged at 28 per cent.
- The proportion of students undertaking bachelor and postgraduate studies increased, while the proportion taking other award courses declined.
- The courses with the highest enrolment levels in 1996 were arts and social sciences, business, administration and economics, and science.
- Over the decade to 1996, the courses exhibiting the most rapid increases in enrolments were health, law and legal studies, and business, administration and economics. The shares held by education, veterinary science and arts and social sciences fell.
- Growth in overseas student numbers — from about 16 800 in 1986 to 53 000 in 1996 — exceeded that of domestic students over the period.
- About 80 per cent of all overseas students were from Asia. Around 65 per cent of these students came from three countries — Malaysia, Singapore and Hong Kong.

### Some international comparisons

Because of differences in higher education systems (eg structure, organisation and funding arrangements) and in government policy objectives and priorities, caution needs to be exercised in drawing inferences from international comparisons. However, the latest available OECD data, for 1993, reveal:

- large variations between countries in total direct expenditure (ie public and private) on tertiary education as a share of GDP.
  - Canada and the US spent a relatively large share of their resources on tertiary education (2.4 per cent or more of GDP).
  - Japan and the UK spent less than 1 per cent of their respective GDP.

- A number of countries lie within a middle band (Australia, Sweden, New Zealand, Netherlands, Korea, France and Germany). Amongst these, Australia has the highest level of spending on tertiary education (about 1.7 per cent of GDP).
- the balance between public and private contributions to tertiary education varies considerably.
  - In a number of European countries, the tertiary sector is fully government funded.
  - In the US, Japan and Korea, public spending is a relatively low proportion of total expenditure — 52, 40 and 22 per cent, respectively.
  - The public contribution in Australia is about 75 per cent of total direct expenditure, compared to an OECD average of about 65 per cent.
- Australia’s public direct expenditure on tertiary education accounts for a relatively high proportion of total public expenditure on all education (about 27 per cent, compared with the OECD average of 23 per cent).

## **2 What role for governments?**

Key rationales advanced to support government involvement in the provision and financing of higher education include the spillover or external benefits arising from higher education teaching and research, capital market shortcomings, and equity-related arguments. Beyond this, government involvement in performance monitoring and accountability are seen as necessary to promote good program management to ensure taxpayers receive value for money (appendix 3).

### **Spillover or external benefits**

Spillover or external benefits are commonly perceived to be the key rationale for government funding of higher education (box 4). In the absence of government involvement, activities which generate spillover benefits are likely to be ‘too small’ from a broader community perspective.

#### **Box 4: What is a spillover benefit?**

A spillover benefit refers to any benefit from higher education that flows to individuals or organisations not directly involved in higher education and not paid for by them. As such, it represents the difference between the total benefits to the community and the private benefits to individuals/organisations arising from activities within higher education. Outputs are likely to be less than optimal from a national perspective where there are

spillover benefits because, in assessing expected returns from higher education, the decisions of students and organisations typically only reflect the private benefits and costs which they will enjoy or bear.

It is widely accepted that the teaching function of higher education produces a number of benefits. Examples include: the productivity enhancing effect of education on graduates and employees working with — and therefore learning from — graduates; improved adaptability to changes in technology and the organisation of work; wider improvements in the quality and character of society; and favourable inter-generational effects. While many of these benefits are captured by graduates in the form of higher wages and career advancement, some are not. From a policy perspective, the relevant benefits are those which are not captured by the education decisions of students.

While subject to debate, the main categories of such spillover benefits appear to be: more favourable attitudes to growth and adaptation to change; knowledge transmission effects; and broad improvements to the quality and character of society. Because expected private returns from higher education are relatively high (appendix 4), a significant proportion of students would elect to undertake higher education even if the public subsidy was low, or even zero. Hence, many of these spillover benefits will be captured by the community irrespective of the level of public subsidy.

The research function also generates spillovers. It supports the teaching function but, more fundamentally, it extends the stock of knowledge that can be readily drawn on by others involved in the process of innovation. This reflects the ‘public good’ attributes of much knowledge creation — its lack of appropriability and wide applicability.

In undertaking these teaching and research functions, higher education institutions also perform an important role in establishing links to the global teaching and research communities. These links help to reinforce the intellectual and cultural vibrancy of teachers and researchers alike, and act to communicate to the community at large ideas which have the potential to enhance community welfare.

These external benefits provide a strong in-principle case for government subsidies to the teaching and research ‘outputs’ of the higher education sector.

Ideally, the level of government support should relate to the magnitude of the spillover benefits. However, a review of the literature covering spillover benefits arising from the teaching and research functions of higher education institutions (appendix 3 and IC 1995), not surprisingly, indicates that there is considerable uncertainty about their overall size. The issues of how big the public subsidy to

higher education should be and the appropriate form(s) of the subsidy are taken up later.

### **Capital market shortcomings**

Another argument for government involvement in higher education rests on the view that there are significant shortcomings in the capacity of the capital market to finance the education of individuals relative to other investments. These shortcomings relate to difficulties facing lenders in obtaining adequate loan collateral and risks attaching to such lending.

Human capital provides only limited collateral value for lending purposes. While assets such as vehicles, buildings and land can be repossessed by financiers if repayments are not met, the skills and knowledge acquired through education cannot be removed from the holders of these assets. Beyond this, the large variations in returns to education between individuals increase risk premiums.

Uncertainties concerning the repayment capacity of borrowers attach to virtually all loan applications — they are hardly peculiar to education. However, the inability of the lender to repossess the asset (ie the skills acquired) raises an additional difficulty. The difficulties may be relatively minor for students with low risk profiles (eg those in current employment, with employer support, a record of previous academic success, wealthy parents and/or someone prepared to act as a guarantor). But financiers are likely to be reluctant to lend to others — particularly those from disadvantaged backgrounds.

A government supported student loan mechanism offers a means of responding to this problem. In Australia, the HECS fulfils this role. The Commission considers that the current HECS, while fundamentally sound, could be improved in a number of ways. These are discussed later.

### **Equity-related arguments**

Equity-related arguments for government involvement in financing higher education centre on two main issues:

- promoting a more even distribution of income — with education being seen as a useful tool to achieve this end; and
- promoting equality of access/opportunity — students possessing the necessary intellectual capacity should not be precluded from participating due to other entry barriers (eg income constraints).

It is widely agreed that there is a strong link between educational attainment and income. In general, education significantly enhances the financial prospects of

recipients. Beyond this, education values (along with other attributes) are transmitted via family members to future generations. Thus, parents who have participated in higher education are more likely to have children who participate in higher education.

In view of this link, encouraging low income groups to undertake higher education is seen as a means of promoting opportunities to achieve higher income.

A number of government programs have been introduced in Australia and elsewhere to encourage increased participation by targeted equity groups in higher education. Analyses of the impacts of these programs show only relatively small effects. Reviews of the relevant literature strongly suggest a need to re-assess existing policy measures and, in particular, to focus on:

- the potential for more effective outcomes from rechanneling equity/access assistance to other parts of the education sector, such as lifting the participation rates of students from poorer backgrounds in the later years of secondary school; and
- ensuring that the design features of different income support measures, together with the fee structures and payment options for students participating in different parts of the tertiary education market, do not distort incentives to undertake further education or create barriers to participation.

Analysis of the profiles of higher education students reveals that many come from relatively advantaged backgrounds. For example, results from the 1991 population census show that over 60 per cent of higher education students came from households with family incomes greater than \$40 000. The majority of these students (56 per cent) came from households with family incomes above \$60 000. In the same year, the median income of Australian households was about \$32 500. In 1991, families with dependent offspring aged 15 to 24 years attending a university had a median income of about \$50 700, while those with dependent offspring in the same age group but who were not attending university had a median income of around \$34 700.

Generally available subsidies do not effectively target equality of opportunity and access goals — they assist students from wealthy backgrounds, as well as socially disadvantaged groups. Means-tested allowances for higher education (such as AUSTUDY) represent better equity measures. Merit-based scholarships for students from low socio-economic groups provide another way of addressing equity goals.

## **Performance monitoring and accountability**

Higher education institutions in many countries attract substantial public funds for teaching and research activities and a range of other programs — including equity-based programs. Government investment in capital for tertiary education — buildings, equipment and land — is also substantial.

To protect taxpayer interests in these investments, governments have a role and responsibility to monitor the performance of institutions and to hold them accountable for their performances and the effective use of public funds.

The nature of performance monitoring and accountability mechanisms varies between countries. The variations reflect, amongst other things, differences in the degree of autonomy extended to institutions, the nature of the relevant funding mechanisms and the wider policy framework applying to higher education institutions.

In Australia, the Government has acknowledged inefficiencies and weaknesses in existing monitoring and accountability processes. A review of the existing reporting requirements is due to report to the Government this month.

The Commission considers that monitoring and accountability mechanisms for the higher education sector should be designed having regard to several basic principles. They should:

- explicitly monitor outcomes against relevant policy objectives;
- avoid duplication in reporting requirements across jurisdictions;
- comprise reporting systems which are simple, well-focussed and cost-effective, thereby avoiding requests for unnecessary data;
- minimise impediments to institutional flexibility and autonomy; and
- require that annual reports provide information which satisfies the reporting requirements of stakeholders.

## **3 Recent reform initiatives**

Major reforms followed the 1987–88 review of Australia’s higher education sector, including the introduction of fees for some students and modifications to funding arrangements.

Fee-based reforms — including some initiated prior to the 1987–88 review — broadened the range of revenue sources available to higher education institutions. They also enabled institutions to develop new markets and provided some limited price signals to users (box 5).

**Box 5: Key fee-based reforms**

- Since 1986, universities and other educational institutions have been permitted to offer places to overseas students at full cost. Specified minimum fees apply.
- In 1987, the prohibition on charging fees for postgraduate courses covering the upgrading of vocational skills of employed people was removed.
- Fees for domestic students studying at publicly funded higher education institutions have been re-introduced:
  - In 1987, a flat rate higher education administration charge of \$250 per student per year was introduced.
  - In 1989, an annual contribution of \$1 800 for each full-time student was applied via HECS. In announcing this initiative, the Minister for Employment, Education and Training (Dawkins 1988a) observed:

The current arrangements for the funding of higher education are inequitable because the system is predominantly financed by Australian taxpayers, the vast majority of whom do not directly benefit from higher education.

**Box 5: (Cont'd)**

- In 1996, a substantial restructuring of the HECS was announced. The main change involved the introduction of a three band system with contribution levels related to course costs and likely future benefits to students.
- From 1 January 1998, higher education institutions will be able to offer 'full' fee paying places to domestic undergraduates. However, they will be required to fill their target number of HECS places and the number of fee-paying students will be capped at 25 per cent of the total number of HECS-liable places in any course.

Reforms to institutional funding arrangements have sought to provide institutions with greater flexibility in using public funds, enhance their capacity to plan their activities, make key policy objectives and priorities more explicit and — for some programs — link funding to program performance (box 6).

**Box 6: Key reforms to institutional funding arrangements**

- The progressive development of a single block operating grant with funding for teaching, research and capital activities linked to the delivery of an agreed student load. This form of funding permits institutions to determine their internal use of funds.



- The re-introduction of rolling triennial funding under which UNS institutions are ~~provided with rolling funding from the government~~
- The use of an ‘educational profile’ to provide a framework for specifying a funding agreement between the Commonwealth and institutions. It sets out the institutions’ broad mission and specific goals as a basis for providing funds and gauging performance at a broad level.
- The introduction of a performance-based system of funding for core research activities, together with the allocation of a growing proportion of research funding on a competitive basis outside the operating grant process.
- The application of ‘performance incentives’ to a limited number of centrally administered programs — quality assurance, equity and research infrastructure block grants.

A number of reforms have also been pursued to encourage institutions to develop more flexible course offerings and to reduce barriers between the higher education and TAFE sectors.

#### **4 The need for further reform**

While the last decade or so has witnessed some major reforms, there is considerable scope for further reform. This assessment reflects significant on-going problems with the current policy framework.

##### **The structure of fees/charges**

The three band HECS represents an improvement over the single rate HECS. However, significant shortcomings persist with the existing structure of fees and charges.

- Charges as a proportion of course costs vary considerably across disciplines — from 26 per cent, on average, for agriculture to over 80 per cent for law. It is not plausible that the resultant disparate levels of subsidy match the pattern of spillover benefits from these courses. Hence, the present HECS structure artificially distorts price relativities and may distort the pattern of student demand.
- The fees faced by students for some disciplines (eg business, economics and law), are likely to exceed the actual cost of course delivery at some relatively low cost institutions.
- System-wide price setting processes preclude institutions from offering different course packages to students at a range of prices. (This contrasts

with the fee autonomy extended to public institutions in relation to certain postgraduate and overseas students.)

- The constraints placed on publicly funded higher education institutions by the existing centrally determined HECS, coupled with announced real reductions in operating grants over the next three years, run the risk of impairing the capacity of institutions to retain quality staff and maintain standards.
- The differences in fee regulations across different student groups provide incentives for institutions to develop courses and display greater innovation in the areas more lucrative for them under the constraints (ie courses for overseas students and fee-paying postgraduate students).
- Subsidised loans available under the HECS are overly generous. In general, the subsidy is higher for high cost courses, longer courses and graduates who take the longest period to repay the loan.
- Loan repayments applying under HECS are determined by total income once thresholds are crossed, not just increases in income above the threshold levels. As a result, they generate perverse incentives to work and pay income tax for graduates at some income levels.
- Students studying at private higher education institutions and within the TAFE system are not able to obtain access to an income-contingent loan mechanism like HECS. This is inequitable and biases student demand in favour of public higher education institutions.
- The absence, from next year, of a HECS-equivalent lending mechanism for full-fee paying domestic undergraduates at public universities is both inefficient and inequitable.

### **The central funding arrangement**

There are a number of problems/weaknesses with the existing centrally determined subsidy delivery mechanism.

- The lack of a direct funding link between student preferences and institutional funding mutes competitive pressures and reduces the incentives for institutions to fashion courses to meet changing student demands, despite students bearing a significant share of the total costs of higher education.
- By allocating funds on the basis of movements in student load, block grant funding rewards growth in student numbers. Hence, institutions have little incentive to improve quality continually because funding is assured as long as they satisfy minimum quality requirements. Recent evidence confirms

some student dissatisfaction with course content and teaching methods and criticisms by employers of graduate quality (DEETYA & OECD 1997).

- The present system distorts the operation and development of the higher education market by supporting a funding bias in favour of publicly-based institutions over private institutions. This conflicts with competitive neutrality principles and differs from the approach adopted in relation to secondary education.

Debate about means to alleviate these shortcomings and improve the performance of higher education institutions has identified a variety of approaches to reform. These approaches fall into two broad categories — administratively-based reforms and reforms which rely on market-based incentives, in concert with specific government programs.

Two fundamental issues common to both approaches revolve around the questions of the appropriate level of private relative to public contributions for higher education teaching and methods for improving the cost-effectiveness of the public subsidy provided for teaching. These issues are dealt with in the next section.

## **5 The level and form of the public contribution for teaching**

Determining the appropriate size of the public contribution for higher education is not a straightforward exercise. As higher education produces spillover benefits, it is inappropriate to seek full cost recovery from students. Equally, however, the sizeable private benefits arising from higher education mean that it is not appropriate to seek an insignificant degree of cost recovery.

Reflecting differing views on the magnitude of relevant spillover benefits, a number of alternative approaches could be adopted for setting the level of the public contribution and, hence, the level of fees/charges for higher education. One approach would be to set the public contribution at a level equivalent to the average gap between course costs and the average charge applying under the existing differential HECS. On this basis, the public contribution would, on average, amount to about 60 per cent of course costs. This level of public funding and associated cost recovery from students would be consistent with those who argue that spillover benefits are probably sufficient to warrant the maintenance of existing funding levels (eg Karmel 1997a).

However, the size of the public contribution associated with this level of cost recovery implies large spillover benefits to higher education. While the magnitude of these benefits is uncertain, some studies suggest the public

contribution should be smaller (ie the level of cost recovery higher). For example:

- Pincus and Miller (1997) have argued a case for a public subsidy equal to 50 per cent of direct course costs; while
- other writers, such as Brennan (1971, 1988) and Fane (1988), have suggested that the spillover benefits of higher education are likely to be relatively small or even negligible. On this basis, a subsidy equivalent to (say) 25 per cent of direct course costs could be seen as relatively generous.

The paucity of empirical information about the level of spillover benefits necessarily means that assessments are a matter of judgement. Nevertheless, as outlined in appendix 3, the current level of public subsidy appears to be 'too high' (ie the level of cost recovery 'too low') given:

- evidence that some of the spillover benefits arising from education are associated with primary and secondary education, rather than being generated at the tertiary level;
- that most of the claimed spillover benefits will arise anyway as a by-product of the considerable private incentives to undertake higher education; and
- evidence that the overall demand for higher education is relatively insensitive to its cost and that, as a result, any subsidy will have a relatively small impact on participation rates. Consequently, a large part of any subsidy represents a simple transfer of income from taxpayers to students.

In the Commission's view, a detailed analysis of the nature and the extent of spillover benefits associated with different types of higher education is needed to inform the policy debate. The study should also examine the price sensitivity of student demand for particular courses for various classes of students. In the interim, the Commission judges that it would be appropriate to adopt a cost sharing arrangement with a 50:50 split between the public and private contributions to financing the direct costs of higher education courses at the undergraduate level.

The Commission considers that there is also scope to improve the cost effectiveness of the existing subsidy through better targeting. Some targeting of the public subsidy to higher education teaching already occurs, namely:

- no public tuition subsidy applies to overseas students;
- students undertaking non-award courses and some graduate and postgraduate courses are also subject to full fees; and
- an additional or top-up subsidy via a scholarship program is provided, mainly to research postgraduate students of exceptional ability.

Other opportunities for improving the cost-effectiveness of the public subsidy need to be pursued. Two options are to:

- apply lower subsidies, or even levy full-fees, on second degree and postgraduate students undertaking course work on the basis that the benefits are predominantly captured by the students; and
- introduce a penalty in the form of a loading to the relevant standard HECS charge for completion of publicly subsidised courses outside specified minimum time periods.

There are likely to be additional options for improving the cost-effectiveness of the public subsidy to higher education teaching (appendix 3). These could be examined as part of the study, referred to earlier, on the nature and extent of spillover benefits arising from different types of higher education.

## **6 Administratively-based reforms**

Administratively-based reform seeks to overcome the current deficiencies while retaining core elements of the existing policy framework. These core elements comprise:

- an emphasis on centrally determined fees; and
- a central institution-based funding system for delivering the public subsidy to designated service providers.

While reform initiatives over the last 10 to 15 years have focussed on these elements, significant opportunities for further administrative reform exist in each core area.

### **Reforming the centrally determined structure of fees — the HECS story**

The latest differential HECS has some strengths as a mechanism for collecting private contributions. But the weaknesses outlined earlier significantly impair its effectiveness.

#### *A new basis for setting HECS*

The charges within the differential HECS are intended to reflect differences in course costs and expected future private benefits to graduates. However, attempts to factor expected future private benefits into HECS are unlikely to yield efficient outcomes because:

- future earnings profiles differ markedly between graduates, even within particular disciplines. The differences are attributed to many factors — not just the education a graduate receives; and
- constraints on funding and competition within the current system weaken the potential gains from linking charges to student demand for courses.

Given the lack of an objective measure of spillover benefits and the limited capacity of current procedures to relate HECS meaningfully to private benefits and student demand, the key focus should be on cost recovery. The Commission favours a charge which is a fixed proportion of costs rather than a uniform fixed dollar charge. This would ensure that a similar proportion of cost recovery applies across the range of disciplines. This would distort student choice less than the current HECS arrangements which lead to widely varying cost recovery rates.

### *Improving other aspects of HECS*

The efficiency and equity of the current HECS could be improved by modifying other elements of the scheme. This would involve: introducing a capital charge into the cost base; reducing the interest rate subsidy; modifying the repayment rates and introducing some diversity into the existing fee bands by allowing for some fee differentiation between institutions (appendix 5).

- The current cost base for determining HECS charges does not include an allowance for capital maintenance or a return on the capital associated with publicly funded universities. The absence of such an allowance provides a ‘hidden’ subsidy to students, potentially distorts the consumption and production decisions of students and universities, and disadvantages private institutions. The Commission suggests that the West Review consider the merits of including a capital charge in the cost base for HECS, including the possibility of applying such a charge on a institution-by-institution or zonal basis in preference to a system-wide approach.
- Currently, if students defer their HECS payments, the resulting debt is indexed to the inflation rate, but is not subject to an explicit interest charge. This provides an implicit loan subsidy to students as it only partially reflects the costs to the community of providing an income-contingent loan. The Commission suggests that the West Review examine the merits of applying a real rate of interest to HECS debt. In this context, it may be useful to examine the student loan arrangement applying in New Zealand.
- Repayment rates applying to HECS debt are determined by total income once income thresholds have been passed, not just by increases in income above the thresholds. As a result, the existing repayment arrangements can have perverse effects on students’ incentives to seek employment. To avoid

this outcome, the Commission considers that the West Review should examine the merits of applying a modified repayment regime to HECS.

- Current HECS charges are the same for each UNS institution. However, considerable variations exist in cost structures, resources and the extent of capacity utilisation between institutions. A system-wide charging regime limits the scope for institutions to set prices which reflect these differences. The Commission considers that the West Review should examine the merits of adopting a charge structure which provides institutions with some flexibility to set prices within the existing three (or a revised number of) price bands.

### *Extending HECS beyond publicly funded institutions*

HECS loans are only available to students attending publicly funded higher education institutions operating within the unified national system. This creates inequities by denying other post-secondary students wishing to defer payment of fees access to an income-contingent loan mechanism. The Commission considers that the West Review should examine the merits of offering a HECS-style student loan to all tertiary education students at accredited institutions, whether they are fee-paying undergraduate students in the unified national system, studying at TAFE or equivalent private sector institutions, or at a private university.

### **Improving the existing public subsidy delivery mechanism — a performance-based funding option**

Under the existing centrally allocated block grant, institutions receive funding on the basis of an agreed student load target and educational profile. Within this framework, outcome-oriented performance measures only apply to some small programs, including quality assurance and the research quantum.

Greater use of performance funding could be made in allocating the current block grant. Performance-based funding represents a form of ‘managed competition’. Funding is linked to how well institutions perform in delivering specified outcomes against agreed indicators. Potential advantages of such a funding system over existing arrangements include:

- better clarification of desired outcomes, leading to greater transparency and strengthened accountability;
- the identification of ‘best practice’ which can be used to reinforce better approaches to teaching and learning;

- the collection and reporting of performance measures which provides users — and potential users — with better information to assess the effectiveness of available services; and
- the development of performance incentives to encourage institutions to focus on lifting their performance over time.

Any performance-based funding mechanism needs to develop indicators against which to assess the performance of participating institutions. The Steering Committee for the Review of Commonwealth/State Service Provision has developed a generic framework for measuring performance encompassing both efficiency and effectiveness measures. The measures recognise that service providers, including those from the higher education sector, have multiple objectives and are engaged in providing a range of services.

Interest in the use of performance indicators as a management and monitoring tool within the higher education sector is not new. The OECD has undertaken work in this area since the late 1970s. In Australia, various reviews and commentators have examined issues relating to performance measures, including their possible use in funding mechanisms (eg Williams 1979; Linke et. al. 1984; Linke 1991; Bourke 1986; Dawkins 1988b; AVCC 1988; HEC 1996).

There are many practical issues which need to be addressed in developing and applying performance measures, including:

- securing access to good information and data;
- developing measures for dimensions of performance that are often difficult to quantify — obvious examples include quality of teaching and value-added by the education process;
- assessing inevitable trade-offs between measures — such as quality of outputs and quantity and type of resources used; and
- evaluating trade-offs between using system-wide standards and allowing for differences between institutions attributable to product differentiation.

Based on a review of the literature and its own experience in developing performance measures, the Commission has identified a number of broad principles to guide the development of a performance-based funding mechanism. These principles are discussed in appendix 6.

At present, the research quantum of the block operating grant — about 5 per cent of the total grant — is subject to performance-based funding. In principle, performance funding could be extended to all of the block grant. However, greater reliance on performance funding is probably best attempted on a trial basis for a relatively small portion of the grant — say 5 to 10 per cent. Indeed,



the HEC (1996, p. 62) judged that such an approach could provide enough leverage to have a performance enhancing effect:

... the prospect of a relatively small prize is frequently sufficient to provoke a very substantial response.

Experience with the performance funding arrangements for the research quantum demonstrates the value of ‘learning by doing’. For example, in 1995, 90 per cent of research quantum funds were allocated on the basis of inputs, notably the success of institutions in securing competitive research grants. Criticisms of the weights used in the performance index led to more emphasis being placed on performance in other areas — higher degree research completions and publications (IC 1995; HEC 1996). Nonetheless, the cost-effectiveness of the performance measures incorporated in the composite index presently used to allocate research funds is still being questioned. For instance, there appears to be considerable overlap between the components used to compile the index (HEC 1996). On this basis, there would appear to be scope for simplifying the index and associated reporting requirements.

Clearly, the design of an effective performance-based funding framework represents a highly challenging task. Nevertheless, where it is not feasible (or it is judged inappropriate) to promote competition directly, performance funding offers an administratively-based route that can mimic some competitive disciplines.

Within a performance-based funding mechanism it would be appropriate to distribute research funding which directly supports the teaching/training of students so that it broadly reflects differences between institutions in terms of their discipline mix, the number of students in each discipline area and the level of teaching (ie undergraduates, graduates and postgraduates). In line with current practice, other research is more likely to be effectively funded through the provision of selective grants on a competitive basis linked to the relative merits of different proposals and institutions (IC 1995).

## **7 Market-based reforms**

A market-based approach to reform involves establishing direct competition within the higher education sector — not because competition is an end in itself, but because it is a powerful mechanism for delivering improved performance, innovation and wider community benefits. As observed by the NCC (1997a, p. 1):

Competition contributes to achieving higher growth by helping to ensure that the community's resources — the physical environment, financial resources and people's skills and ideas — are used in the most valuable way. Accordingly, Australia's governments have taken the logical view that the disciplines imposed by effective competition, being the greatest drivers for improving productivity and encouraging innovation, need to be extended throughout all sectors of the economy

... .

Deregulation and other reform initiatives directed at promoting competition have been applied to a wide range of activities in recent years. They have been successfully applied in areas in which competition was previously thought not to be a viable option — for instance, electricity supply, public transport, telecommunications and various social services. In primary and secondary education, some Australian governments have facilitated competition by allowing public schools to accept students from outside defined catchment areas and by providing subsidies to private as well as public providers.

In a paper directed at exploring the future of our universities, Karmel (1991, pp. 39–40) observed:

Deregulation is, I believe, our best hope for a strong independent and diverse system of universities. Five years ago I would not have argued this. But the structural changes that have taken place since 1988 (including the elimination of very small institutions), the general shift towards deregulation in economic affairs, the fact that DEET has not been exercising a coordinating role and the availability of a mechanism for the deferment of payment of fees (HECS) have changed my mind.

... We need a differentiated system of higher education that will encourage innovation and respond to changing needs. In such a system the successful will prosper, the less successful adapt and the system as a whole will serve its intrinsic mission to conserve, transmit and extend knowledge.

A market-oriented approach to higher education would establish a stronger customer-supplier relationship between students and institutions. Institutions would be empowered to offer services at prices and in quantities and qualities that reflect their specific circumstances and the preferences of their students. Institutions would have greater freedom in the types of courses they offered, including their quality and prices, subject to government regulations relating to anti-competitive behaviour, course accreditation and related quality assurance. The fundamentals of such an approach to reform involve:

- mechanisms which facilitate direct competition for government funding; and
- allowing institutions to set student fees.

## **Facilitating direct competition for government funding**

As with much of the specific research funding for higher education institutions, the public subsidy for teaching and related activities could be subjected to direct competition. In principle, it would be desirable to allow all public and private institutions offering accredited tertiary education courses to compete for the public subsidy. Two possible mechanisms for facilitating direct competition between institutions are competitive tendering and a portable scholarship system.

### *Competitive tendering*

As with performance-based funding, part or all of the existing block funding for higher education could be allocated via a competitive tendering process. Institutions could be asked to tender to supply new places beyond existing base levels or, alternatively, to tender for a portion of existing base funding — say 10–20 per cent. In both cases, the tenders could be based on a rolling triennium.

This would involve a less fundamental change than may first appear to be the case. The existing funding mechanism is, in effect, a limited form of contract funding, where the main negotiated elements are an institution's student load and broader educational profile (having regard to government objectives and a system-wide unit cost allowance).

Competitive tendering aims to employ competition directly to improve service delivery outcomes. The tender process and conditions in the market for higher education drive the potential benefits from such an approach. The potential benefits include: better clarification of objectives and desired outcomes; improved transparency and accountability; and improved service outcomes.

The use of a competitive tendering process to fund enrolment growth within the higher education and vocational sectors has been canvassed by NBEET (1992). And the ACT Government recently announced that, from 1998, it will operate a tendering arrangement for the provision of vocational and training services worth some \$5 million. Local, interstate and possibly overseas institutions will be able to compete for the tender.

Drawing on its recent inquiry into competitive tendering (IC 1996), the Commission has examined some key issues in applying this mechanism to higher education institutions (appendix 7).

In principle, it would be desirable to allow private as well as public institutions to participate in any tendering process. Hence, the introduction of competitive tendering would require the higher education sector to address systematically competitive neutrality issues to ensure that public and private providers compete on an equal footing.

Competitive tendering can yield benefits to students, institutions and governments alike. The potential gains are likely to be greatest for standardised courses for which it is relatively easy to specify and measure outcomes accurately. While specification and measurement problems may reduce the benefits of using competitive tendering for some non-standardised courses, these factors are likely to militate against the use of tendering only in isolated cases. Tender processes would need to be carefully managed to avoid creating barriers to innovation and product differentiation and to ensure that the costs of supplying and delivering courses to students were effectively assessed.

### *Portable scholarships*

The public subsidy could be provided to students in the form of a portable scholarship. The essence of a portable scholarship scheme is that the tuition subsidy is attached to the student — institutions must compete to obtain it. The scholarship could be made directly available to the student or obtained by the student on admission to an institution (or on transfer between institutions). The latter would be administratively simpler.

The idea of directing tuition subsidies via students is not new. There is an extensive literature canvassing the merits of applying student-based funding arrangements to education. Such arrangements are currently used as a financing instrument for primary and secondary education in a number of countries (West 1997). In Australia, student-based funding for the higher education sector has been proposed by various writers (eg Karmel 1991, 1996, 1997a; NCA 1996) as a means of providing students with greater influence over the provision of education services. In this context, the NCA (1996, p. 57) has observed:

The providers of education, in various organisational guises, appear to have gathered influence at the expense of consumers — students, parents and industry. The focus of education policy and delivery should be less on the providers and more on the consumers.

The main benefits arising from a demand driven approach to financing higher education are:

- students would have a more direct influence over the course offerings of institutions; and
- public institutions would face stronger competitive pressures and be directly rewarded for responding effectively to student preferences. This could produce gains in various areas, notably:
  - a greater variety of course offerings in terms of price/quality combinations;
  - increased stimulus to improve efficiency;

- enhanced capacity to strike a better balance between revenues and costs in providing different course combinations; and
- stronger stimulus and rewards to innovation.

As with other approaches to dispensing the public subsidy, the Commission considers that it would be desirable if scholarships were available for accredited courses at public and private higher education institutions, including equivalent TAFE courses.

The magnitude of the public subsidy to public and private institutions would be controlled through the key design elements of the approach — the number of scholarships offered, their value and the fee regime applying to students (appendix 8). Provision could be made to allocate undergraduate scholarships on a national basis each year to students who satisfy the necessary eligibility criteria. These scholarships could provide a partial remission of course fees — equal to 50 per cent in line with the earlier proposed cost sharing arrangement. These scholarships could be supplemented with a further category of full fee remission scholarships for postgraduate students of exceptional ability. Access to higher education could be preserved at recent levels, increased or decreased by modifying the number of scholarships made available. Funding in other areas relating to targeted access and equity programs, specific research and other specific programs could continue under existing arrangements. The success of a scholarship system would be contingent upon the redesign of performance monitoring, accountability and quality control mechanisms (in particular accreditation arrangements) to reflect a more decentralised approach to public funding.

Potential problems identified by some commentators with a demand-based approach involve:

- the possibility that students do not have sufficient information to make informed choices;
- the potential for low student demand and high-cost courses to be discontinued;
- planning difficulties and uncertainties facing institutions as a result of variations in student demand;
- the possibility that teaching quality and research may suffer if institutions become more attuned to student demands; and
- threats to the viability of institutions that are heavily reliant on cross-subsidies generated under the current system.

These potential problems and related issues are examined in appendix 8. In the Commission's view, while some of these points may have substance, they do not make a demand-based approach unworkable or unattractive.

Some of the problems raise issues which are not specific to a demand-based approach to funding. For example, students already make choices about courses and institutions using a variety of information sources. These information sources generally seem well suited and capable of adaptation to the needs of a demand-based approach. Similarly, course rationalisations in response to falling student numbers and/or rising costs of provision already occur.

If, under a demand-based approach, 'vulnerable' courses are considered to generate large spillover benefits, there may be a case for additional government support to guarantee their retention in some universities (English literature, Philosophy and Aboriginal studies may be examples). On the other hand, if a reduction in student load reflected uncompetitiveness due to inefficiencies or assessments about the value of a course, it may be appropriate that it no longer be taught.

The Commission considers that a system of portable scholarships represents the preferable way of delivering the public subsidy provided for teaching and research related to teaching. However, in view of the significant changes associated with the adoption of a portable scholarship system some form of transitional arrangement would be necessary. Such an arrangement would allow closer assessment of key design, operational and implementation issues (appendix 8).

### **Allowing institutions to set student fees**

Centrally determined fees applying to the bulk of public students have imposed pressures on institutions to contain costs, but they are not without their drawbacks. In the face of tighter constraints on public funding, they limit the capacity of institutions to maintain course quality and offer courses with varying price/quality attributes. In some cases, they may lead to fees above the actual costs of delivery (this is likely to apply where existing HECS charges are relatively close to system-wide full course costs). They also limit the adjustment responses available to institutions attempting to retain/attract quality staff (Milne 1996; Coady 1996; Nicholls 1996).

In recent years, the fee structures applying to Australia's public higher education institutions have been partially deregulated. Institutions are now able to charge 'full' fees to overseas students, some graduate and postgraduate students and, from 1998, over-quota (non-HECS) domestic undergraduates.

Building on these initiatives and allowing public institutions to determine fees for all students is an important reform in support of the development of a more market-oriented higher education sector. It would introduce greater price competition between institutions which would supplement competition that would be promoted by the use of portable scholarships. It should result in a more diverse fee structure. Fees could then reflect differences in course costs, quality differentials and levels of student demand.

Concerns have been expressed that fee autonomy would allow institutions to exploit students by charging excessive prices for education services. While these concerns are understandable, the Commission considers that they are overstated (appendix 8). In practice, the ‘market power’ of higher education institutions would be constrained by a number of factors including:

- in most locations, students would be able to choose between several service providers and would be free to assess courses and services against the fees charged;
- advances in information and communication technologies and the continuing development of distance education courses would add to competitive pressures on service providers in city and regional centres alike; and
- the Trade Practices Act — overseen by the Australian Competition and Consumer Commission — which prohibits the misuse of market power and other forms of anti-competitive behaviour.

The fees paid by students would be offset against the value of the public contribution provided by the portable scholarship. Presuming a 50:50 cost sharing arrangement, the undergraduate scholarships would meet 50 per cent of the fees of an accredited course, with a student meeting the balance of the course fee. Those students not gaining a scholarship would be liable for the full fee applying to their course. Students (ie scholarship recipients and non-recipients alike) would have the option of paying their fees upfront or deferring payment. In this context, there would continue to be a role for a HECS-style loan arrangement to enable students to exercise a deferred payment option. However, as discussed earlier, it would be desirable to reform the interest charging and repayment arrangements for such a loan arrangement.

## **8 Concluding comments**

There is evidence of fundamental problems with the current policy framework which are reducing the effectiveness of the higher education sector. Change is clearly needed. But exactly where? What sort of change? How quickly?

Working within the existing policy framework, a number of reforms could be introduced reasonably quickly:

- apply ‘full’ fees to second degrees and postgraduate course work degrees/courses;
- introduce an explicit penalty (in the form of a loading on the relevant HECS charge) for unwarranted delays in the on-time completion of publicly subsidised courses;
- implement the recommendations set out in the Commission’s *Research and Development* report (IC 1995) to provide greater contestability in the funding of university research;
- modify the announced full-fee policy for over-quota domestic undergraduates by making a HECS-style income-contingent loan available to such students; and
- modify HECS charges by:
  - setting fee bands on the basis of course costs alone;
  - applying a uniform fixed proportionate charge to each course; and
  - setting private contributions at a higher level than currently applies.

These reforms would improve the performance of the higher education sector. But they would leave many of the earlier identified problems unaddressed. The resolution of these problems requires more fundamental reform. This is clearly recognised by some commentators, although there are different views about what constitutes the ‘most appropriate’ path for further reform.

The existence of differing views is not surprising. Put simply, many aspects of higher education policy are not straightforward. It is complicated by various factors.

- The existence of multiple objectives and a need to accommodate policy trade-offs.
- The absence of reasonably clear evidence in a number of important areas (eg the nature and size of spillover benefits).
- The existence of a number of approaches to reform which seem compatible with improved outcomes:
  - administratively-based reform involving significant modifications to a central institutional-based funding, charging and regulatory regime; and
  - market-based reforms involving various initiatives aimed at promoting competition directly and empowering students as well as institutions.



- The mixed output and highly interactive nature of the higher education system.

Each approach would, as at present, include a targeted equity program and handle specific research funding through the research quantum and contestable funding routes.

Each approach to reform has merits and demerits. And each has different implications for the extent and nature of competition within the sector, the role of stakeholders, adjustment pressures and the nature of the supporting regulatory framework.

The Commission favours a market-based approach encompassing full fee autonomy and portable scholarships. This approach is a logical extension of the gradual deregulation route followed by successive governments since the mid 1980s. It would actively promote competition within the sector, thereby creating stronger incentives for institutions to improve efficiency and be more responsive to student preferences. It would provide the sector with greater flexibility in adapting its resources to suit the output mix of its clients. These attributes would provide a more flexible framework for institutions to respond to the challenges and opportunities created by further advances in information and communications technology and the growing internationalisation of teaching and research.

In view of the significant changes associated with the adoption of a market-based approach, a transitional period will be needed. The transitional period would need to be carefully managed to avoid unnecessary costs and unwarranted delays. While there are a number of approaches which could be taken, two possibilities include: the adoption of a detailed planning arrangement to prepare for the introduction of all the necessary changes from a pre-determined date; or the progressive adoption of the main elements of a market-based approach.

Such an approach is not unusual in complex areas of public policy making. The adoption of a transitional arrangement would aid the process of examining different design, implementation and operational issues linked to the application of a full fee autonomy and portable scholarship approach.

Alternatively, a package of administrative-based reforms involving significant modifications to the current charging system and a progressive shift to a performance-based funding mechanism could be adopted. These reforms would yield some worthwhile gains although, in the Commission's view, this approach would be a second-best option.

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## **APPENDIX 1 AN OVERVIEW OF THE HIGHER EDUCATION SECTOR**

The higher education sector is a large and important sector of the Australian economy. In 1996, it employed 83 000 full-time equivalent staff (including 26 300 teaching and research staff) and was involved in teaching 634 000 students (53 000 from overseas). It spent \$2 billion on research and generated direct export revenue of \$600 million.

The sector is also significant in terms of public funding. In 1994–95, higher education accounted for about one quarter of the \$22.6 billion outlaid by Australian governments on education. The Commonwealth provides almost all of the government funding to the sector. In 1994–95, Commonwealth Government expenditure on higher education was \$5 billion or 4 per cent of total government outlays. Direct expenditure from non-government sources exceeded \$4 billion in 1994–95.

The universities, constituting the core of the sector, are established under state and territory government legislation (except the Australian National University which was established under Commonwealth legislation). While these institutions are self-governing, significant aspects of their operation are influenced by governments, particularly by the Commonwealth Government. This influence is primarily exercised through accountability and reporting mechanisms and conditional payments related to the provision of public funds to the sector.

This appendix provides a broad overview of the sector. It outlines the main service providers, describes funding arrangements within the sector, reports on recent trends in participation rates and presents some international comparisons.

### **A1.1 The broad structure of the sector**

The higher education sector has experienced profound changes over the past decade. The binary system was abolished in 1988, and through a series of amalgamations, the 19 universities and 46 colleges of advanced education were reduced to the public universities of today. In addition to the 36 public universities, there are 4 public colleges, 3 other public providers, 2 private universities and about 40 other private providers (including theological colleges) that make up the higher education sector. Amongst these institutions, only the universities are authorised to award degrees.

Funding arrangements differ markedly between the different types of institutions. The 36 public universities making up the Unified National System (UNS) are guaranteed Commonwealth funding on a rolling triennial basis. Outside the UNS, the 4 public colleges receive government funding on an annual contract basis to cover their teaching activities only (ie research funding is not guaranteed). The three other public providers are also partly funded by government. The privately owned and operated universities — Bond and Notre Dame — receive no direct public funding, although they compete with the public universities for research grants.

Amongst the more than 80 service providers, the 36 public universities dominate the sector in terms of student numbers and research activity. There are significant differences in the overall size, revenue mix and teaching/research mix of these universities. For example, equivalent full-time student unit (EFTSU) numbers ranged from 2 900 at the Northern Territory University to 30 700 at Monash University in 1996. Total operating revenues ranged from \$43 million at the University of Ballarat to \$579 million for the University of Sydney in 1995. In the same year, the Commonwealth's contribution to total operating revenues ranged from 46 per cent for the University of Western Australia to 69 per cent for Southern Cross University and the University of Tasmania.<sup>1</sup>

The formation of Open Learning Australia (OLA) has expanded the institutional options available to students. OLA — which commenced in 1993 — offers students the opportunity to study university or TAFE units at home using television, radio or other media (such as the internet) to receive lectures. Courses are very accessible; there are no entry requirements and no limits on the number of places. OLA operates four study periods each year, as opposed to the traditional two for campus-based study. Degrees in six courses and course work comprising up to two-thirds of a further 12 degree courses can be obtained through OLA via 21 universities. Eight TAFE colleges are involved in the program (ABS 1996a). Clearly, technological opportunities are changing the face of tertiary education in Australia and are likely to have a major bearing on offerings and institutional relationships in the years to come.

Universities are also forging stronger relationships with the vocational sector, business and overseas institutions. Course articulation, credit transfer and alternative admission arrangements are bridging the gap between TAFE and universities. Institutions are also developing partnerships with industry in areas such as curriculum design, teaching and assessment. New courses are also being developed in partnerships with institutions both in Australia and overseas.

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<sup>1</sup> For more information on student numbers, staff numbers, teaching and research mix and sources of revenue by institution see DEETYA 1996a,b and 1997a.

## A1.2 Funding of the sector

The higher education sector in Australia receives a significant share of public funding (it was the seventh largest component of Commonwealth expenditure on general public services in 1995–96). However, diversification of the funding base has seen the proportion of total revenue provided by the Commonwealth Government fall from 90 per cent in 1983 to 57 per cent in 1995 (table A1.1), while revenues from the higher education contribution scheme (HECS), other fees and charges and income from other sources have become more significant — rising from 10 per cent in 1983 to 42 per cent in 1995.

Table A1.1: Sources of revenue for publicly funded institutions, 1983 to 1995 (Per cent)<sup>a</sup>

<i>Source of revenue</i>	<i>1983</i>	<i>1990</i>	<i>1993</i>	<i>1995</i>
Commonwealth grants <sup>b</sup>	90	63	56	57
State governments	1	5	4	1
HECS	na	12	13	12
Fees and charges	3	8	12	12
Investment income	4	5	3	4
Donations and bequests	3	2	2	1
Other sources <sup>c</sup>	0	4	10	13
Total	100	100	100	100

**a** Comprises the 36 public universities and the 4 public colleges. **b** Comprises recurrent funding from the Department of Employment, Education, Training and Youth Affairs and funding from other Commonwealth Departments. **c** Comprises scholarships and prizes, funds provided by independent organisations, research contracts, loans, proceeds from the sale of products and assets, and other funding. **na** not applicable (HECS was introduced in 1989).

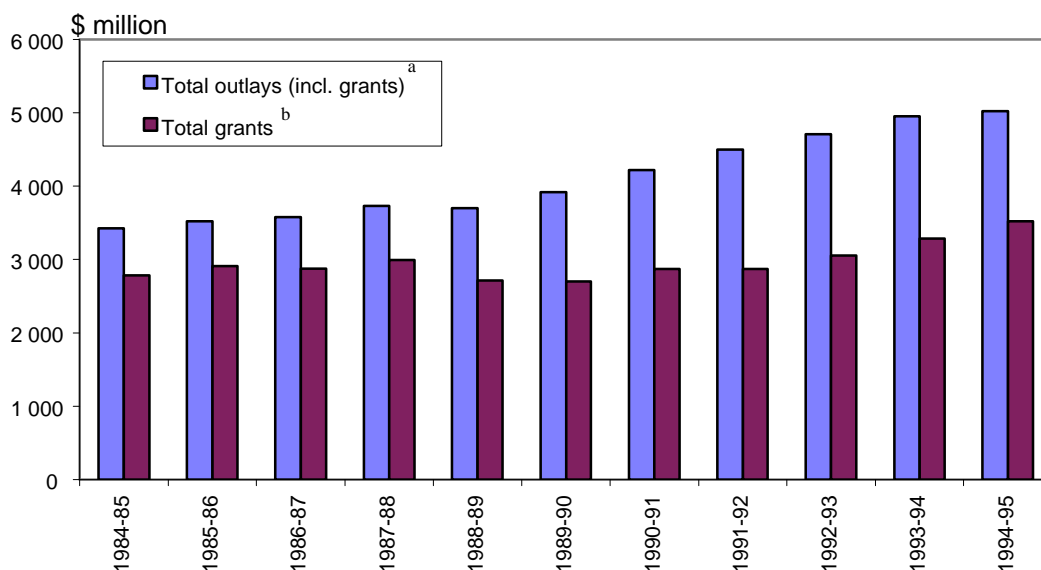
Sources: Dawkins 1987; ABS 1992; DEET 1995a; and DEETYA 1997a.

Fees have applied to undergraduate courses and various postgraduate courses since the late 1980s, while full fees have applied to a growing proportion of overseas students since 1986. From 1998, institutions will be able to charge fees for up to 25 per cent of Australian undergraduate students (excluding medicine) after agreed student load targets (HECS only students) have been reached. In 1995, the total operating revenue of publicly funded institutions was \$7.5 billion.

In 1994–95, Commonwealth and State government funding for higher education totalled \$5.4 billion. Of this, the Commonwealth outlaid a little over \$5 billion, with most going directly to institutions and students. The rest was in the form of specific payments to the states and territories (figure A1.1). Part of the direct funding to institutions includes payments from the Higher Education Trust Fund

(HECS contributions and associated earnings) of about \$1.2 billion. The Commonwealth also provided about \$785 million in 1994–95 for student assistance through programs such as AUSTUDY and ABSTUDY. Beyond this, about 20 per cent of bachelor and higher degree students receive employer support for their education.

Figure A1.1: Commonwealth funding of higher education, 1984–85 to 1994–95 (\$m, 1994–95 prices)



**a** Total outlays include payments to the institutions for teaching and research, payments from the HECS Trust Fund, specific purpose payments to the States and Territories, and payments to students under AUSTUDY/ABSTUDY. **b** Total grants refer to grants from the Commonwealth to State and Territory Governments.

Sources: ABS 1991, 1996b,c.

In addition to specific purpose payments from the Commonwealth, the States and Territories contributed \$360 million in 1994–95. This was mostly funding for capital purposes. Further, both levels of government provide implicit subsidies to the sector in various ways including through tax exemptions and by exempting institutions from meeting a rate of return requirement.

In 1996, the Commonwealth provided assistance totalling \$6.2 billion to higher education institutions and students. Of this, \$5.4 billion was provided directly to institutions (DEETYA 1996c), mainly through an operating grant for teaching, research and capital-related activities (table A1.2). A similar level of funding is proposed for 1997, 1998 and 1999.

Table A1.2: Commonwealth funding for higher education, 1996 and 1999<sup>a</sup>

<i>Activity/area</i>	<i>1996</i>	<i>Share of total</i>	<i>1999<sup>b</sup></i>	<i>Share of total</i>
	<i>\$m</i>	<i>%</i>	<i>\$m</i>	<i>%</i>
<b>Operating grants</b>				
Teaching (approx) <sup>c</sup>	4 247.6		4 307.0	
Research quantum	218.6		213.8	
Capital roll-in	253.0		255.7	
Subtotal	4 719.2	88.1	4 776.5	88.7
<b>Other operating grants</b>				
Superannuation	102.0		102.0	
Higher Education Innovation Program	67.2		0	
Higher Education Equity Program	5.3		0	
Other <sup>d</sup>	25.9		32.1	
Subtotal	200.4	3.7	134.1	2.5
<b>Other research programs</b>				
Grants	121.8	2.3	126.7	2.4
Other <sup>e</sup>	263.8	4.9	306.1	5.7
<b>Other funding</b>				
Open Learning Initiative	12.6	0.2	0.2	0.0
Capital program	36.9	0.7	37.6	0.7
Other institutional funding <sup>f</sup>	1.8	0.0	1.3	0.0
<b>Total Institutional Grants</b>	<b>5 356.6</b>	<b>100.0</b>	<b>5 382.6</b>	<b>100.0</b>

**a** Includes funding provided to UNS institutions and the four public colleges. **b** Estimated 1997 outturn prices, (ie prices in 1997 terms, adjusted for expected inflation). **c** Includes payments from the HECS Trust Fund amounting to approximately \$1 billion. **d** Includes items such as advance engineering centres, teaching hospital grants and student unions. **e** Includes Australian postgraduate awards, research fellowships, research infrastructure and special research centres and key centres. **f** Includes evaluations and investigations, and funding for programs to inform school children and some adults about constitutional, civic and citizenship issues.

Source: DEETYA 1996c.

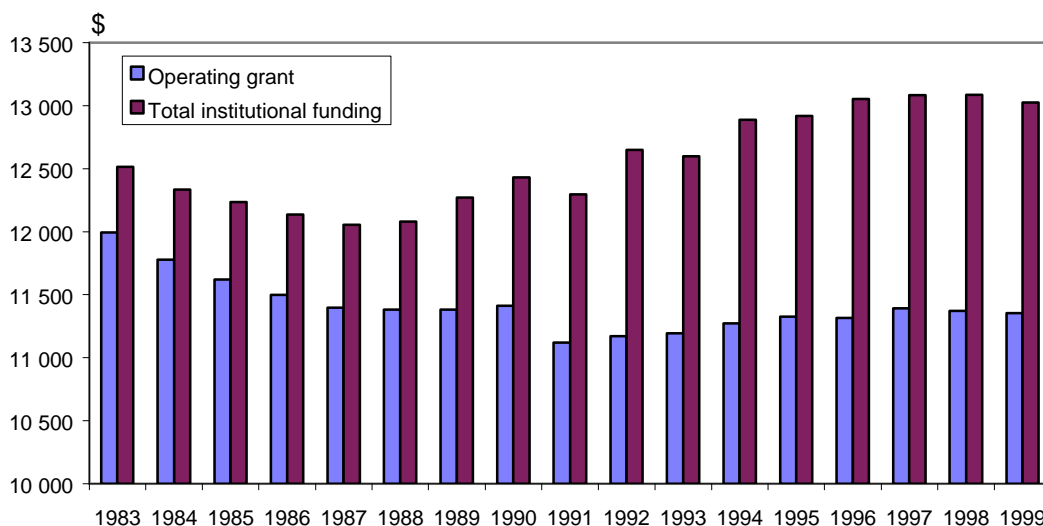
The Commonwealth also provides funding for other education programs and competitive research grants (to both public and private institutions). While funding for teaching activities is distributed on a centrally determined targeted student load basis, specific research funding is performance-based (see appendix 2 for details). In 1996, nine universities received about 70 per cent of the total specific research funding from the operating grant (the research quantum).<sup>2</sup>

<sup>2</sup> The nine universities were: Melbourne; Sydney; New South Wales; Queensland; Monash; Adelaide; Western Australia; Australian National University; and Flinders.

Besides the research quantum, a further \$385.6 million was available for research funding in 1996 (table A1.2). Institutions were eligible to receive \$309 million of research funding (most of it performance-based), and \$76.6 million was available to postgraduate students via the Australian Postgraduate Awards.

In real terms, Commonwealth institutional expenditure on higher education (including inter-governmental grants) increased by 65 per cent from 1984–85 to 1994–95 (an average growth rate of about 5.7 per cent per year). Much of this increase reflected the rapid expansion of the sector. However, funding on a per student basis also increased, but at a much slower rate (figure A1.2). From 1990 to 1996, funding for each student increased at a rate of about 1 per cent each year after declining in the period 1983 to 1989. However, from 1996 to 1999, total institutional funding (on a target load basis) per student will remain relatively stable.

Figure A1.2: Commonwealth funding of higher education per student,<sup>a</sup> 1983 to 1999<sup>b</sup> (estimated 1997 outturn prices)



**a** Equivalent full-time student unit. **b** Forward estimates for 1997 to 1999 inclusive.

Source: DEETYA (requested data).

## A1.3 Participation in higher education

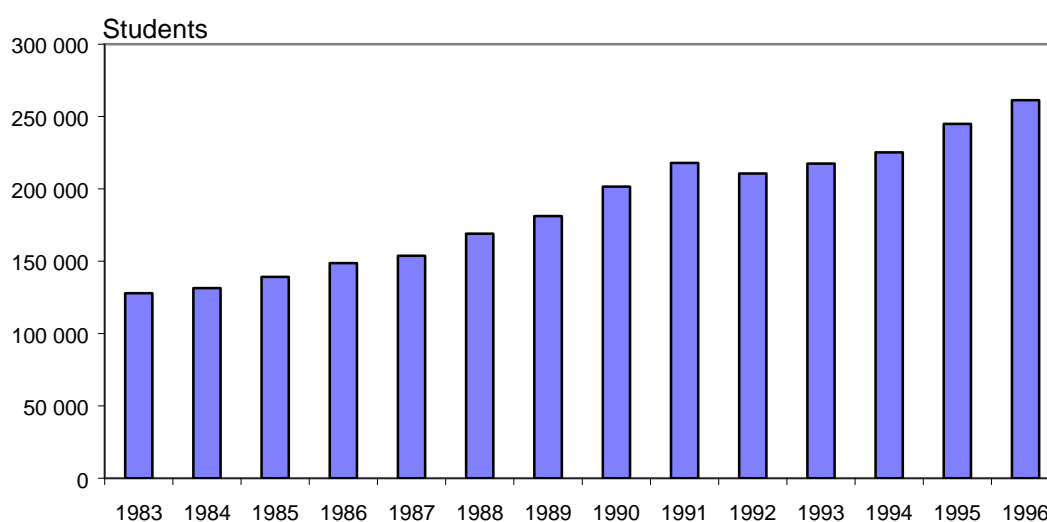
### Total students

Following the completion of secondary schooling (year 12), students can enter the labour force, undertake university or other tertiary study, or combine the two.

Other persons can undertake tertiary study as ‘mature age’ entrants. In 1996, 77 400 students who completed secondary schooling in the previous year, commenced study at higher education institutions. In the same year, the intake of other students was about 183 800.

The total number of students commencing higher education courses has increased strongly since 1983 (figure A1.3). However, it appears that more school-leavers are choosing to defer university studies. Reflecting this, the proportion commencing at university from the 19 and under age group declined from 43 to 36 per cent from 1987 to 1996. Although about 40 per cent of students commencing study at a bachelor degree level or below had come straight from high school, an analysis of age cohorts reveals this is becoming less common.

Figure A1.3: New commencements in higher education, 1983 to 1996



Source: DEETYA 1996a.

In the ten years to 1996, commencing student numbers in the 20 to 24 age cohort increased by 80 per cent, raising their share of the total student population from 29 to 32 per cent. Commencing student numbers in the 30 and over category also increased — from 27 to 28 per cent of the total.

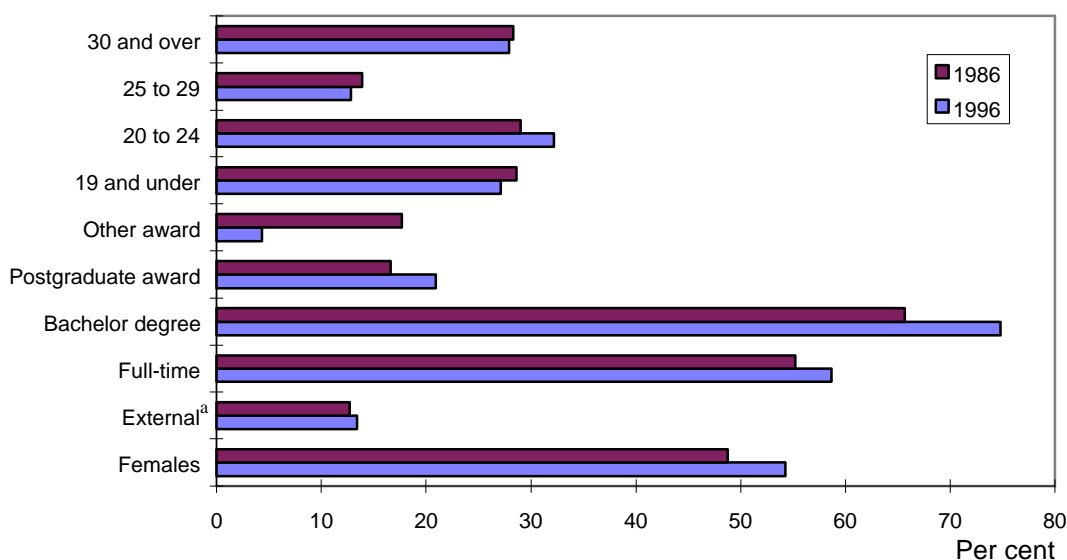
Overall participation in higher education has expanded rapidly in Australia. In the decade to 1996, enrolments in higher education increased by 63 per cent or 244 126 persons, with female students contributing over 60 per cent of this rise. This growth rate is four times that of the overall population in the same period. Thus, per head of population, the number of people attending university has grown from 31.7 to 46.0 per thousand people. In addition to campus-based students, there were 7 735 students in the OLA scheme in 1995, up 60 per cent



from the inaugural 1993 level of 4 854. In 1996, there were 634 094 students (or 491 312 on an equivalent full-time basis) in the publicly funded higher education sector.

Selected characteristics of the higher education student population for 1986 and 1996 are shown in figure A1.4. In 1996, the bulk of higher education students were studying full-time (59 per cent). Women represented over half of the student body (54 per cent). Aboriginal or Torres Strait Islanders represent about 1 per cent of the student body, compared with about 1.3 per cent of the 15 years and over population. Between 1986 and 1996, the proportion taking bachelor and postgraduate studies increased, while there was a decline in the proportion of students taking other award courses.

Figure A1.4: Characteristics of higher education students, 1986 and 1996

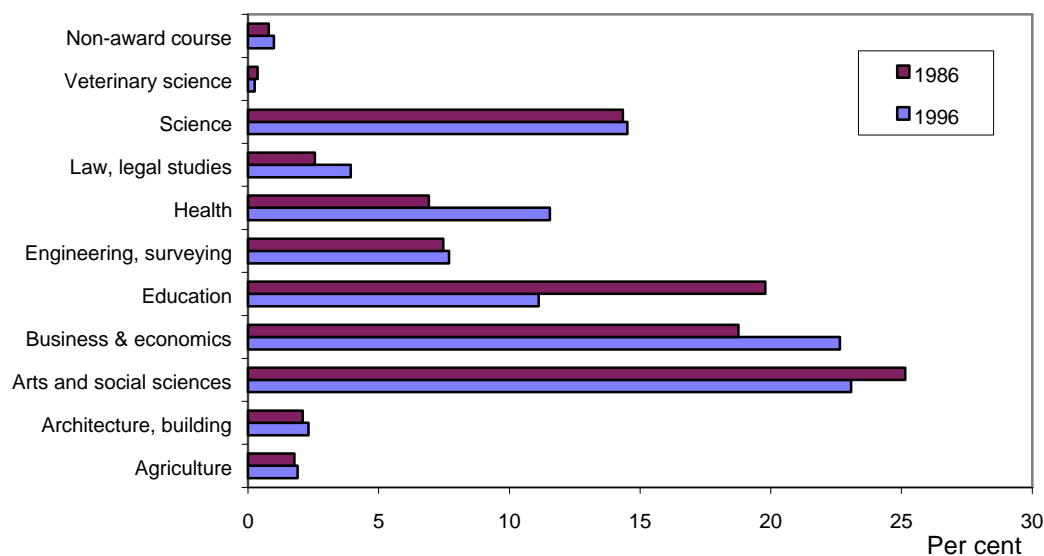


<sup>a</sup> Includes distance education students.

Source: DEETYA 1996a.

Analysis by field of study shows the courses with the highest enrolment levels in 1996 were humanities, business-related courses and science (figure A1.5).

Figure A1.5: Share of total higher education students by broad field of study, 1986 and 1996

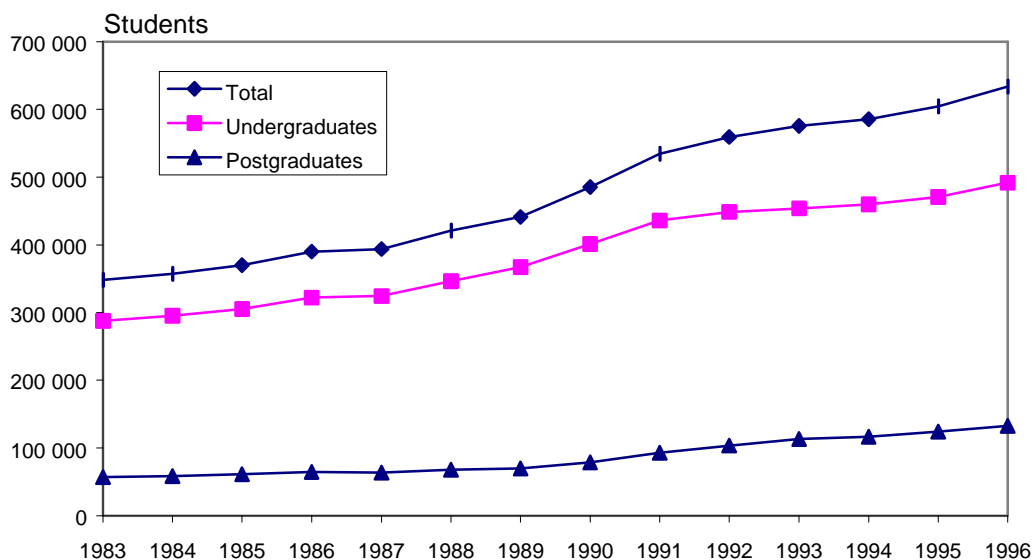


Source: DEETYA 1996a.

Over the decade to 1996, enrolments have grown fastest in vocationally-oriented courses such as law and legal studies, health, and business administration and economics. The large increase in the health field is, however, partly explained by the reclassification of nursing to higher education in 1989. On the other side of the ledger, there was a substantial drop in students studying education. The share of students in arts and social sciences and veterinary science also fell.

There has also been marked growth in students enrolling in postgraduate studies (figure A1.6). Postgraduate student numbers have increased at an average rate of 9 per cent each year since 1989, compared with an increase of 3.6 per cent per year for undergraduates. As a consequence, postgraduate students as a share of total higher education students increased from 16 per cent in 1989 to 21 per cent in 1996.

Figure A1.6: Higher education student numbers, 1983 to 1996



Source: DEETYA 1996a.

The Australian higher education system has not been able to keep pace with the strong growth in demand that has occurred since 1989. Each year since 1989, at least 6 per cent of people eligible for university have been unable to obtain a place in a university and/or course that was acceptable to them. In 1996, the estimated number of eligible applicants who were not offered a university place was between 16 000 and 23 900 people — equivalent to 6 to 9 per cent of total commencing students (AVCC 1996).

Demand for higher education is expected to slow over the next 10 years. On the basis of projected growth in population and changes in age structure (but with no assumed changes to existing participation rates), higher education enrolments are projected to rise by only 1.7 per cent (an increase of about 9 000) between 1994 and 2005. Assuming modest growth in participation rates for young students (while maintaining participation rates for older students), enrolments of domestic students could increase by around 13 per cent (about 69 000) over the same period (DEET 1995b). These projections do not take account of possible increases in participation rates linked to a growing emphasis on lifelong education or changes in demand linked to labour market changes or other influences.

### Foreign students

Exports of education and related services were \$1.7 billion in 1994–95. This includes fees from overseas students studying in Australia of about \$893 million — of which approximately \$600 million is attributed to higher education (AVCC

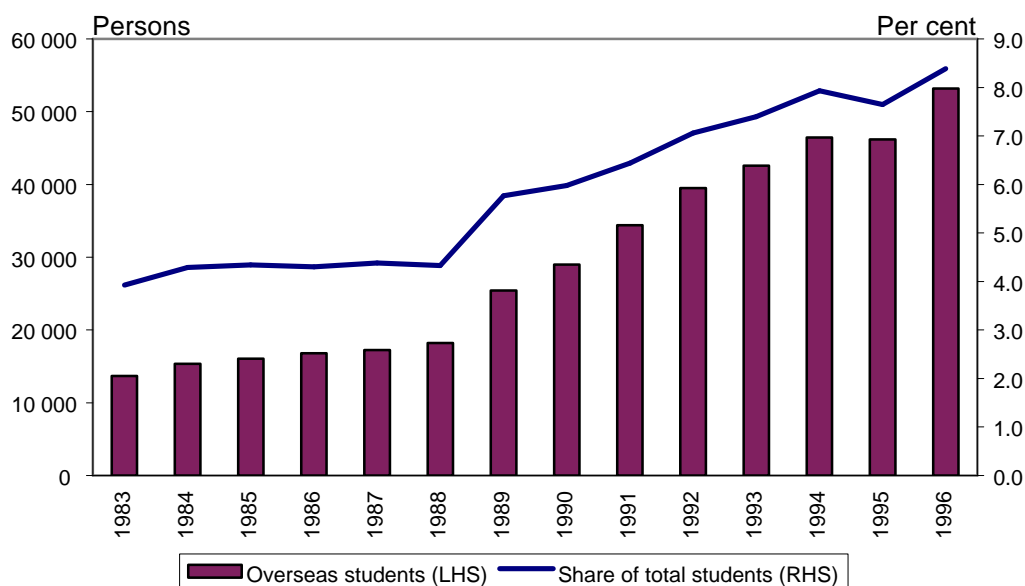
1997). Overseas students' spending on non-education goods and services, such as general living items, accounts for the remaining earnings.

Growth in overseas student participation in higher education has outstripped growth of domestic participation in recent years. Most of this growth has occurred since 1988. In fact, foreign student numbers grew at about double the rate of the total student population over the seven years to 1996. In 1996, there were 53 188 overseas students studying in Australia (figure A1.7) In 12 universities, overseas students account for 10 per cent or more of the students enrolled.

Growth in overseas students has been strongest since 1988. This has occurred despite subsidies for overseas students ending in 1990. The streamlining of entry provisions and reductions in the complexity of visa requirements has facilitated the increase.

Of the overseas higher education students studying in Australia during 1996, over four-fifths (or about 44 500) were from Asia. These students came from more than twenty Asian countries, but three countries — Malaysia, Singapore and Hong Kong — accounted for around 65 per cent of total Asian students and over 50 per cent of all overseas students. The largest contingent came from Malaysia — around 10 877 students, or one-fifth of total foreign students.

Figure A1.7: The number of foreign students enrolled in UNS institutions, 1983 to 1996



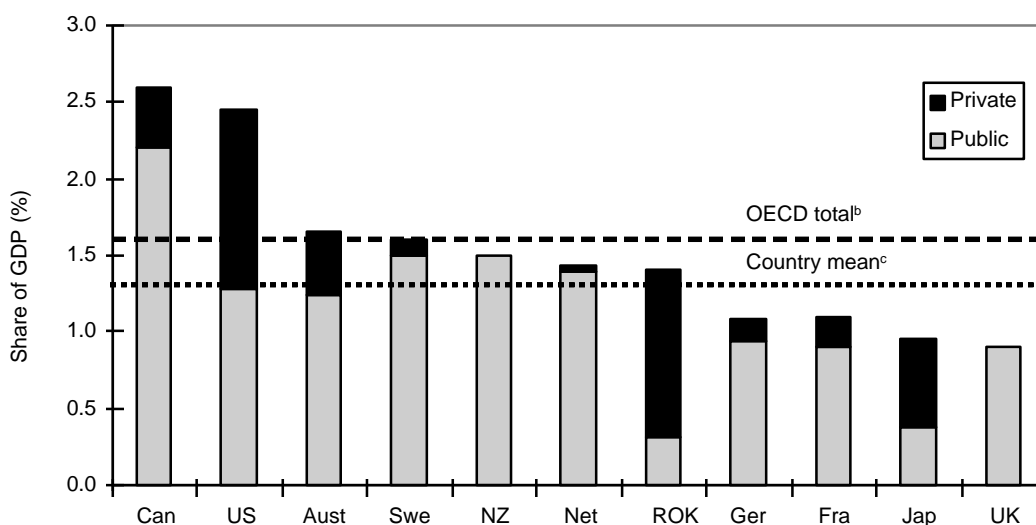
Source: DEETYA 1996a.

## A1.4 International comparisons

Higher education systems across the world vary significantly. There are differences in the way education systems are organised, structured and managed. Length of courses and the emphasis placed on general and vocational education, as well as research and teaching, also vary markedly. Many factors contribute to these variations, including differing economic and demographic conditions and historical, cultural and social influences. Consequently, while international comparisons can provide some insights into key differences across systems, caution should be exercised in drawing firm inferences for policy purposes.

Like Australia, most OECD countries devote a significant proportion of national resources to tertiary (university and technical) education.<sup>3</sup> According to the latest OECD statistics, the OECD region spent, on average, about 1.6 per cent of GDP on tertiary education in 1993 (figure A1.8 and table A1.3).

Figure A1.8: Expenditure on tertiary education as a share of GDP for selected countries, by source of funds,<sup>a</sup> 1993



**a** Includes direct subsidies to institutions and households, but excludes subsidies for student living costs. **b** *OECD total* refers to the weighted (by GDP) average of all 27 OECD countries for which data are available or can be estimated. **c** *Country mean* refers to a simple average of the values of all 27 OECD countries for which data are available or can be estimated.

Source: OECD 1996.

<sup>3</sup> Unless otherwise specified, data refer to tertiary education, not simply higher education.

While Australia is in line with this figure, there is considerable diversity among individual OECD countries. Canada and the US spent a relatively large share of their resources on tertiary education (2.4 per cent or more of GDP). At the other end of the spectrum, Japan and the UK devoted less than 1 per cent of GDP to tertiary education.

Countries also vary in the extent to which public funding is used to support tertiary education. For instance, in many European countries, the tertiary sector is virtually wholly government funded. In the US, Japan and Korea, public expenditure as a proportion of total tertiary education spending is relatively low — 52 per cent, 40 per cent and 22 per cent, respectively. In 1993, the Australian Government accounted for about 75 per cent of direct expenditure within the sector, compared to the average for the OECD region of about 65 per cent.

The high level of government expenditure as a share of GDP devoted to the tertiary sector in countries such as Australia, Canada, Sweden and the Netherlands is also reflected in relatively high ratios of public tertiary funding to total educational expenditure and total public spending more generally. Australia's public expenditure on tertiary education relative to primary and secondary education is high, accounting for 26.6 per cent of education spending, compared to the OECD country average of 22.8 per cent. Similarly, Australia devoted 3.8 per cent of all government outlays to tertiary education, the third highest in the selection of countries.

Spending on a per student basis also differs among countries. In line with high levels of general expenditure, Canada, the US and Sweden had relatively high levels of spending per student in 1993 (table A1.3). Australia spent an equivalent of US\$9 036 on each tertiary student, which is just below the OECD average. Apart from Sweden, many of the European countries had relatively low levels of expenditure per tertiary student.

Table A1.3: Expenditure on tertiary education in selected countries, 1993

Country	Total expenditure as a share of GDP %			Share of public education funding %	Share of all public spending %	Total spending per tertiary student <sup>a</sup> US\$ PPP
	Public <sup>b</sup>	Private	Total			
<b>Australia</b>	<b>1.2</b>	<b>0.4</b>	<b>1.7</b>	<b>26.6</b>	<b>3.8</b>	<b>9 036</b>
Canada	2.2	0.4	2.6	35.1	4.7	11 132
US	1.3	1.2	2.4	25.4	3.6	14 607
Japan	0.4 <sup>c</sup>	0.6	0.9	10.5	1.1	7 556
New Zealand	1.5	na	na	25.9	4.4	7 337
France	0.9	0.2	1.1	17.3	1.8	6 033
Germany <sup>d</sup>	0.9	0.1	1.1	22.1	2.1	7 902
Netherlands	1.4	0.0	1.4	31.5	2.9	8 665
Sweden	1.5	0.1	1.6	27.4	2.9	12 693
UK	0.9	..	0.9	22.6	2.6	8 241
Country mean <sup>e</sup>	1.1	0.2	1.3	22.8	2.8	9 665
<b>OECD total<sup>f</sup></b>	<b>1.1</b>	<b>0.6</b>	<b>1.6</b>	<b>na</b>	<b>na</b>	<b>na</b>
South Korea	0.3	1.1	1.4	7.2	2.0	2 589
Singapore	na	na	na	26.0 <sup>g</sup>	9.6 <sup>g</sup>	na

**a** Spending (public and private) in equivalent US dollars using purchasing power parity. The purchasing power parity exchange rate gives the amount of a national currency that will buy the same basket of goods and services in a country as the US dollar will in the United States. **b** Includes direct subsidies to institutions and households, but excludes subsidies for student living costs. **c** Direct subsidies to institutions only. **d** Refers to the former Federal Republic of Germany. **e** Simple average of the values of all 27 OECD countries for which data are available or can be estimated. **f** Refers to the weighted (by GDP) average of all 27 OECD countries for which data are available or can be estimated. **g** 1990 data. **na** Data were not available or not reported. .. Negligible or zero.

Sources: OECD 1996; and Selvaratnam 1994.

However, expenditure per student is affected by the share of university education relative to the non-university sector. In Germany and Australia for example, funding between these sectors varies significantly, with university students receiving around double the average subsidy given to non-university students. In Japan and New Zealand, average funding per student in the university and non-university sectors is more even.

Many factors contribute to the level of resources devoted to the tertiary sector, among them the wealth of a country, the size of the youth population, employment opportunities and public policy in relation to institutional and student support. High enrolment rates will require more financial resources, other

things being equal. Participation rates across a number of OECD countries are reported in table A1.4.

Table A1.4: Net enrolments in university and other tertiary education, selected age groups, 1994 (per cent)<sup>a, b</sup>

	<i>Age 18–21</i>		<i>Age 22–25</i>		<i>Age 26–29</i>	
	<i>University</i>	<i>Other tertiary</i>	<i>University</i>	<i>Other tertiary</i>	<i>University</i>	<i>Other tertiary</i>
<b>Australia</b>	<b>20.5</b>	<b>8.7</b>	<b>8.4</b>	<b>5.2</b>	<b>4.7</b>	<b>3.8</b>
Canada	26.2	14.0	14.6	8.2	5.4	4.2
US	21.3	13.6	14.4	6.6	6.5	3.9
Japan	na	na	na	na	na	na
NZ	23.8	7.1	10.1	3.8	4.8	2.5
France	23.3	9.9	14.1	2.9	4.2	0.4
Germany <sup>c</sup>	8.7	2.4	15.5	1.7	8.6	1.7
Netherlands <sup>d</sup>	22.1	na	18.4	na	6.2	na
Sweden <sup>d</sup>	12.3	na	15.3	na	7.2	na
UK	18.7	4.8	5.8	2.6	2.8	1.6
<b>Country mean<sup>e</sup></b>	<b>15.9</b>	<b>5.6</b>	<b>12.1</b>	<b>3.3</b>	<b>5.1</b>	<b>1.6</b>
South Korea	19.8	11.0	12.7	3.6	2.7	..

**a** Net enrolments is the number of students in the age group as a percentage of the total population in that age group. **b** No adjustment has been made for part-time and full-time students. **c** These data refer to the former Federal Republic of Germany. **d** University figures include net enrolments in other tertiary. **e** Simple average of the values of all 27 OECD countries for which data are available or can be estimated. **na**. Not available or not reported. **..** Negligible or zero.

Source: OECD 1996.

In most OECD countries, the highest net enrolments in tertiary education are reported for the 18–21 age group. Tertiary education participation in this age group for Australia was above that reported in many OECD countries. Yet Australia tends to lag France, New Zealand and Korea, which devote about the same or less resources to the sector. Similarly, Australia lags many OECD countries in terms of participation in the older age groups for university-based education.

Strong competition for places in tertiary institutions and the internationalisation of higher education has stimulated the development of an export market for education. Funding pressures are also encouraging institutions to find ways to broaden their enrolment base. These factors have contributed to the strong growth in international trade in educational services over the past few decades.

Australia appears to be capturing an increasing share of this market (table A1.5). While starting from a relatively low base, the number of foreign students enrolled



in Australian institutions has expanded more than four-fold over the period 1980 to 1993. Following a rapid expansion in export services, Australia has become one of the larger exporters of educational services.

Table A1.5: Foreign students enrolled in tertiary education by country, 1980 and 1993

<i>Country</i>	<i>Foreign students enrolled</i>			<i>Foreign enrolments as a share of total students (%)</i>		
	<i>1980</i>	<i>1993</i>	<i>Percentage change</i>	<i>1980</i>	<i>1993</i>	<i>Percentage change</i>
US	311 882	449 749	44.2	2.6	3.1	20.5
France	110 763	139 562	26.0	10.3	6.7	-34.6
UK	56 003	95 594 <sup>a</sup>	70.7	6.8	6.3	-7.6
<b>Australia</b>	<b>8 777</b>	<b>42 571</b>	<b>385.0</b>	<b>2.7</b>	<b>4.4</b>	<b>62.8</b>
Canada	28 443	35 451	24.6	2.4	1.8	-27.3
Austria	12 885	23 911	85.6	9.4	10.5	11.6
Italy	29 447	22 618	-23.2	2.6	1.3	-49.0
China	1 381	22 617	1 537.7	0.1	0.5	322.2
Norway	1 114	11 290	913.5	1.4	6.4	353.7
New Zealand	2 464	4 489	82.2	3.2	2.8	-14.3
South Korea	1 015	1 908	88.0	0.2	0.1	-42.0

<sup>a</sup> Data for 1992.

Source: UNESCO 1995.

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## **APPENDIX 2 CURRENT FUNDING AND CHARGING ARRANGEMENTS**

The Commonwealth Government has implemented major reforms in the higher education sector in recent years in an effort to raise participation and widen access to higher education, while at the same time containing costs through rationalisation and streamlining of the system.

The reforms involved the removal of the binary divide between the universities and the former Colleges of Advanced Education and a major rationalisation through amalgamation of smaller institutions. New funding arrangements imposed stricter accountability standards on universities within the centralised framework of the Unified National System (UNS). Key aspects of the new arrangements include:

- the allocation of resources through the provision of block operating grants to UNS universities determined on the basis of student load profiles;
- the reintroduction of student tuition fees in the form of HECS; and
- partial regulation of fees set by UNS institutions.

This appendix outlines key features of the reforms, existing higher education funding programs and charging arrangements. The framework for funding higher education and the allocation of block funding is examined in section A2.1. Recent reforms to the HECS are outlined in section A2.2. The structure and regulation of tuition fees across the higher education sector are examined in section A2.3. Other Commonwealth higher education policies and student assistance measures are briefly described in sections A2.4 and A2.5, respectively.

### **A2.1 The Unified National System: a framework for reform**

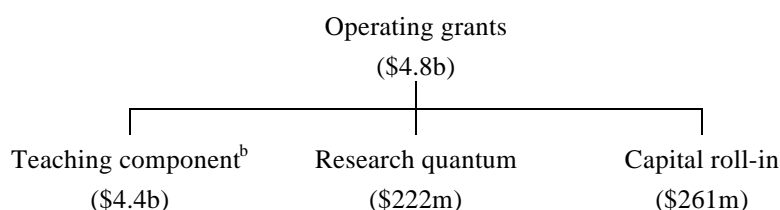
The central feature of the new reforms to higher education was the creation of the UNS. To receive full Commonwealth funding, institutions were required to become a part of the UNS and to achieve a minimum sustainable student load of at least 2000 equivalent full-time student units (EFTSU). Smaller institutions were obliged to merge or establish a formal working relationship with a larger institution. Through the merger process the total number of public universities in the UNS was reduced to 36.

Institutions in the UNS were offered funding on a rolling triennial basis, mainly in the form of a single block operating grant. Additional funds are provided through targeted funding programs (section A2.4).

### The block operating grant

Around 90 per cent (\$4.8 billion in 1997) of Commonwealth funds for higher education are provided in the form of a single operating grant to institutions. The largest component — roughly \$4.4 billion<sup>1</sup> — is allocated to fund teaching and related research. It covers basic operating costs, including academic and general salaries, minor capital works and non-salary items associated with teaching, such as libraries (figure A2.1).

Figure A2.1: Operating grant components and level of funding, 1997<sup>a</sup>



**a** Based on budget allocation figures for 1997. **b** Within the teaching component is a *research training component*, which is allocated to a university on the basis of its postgraduate research EFTSU. It is estimated to be 10.7 per cent of the operating grant, or \$476 million in 1996–97.

Sources: DEETYA 1996c; McGauran 1996.

### Allocation of teaching funds and student places

The allocation of the operating grant is determined during ‘educational profile’ negotiations between DEETYA and each of the UNS institutions (box A2.1). The outcome is an agreed level of funding which relates to the institution’s objectives and the number of students it is expected to enrol.

<sup>1</sup> In 1997, the teaching component included a direct grant of about \$3.2 billion plus an allocation from the HECS Liability Trust Fund of about \$1.2 billion.

### Box A2.1: Educational profiles

Operating grants in the UNS are based on educational profiles that institutions must develop in negotiation with DEETYA. These negotiations occur annually within the context of the triennial cycle, with the opportunity to negotiate major alterations or proposed new developments as the need arises. Profiles include a statement identifying the role and mission of institutions in broad terms and separate management plans outlining their activities in teaching, research and capital management, as well as statements of intent on dealing with equity issues, including an Aboriginal and Torres Strait Islander education strategy.

**Student load targets** are set during the negotiation process. These targets form the basis for determining the maximum grant allocated to an institution. While each institution is expected to meet or exceed a **total enrolment target** as well as an **undergraduate target**, they receive funding only up to the agreed targets. From 1998, institutions will receive an amount equivalent to the minimum HECS liability of each undergraduate student enrolled beyond target. Correspondingly, the Commonwealth will reduce an institution's funding by the equivalent of the minimum upfront differential HECS payment for each EFTSU that institutions fall short of their agreed undergraduate target.

*Sources:* Dawkins 1988b; DEETYA 1997b.

Student place allocations are largely determined on the basis of previous allocations, with some adjustments to accommodate changes in demand and growth within the system. In determining which institutions will receive growth funding, DEETYA takes account of state and regional needs, the capacity of institutions and their individual bids. This process involves consultation between the Commonwealth, State and Territory governments (via specially established Joint Planning Committees), Australian education administrative bodies and higher education institutions.

Since 1990, the relative funding model has been used to assist in the reallocation of funds from the pre-1987 system to the new institutions to ensure that they are funded on an equitable basis. This model assigns weights to the different disciplines and level of study on a system-wide unit cost basis. The most expensive disciplines and courses receive the greatest weight and funds. Disciplines such as medicine, dentistry and veterinary science are among the most costly to provide, while humanities, education and law are the least costly. Similarly, students enrolled in higher degree research are weighted more heavily than those at the undergraduate level.

The relative funding model was designed to be a once-off adjustment, rather than for use on an ongoing basis. Each year since 1990, DEETYA has adjusted institutional grants to bring each institution's teaching funds within a tolerance

band of about 3 per cent of the funding relativities of the model. This process of adjustment has been completed. Consequently, in 1997, DEETYA abandoned the relative funding model. Allocation of teaching funds is now determined on the basis of the average rate of funding per EFTSU at each institution. This average funding rate in turn reflects the distribution of EFTSU across disciplines and levels of study, as specified in the relative funding model. On average, the subsidy provided in 1997 was roughly equivalent to \$9 500 for each EFTSU in the total enrolment load.

### *Research funding*

In 1988, there was a major restructuring to the way research was managed and funded. Research directly related to teaching is allocated to universities via the teaching component of the block operating grant. The bulk of other research funding has been separated from the operating grant to encourage greater efficiency through competitive schemes and to ensure closer alignment with broader national objectives. However, a small component of the operating grant, known as the Research Quantum, has been retained to support basic research activities that are not directly related to teaching and research training.

Funds for the research quantum were created from a 'clawback' of \$65 million per annum (phased in over the 1989–91 triennium), or 1.5 per cent of the operating grants from the pre-1987 universities for distribution on a competitive basis. It accounts for about 5 per cent of total operating funds. Since 1990, these funds have been allocated on the basis of a 'composite index', which takes account of research inputs (measured as success in attracting research grants) and outputs (as measured by postgraduate research completions and numbers of publications). In 1995, about 90 per cent of funds were allocated on the basis of inputs, particularly from national competitive research grants. Criticisms over the weights used in the index has led to more emphasis being placed on outputs through increasing the weights on publications and higher degree research completions, but success in attracting research grants is still the major component for allocating funds (IC 1995; HEC 1996).

### *Capital funding*

The capital component of the block operating grant, known as the capital roll-in, is provided to support infrastructure development for all university activities. This funding is allocated to institutions and reflects their agreed student target loads.

In addition, the Commonwealth has set aside \$37.6 million for each year of the current triennium to fund additional capital projects. These funds are held in a capital development pool, which provides specific purpose grants to assist

institutions that have experienced extraordinary levels of Commonwealth-funded growth since 1994, and to expand, develop and upgrade electronic delivery infrastructure, particularly for new campus developments (DEETYA 1996c).

## **A2.2 User charges for higher education — HECS**

In 1987, the Hawke government reintroduced an annual tuition fee for higher education in the form of a Higher Education Administration Charge of \$250 per student. In 1989, this charge was replaced by the HECS. Under this scheme, Australian university students were required to contribute a uniform amount (\$2 478 annually in 1997 for continuing full-time students) that, on average, accounted for roughly 23 per cent of the tuition cost of their education. This contribution can be made as an upfront payment, which receives a 25 per cent discount, or deferred.<sup>2</sup>

The HECS is becoming an increasingly important element of higher education funding. All funds collected via HECS are put into a HECS Liability Trust Fund. The revenue is reallocated to institutions as part of the teaching component of the block operating grant. About \$1.2 billion was allocated from this fund in 1997.

The Government recently made a major change to the structure of the HECS. Since January 1997, all commencing students have been required to pay a tuition fee of between \$3300–\$5500 for a full year of study (table A2.1). All units of study are divided into three HECS bands. The amount of HECS payable depends on which band a student's units of study fall within (ATO & DEETYA 1996). The required payment is also adjusted for their study load. For example, a student commencing a Bachelor of Economics in 1997 with a full-time load would undertake eight units. If the student enrolled in six economics units and two arts units their HECS liability would be \$4 350 (ie  $6/8 \times \$4 700$  [economics rate] +  $2/8 \times \$3 300$  [the arts rate] = \$3 525 + \$825).

Under the new HECS, students continue to have the option to pay upfront and receive a discount. Alternatively, they may defer payment until their taxable income reaches a threshold, now \$20 701, previously equal to average weekly earnings (\$28 495 in 1996–97) (table A2.2). In addition, new repayment rates apply. These changes mean that most HECS-liable individuals will begin repaying their debt sooner and will complete repayment more quickly.

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<sup>2</sup> When students choose to pay HECS upfront, the institution is paid the outstanding 25 per cent of the contribution by the Commonwealth.

Table A2.1: Differential HECS, 1997<sup>a</sup>

<i>Category</i>	<i>Courses</i>	<i>Annual charge</i> \$
Band 1	Arts, Humanities, Social Studies/Behavioural Studies, Education, Visual/Performing Arts, Nursing and Legal Studies.	3 300
Band 2	Mathematics/Computing, Other Health Studies, Agriculture/Agricultural Science, Science, Built Environment, Administration, Business, Economics and Engineering.	4 700
Band 3	Law, Medicine, Dentistry and Veterinary Science.	5 500
Continuing students	All HECS-liable courses	2 478

**a** Students making a partial upfront payment of \$500 or more of their HECS liability for a semester receive a discount of 25 per cent.

*Sources:* Vanstone 1996a; DEETYA 1996c.

Table A2.2: Changes to HECS repayment rates<sup>a, b</sup>

<i>1997–98 repayment schedule</i>		<i>1996–97 repayment schedule</i>	
<i>Threshold income</i>	<i>Repayment rate</i>	<i>Threshold income</i>	<i>Repayment rate</i>
\$	%	\$	%
Below 20 701	nil	Below 28 494 <sup>a</sup>	nil
20 701 to 21 830	3.0	28 495 to 30 049	3.0
21 831 to 23 524	3.5	30 500 to 32 381	3.5
23 525 to 27 288	4.0	32 382 to 37 563	4.0
27 289 to 32 934	4.5	37 564 to 45 335	4.5
32 935 to 34 665	5.0	45 336 to 47 718	5.0
34 666 to 37 262	5.5	47 719 to 51 292	5.5
37 263 and above	6.0	51 293 –	6.0

**a** Graduates with dependants are exempted from making repayments if they qualify for the medicare levy exemption. Individuals may also make voluntary repayments at any time. Voluntary payments of \$500 or more attract a 15 per cent bonus. **b** Income threshold and repayment schedules for 1996–97 and 1997–98 are more graduated than those that applied prior to the 1996–97 Budget changes.

*Sources:* Vanstone 1996a; DEETYA 1996c.

Around 80 per cent of university students are HECS-liable. Some students undertaking non-award, enabling, postgraduate and graduate courses are subject to fees and are exempt from HECS. Some students that are liable for HECS choose to pay the fee upfront. Most however, particularly at the undergraduate level, take the option to defer payment. For example, in 1996, about three-quarters of undergraduate students and roughly half of graduate and postgraduate

students chose to defer payment of their HECS obligation. Most students taking this option are expected to repay their debt within 6 to 10 years (Vanstone 1996a). It is currently estimated that about 17.2 per cent of all HECS debt will not be recovered (DEETYA & OECD 1997).

### **A2.3 Higher education fees**

The higher education system comprises more than just the Commonwealth-funded institutions. Higher education courses are also provided by Australian Technical and Further Education (TAFE) colleges, private colleges and private universities. Universities are the only institutions able to offer degree courses, but through articulation arrangements students can gain credits towards a university degree from courses undertaken at other tertiary institutions.

Students face a range of different fees depending on the institution they attend and the regulations that apply. The Commonwealth is responsible for regulating fees in the public higher education sector.

Most domestic students attending public universities are required to pay a user charge in the form of the HECS. No other tuition fees apply, although students may be charged for administrative and ancillary services (eg computer facilities and lecture notes). Some students must pay upfront fees that are determined by the institutions. However, as part of the funding arrangements, these fees are regulated by the Commonwealth. In the TAFE sector, fees are regulated by state and territory governments. Outside the public system, higher education institutions have full autonomy to determine fees. Fees for a Bachelor of Arts degree that applied at selected institutions in 1997 are presented in box A2.2. Details of fees that apply at various institutions are detailed below.



**Box A2.2: Tuition fees for a Bachelor of Arts degree at selected institutions, 1997**

	<i>UNS</i>	<i>Casey<sup>a</sup> + MU</i>	<i>MC<sup>b</sup> + SCU</i>	<i>University of Notre Dame</i>	<i>Bond University</i>
Completion time (yrs) <sup>c</sup>	3	4	2	2.5	2
Deferred HECS (\$)	9 900	7 425	3 300	na	na
Tuition fee <sup>d</sup> (\$)	nil	1 200	11 500	18 000	51 600
Total cost (\$)	9 900	8 625 <sup>e</sup>	14 800 <sup>f</sup>	18 000	51 600

**a** Casey Institute of Technical and Further Education (Victoria) and Monash University. **b** Macleay College and Southern Cross University (SCU). **c** Represents the minimum number of years. **d** Administrative, ancillary service charges and non-refundable deposits are not included. **e** Equivalent to the cost of combining study towards a Diploma of Arts (Professional Writing & Editing) at Casey and a Bachelor of Communications at Monash University. The HECS liability was calculated based on a student undertaking 18 university arts study units. The Casey fees are \$500 for the first year and \$350 for the following two years. **f** Equivalent to the minimum tuition fee for a diploma in Advertising or Journalism that takes 1 year to complete. The degree course takes an additional year to complete and is provided by SCU on a HECS-liable basis. **na** Not applicable.

*Sources:* Bond University 1996; University of Notre Dame 1997; Macleay College 1997; Casey Institute of Technical and Further Education 1997; DEETYA 1996c.

## **Fees set within the UNS**

From the late 1980s, the government has increasingly expected universities to find additional sources of revenue to fund their operations. To facilitate this, the universities have been given more freedom to charge fees.

Fees set within the UNS are regulated by the *Higher Education Funding Act 1988* and associated Ministerial guidelines. They aim to ensure that students counted within the enrolment target are able to access HECS and to prevent fee-paying students from limiting the availability of places for HECS-liable students.

### *Postgraduate, graduate and non-award course fees*

Under existing guidelines, 'full' fees may be charged to domestic students undertaking certain graduate, non-award and postgraduate courses (irrespective of the level of research content). Some limits apply. Fees may not be levied on courses that result in a basic professional qualification that requires graduate or postgraduate entry, including postgraduate general nursing courses required for initial registration and graduate diploma of education courses. Fees cannot be applied to students holding an Australian Postgraduate Award either.

Institutions have some discretion as to whether they accept students on a HECS-liable basis, which is counted towards their student load target, or accept them on a fee-paying basis. Often fees are applied to courses in high demand, such as business and commerce courses. Alternatively, institutions may differentiate between particular types of students. For example, the Australian National University accepts some full-time students into graduate courses on a HECS-liable basis, while part-time students are subject to fees. Overall, around a third of non-research graduate and postgraduate students enter university on a fee-paying basis, either self-financed or employer-sponsored. The remaining students are largely HECS-liable. In total, less than 1 per cent of postgraduate research students pay institutionally determined fees. About 85 per cent of postgraduate research students receive scholarships. The remaining research students are subject to HECS.

In the case of non-award courses, institutions are required to charge a fee that is at least equivalent to HECS. The government no longer sets minimum fees for postgraduate and graduate domestic fee-paying students. However, in practice, most institutions charge an amount at least equivalent to HECS.

Institutions are free to retain all income earned from fee-paying students as long as they meet their student load target. Where institutions enrol fee-paying students within their funded load targets, their operating grant is adjusted by the discounted HECS payment for each fee-paying student.

### *Undergraduate fees*

From 1998, greater freedom to charge tuition fees to domestic undergraduate students who were unable to obtain a government-funded place will enable institutions to expand places for these students. However, strict regulations apply. Institutions are not able to offer fee-paying places to medical students. For other courses, the Government has placed a limit of 25 per cent on the number of places that may be offered to undergraduates on a 'full' fee basis. If institutions wish to expand the number of fee-paying places beyond the initial limit they must also expand HECS places to maintain the ratio between government-funded students and fee-paying students. Institutions must meet the student load target before fee-paying undergraduate students may be accepted. Funding penalties apply if institutions breach this condition.<sup>3</sup> A minimum fee equivalent to the differential HECS contribution also applies. In addition, the HECS loan facility is not available to fee-paying domestic undergraduate students.

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<sup>3</sup> The penalty is \$9 000 for each fee-paying student that could have been counted towards the target in 1998 (and indexed in subsequent years). This is in addition to any funding adjustments made for under-enrolment against the target.

### *Overseas students*

The Government requires institutions to charge fees to overseas students. Unless approval for lower fees is granted by the Higher Education Division of DEETYA, a minimum scheduled fee must be applied. The 1996 administrative guidelines require institutions to recover the full economic cost (full average cost rather than marginal cost) of providing a course having regard to teaching services, administration and capital facilities for the course on offer (HED 1996). Previously, the Government placed limits on the number of overseas students that institutions could accept. These limits no longer apply.

Institutions are able to retain all fee income as long as they at least meet the institution's total student load target. The guidelines stipulate that this revenue must only be used for the purposes of providing additional places or providing additional support for institutional activities (HED 1996). If institutions take on overseas students and do not meet their student load target, the Government withholds from their operating grant the equivalent of one discounted HECS charge for each EFTSU of fee-paying load that is within the total load target.

### **TAFE fees**

Public TAFEs are the dominant suppliers of vocational education and training (VET) in Australia. TAFE colleges offer diploma, certificate or other award courses in competition with other higher education institutions. TAFE forms an important link in the education system for students going on from secondary school to higher education. Through the various articulation arrangements in place between individual universities and TAFEs, it is possible for a college student to gain credits towards a university degree. Typically, a TAFE diploma course will provide a year of credit towards a degree. Given the large subsidies provided to the TAFE sector by state and territory governments, in terms of tuition costs, it is often less costly for the student to combine TAFE and university to obtain a degree. However, because it usually takes at least a year longer to obtain a degree in this way, students choosing this method of study may face higher costs when the lost opportunities for work are taken into account.

The states and territories have prime responsibility for funding the TAFE sector. In 1995, State and Territory Governments contributed about 59 per cent of all funds to the VET sector. The Commonwealth Government contributed an additional 23 per cent of funds. Student fees and charges accounted for 4 per cent of funds (ACVETS 1996).

Within the TAFE system, the most common method for setting fees is to set them in line with course costs. Some charges vary according to the type of qualification gained (eg fees for a diploma course are higher than for a certificate

course). Fees and charges vary considerably. For example, in 1997, tuition fees ranged from \$350 to \$1 420 per year at the Canberra Institute of Technology (CIT 1997).<sup>4</sup> These fees must be paid upfront and no government guaranteed loan scheme, similar to the HECS arrangement, is available. However, some students may be able to obtain a loan through the AUSTUDY/ABSTUDY supplement scheme.

### **Private higher education fees**

The government does not regulate fees at non-subsidised higher education institutions. There are only two private universities in Australia — Bond and Notre Dame — both operate on a non-profit basis. However, some private colleges, such as Macleay College, offer degrees in conjunction with other universities.

The University of Notre Dame offers courses within a Christian context, running courses in education, theology, arts and sciences, business and law. Bond University offers a similar range of vocationally oriented arts, law and business courses. At Macleay College, students that complete the one-year diploma courses in journalism and advertising can continue for an additional year to complete a Bachelor of Arts offered in conjunction with Southern Cross University. All of these institutions offer courses over most of the year allowing for accelerated completion of degrees in two years.

Tuition fees at private institutions vary considerably. For example, in 1997, Bond University set most undergraduate tuition fees at \$2 100 per study unit, so that a degree cost about \$51 600 (\$17 200 for a two semester year). Postgraduate courses are more expensive. At Notre Dame, tuition fees are \$250 (\$325 for law) per credit point. An Arts degree costs around \$18 000 (\$6 000 for a two semester year).<sup>5</sup> Fees for postgraduate students are roughly the same as for undergraduates, but may be increased depending on the level of supervision required. At Macleay College, the degree courses are offered on a HECS basis, but the prerequisite diploma course costs about \$11 500.

Various payment options are usually available to students in private institutions. Fees can be paid upfront and may attract a discount. Alternatively, payments can be made on a periodic basis. The institutions often offer other special arrangements to suit individual students. Notre Dame provides interest free loans to students for an amount up to half the payable fees. Notre Dame also offers a

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<sup>4</sup> These figures exclude student association fees and any additional ancillary charges.

<sup>5</sup> Fees for overseas students at Notre Dame are about double the domestic student rate — \$425 per credit point in 1997 (\$10 200 for a two semester year).

work study program to needy students. This program provides opportunities for students to gain fee remission for services rendered to the university. Bond and Macleay College have negotiated special student loan arrangements with commercial banks. Loans are typically offered on a deferred payment basis. However, commercial conditions apply to these loans. Students may also be able to access the AUSTUDY/ABSTUDY assistance and loan supplement scheme.

## **A2.4 Other higher education programs**

### **Equity**

Equity in higher education is a major Commonwealth priority. Apart from ensuring equal access to an undergraduate degree for suitably qualified (domestic) students, a component of the funding provided to higher education institutions includes separately identified funding to support equity initiatives.

There are two main equity programs — the Higher Education Equity Program (HEEP) and the Aboriginal and Torres Strait Islander Support Fund.

Funding for the HEEP in 1997 is \$5.3 million. This program targets the following groups:

- students with a disability;
- people from socio-economically disadvantaged backgrounds;
- women in non-traditional areas of study and postgraduate courses;
- people from rural and isolated areas;
- Aboriginal and Torres Strait Islander students; and
- people from non-English speaking backgrounds.

The aim of the HEEP is to raise the participation rates of students in these groups, which have been traditionally under-represented in higher education.

The Aboriginal and Torres Strait Islander Support Fund aims to provide additional funds to meet the special needs of indigenous students and supports other government policies for indigenous Australians. Funding in 1997 will be around \$21.5 million. An additional \$8 million has been allocated for the current triennium for the establishment of specialist Indigenous Higher Education Centres and to improve access to Open Learning.

As part of the profiles process, UNS institutions are required to produce an equity plan and develop strategies for indigenous education. Institutions are also required to establish targets for indigenous students participating in higher education. Performance in achieving equity goals for each of the target groups is

monitored by DEETYA and, from 1995, institutions have reported against four equity performance indicators: access; participation; success; and retention. Since 1996, allocations under both HEEP and the Aboriginal and Torres Strait Islander Support Fund have been based on outcomes against the performance indicators.

The Commonwealth's new merit-based equity scholarship program also targets students in the equity groups mentioned above. The scholarships offer a HECS exemption and are expected to number more than 4 000 by the year 2000. The cost of this program over the next four years is estimated to be about \$36 million.

### **Open Learning Initiative**

Over the 1997–99 triennium, the Commonwealth Government will provide funding of \$0.215 million annually for the Open Learning Initiative. This initiative promotes wider and easier access to tertiary education through the establishment of the Open Learning Australia (OLA) organisation and the development of an open learning electronic support service.

OLA involves the collaboration of 29 Australian universities and TAFE colleges, assisted by the Australian Broadcasting Corporation, that offer distance education services incorporating the use of television, radio and other electronic communications services. The OLA service is open to all Australians, regardless of age and location. There are no entry requirements and no limit on places. OLA is free to set its own fee levels for these services — it is not tied to HECS charges. Students may also have access to the Open Learning Deferred Payment Scheme (OLDPS) for payment of these fees.

The OLDPS is available for undergraduate university units only. Postgraduate units and professional and continuing education studies must be paid for upfront.

The OLDPS has many features similar to the HECS and the repayment arrangements for the two schemes are the same. However, more stringent eligibility criteria apply to OLDPS compared to HECS. To remain eligible students must:

- maintain a pass rate of at least 50 per cent of all units registered, regardless of method of payment; and
- have registered for fewer than 28 units (usually 24 units have to be completed for a degree course).

Students must also meet any shortfall between the OLDPS amount and the cost of the OLA course. In 1997, the OLDPS amount per standard course unit was \$332 (\$2 656 for a full year of study), while course costs were \$425 (\$3 400 for a full year of study).

## **Higher Education Innovations Program**

The Higher Education Innovations Program was established in 1995 through the merger of the National Priority (Reserve) Fund and Quality Assurance Programs. It is used to support quality and innovation in higher education. Included in this program are initiatives such as:

- the Committee for University Teaching and Staff Development that was established in July 1996 to continue the work of the Committee for Advancement of University Teaching. Its role is to identify and promote good practice and improvement, and to encourage and provide staff development opportunities for academic and administrative staff. About \$6 million annually is available under this program, with funds allocated to institutions on the basis of performance; and
- the Australian Credit Transfer Agency provides more flexible points of entry into the Australian higher education system through its role in assessing prior learning and providing advice on national recognition of prior learning. In 1996, about \$0.6 million was allocated to this initiative. An additional \$67 000 was provided to assist with the assessment of non-credentialed prior learning of those who are economically disadvantaged. No allocation has been made for the agency for the 1997–99 triennium.

## **Cooperative Multimedia Centres**

The Cooperative Multimedia Centres program aims to support the development of a competitive and internationally successful multimedia industry. The program funds six centres involved in developing collaborative approaches between education and training, business and creative communities for skill formation in the industry. Funding of about \$8.4 million is provided for this program annually.

## **Advanced Engineering Centres**

The Advanced Engineering Centres program was established in 1992 to foster an engineering culture in Australia. The centres are designed to promote collaboration between higher education institutions and industry so as to:

- improve advanced engineering education;
- increase industry's capacity to apply and commercialise technology; and
- focus on teaching and short-term research and consultancy projects.

Three Advanced Engineering Centres located in Sydney, Melbourne and Adelaide, received combined funding of \$1.6 million in 1996. A review of the

centres was undertaken in 1995. The government has since decided to fund the program for a maximum period of six years.

### **Evaluation and Investigation Program**

The Higher Education Division of DEETYA operates an Evaluation and Investigation Program. The program funds studies and research projects that evaluate performance and investigate issues of national importance to Australian higher education policy. It is a cooperative venture, with projects being undertaken in areas of interest common to researchers, institutions and the Commonwealth. In 1995–96, funds of \$1.3 million were allocated for 58 projects.

### **A2.5 Student assistance schemes**

The Commonwealth provides direct financial assistance that largely targets students from disadvantaged backgrounds under two main schemes — AUSTUDY and ABSTUDY. These schemes aim to provide financial assistance that contributes to student living expenses.

AUSTUDY provides income support grants to students 16 years of age and older undertaking approved courses of study in secondary schools, TAFE colleges, approved TAFE equivalent and university courses offered by both public and private institutions. Assistance is provided on an income and asset means-tested basis. A loan scheme, known as the AUSTUDY Supplement, is also offered in conjunction with this program. There are two categories of potential recipients:

- tertiary students eligible for AUSTUDY who can trade-in up to \$3 500 of their grant for a loan of twice that amount (ie \$7 000 a year); and
- tertiary students who are ineligible for AUSTUDY, but whose parents' adjusted income was less than \$53 138 in 1996, can obtain a loan of up to \$2 000.

The repayment conditions for the loan supplement are similar to HECS. However, recipients do not need to begin repaying their loans until about 5 years after graduating, even if their income is above the minimum HECS income threshold. About 62 000 AUSTUDY recipients had supplement loans in 1996–97 and 1 892 students had taken advantage of the smaller loan scheme.

Outlays on AUSTUDY have been reduced through tighter targeting of assistance through an extension of the means-test. The age at which students are assessed as independent of parental means (and so not subject to the parental means-test) has been increased from 22 to 25 years, and a two year waiting period has been



introduced for newly arrived migrants before they can become eligible for AUSTUDY. Some increases in assistance have been provided to families where two or more children have to leave home to undertake tertiary study through increased concessions under the parental income test. The 1996–97 budget allocation for AUSTUDY was \$1.5 billion (Vanstone 1996a). In 1996, at the tertiary level, there were about 276 600 (183 300 in higher education) recipients of AUSTUDY.

ABSTUDY is similar to AUSTUDY but focuses on assisting Aboriginal and Torres Strait Islander students by providing income and other assistance tailored to their needs. The 1996–97 budget allocation for ABSTUDY and other assistance to aboriginals was \$189.1 million (Vanstone 1996a). In 1996, there were 6 390 recipients of ABSTUDY in higher education.

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## APPENDIX 3 RATIONALES FOR GOVERNMENT INVOLVEMENT

Successive Australian governments have acknowledged that higher education performs a range of valuable economic and social functions. In its Higher Education Policy Statement, the former Commonwealth Government observed (Dawkins 1988b, p. 7):

Higher education has much to contribute. It is a primary source of the skills we need in our cultural, artistic, intellectual and industrial life. It acts to gather and preserve knowledge. It promotes greater understanding of culture, often at odds with majority attitudes and, in so doing, supports the development of a more just and tolerant society.

More recently, in a policy statement issued shortly before its election to government, the Federal Coalition underlined its commitment to (Federal Coalition 1996, p. 2):

... support high quality universities for the intellectual, cultural, economic and social benefit of the nation.

Widespread support for higher education stems from recognition of the social and economic benefits it delivers and its ability to confer greater understanding, as well as financial advantage, on those that embrace it.

This appendix examines the rationales advanced in support of government involvement in the provision and financing of higher education and its associated activities. Efficiency-related rationales are examined in section A3.1. Equity-related rationales are addressed in section A3.2. Performance monitoring and accountability are examined in section A3.3.

### A3.1 Efficiency rationales

In certain circumstances, the level and pattern of economic activities associated with the actions of individuals within society differ from those which would be in society's best interest. Opportunities to improve on such outcomes, and promote the use of resources in a way that increases net benefits within the community, underlie efficiency rationales for government intervention.

A range of factors can impede the efficient allocation and use of resources in higher education including: differences between private and public valuations of certain activities; problems faced by students in financing their studies;

inadequate information; and impediments to institutional best practice and performance. Each of these are examined below.

### **Spillover benefits from higher education**

Public subsidies to higher education are often justified on the basis that the associated teaching and research activities produce benefits for the community beyond those captured by participants. As a result, these activities may be under-provided unless government lowers their cost, or increases the private rewards. The difference between the benefit a student, researcher or institution receives from their involvement in higher education and the total benefits generated from their activities is called a ‘spillover’ (or ‘externality’).

Claims that higher education is inherently good for society have their roots in the notion of spillovers.<sup>1</sup> Similarly, concerns that researchers may be under-rewarded for the valuable knowledge they produce, or might be deterred from exploring areas that are unlikely to be directly profitable — yet offer social benefits that exceed the cost of such research — can also be linked to spillover effects.

However, while few would deny that higher education generates benefits that extend beyond those people and institutions directly involved in the activity, there is considerable debate about the nature and magnitude of these spillovers, and whether they justify the level of subsidies governments direct toward the higher education sector and its students. As noted by Blaug (1987, p. 229):

What we have to show is not that higher education has many unintended social consequences, because so does every other human activity, but that these consequences have economic value and are functionally related to the size of the higher education system.

While the research and development activities of universities have generally been accepted as providing a case for government support, the claimed spillover benefits associated with universities’ teaching activities are generally more

contentious. Concern is reflected in claims that:

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<sup>1</sup> The ‘merit good’ rationale for government intervention is a related notion. This concept is based on the idea that, in some cases, individuals fail to recognise the full private benefits of certain activities, and therefore do not make decisions that are in their own best interests. While a lack of information about educational costs and benefits might lead to such a situation (and offer a case for providing more and better information), the notion that government can make superior choices to individuals about their welfare and priorities is difficult to sustain for higher education where participants are mostly adult and of above-average intelligence.

- the scope and value of higher education spillover benefits are often exaggerated;
- some of the spillover benefits attributed to higher education might also be associated with other activities (eg other forms of education) that might require lower subsidies to generate the same level of social benefits;
- the significant private benefits that students gain from higher education can underpin the production of a large proportion of potential spillovers without the need for government action; and
- higher education can impose spillover costs that need to be weighed against spillover benefits. Perceived costs can include civil disobedience and disharmony (Grubel 1987; Friedman and Friedman 1980) and ‘screening’ effects (Fane 1988; West 1988) linked to credentialism within labour markets.<sup>2</sup>

Typically, the claimed spillover effects from higher education relate to factors such as education’s contribution to economic growth and productivity, social consequences such as improved law and order, and notions relating to improvements in the general ‘quality’ of society (box A3.1). However, in several cases, it is likely that the claimed spillover does, in fact, figure in the costs and benefits a student associates with their education:

- some claimed spillovers directly advantage the graduate (eg improved understanding and capacities in areas such as law and taxation);
- benefits to society, family and co-workers will often be reflected back to a graduate (either through the satisfaction it gives or, in the case of recognisable contributions to productivity, increased salary and greater job security); and
- the taxes that apply to higher levels of income and the opportunity to benefit from the welfare safety net, rather than pursue study and employment, are likely to be factored into a student’s educational and career decisions and are not spillovers, per se.

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<sup>2</sup> Some authors have noted the tendency for militancy and unrest among university students and graduates at times. The important point is that the empowering nature of education may not always be consistent with increased social harmony and compliance with existing laws and customs. References to the ‘screening’ costs of higher education highlight the use of education as a means of identifying, rather than adding to, the inherent abilities of those within the labour force. This sorting function performs a valuable service for employers seeking workers with those characteristics that are being signalled, yet adds little to the productivity of workers and imposes a cost on those job seekers that are passed over in favour of credentialed applicants. These costs need to be offset against the value of the informational benefits that accrue to employers as a result of education investments.

**Box A3.1: Positive spillovers commonly attributed to higher education**

- General advances in the stock of knowledge, its application and dissemination.
- Improvements in the quality and character of society.
- Better information transmission (facilitating competition, among other things).
- More favourable attitudes to growth, innovation, new technology and risk.
- Improved voting behaviour and increased political and social awareness (eg higher voter participation and appreciation of issues).
- The emergence of social, cultural, political, economic and moral leaders.
- Reduced crime and anti-social behaviour.
- Higher tax-take from graduates.
- Lower welfare payments associated with improved employability.
- Graduate contributions to the skills and productivity of co-workers.
- Family effects (eg educated children confer benefits on siblings and other family members).
- Inter-generational effects (eg learned skills and behaviours passed on to offspring).
- Improved understanding of taxation and other laws.

*Sources:* Derived from Brennan 1971; Hope & Miller 1988; and Chapman & Pope 1992.

Nevertheless, there appears to be a core set of spillovers that might justify a policy response. However, the magnitude of these benefits and their implications for the appropriate level and distribution of tuition subsidies are important and largely unresolved issues.

***How big are the spillovers?***

Measuring the spillover effects from higher education is a difficult task. Spillovers, by their nature, are not explicitly valued in a market context and, while a range of benefits are generally attributed to education, the share of these benefits attributable to higher education as opposed to other forms and levels of education has not been resolved. Primary and secondary education are generally considered to provide the foundation for an educated and productive society through their fundamental contributions to literacy, general knowledge and social conditioning, while higher education builds on, and attenuates these attributes. Empirical work by Psacharopoulos (1993) suggests that within OECD countries both private and social returns to education (variously taking account of private costs, education subsidies, increments to private expected earnings and income tax receipts) are greater for lower levels of education — because higher education is generally more expensive than other forms of education and because of the

diminishing returns from incremental improvements to human capital. Unfortunately, differential spillover effects for different levels of education are not reflected in social rate of return calculations. Consequently, they give little guide to the extent that privately motivated education decisions might lead to socially inadequate outcomes.

The importance of knowledge spillovers as a stimulus to economic growth is a central focus of so-called ‘new growth theory’, which examines factors underpinning improvements in the productivity of capital and labour. Investment in physical and human capital have been emphasised — along with expenditures on research and development — as sources of beneficial spillovers. Nevertheless, robust empirical evidence of these spillovers remains elusive (Benhabib & Jovanovic 1991; BIE 1992). And although education is likely to be a factor in productivity improvement and economic growth, the relative contributions of primary, secondary, technical and higher education — and the spillovers from each of these segments — is highly uncertain. In this context, Dowrick (1995, p. 33) noted that:

A safe conclusion seems to be that investment in education does indeed create the pre-conditions for growth, but data and modelling problems do not yet allow any clear conclusion concerning the allocation of educational investment between different sectors.

Despite claims that the spillover benefits from higher education are substantial and warrant large scale public subsidies, there is little evidence to support such a view. Although difficulties of measurement, together with the inherently subjective nature of valuing cultural and social effects, have hampered empirical analysis of education spillovers, some economists have expressed scepticism that such spillovers can be large and, at the same time, defy quantification. Blaug (1972, p. 107) contends that:

The idea that the external or indirect benefits of education to society as a whole are enormous in magnitude and vastly exceed the direct personal benefits to the “educatees” is one of the myths of our times ... because there is virtually no evidence of any kind to support it.

While Cohn and Geske (1990, p. 359) observe that:

It is fascinating — to some observers rather disturbing — that massive government aid to higher education is given on the basis of plausible yet unsupported assumptions regarding the existence of external benefits.

In the Australian context, Fane (1988) and Brennan (1971, 1988) have suggested that the spillover benefits of higher education may, in fact, be significantly less than is generally assumed. Hope and Miller (1988) note that, in view of the lack

of evidence, one should be wary of being too dogmatic, although they acknowledge that with closer scrutiny it is possible to considerably reduce the list of potential spillover benefits.

In response to the limited direct empirical evidence on spillovers, some commentators have sought to estimate the value of spillover benefits Australian graduates would need to generate during their life in order to repay the community for the education subsidy received while at university.

- Chapman and Chia (1989) calculated that, for social discount rates of 3–5 per cent, the average graduate, retiring at age 60, needed to generate additional real external benefits of between \$600 to \$900 per year. At a 10 per cent discount rate, the average graduate needed to deliver around \$1 800 per year in spillovers to justify their education subsidy.
- Harrison (1995a) estimated that, at a 10 per cent discount rate, spillovers valued at over \$3 300 per student per year were required, on average.<sup>3</sup>

Unfortunately, at the present time, it is not possible to say whether graduates do in fact deliver this level of spillover benefit. While some commentators consider the level of public subsidy flowing to higher education outweighs the spillovers, others (such as Karmel 1997a) judge that the spillovers are sufficient to warrant maintenance of the current funding levels.

More rigorous analysis of higher education spillovers is required to guide policy decisions on the efficient level of public contribution. However, it should also be borne in mind that the value of these spillovers sets an upper limit for the public contribution and funding policy should be directed at maximising the social pay-offs from public subsidies (see below).

### *Deciding on the efficient level and distribution of subsidy*

The absence of information about the value of spillovers produced through higher education represents a major hurdle for setting and allocating public subsidies in a way that promotes efficient outcomes. By influencing the cost of particular courses, subsidies can affect the educational choices of students and the level of resources attracted into particular activities. What's more, some activities and students may be more responsive to subsidies than others; this can present

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<sup>3</sup> Methodological differences explain much of the disparity between these estimates. While Chapman and Chia (1989) calculate the per-student subsidy as the difference between the HECS charge and an estimate of marginal teaching costs, Harrison's are based on average cost estimates, and imply a much lower level of cost recovery from students. HECS increases applying from 1997 have reduced the average level of per-student tuition subsidy and, at a 10 per cent discount rate, would be offset by spillovers from graduates averaging around \$2 000 per year.

opportunities for increasing the cost-effectiveness of subsidies offered to increase the supply of spillovers produced.

*Differentiating subsidies by course*

To address the spillover problem, the value of tuition subsidies for particular courses should, in principle, be linked to the value of the social benefits derived from those courses. Various options have been proposed for setting the level of the tuition subsidy. Notable among these are proposals to provide subsidies in the form of:

- a fixed annual dollar amount that is uniform across courses (Blandy & Sloan 1988); or
- a fixed proportion of course fees — on a capped or uncapped basis (Karmel 1991, 1997a).

Under the first option, all courses would attract a subsidy of the same absolute amount. This implies that each course generates about the same absolute level of spillover benefits. This would be administratively simple and could be viewed as ‘even-handed’. However, because costs differ between courses, a uniform subsidy would lead to a significant change in price relativities between courses. In turn, this would create disparate incentives for both course providers and students. For example, it would encourage consumption and production of relatively low cost/low fee courses simply because these courses obtain a greater proportionate reduction in their cost (net of the subsidy) than higher cost courses.

This problem could be reduced by introducing a multiple subsidy regime with different absolute dollar subsidy rates for different course groupings — in effect, courses with similar cost structures would be grouped into similar bands. The resulting subsidy regime would be more complex, but it would provide a less differentiated set of incentives to students. However, to maintain relativities between courses over time it would also be necessary to monitor changes in relative costs and link the subsidy for particular courses to a price index so as to preserve its real value.

A proportional subsidy deals with uncertainty over the level and sources of spillover benefits by seeking to minimise changes in relative prices and thereby generate a relatively neutral incentive environment. Under this approach the subsidy would be a fixed proportion of course costs. Thus, while the actual dollar value of the subsidy would be higher, the higher is the cost of the course, students would be faced with paying a uniform proportion of costs, irrespective of the cost of the course they choose. In this sense, a proportional subsidy is less likely to distort student preferences and institutions’ decisions about the nature and form of the courses they offer. But it also implies a higher level of social spillover benefits are being generated from more expensive courses, or more precisely, the



same average level of spillover from each additional dollar of education expenditure. From an administrative perspective, it may be appropriate to allocate courses to a number of common categories (on the basis of course cost and/or fee levels) and apply a common fixed proportional subsidy to each category.

Faced with uncertainty over the value and sources of spillover benefits to higher education, the Commission favours the proportional approach. This gives priority to providing a subsidy with a relatively neutral impact on student choice, rather than a uniform dollar subsidy which, while ostensibly even-handed, changes relative prices and tends to bias student choices — and courses offered by institutions — towards relatively low cost/low fee courses.

*Promoting the cost-effectiveness of higher education subsidies*

The appropriate level of government subsidy does not just depend on the magnitude of the spillovers stemming from higher education — it also depends on the sensitivity of student demand to changes in the prices charged for university courses and other related costs. The less responsive demand for higher education is to price, the less effective each dollar of subsidy will be in promoting additional spillovers. And the smaller the potential efficiency gains that are available from offering a subsidy to all participants.

Overall demand for higher education is likely to be relatively insensitive to subsidies because:

- tuition costs generally represent a relatively small share of the total costs incurred by students attending university — this is particularly true at current fee levels. Income forgone generally represents a much more significant cost; and
- completion of a university degree can offer big financial pay-offs;
  - analysis of age-earnings profiles consistently show that, on average, graduates earn higher incomes than non-graduates (Chapman 1988; Chapman & Chia 1989)
  - higher graduate incomes are reinforced by greater levels of graduate employability (Clare & Johnston 1993)
  - analysis undertaken by the Commission, based on indicative income profiles used by Chapman and Salvage (1997) and current HECS fees, shows average private rates of return ranging from about 8 per cent to over 20 per cent per annum, depending on the occupation (appendix 4).

Recent behaviour reinforces this view. Firstly, the effect of recent cost increases associated with the introduction of HECS on student demand appears to have

been slight. Secondly, opinion surveys (commissioned by DEETYA and the HEC) and enrolment trends from 1988 to 1996 suggest that increases in university fees under HECS have not been a significant factor in many students' decisions to attend university (Chapman 1996a).

The Australian experience is supported by various studies of the demand for higher education in the USA (Maani 1996). They suggest overall price elasticities in the range 0.2 to 0.7, implying that a 10 per cent cost increase would reduce enrolments by between 2 and 7 per cent. Freeman (1986) refers to a tuition-elasticity of enrolment of about 0.3 based on a variety of US cross-sectional and time series studies. Unfortunately, quota restrictions on subsidised undergraduate places in Australia make comparable estimation of student demand elasticities impractical. Nevertheless, for the reasons outlined above, and based on the price-demand evidence associated with HECS changes, it is reasonable to conclude that, like the US, aggregate demand for higher education in Australia is likely to be fairly insensitive to price.

This has a number of potentially important policy implications. These are:

- subsidies to higher education may not be a cost-effective means of stimulating certain spillovers — particularly if these spillovers are also available from other activities which are more sensitive to price. For example, the behavioural benefits claimed to arise from higher education might be greater if subsidies were paid to support relevant secondary school activities or other programs that promote good citizenship to the young. Similarly, it is possible that improvements in law and order might be better promoted through improved policing or an expansion of youth programs; and
- a large share of the spillover benefits available from higher education will occur anyway — as a by-product of the privately motivated decision to pursue a university qualification. Hence, general subsidies to higher education involve a transfer of public funds to a large group of students without materially increasing the level of spillovers produced:
  - such transfers do not enhance efficiency and may have undesirable implications for equity; and
  - administrative costs can significantly erode net efficiency gains, particularly if total administrative costs grow as the subsidy increases.

#### *Can tuition subsidies be better targeted?*

To increase the net social gains from the higher education subsidy direct public funding should be directed toward those for whom the decision to engage in higher education is more finely balanced, and away from those whose participation decisions are less likely to be affected by the availability of the

subsidy. Ideally, policymakers should aim to match the subsidy as closely as possible to the minimum amount necessary to induce students to undertake activities that produce public benefits — without exceeding the value of those benefits. While it is impossible to get this balance right for everyone, it may be possible to identify broad segments of the student population that require less inducement, or are likely to deliver fewer spillovers, than others.

A degree of subsidy targeting, consistent with efficient use of public resources, already exists under current higher education funding arrangements:

- the bulk of R&D financial support is awarded on a competitive basis to the best and most prospective proposals;
- foreign students do not have access to tuition subsidies; and
- a system of postgraduate scholarships is available for students of superior ability.

In principle, it would be efficient to subsidise only those students who would not otherwise pursue higher education activities that produced spillover benefits. Alchian (1968, p. 213) highlighted this point, noting that:

If a student were paid for doing what he would have done anyway, or his education were subsidised to increase *his* wealth, he would be receiving a gift. But payment (whether as zero tuition or a money payment) to the student to extend his education, for the sake of achieving *real* external benefits that he otherwise would not have produced, is a payment for services ... for the benefit of the rest of society.

Maani (1996) notes that, within the spectrum of university participants, older students, women and students from lower socio-economic backgrounds tend to exhibit greater sensitivity to changes in tuition costs. Closer analysis of the factors that underlie the price sensitivity of these groups might lead to the identification of traits that have a significant direct influence on participation decisions, and which lend themselves to targeting. For instance, there is reason to believe that family and personal wealth have a strong influence on a student's preference, and ability to pay, for higher education. Hence, it is conceivable that a reduction or withdrawal of tuition subsidies might have a negligible impact on the education decisions of students from particularly advantaged backgrounds. Further work in this area is needed to draw out the potential for targeting.<sup>4</sup>

A more targeted approach could also apply to second degrees and postgraduate study. In 1996, over 60 per cent of postgraduates were enrolled under the HECS system (DEETYA 1996a). And normal HECS and entry arrangements still apply to second degrees.

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<sup>4</sup> Chapman (1996a) notes that the assumption that students from wealthy backgrounds have ready access to family resources can sometimes be erroneous.

In the majority of cases, study beyond a first degree is likely to provide a diminishing social return on the public investment represented by the subsidy. This is particularly likely to be the case for courses of a vocational nature and those that are predominantly coursework. Moreover, many postgraduates, having benefited from their first degree, are likely to be both willing and able to fund their additional study. Davis (1996, p. 16) suggests that:

... the case for public subsidy of graduate diplomas and Masters by coursework degrees seems flimsy. The great majority of such degrees are undertaken part-time ... often with employers support of fees and with direct personal career advancement as a primary goal.

There would appear to be a case, based on an expectation of diminishing spillover benefits from additional (and/or duplicative) education, for reducing (or even eliminating) the level of public subsidy *generally* available to students pursuing second degrees and postgraduate courses that are strongly vocational. However, the Commission considers that mechanisms for rewarding and encouraging academic excellence should be retained and reinforced as necessary. It notes the existence of postgraduate scholarships within the current environment as a means by which talented students — those displaying the potential to make a significant intellectual and economic contribution to this country — can gain public support for their further study.

Other possibilities for targeting also deserve consideration. For example, while studies involving a significant amount of original research might generate higher levels of spillover benefits, this may be truer of theoretical research than that which is highly applied. It is also feasible that lower levels of spillover benefit are generated by students performing poorly in their course (yet failing students currently attract greater amounts of subsidy than their peers). These issues warrant consideration in the context of the flow of spillover benefits expected from particular higher education activities and student groups, and opportunities and incentives for progression through the various stages of higher education — recognising that different stages might offer different combinations of potential private and social benefit.

### **Problems in the capital market**

Problems associated with financing education arise because the associated skills and knowledge acquired cannot be separated from the individuals that possess them, nor in a 'slave-free' society can ownership be extended to individuals or their future earnings streams. For instance, with most investments, if a borrower defaults on a loan the lender has a residual claim on the asset — this facility is not available with investments in education.

As a result, people wishing to invest in their education tend to have less security to offer lenders than if they were seeking to borrow against a physical asset. And high variations in the private returns on education compound the uncertainty of repayment facing lenders. Consequently, if financiers are willing to lend, it is likely to involve a relatively high interest premium. While equity financing and the existence of venture capital markets help overcome problems of risk sharing for commercial entities, they offer less of a solution to student-borrowers because of the impracticality of transferring human capital assets, the absence of limited liability arrangements and difficulties facing commercial entities in keeping track of student-borrowers over their lifetimes (Friedman 1955).

There is some disagreement among economists about the efficiency implications of financiers' reluctance to lend for investment in education. Harrison (1995a) argues that capital market problems represent one of the strongest arguments for government intervention in higher education, while Fane (1988) considers that the efficiency case for special treatment of student-borrowers is not compelling. However, in the Commission's view, there is justifiable cause for concern when an entire class of income-earning assets, comprising the skills and potential of Australians from a variety of backgrounds, faces major difficulties in gaining the financial backing necessary for development.

#### *Policy responses to capital constraints*

Overseas experience with student loan programs has been mixed. Woodhall (1987) reports on a range of programs incorporating measures such as interest rate subsidies, deferred repayment, income contingent repayments and loan guarantees.

She notes that, while there have been some instances of private student lending (generally operated by individual colleges, universities and charitable organisations), loan guarantee arrangements have generally underpinned students loans offered by commercial financiers. However, in most cases, student loan programs tend to be operated by, or on behalf of, governments.

#### *Problems with loan guarantees and income-contingency*

Several problems are likely to be associated with arrangements that effectively transfer a large share of the risk of educational investment to the government:

- government underwriting of student loans gives lenders an incentive to reduce the stringency of their assessment procedures because they no longer bear the cost of poor lending decisions; and
  - payment of an interest rate subsidy or application of some sort of 'insurance' charge in combination with full or partial guarantee

arrangements could be a more efficient means of addressing collateral problems faced by borrowing students.

- income contingency arrangements result in the lender bearing a large share of the risk that education investments will not deliver the expected pay-offs (in terms of future earnings):
  - the degree of risk sharing depends on the level of the repayment threshold and the interest rate (or income-sharing) arrangements that are in place;<sup>5</sup> and
  - if borrowers derive a large consumption benefit (eg pursue higher education as an enjoyable pastime rather than as an income-generating investment), they may face an incentive to under-achieve or under-utilise — from a financial perspective — the skills and knowledge they have accumulated. This incentive can be magnified when attainment of the repayment threshold triggers repayments that leave the borrower worse off (within a range of income above the threshold), despite being on a higher income.

Current HECS arrangements embody the latter risk in that, for a range of income levels above the threshold, repayments exceed the additional income earned (appendix 5). In contrast, New Zealand's student loan scheme employs a much lower repayment threshold, coupled with payments linked to over-threshold earnings.

#### *Arguments for government provision of student loans*

Hope and Miller (1988) note that one explanation for the reluctance of financial institutions to initiate income contingent loan schemes may be the cost of collecting accurate information on student income, given that these institutions have no legal right to obtain this information.

The government may be able to implement an income-related scheme at a lower cost than the private sector — both the Medicare levy and HECS currently operate through the tax system. As a sole supplier, the government can span a wider range of students, thereby achieving a more diversified portfolio of loans and contingent liabilities. These potential advantages, however, could be eroded

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<sup>5</sup> In some respects, income-contingent loan repayments mirror an equity finance arrangement for human capital in that payments are not required if the 'investment' performs poorly (from an earnings perspective) and it is feasible to link the size of the repayments to the size of the over-threshold earnings (Nerlove 1975). However, they fall short of an equity finance arrangement to the extent that the lender's income from a profitable investment is limited to the loan amount plus interest, while the borrower reaps all earnings beyond that. As a consequence, an efficient balance of risks and rewards may not be achieved between the partners.

if administrative costs under a government scheme proved to be higher than under a private sector program.

The issue of collateral raises important fairness issues which are often intertwined with efficiency arguments. Barr (1993), for instance, argues that students from poor backgrounds are less willing and less able to borrow and that this results in inefficiency because it ‘wastes talent’. The relevant policy concern is that students from disadvantaged groups are over-represented among those that fail to secure finance.

In this context, there are clear equity rationales for government intervention in capital markets. Wealthy families can internally finance education for their children, while a student from a poorer background with the same ability and risk attitude as a wealthier student is more likely to face a borrowing constraint. The desirability of breaking the link between socio-economic background and lifetime outcomes relates to the ‘equality of opportunity’ objective of higher education. This is taken up later in the discussion of equity.

### **Information deficiencies**

Concerns about the adequacy of information can provide a rationale for government involvement in higher education. These centre around issues of quality assurance/monitoring, awareness of institutions and their products, and the ability of students and universities to recognise and respond to emerging skill needs within the economy.

#### *Quality and accreditation*

Information has public good characteristics in that, once it is collected and assimilated, it can often be easily and cheaply distributed. Indeed, it is often difficult or impossible for the original supplier of information to prevent dissemination. In cases where a gatherer or provider of information receives no payment from beneficiaries, there is a reduced incentive to provide this service, even though its value may be many times its cost.

Difficulties faced by students in assessing prospective labour market conditions for particular skills or comparing the value for money represented by different institutions may be associated with this phenomenon. Similarly, employers or the general public may face high individual costs in gathering information on the quality and skill levels of graduates emerging from different universities.

Tirole (1990) notes that, in such cases, a solution may be to share the cost of information gathering amongst a group of beneficiaries. However, to the extent that not all beneficiaries can be found or persuaded to join the ‘club’, the information may be under-provided. In these circumstances, there may be a case

for government action to support information collection and provision (with the possibility of levying beneficiaries).

At present, information on universities is provided through a number of public and private sources. Universities provide a range of promotional material and student guidebooks are available that compare university courses and facilities. The Graduate Careers Council of Australia also provides information on the employment rates and income of recent graduates together with information on their course experiences. These sources are supplemented by career advisory services, employer recruitment campaigns and the student 'grapevine'. Nevertheless, the adequacy of these mechanisms in ensuring appropriate and reliable information to domestic and overseas students, and their influence on university and vocational decisions, is difficult to determine.

Accreditation and quality assurance procedures relating to institutions and courses can help reduce the costs faced by students in making their own quality assessments by assuring minimum teaching and curriculum standards are adhered to. However, while accreditation and minimum standards can be in the interests of those students that are seeking courses with the attributes specified by these standards, they can also impose costs on those students willing to accept lower quality courses at lower prices (Harrison 1995b). Imposed standards can also unnecessarily restrict variety in the education market and can be used to limit the supply of new graduates in some professions — thereby driving up or maintaining the incomes of established members. The anti-competitive potential of accreditation arrangements is an issue that governments need to be aware of, and monitor.

### *Manpower planning and national priorities*

The essence of manpower planning is the development of labour market forecasts and intervention by government to reduce likely market imbalances and/or promote 'efficient' adaptation. Such planning is viewed as being more important in areas where there is a sizeable time-lag between an initial policy response and an associated impact on the labour market. Higher education provides an example where supply responses may lag labour market demands by 3 to 6 years or more.

While recognising a potential role for such 'planning', it is important not to overlook the incentives that students, industry and educators have to interact directly with one another and the function of relative prices (salaries) and market information in signalling the level of demand for labour in particular skill areas. Moreover, opportunities for skill adaptation and drawing on labour in other markets (both domestic and foreign) can relieve mismatches between supply and demand.



Although students and industry do not have perfect foresight of future labour opportunities and levels of remuneration, neither do bureaucratic planners. Experience abroad suggests that planned models of skill needs generally have not performed well relative to less centralised approaches (Blaug 1972; Hinchliffe 1987a). In the Australian context, various analysts have been sceptical about the benefits of manpower planning (Australian Universities Commission 1976; Niland 1984; and the Kirby Committee 1985). However, there may be scope for governments to perform a useful role through the development of broad-based indicative scenarios to stimulate discussion and dialogue between institutions, industry and students. The Australian Workplace series produced by DEET (1995b) is an example of such work.

Beyond this, successive governments have asked higher education institutions to give priority to particular areas of study and allocated funds accordingly. For example, computer science, engineering, accountancy and business studies, teacher education in maths and science and foreign languages and Asian studies and environmental studies have been highlighted as national priority areas of teaching.

### **Impediments to best practice/performance**

Various factors may impede the flow of information relating to ‘best practice’ techniques and processes within the higher education sector. Market failures can arise in this context because of:

- the public good nature of information relating to new techniques and their application;
- uncertainty about the benefits of new techniques relative to their costs; and
- indivisibility problems.

There are many options available to deal with such market failures. Service providers can seek to overcome the problems themselves though facilitating the movement of employees between institutions (both at a domestic and international level) and agreeing to cooperate in the exchange of certain information.

Governments can also respond in various ways. For example, Australian governments have recently endorsed moves to open aspects of university operations up to greater competition. This endorsement takes the form of a national competition policy agreement in response to the report of the Hilmer Committee (1993) and extensions to the Trade Practices Act that cover, amongst other things, the conduct and terms of operation of publicly-owned business enterprises (NCC 1997b). While the extent to which the core teaching functions of public universities will be subject to ‘competitive neutrality’ arrangements is

unclear, this legislation highlights the widely held desire for public entities to compete on their merits and be responsive to market forces.

Other responses include the establishment by the government of various networking mechanisms. In this context, successive governments have established university teaching and development committees to provide advice on the provision of grants in support of identifying and promoting practical improvements in teaching practice and to provide development opportunities for academic staff. The Federal Government has also provided continuing support to the Open Learning Initiative directed at facilitating the continuing development of more flexible access arrangements for tertiary education. A key aspect of this initiative involves the better use of modern communications technology to enhance instructional options for students (appendix 2).

Actions by governments in these areas need to be continuously re-assessed to ensure that taxpayers are getting value for money. Specific programs supporting performance enhancement initiatives should also seek to complement rather than compete with market-based responses.

### **A3.2 Equity rationales**

Successive Australian governments have seen higher education as a valuable resource in which all segments of the community should have the opportunity to share. To this end, they have sought to improve the access and participation of individual's belonging to identified disadvantaged groups through a range of financial and other measures.<sup>6</sup>

Issues of central importance to the use of higher education as an equity instrument are discussed below in the context of inter-generational benefits and equality of opportunity, and the regressivity of higher education subsidies.

#### **Inter-generational benefits and equality of opportunity**

The high correlation between educational attainment and income is widely accepted as evidence of the ability of education to improve the financial prospects of recipients. And, importantly, improvements in socio-economic status obtained through higher education can cascade to subsequent generations.

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<sup>6</sup> Equity target groups include: indigenous Australians; people from low income families; women (in non-traditional areas of study); people from isolated areas; people from non-English speaking backgrounds; and students with a disability.

There is a considerable body of evidence suggesting that educational values, as well as genetically inherited ability, are transmitted to subsequent generations via the family relationship (eg Hope & Miller 1988; Clare & Johnston 1993). That is, parents who pursued higher education are more likely to have children that pursue higher education. And, according to Richardson (1988), although parental education and income tend to be correlated, it is generally the former that has the greater (but by no means decisive) influence on the education and career choices of the offspring. Nevertheless, while parental influences can provide only a partial guide to the educational outcomes of subsequent generations, there is little dispute that a link does exist and that it might provide a way of reducing the transmission of poverty from one generation to the next.

However, it is possible that equity and access objectives may be more effectively met if subsidies targeting equity are channelled outside the tertiary education sector. For instance, analysis of school retention and matriculation rates suggests that increasing the incentives for participation in the latter years of secondary school might be a better way of encouraging increased participation in higher education by target groups (Williams 1987; Miller & Volker 1987). And there is the broader issue of whether assisting poor students into higher education is likely to be the most effective way of achieving equity goals. Harrison (1995a, p.6) observes that:

Although it may be possible to come up with subsidies to specific higher education students that improve equity, there are better ways of helping the poor. ... Many disadvantaged students do not go on to higher education due to low academic ability and aspirations and cannot benefit from subsidies at the higher education level. ... Education subsidies and reform efforts targeted earlier in the education process will be more equitable. Cutting education expenditure and other programmes or reducing regressive taxes may be a further improvement.

### **The regressivity of higher education subsidies**

Subsidies to higher education are motivated, in part, by equity concerns and a desire to improve access and earnings opportunities for students from disadvantaged groups. However, there are at least two grounds for questioning the broader equity implications of the taxpayer-funded general subsidies to higher education students:

- those that have the intellectual ability to engage in higher education are likely to have a natural advantage over many other members of the community, irrespective of whether they progress to university or not. As a consequence, subsidies to this group could be perceived as a ‘double blessing’. Alchian (1968, p. 206) put the case powerfully when he wrote:

Subsidised higher education, whether by zero tuition, scholarships, or zero-interest rates, grants the college student a second windfall — a subsidy to exploit his initial

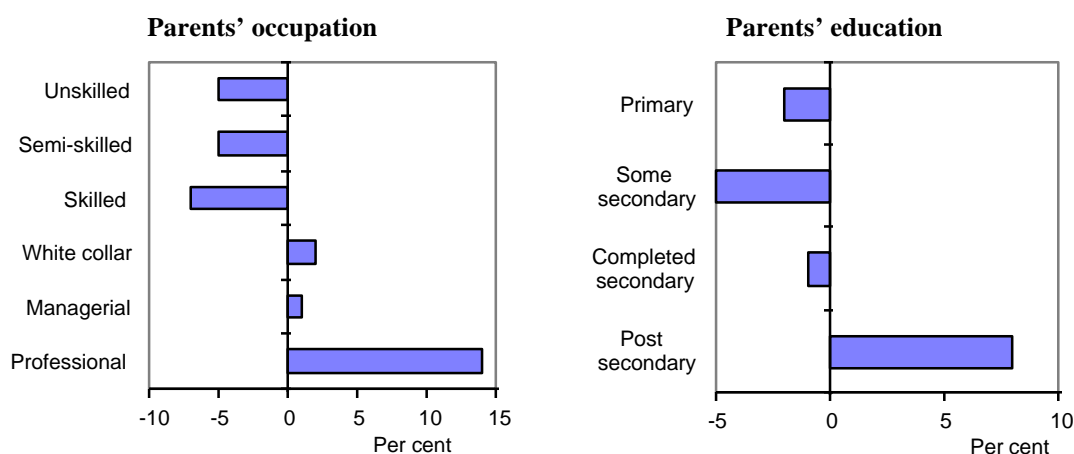
windfall inheritance of talent. This is equivalent to subsidising drilling costs for owners of oil-bearing lands in Texas.

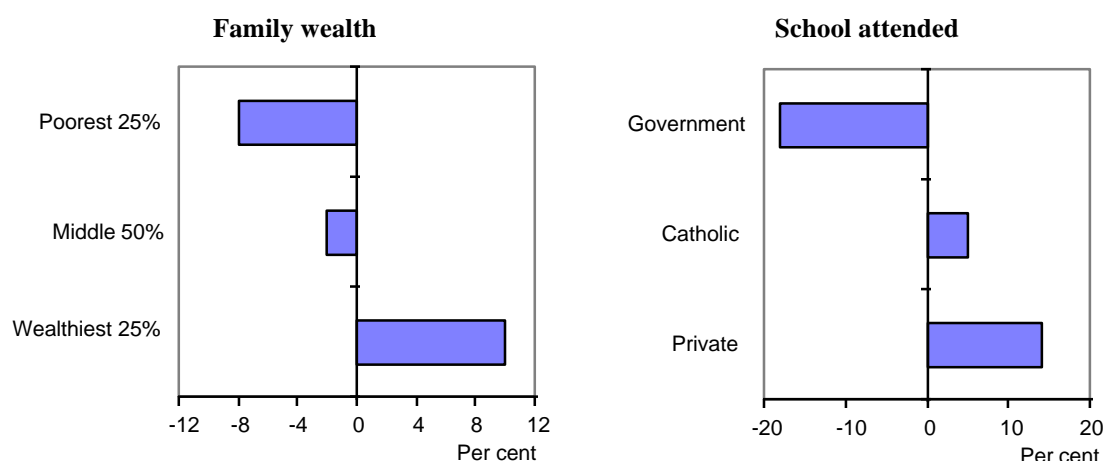
- university students tend to move from low income levels whilst studying, to relatively high income brackets after graduation.

Viewed from either of these perspectives, subsidies to higher education could be seen as public transfers to relatively wealthy segments of society.

Statistical information shows participation in higher education varies significantly between socio-economic groups. Figure A3.1 highlights the predominance of students from advantaged socio-economic backgrounds at university. Drawing on data for 1989, it shows disparities in the representation of particular groups and socio-economic characteristics at university. The proportion of commencing students from the wealthiest 25 per cent of Australian families was 10 percentage points greater than their share of the general population, while students from poorer families had participation shares about 8 percentage points less than their share of the population. Similarly, the university population appears to be skewed toward students that attended private schools and those with parents in professions. Students from blue-collar backgrounds and government schools were significantly under-represented at Australian universities. Data for more recent years suggest similar trends.

Figure A3.1: Deviation of the background characteristics of commencing university students from the population cohort, 1989<sup>a</sup>





**a** The figures show the difference between the percentage of university entrants with particular background characteristics and the percentage of 19 year olds with these characteristics in the general population.

Source: ACER 1993 as cited in Clare & Johnston 1993.

1991 census data show that over 60 per cent of higher education students came from households with family incomes in excess of \$40 000 per year, and 56 per cent of these had family incomes greater than \$60 000 per year. In 1991, the median income of Australian families was about \$32 500; and that of all families with dependent children aged 15–24 was \$35 500.<sup>7</sup> Taken at face value, this suggests that wealthier families within the community are significant beneficiaries of government subsidies to higher education.

However, when taxpayer contributions to government revenue are viewed alongside patterns of expenditure, higher education subsidies look less regressive. Figure A3.2 suggests that, rather than representing a redistribution from the poor to the rich, subsidies to higher education might be better characterised as ‘revenue recycling’. They reflect a redistribution of tax receipts from middle and upper income families to the children of middle and upper income families. While such recycling may be inefficient, its ramifications for equity are more subtle and less regressive than is often claimed. Nevertheless, viewed against the background of other government benefits, it is true that higher education subsidies certainly do not mirror the highly redistributive effects of other social policy expenditures.

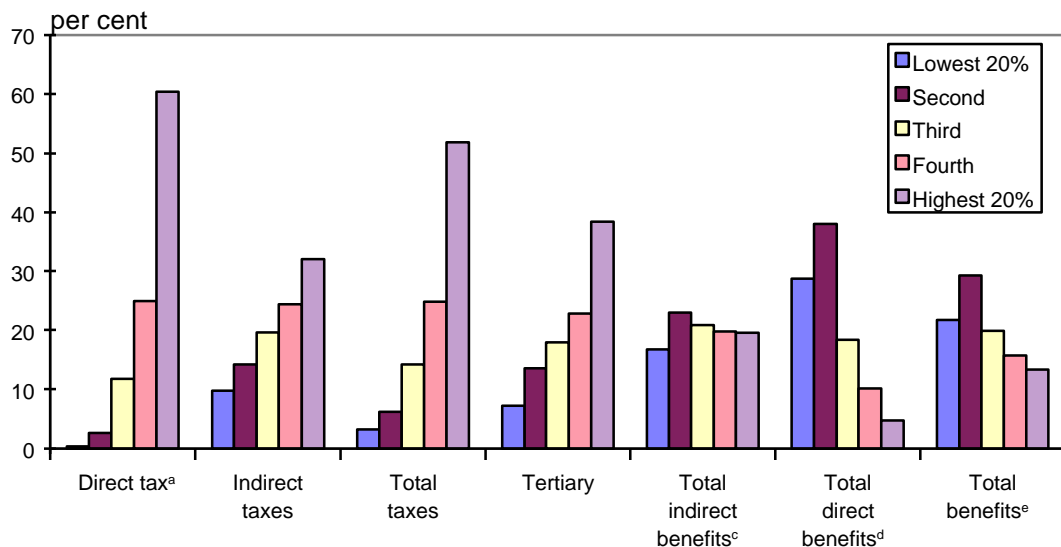
If equity is a goal of higher education policy, it is apparent that general tuition subsidies are a rather poor device for achieving this objective — the opportunity to benefit from tuition subsidies is grasped with greater frequency by the well-off

<sup>7</sup> Further analysis of unpublished ABS data shows the median family income of students (aged 15–24) attending university in 1991 was about \$50 700, while the median income of families with dependent children aged 15–24 *not* attending university was around \$34 700.

than by the poor. More targeted measures are necessary to encourage students selectively from poorer backgrounds to pursue further education. Importantly, such encouragement, while having university as its goal, might more efficiently involve targeting these students during their late secondary school years.

Given the strong pecuniary benefits normally associated with higher education, a system of student loans has often been presented as being preferable to grants (and particularly non-means tested grants) on equity grounds (Woodhall 1987). Such loans may prove to be an attractive means of shifting the burden of higher education funding from the general community to those who reap the substantial benefits of that education, yet do not have the means to pay their tuition and living costs during their study years.

Figure A3.2: Share of taxes and government benefits by household income quintiles, 1993–94



**a** Personal income tax and the Medicare levy. **b** Tertiary education indirect benefits were calculated by dividing the amount of government subsidy by the number of students, net of HECS. **c** Indirect benefits consist of goods and services provided free or at subsidised prices by the Commonwealth, state or local government. **d** Direct benefits consist of cash payments from government (eg AUSTUDY). **e** Total benefits before tax.

Source: ABS 1996d.

Student loans also have the benefit of improving educational access by providing the means to enter courses and institutions that do not benefit from HECS deferred repayment arrangements. At present, student loan facilities mirroring HECS are not generally available to students pursuing their studies in the TAFE or private education systems, or those wishing to take a place in the UNS as a full fee-paying student from next year (Chapman 1996a).

### **A3.3 Performance monitoring and accountability**

Both in Australia and overseas, substantial government funding is provided in support of the teaching and research activities of universities. Beyond this, a number of programs focussing on specific purposes, such as access and equity goals, are also funded by governments.

In view of this substantial commitment to higher education, governments have a responsibility to develop mechanisms for monitoring the performance of these institutions and to hold them accountable for the effective use of public funds. The nature of these mechanisms varies between countries reflecting differences in the degree of autonomy extended to universities and the nature of the wider policy framework applying to universities (OECD 1990).

Differences in the method of financing higher education institutions will affect the design of performance monitoring and accountability mechanisms. In general, centralised approaches to funding that lack built-in performance incentives are likely to necessitate elaborate monitoring and accountability mechanisms to represent the interests and capacities of clients and individual institutions adequately.

However, even in the case of a student-based approach to funding, it will be necessary to have some monitoring and accountability mechanism to ensure that the markets established are operating effectively. At a minimum, there is a need to ensure subsidy programs and other areas of public expenditure are providing value for money and, in addition, to monitor the impact of competition on course offerings and quality standards. Processes of accreditation and quality assurance that ensure public monies are only flowing to organisations offering programs of acceptable quality need to form part of this accountability mechanism. However, these processes need to be effectively designed to avoid unnecessary restrictions on choice and innovation.

In designing and applying monitoring and accountability mechanisms to the higher education sector, some basic principles should apply:

- such mechanisms should be strategically based (ie they should explicitly address the government's policy objectives and ensure that the strategic plans of universities are consistent with these objectives);
- reporting requirements across jurisdictions should avoid duplication;
- reporting systems should be simple and well-focussed, thereby avoiding requests for unnecessary data;
- impediments to institutional flexibility and autonomy should be minimised; and

- annual reports from educational institutions should provide information which satisfies the reporting requirements of stakeholders.

In response to perceived deficiencies in existing monitoring and accountability processes, the Government has announced a review of existing reporting requirements (Vanstone 1996a). Decisions arising from the West Review are likely to have important implications for future monitoring and accountability processes.



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## **APPENDIX 4 PRIVATE RATES OF RETURN TO HIGHER EDUCATION**

University graduates enjoy many benefits from undertaking higher education. Gregory (1995) has estimated that university graduates can, on average, command incomes 1.7 times higher than those who only complete secondary school. University graduates also tend to work in industries with higher rates of employment growth. Between 1968–69 and 1989–90, half of all new full-time jobs went to university graduates, although they accounted for only 14 per cent of the labour force (Maglen 1993; ABS 1996a). University graduates also benefit from lower rates of unemployment, shorter durations of unemployment and greater on the job training (ABS 1996a, 1994).

This appendix compares the private rates of return to higher education for a selection of occupations drawing on work by Chapman and Salvage (1997). The analysis takes account of recent reforms to undergraduate fees (appendix 2) and examines the implications of different degrees of cost recovery under a revised HECS regime. It also comments on the implications of recent and proposed changes to fee structures on student participation in the higher education sector.

A framework for examining the costs and benefits of higher education is outlined in section A4.1. The data sources and assumptions underlying the analysis are presented in section A4.2. Private rates of return to different occupations are presented, under a range of fee scenarios, in section A4.3. A summary is presented in section A4.4.

### **A4.1 A framework for examining the costs and benefits of higher education**

There are several theories that explain why individuals undertake education beyond compulsory schooling (see Schultz 1961; Becker 1964, 1975; Spence 1974; Layard & Psacharopoulos 1974). The methodology employed in this appendix originates from the human capital theory of education. According to this theory, the decision to undertake higher education is an investment decision. People are willing to incur initial costs in return for expected future benefits from obtaining a university qualification.

This appendix focuses purely on the pecuniary costs and benefits associated with higher education, although it is recognised that non-pecuniary costs and benefits are also relevant in the overall decision making process.

## Costs of higher education

Students, assumed to finish secondary school at age 18, are faced with the decision either to ‘invest’ in higher education or commence full-time employment. The main cost to a student of undertaking higher education is the income foregone by choosing to study. Foregone income is often assumed to be equal to the actual income of people who obtain employment after completing secondary school.<sup>1</sup> However, this implicitly assumes that students have zero earnings. In practice, many tertiary students undertake casual or part-time work.<sup>2</sup> Part-time earnings reduce the opportunity cost of higher education.

It is often argued that the students choosing to attend university have greater innate ability and could command a higher wage even if they did not attend university. If this is correct, the opportunity cost of attending university (after adjusting for part-time earnings) would be higher than assumed here, overstating the measured returns to higher education.

There are also direct costs associated with studying, such as the cost of materials and books, that would not otherwise be incurred. The basic costs of living are not included as an ‘investment cost’ as these would be borne whether or not the person was studying.

Australian students also pay a HECS charge. This charge can be paid upfront (attracting a discount) or deferred and paid through the tax system (appendix 2). The HECS charge is modelled as a deferred liability, as 75 per cent of students elect to take this option (Chapman 1996b). As HECS is not usually paid during the investment years, it is modelled as a reduction in graduate income and not as a direct cost.

The burden of any HECS debt borne by students diminishes with time as deferred payments are only indexed to preserve their real value (appendix 5). The burden may be further diminished if graduates are able to shift part of the cost on to their future employers through the payment of compensatory increases in remuneration. In this sense, the final incidence of student fees is likely to vary across different occupational groups and over time in response to changes in the relative demand and supply of graduates.

The total costs of higher education borne by a student are related to the number of years it takes to complete a university degree. Students undertaking a five year degree, as opposed to a three year degree, make a bigger investment as they forego an extra two years income and incur the direct costs of education for

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<sup>1</sup> It is assumed no further education and training is undertaken by these people.

<sup>2</sup> Flatau and Simpson (1996) found that approximately 95 per cent of full time tertiary students were in paid part-time employment.

another two years. The results presented later in this appendix take account of variations in course length.

### **Benefits of higher education**

The main expected pecuniary benefit from higher education is a higher lifetime income stream.<sup>3</sup> For simplicity, the entire income differential between non-graduates and graduates is attributed to higher education. Nevertheless, it is recognised that some of the differential can be attributable to innate ability, socio-economic background and effort (Hunt & Hicks 1985). The result of not taking these other factors into account overstates the measured benefits of higher education. Many studies have attempted to isolate the effect of education on income from these other factors (eg Hinchliffe 1987b; Psacharopoulos 1975). After controlling for other factors, education and age are the two most important factors that influence earnings. As ability, socio-economic background and education are correlated, any estimate that attempts to disentangle their separate effects will be essentially arbitrary (Norris 1993).

### **Calculating the rate of return to higher education**

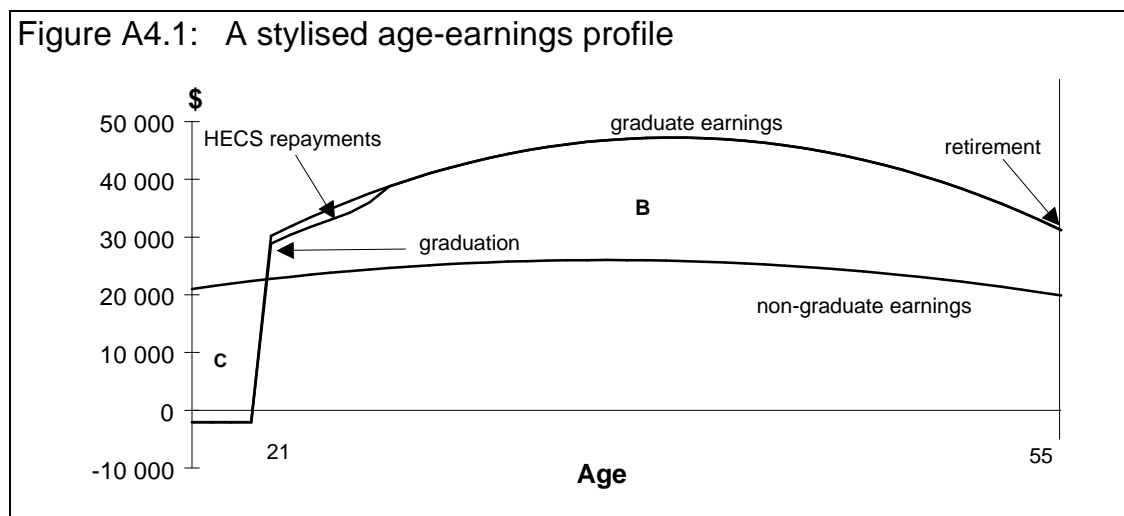
Figure A4.1 illustrates the investment process for a stylised Australian graduate, incorporating the pecuniary costs and benefits associated with studying. This graduate is assumed to leave secondary school at age 18, study full-time at university, and then work full-time until retirement.<sup>4</sup> Using this stylised age-earning profile, the pecuniary costs and benefits of higher education are represented by areas C and B, respectively (figure A4.1).

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<sup>3</sup> It is well established that people with higher levels of education have higher earnings. Human capital theory links education and earnings via productivity — higher levels of education make employees more productive and hence they typically earn higher levels of remuneration.

<sup>4</sup> Retirement age is assumed to be 55. The results are not highly sensitive to this assumption.

Figure A4.1: A stylised age-earnings profile



This cost-benefit framework is extremely flexible and can accommodate a variety of different profiles, such as people leaving the workforce to raise children and subsequently resuming employment at a later stage. Although it is possible to model these scenarios, they require considerably more information and have not been modelled here.

To evaluate a student's decision to invest it is necessary to weigh up the present value ( $PV$ ) of costs ( $C$ ) and benefits ( $B$ ), as the costs and benefits of higher education are incurred over different time periods. Any investment is considered profitable when the net present value ( $NPV$ ) is greater than zero ( $NPV = PV_B - PV_C > 0$ ). However, this requires information about each person's time preference or discount rate — the rate at which they need to be compensated for foregoing income today in order to achieve greater future income. As each person has their own discount rate, the point at which an individual decides to undertake higher education differs for every person. This results in an infinite number of possible returns to higher education.

However, it is possible to determine the minimum rate of return that an individual would need to earn to consider higher education a profitable investment. This is the point where the discount rate sets the  $NPV$  to zero ( $NPV = PV_B - PV_C = 0$ ) (Chia 1990). This discount rate is known as the internal rate of return ( $IRR$ ) and is interpreted as the private rate of return to higher education. An individual considering undertaking a course of study could be presumed to compare this rate of return with the rate of interest available for alternative investments or, if the individual borrows to finance their study, the cost of finance.

In deciding whether to undertake higher education, the  $IRR$  and  $NPV$  methods will generally lead to the same conclusion. However, when comparing the

relative attractiveness of different courses, the rankings may differ as the course with the highest IRR may not necessarily have the highest NPV (Chia 1990).

Box A4.1 summaries the framework and outlines the equations for estimating the IRR to higher education.

**Box A4.1: Summary of the framework for estimating the IRR**

The discounted present value of the costs ( $PV_C$ ) and benefits ( $PV_B$ ) of undertaking higher education are given by:

$$PV_C = \sum_{t=0}^{i-1} \left( \frac{Y_{non-grad} - Y_{student} + a}{(1+r)^t} \right) \quad (1)$$

$$PV_B = \sum_{t=i}^{g-18} \left( \frac{(Y_{grad\ j} - Y_{non-grad})}{(1+r)^t} \right) \quad (2)$$

- $Y_{non-grad}$  annual after-tax income for persons who have completed secondary school;
- $Y_{student}$  annual after-tax income for university students;
- $Y_{grad\ j}$  annual after-tax and HECS income for persons who have a degree in j;
- j type of degree;
- $\alpha$  direct costs associated with studying, such as the costs of books;
- r discount rate;
- t time;
- $\gamma$  retirement age (55); and
- i number of year to undertake a degree (table A4.1).

To calculate the IRR (r) set

$$PV_B - PV_C = 0 \quad \text{and solve for } r.$$

As the IRR calculation is based on a discounted present value model, costs and benefits incurred in the first few years of the investment have more impact on the results than costs and benefits incurred closer to retirement. As a result, the IRR estimates are more sensitive to changes in foregone earnings, student income, graduate starting salaries and the length of course. The assumed retirement age has minimal effect on the calculated IRR.

## **A4.2 Data sources**

### **Foregone income**

All age-income profiles used in this appendix were supplied, on special request, by Chapman and Salvage (1997). The original source of the income profiles for people without post-secondary school qualifications is the Department of Human Services (1995), *National Drug Strategy Household Survey*. All estimates are in 1996 dollars.

### **Student income**

Student employment tends to be part-time or casual, with large variations in the number of hours worked each week. Robinson (1996) uses the Australian Longitudinal Survey to estimate the average hours worked per week and the average hourly wage for all students.<sup>5</sup> Using Robinson's estimates, the Commission estimates university students aged 18–21 years earn, on average, \$5 960 per year (1996 dollars). Although, these estimates are not broken down according to gender, male students tend to earn more per hour, but females work slightly more hours per week, resulting in similar average yearly incomes for males and females (Robinson 1996).

### **Books and tuition costs**

Tuition costs, using a previous estimate provided by the then DEET (1987), have been indexed to approximately \$1 054, in 1996 dollars (Chia 1990).

### **Number of years at university**

To calculate the total cost of a student's investment in higher education, it is necessary to specify the number of years spent at university (ie the number of years of investment). This is not a straightforward task as course lengths vary across courses and institutions. Furthermore, students often take longer than the minimum time to complete their degree. To overcome these problems, a selection of courses was examined. Students are also assumed to complete their degree in the minimum time. Lengths of the selected courses are outlined in table A4.1.

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<sup>5</sup> The Australian Longitudinal Survey has detailed employment records over an entire year rather than a single point in time, thus overcoming the problem of week to week fluctuations.

Table A4.1: Course lengths for specific degrees

<i>Course</i>	<i>Course length (years)</i>
Architecture	5
Computing	3
Education	4
Engineering	4
Law	4
Nursing	3
Science	3

*Source:* Commission estimates based on DEETYA 1997c.

### Expected future earnings

The age-income profiles for the various occupations were supplied by Chapman and Salvage (1997). The relevant occupations were:

- architect;
- computer professional;
- teacher;
- engineer;
- lawyer;
- nurse; and
- scientist.

Education and nursing graduates are assumed to receive the award wage, receiving yearly income increments due to experience until age 30. Income as a result of merit based promotion has not been taken into account. As a result, the IRR estimated for these degrees should be considered as a lower bound.

Two types of teachers are modelled — an english-history teacher and a maths-science teacher. Both types of teachers have the same income profile. However, the distinction becomes important when estimating the IRR to education under the current differential HECS system, since the maths-science teacher attracts the band two HECS charge (for part of their course), while the humanities teacher attracts the band one charge (table A2.1).

The original source for lawyers' incomes is Blandy (1992). As the Commission only has access to male lawyers' incomes and average lawyers' incomes, no female rate of return was estimated.

The median age-income profiles for architects, engineers, computer professionals and scientists were supplied to Chapman and Salvage (1997) by the Association of Professional Engineers, Scientists and Managers, Australia (APESMA). APESMA is a national organisation which represents professional employees on matters relating to their salaries and conditions (APESMA 1997). It has some 20 000 members and represents both the public and private sector. However, the income profiles for these occupations do not contain enough information to calculate reliable male and female rate of return estimates separately.

The expected future earnings profiles represent median incomes for each occupational group (with the exception of nurses and teachers). These incomes are, in turn, compared to the median income of their non-graduate counterpart to obtain the pecuniary benefit of higher education. As a result, the estimated IRR to higher education focuses entirely on the average student of the selected occupations modelled. In practice, however, there are considerable variations in earnings among graduates and non-graduates. Hope and Miller (1988) found that the predicted hourly earnings of individuals who completed secondary school fell within the 95 per cent confidence band of university graduates. This means that university graduates, on average, earn more than their secondary school counterparts but that some university graduates may have earnings closer to those of the average secondary school leaver. Chia (1990) also found that one-fifth of all degree-holders earn less than the median income of secondary school leavers and that there are considerable variations in earnings among people with degrees. Hence, when interpreting the estimated average rates of return for the different occupations, these factors need to be recognised.

### **A4.3 The impact of different fee structures on the private rate of return to higher education**

#### **Alternative fee structures**

Appendix 2 outlines the changes that have occurred to student charges and fees for higher education in recent years. This appendix models the effect of these changes on the IRR, including the new differential HECS regime (table A2.1 and table A2.2). Other scenarios modelled include the proposed introduction of full fees for a quota of domestic undergraduate students (outlined below) and the implications of varying the level of cost recovery under a differential HECS regime (appendix 5).

The effect of modifying the fee structure on the private rates of return to higher education, for the seven course types listed in table A4.1, are calculated under the following scenarios:



- Scenario 1: no tuition fees;
- Scenario 2: uniform HECS charge;
- Scenario 3: differential HECS charge;
- Scenario 4: over-quota full fee regime; and
- Scenario 5: differential HECS charge with varying levels of cost recovery.

The estimated average private rates of return for the selected occupations modelled are 'expected' rates of return, as the income profiles used are static profiles. In addition, they presume that the full cost of any fees are borne by students and not passed on to employers via commensurate increases in income. As a result, the estimated effects are immediate impacts of varying higher education charges and do not take into account the possibility that changes in fees will effect the demand for higher education and their future incomes, and in turn have feedback effects on the supply of higher education.

Chapman and Salvage (1997) have also examined the consequences of recent changes in fees for higher education. They focus, firstly, on the effect of differential HECS and faster debt repayment rates on the NPV of the HECS liability across a selection of occupations. They also examine the effect of these changes on the private rate of return to these occupations.

The Commission also looks at these recent changes, but extends the analysis further to examine effects of an over-quota 'full' fee regime for domestic undergraduates and a HECS regime with differing levels of cost recovery. The Commission also comments on possible demand changes under these alternative fee scenarios. The no tuition fee and uniform HECS charge scenarios are included to illustrate the effect of past changes and give some relativity to the effect of the other scenarios. While the Commission has used the same income profiles as Chapman and Salvage (1997), its estimated average private rates of return differ somewhat from theirs. The main sources of difference reflect variations in the treatment of:

- student earnings;
- the cost of books and materials; and
- the number of years at university.

### **Scenario 1 — No tuition fees**

The private rate of return to higher education, assuming no fees, varies from 8.9 per cent, on average, for architects to 23.3 per cent, on average, for computer professionals. The IRRs to higher education for female graduates are higher than

for their male counterparts (table A4.2). For example, the average IRR to teaching for females is 14.6 per cent, while for males it is 8.1 per cent.

Table A4.2: Internal rate of return to higher education: no fees (per cent)

<i>Occupations</i>	<i>Male</i>	<i>Female</i>	<i>Average</i>
Architect	a	a	8.9
Computer professional	a	a	23.3
Teacher	8.1	14.6	11.9
Engineer	a	a	17.4
Lawyer	19.6	a	18.1
Nurse	7.5	16.9	13.6
Scientist	a	a	22.3

a Male/female breakdown was not estimated because of a limited sample.

Source: Commission estimates.

Female returns to higher education are generally greater than male returns, because female graduates have relatively higher participation rates, lower unemployment rates, and longer working hours compared to female non-graduates (Chia 1990). There are only slight differences between these labour force characteristics for male graduates and non-graduates. As the rate of return to higher education is estimated by comparing the incomes of the female graduates with those of female secondary school leavers, the differing labour force characteristics result in female graduate incomes being significantly higher than female secondary school leavers, boosting the rate of return to higher education for female graduates above male graduates for those occupations where male/female splits are reported.

## Scenario 2 — Uniform HECS charge

The introduction of fees unambiguously lowers the private rate of return to higher education, as it introduces an additional cost to the individual undertaking a university degree with no offsetting benefits. The extent to which the IRR is lowered depends not only on the absolute value of the fee, but also on the speed of repayment. As fees under HECS can be converted into income-contingent loans, people in occupations with higher starting incomes and rapid income rises will pay their HECS debts back sooner. In contrast to voluntary early

repayments, for which there is a discount, earlier repayment of HECS liabilities increases the NPV of the HECS charge, having a greater impact on the IRR.<sup>6</sup>

The private rate of return to higher education, assuming a uniform HECS charge of \$2 478 per student per year, ranges from 8.4 per cent, on average, for architects to 21.7 per cent, on average, for computer professionals (table A4.3).

The introduction of a uniform tuition charge lowers the return to higher education by 1.3 to 1.7 percentage points for male graduates and by approximately one percentage point for female graduates. Occupations such as lawyers and computer professionals have the greatest drop in return as their starting salaries tend to be higher, hence they pay the HECS charge back earlier than other occupations.

Table A4.3: Internal rate of return to higher education: uniform HECS charge (per cent)

<i>Occupations</i>	<i>Fee \$ pa<sup>a</sup></i>	<i>Male</i>	<i>Female</i>	<i>Average</i>
Architect	2 478	b	b	8.4
Computer professional	2 478	b	b	21.7
Teacher	2 478	6.8	13.5	10.8
Engineer	2 478	b	b	16.2
Lawyer	2 478	18.4	b	17.2
Nurse	2 478	5.8	15.9	12.3
Scientist	2 478	b	b	20.7

**a** HECS charge payable for all students re-enrolling in 1997. **b** Male/female breakdown was not estimated because of a limited sample.

*Source:* Commission estimates.

### Scenario 3 — Differential HECS charge

Under this scenario, charges vary across courses. In some cases, charges may vary within the same occupational group. For example, HECS charges for teachers will vary according to their specialisation (Chapman & Salvage 1997). Consequently, two teacher scenarios are modelled. The first scenario is an english-history teacher who studies three years of humanities (low HECS band, table A2.1) and one year of education (also low HECS band). The second

<sup>6</sup> For more details on the NPV of HECS charges by occupations, see Chapman and Salvage (1997).

scenario is a maths-science teacher who studies a three year science degree (medium HECS band, table A2.1) and one year of education.

The introduction of the three tier differential HECS charge and faster HECS debt repayment rates lowers the private rate of return to higher education by a greater amount than the uniform charge discussed above. The rates of return to the selection of university degrees modelled are up to 1 percentage point lower than in scenario 2 (uniform charge). The IRR ranges from 7.8 per cent for architects, on average, to 20.8 per cent, on average, for computer professionals (table A4.4).

Table A4.4: Internal rate of return to higher education: differential HECS charge

<i>Occupations</i>	<i>Fee \$ pa</i>	<i>Male</i>		<i>Female</i>		<i>Average</i>	
		<i>IRR %</i>	<i>Change <sup>a</sup></i>	<i>IRR %</i>	<i>Change <sup>a</sup></i>	<i>IRR %</i>	<i>Change <sup>a</sup></i>
Architect	4 700	b	-	b	-	7.8	-0.6
Computer professional	4 700	b	-	b	-	20.8	-0.9
Teacher I <sup>c</sup>	3 300	6.5	-0.3	13.2	-0.3	10.4	-0.4
Teacher II <sup>d</sup>	4 350	6.1	-0.7	13.0	-0.5	10.1	-0.7
Engineer	4 700	b	-	b	-	15.6	-0.6
Lawyer	5 500	17.5	-0.9	b	-	16.3	-0.9
Nurse	3 300	5.1	-0.7	15.1	-0.8	11.5	-0.8
Scientist	4 700	b	-	b	-	19.7	-1.0

**a** This represents the change in the IRR (measured in percentage points) for this scenario relative to scenario 2 (uniform HECS charge). **b** Male/female breakdown was not estimated because of a limited sample. **c** English/history teacher. **d** Maths/science teacher.

*Source:* Commission estimates.

Introducing a differential HECS system affects the private returns to different higher education courses differently. At the margin, this may lead to some students choosing to do another course or not studying at all. However, in the absence of estimates of the own price elasticity of demand for higher education, it is not possible to be precise about the impact of different fee structures on student participation in higher education. Nonetheless, it is possible to draw some broad inferences based on Australia's recent experience. Although a crude indicator, examination of enrolment data, for the period 1988 to 1993, suggests that the introduction of the uniform HECS charge had, on average, no discernible impact on enrolments (Chapman 1996b). In the case of the lowest price band of the differential HECS, a similar effect can be expected, since the relevant fee is little different from the previous uniform HECS charge. In the case of the other

two price bands comparatively small effects could be expected in view of the relatively small changes in the underlying estimated average private rates of return to higher education.

#### **Scenario 4 — Over-quota ‘full’ fee regime**

From 1998, universities have the option of charging full fees to 25 per cent of domestic undergraduate students.<sup>7</sup> Some universities have announced that they will take up this option. While no official over-quota fee structures have been announced, some universities considering introducing these fees have indicated that they may set fees somewhat below the current charges for overseas students. In estimating the IRR for these students, the Commission has assumed over-quota fees are set at a level approximately \$1 000 below the full fee set for overseas students (table A4.5).

Under the proposed arrangements, students will be required to pay tuition fees upfront as no government student loan system is currently proposed. This payment method has a greater impact on the rate of return to higher education as the entire tuition cost is borne in the initial years of investment. For the selection of courses modelled, upfront over-quota fees reduce the IRR to higher education by 3 to 8 percentage points (on average) relative to the current differential HECS system (table A4.6).

As a result of upfront charges, some courses would, on average, yield a very low private rate of return. For example, the estimated rate of return on a nursing degree for a male is only 0.7 per cent, after fees of \$39 150 are paid (tables A4.5 and A4.6). This means that, after all costs are taken into account, including foregone income, male nurses are only marginally ‘better off’ (in pecuniary terms) than their secondary school counterparts. However, this is a conservative IRR estimate since improved earnings linked to merit-based promotion have not been taken into account.

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<sup>7</sup> Universities must fill government subsidised places before offering places to fee paying domestic students.

Table A4.5: Indicative fee structure for over-quota domestic students

<i>Course</i>	<i>Annual charge \$ pa</i>	<i>Course length years</i>	<i>Total fee \$ per course</i>
Architecture	12 050	5	60 250
Computing	13 330	3	39 990
Education	9 050	4	36 200
Engineering	14 050	4	56 200
Law	10 050	4	40 200
Nursing	13 050	3	39 150
Science	13 230	3	39 690

*Source:* Commission estimates.

Once again, in the absence of estimates of the own price elasticities of demand for higher education, it is not possible to be precise about the impact of upfront fees on student participation in higher education. Nevertheless, these impacts are likely to be different from those that stem from the introduction of the differential HECS system currently in place. Upfront fees will only affect a proportion of students, namely those who fail to satisfy the tertiary entry requirements for the HECS market. The price sensitivity of student participation in the over-quota market is likely to be less, on average, than for students overall as the students taking up this option are more likely to come from socio-economically advantaged backgrounds. Furthermore, the over-quota fee regime may give some students the opportunity to study at their preferred university or in their preferred course. Thus, a student who has gained entry into a law degree at university X may choose to pay upfront fees to go to university Y, which has a better reputation in teaching law. This type of behaviour takes into account non-pecuniary considerations and cannot be predicted from the estimated IRR.

Under a HECS-style deferred payment system, the introduction of tuition fees for over-quota students lowers the IRR to a university degree by a much smaller amount (relative to scenario 3) — 0.5 to 2.2 percentage points for all occupations (with the exception of male nurses) (table A4.6). Where a deferred fee facility is applied to the over-quota market, a smaller impact on prospective enrolments and composition of those enrolments could be expected.

Table A4.6: Internal rate of return to higher education — over-quota 'full' fee regime

<i>Occupations</i>	<i>Fee \$ pa</i>	<i>Male</i>		<i>Female</i>		<i>Average</i>	
		<i>IRR %</i>	<i>Change a</i>	<i>IRR %</i>	<i>Change a</i>	<i>IRR %</i>	<i>Change a</i>
<b><i>Upfront payment of fees</i></b>							
Architect	12 050	b	-	b	-	4.9	-2.9
Computer professional	13 330	b	-	b	-	12.8	-8.0
Teacher	9 050	3.5	-2.6 <sup>c</sup>	8.9	-4.1 <sup>c</sup>	6.6	-3.5
Engineer	14 050	b	-	b	-	9.4	-6.2
Lawyer	10 050	12.4	-5.1	b	-	11.7	-4.6
Nurse	13 050	0.7	-4.4	8.5	-6.6	5.5	-6.0
Scientist	13 230	b	-	b	-	11.9	-7.8
<b><i>Deferred payment of fees</i></b>							
Architect	12 050	b	-	b	-	7.1	-0.7
Computer professional	13 330	b	-	b	-	19.7	-1.1
Teacher	9 050	4.8	-1.3 <sup>c</sup>	12.3	-0.7 <sup>c</sup>	9.2	-0.9
Engineer	14 050	b	-	b	-	14.6	-1.0
Lawyer	10 050	16.9	-0.6	b	-	15.8	-0.5
Nurse	13 050	1.1	-4.0	13.6	-1.5	9.3	-2.2
Scientist	13 230	b	-	b	-	18.5	-1.2

**a** This represents the change in the IRR (measured in percentage points) for this scenario relative to the differential HECS (scenario 3). **b** Male/female breakdown was not estimated because of a limited sample. **c** Change relative to math-science teacher in scenario 3.

*Source:* Commission estimates.

## Scenario 5 — Differential HECS charge with varying levels of cost recovery

Appendix 5 discusses some principles for determining the level of cost recovery underlying HECS. The Commission favours a HECS with charges based on a fixed proportion of course costs. Such a charge reduces the potential for distorting student demand for particular courses by maintaining the relativity between prices and costs for different courses.

There are a number of potential cost recovery levels. The Commission estimates that the average of the existing differential HECS regime represents a cost recovery rate of roughly 40 per cent (appendix 5). Under this fee regime, charges for some courses would fall relative to their current levels, while others would increase. Two other cost recovery levels are modelled, namely — 50 and 75 per cent. The fee structures associated with these different levels of cost recovery (ie 40, 50 and 75 per cent) and associated rate of return estimates are presented in table A4.7.

Under a 40 per cent cost recovery scheme, the estimated IRR to higher education for architects, computer professionals, maths-science teachers and lawyer increases by 0.1 to 0.6 percentage points (compared with estimated IRR under the existing differential HECS). The estimated IRR to higher education for engineers, nurses and scientists all fall by 0.3 percentage points. Under a 50 per cent cost recovery HECS, the IRR to higher education either remain constant or falls by up to 0.6 percentage points relative to the current system (with the exception of law where the IRR improves slightly). Male nurses are affected more severely.

It is not until HECS is set at 75 per cent of course costs that the private rate of return to higher education reduces across all courses modelled (with the exception of law). The estimated IRR to all occupations declines by approximately 1 percentage point. Even with students paying 75 per cent of course cost, the IRR ranges, on average, from 7.4 per cent for architects to 20.2 per cent for computer professionals.

There are some important differences between a cost-based differential HECS scheme and the current differential HECS scheme. One notable difference is that the current differential HECS system (modelled in scenario 3) is a hybrid regime. Its design has been influenced by course cost, graduate return and student demand considerations. For example, despite being relatively cheap to teach, a course such as law attracts a high charge within the existing differential HECS system, as law graduates have been judged as having a greater potential to earn higher incomes. However, under the cost-based differential HECS structure, discussed in appendix 5, the charge applied to law would be based on its relatively low course cost. As a result, when a 75 per cent cost recovery charge is set, law students would be charged \$5 127 which is lower than the current HECS charge of \$5 500. This lower charge for law increases the relative rate of return to studying law (table A4.7).



Table A4.7: Internal rate of return to higher education — cost recovery based HECS

Occupations	Fee \$ pa	Male		Female		Average	
		IRR %	Change <sup>a</sup>	IRR %	Change <sup>a</sup>	IRR %	Change <sup>a</sup>
<b>40 per cent cost recovery</b>							
Architect	4 147	b	-	b	-	7.9	0.1
Computer professional	4 147	b	-	b	-	21.0	0.2
Teacher	3 524	6.4	0.3 <sup>c</sup>	13.1	0.1 <sup>c</sup>	10.3	0.2
Engineer	5 990	a	-	b	-	15.3	-0.3
Lawyer	2 734	18.2	0.7	b	-	16.9	0.6
Nurse	4 147	4.7	-0.4	14.9	-0.2	11.2	-0.3
Scientist	5 990	b	-	b	-	19.4	-0.3
<b>50 per cent cost recovery</b>							
Architect	5 184	b	-	b	-	7.8	0.0
Computer professional	5 184	b	-	b	-	20.7	-0.1
Teacher	4 405	6.1	0.0 <sup>c</sup>	12.9	-0.1 <sup>c</sup>	10.1	0.0
Engineer	7 488	b	-	b	-	15.1	-0.5
Lawyer	3 418	18.0	0.5	b	-	16.7	0.4
Nurse	5 184	4.2	-0.9	14.6	-0.5	10.9	-0.6
Scientist	7 488	b	-	b	-	19.1	-0.6
<b>75 per cent cost recovery</b>							
Architect	7 775	b	-	b	-	7.4	-0.4
Computer professional	7 775	b	-	b	-	20.2	-0.6
Teacher	6 607	5.4	-0.7 <sup>c</sup>	12.6	-0.4 <sup>c</sup>	9.6	-0.5
Engineer	11 231	b	-	b	-	14.8	-0.8
Lawyer	5 127	17.6	0.1	b	-	16.4	0.1
Nurse	7 775	3.1	-2.0	14.1	-1.0	10.2	-1.3
Scientist	11 231	b	-	b	-	18.6	-1.1

**a** This represents the change in the IRR (measured in percentage points) for this scenario relative to the current differential HECS (scenario 3). **b** Male/female breakdown was not estimated because of a limited sample. **c** Change relative to math-science teacher in scenario 3.

Source: Commission estimates.

## A4.4 Summary

This appendix focuses on the pecuniary benefits and costs of higher education, calculating the private rate of return to various higher education courses in Australia, under a range of different fee regimes. The following fee structures are considered:

- Scenario 1: no tuition fees;
- Scenario 2: uniform HECS charge;
- Scenario 3: differential HECS charge;
- Scenario 4: over-quota full fee regime; and
- Scenario 5: differential HECS charge with varying levels of cost recovery.

Relative to the case of no fees, the effect of introducing a uniform HECS charge is to lower the private rate of return to higher education by 1 to 2 percentage points on average across the occupational groups examined. The introduction of the recent differential HECS reduces the estimated average rate of return by a further 1 percentage point. In the case of the proposed introduction of over-quota 'full' fees, the reductions are in the vicinity of 3 to 8 percentage points relative to the current differential HECS (scenario 3). This effect would be significantly reduced if the existing deferred payment option were available to full fee over-quota students. While the average private rates of return to higher education, under a modified cost-based HECS system (scenario 5) would be similar to the current differential HECS system, there are important differences for individual courses.

The effect of the different fee structures modelled on student participation in higher education is unknown as there are no estimates of the price elasticity of demand for Australian higher education. However, based on recent Australian experience, the expected effects on student participation of the current differential HECS system are relatively small, on average. Greater relative effects are expected for students studying courses with fees in the highest HECS bracket. The introduction of over-quota 'full' fees may lead to more subtle changes in student composition, despite the large reductions in private returns, as the price sensitivity of student participation in the over-quota market is likely to be less, on average, than for students overall.

The estimated changes in private rates of return to higher education are the immediate impacts of varying higher education charges. They do not take into account the effect of changes in fees on student participation rates in higher education which would affect the supply of graduates and graduate incomes. Further, depending on conditions in the labour market for different occupations,

there may be scope for graduates to shift a portion of any fee increase on to employers via compensating increases in remuneration.

Estimation of the impact of changing fee regimes on student participation decisions needs to recognise the influence of non-pecuniary benefits as well. The non-pecuniary benefits of undertaking higher education can be significant and play a role in a student's overall decision process.

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## **APPENDIX 5 IMPROVING THE EXISTING CHARGE REGIME**

The Higher Education Contribution Scheme (HECS) plays a central role in financing Australia's higher education sector. It provides a means of recovering a proportion of the costs of providing higher education to most students (currently about 40 per cent, on average, of direct tuition costs). While students can pay charges upfront, HECS also provides an income-contingent loan mechanism that allows students to defer payment of their tuition fees — currently about 75 per cent of eligible students take advantage of this mechanism.

The level and structure of fees under the HECS influence institutional decisions about course offerings and affect the capacity of publicly funded institutions to attract students. The operation of HECS, together with guidelines relating to the charging of HECS exempt students, also affects the capacity of private institutions to attract students. In this context, getting HECS 'right', in terms of the level and structure of course fees and the operation of the income-contingent loan mechanism, is important to the development of an efficient and equitable higher education sector.

Some key issues relating to the structure and level of HECS charges are examined in section A5.1. Improvements that could be made to the design of the HECS charge regime and the loan mechanism are discussed in section A5.2. The issue of improving the regulations governing fee setting by institutions is taken up in section A5.3.

### **A5.1 Improving the HECS charge regime**

In 1989, HECS was introduced as a flat charge across most courses. Under recent amendments, HECS contributions have been increased to provide a better balance between the private and public contributions to higher education. The single flat charge has been replaced by a differentiated regime with three fee bands of \$3 300, \$4 700 and \$5 500 (for a full year of study), depending on the course undertaken (appendix 2). The government's decision to adopt a differentiated charge regime aims broadly to reflect differences

across disciplines in:

- expected future private benefits in terms of higher life-time earnings of graduates; and
- course costs.

This section examines the current structure and level of HECS and identifies some broad improvements that could be made to the charge regime.

### **Should HECS charges reflect the expected future earnings of graduates?**

Expected future earnings have an important bearing on the demand for higher education (appendix 4). Those individuals that anticipate earning a relatively high income as graduates will have a greater capacity and willingness to pay for their education than those expecting lower graduate incomes. Differentiating charges according to individuals' willingness to pay will be efficient in the sense that scarce resources will be allocated to the students that value them most highly. However, in practice, attempts to set HECS charges to reflect expected future earnings is not a straightforward exercise.

First, examination of earnings profile data reveal significant differences in the expected future earnings profiles of graduates relative to non-graduates and between graduates from different disciplines. Beyond this, there are also marked differences in earnings between graduates within the same disciplines. Isolating the factors responsible for these shifts in earnings distributions is fraught with difficulty. The capacity to attract high earnings depends not only on education, but also on a range of other factors, including innate abilities, on-the-job training, experience and, in some cases, the influence of restrictions on entry into certain occupations. It is often difficult to identify the relative contribution of these differing elements to observed earnings differentials. Thus, there are fundamental problems in assuming a uniform level of future private benefits for all students arising from the studying of a particular discipline.

Second, the expected future earnings profiles for different disciplines are not static. The earnings relativities between discipline groups (ie occupations) change over time. For example, rapid changes in technology may erode expected high returns from particular skills and knowledge. This implies a requirement for regular monitoring and adjustment of fees. However, for the reasons alluded to above, such an approach is unlikely to be practical.

Finally, the expected future earnings criterion is in itself questionable. Australia already has in place a progressive income tax system that redistributes income from high income earners to those receiving relatively low incomes.

Overall, the Commission considers that there are no strong arguments for linking HECS charges to the expected future earnings of graduates. Income distribution questions are best addressed through the taxation and social security systems, and reform to institutional barriers which may cause earnings to vary across occupations. Even if there were a case for linking HECS to future earnings, practical difficulties prevent its achievement.

### **Should HECS charges reflect differences in course costs?**

One of the criticisms of the previous single rate HECS was that it did not provide students with any signals about significant differences in costs between courses. Consequently, it tended to bias enrolment decisions toward courses offering the greatest pay-offs, regardless of costs (Harrison 1995a), although government-imposed student load targets limited the extent of this bias. It also provided no information to institutions on which to base decisions on future course offerings.

In principle, a cost-differentiated HECS can overcome some of these problems. However, the current differential HECS only partially addresses these problems. The existing form of the charge — a fixed dollar amount for three designated course groupings — yields sizeable variations in the balance between private and public contributions towards course costs (table A5.1). The balance varies considerably both within and between the existing three fee bands. Students also pay the same HECS whether studying at the undergraduate or postgraduate level, despite the fact that postgraduate courses are generally more costly to provide.

The adoption of a fixed proportionate charge would allow private contributions to reflect differences in course costs. It would also provide a simple pricing rule that, in the absence of information on the level and pattern of external benefits across disciplines, is likely to reduce distortions to students' course choices. But, what should be the level of the charge? This issue is taken up below.

Table A5.1: Cost recovery under differential HECS per student, 1997

<i>Discipline</i>	<i>Cost per EFTSU<sup>a</sup></i>	<i>Median income<sup>b</sup></i>	<i>Enrolment growth 1986–1996</i>	<i>Unmet demand<sup>c</sup></i>	<i>HECS</i>	<i>HECS share of cost<sup>d</sup></i>
	\$	\$	%	%	\$	%
Arts, Humanities	6 836	28 300	49	24.0	3 300	48.3
Education	8 809	33 800	-9	22.0	3 300	37.5
Nursing	10 367	25 300	nr	nr	3 300	31.8
Computing	10 367	nr	nr	nr	4 700	45.3
Agriculture etc.	18 096	29 900	74	16.0	4 700	26.0
Science	14 975	35 400	64	9.9	4 700	31.4
Admin, Busn., Econ.	6 836	nr	96	19.1	4 700	68.8
Engineering	14 975	40 100	67	12.9	4 700	31.4
Law	6 836	47 900	151	34.1	5 500	80.5
Medicine	18 096	51 900	172	38.5	5 500	30.4
Veterinary Science	18 096	nr	14	62.4	5 500	30.4

**a** Estimated cost (based on the Commonwealth recurrent funding rate for undergraduate teaching for each discipline group). DEETYA does not have information on the actual costs of provision of various units. **b** Median gross income (1991–92 dollars) for people holding a bachelor degree as their highest qualification, completed 6 to 10 years previously. The data do not distinguish between part-time and full-time earnings. **c** Eligible applicants that did not receive an offer in the 1996 intake. **d** At the postgraduate level, the share of costs that HECS represents would be lower as course costs tend to be higher than for undergraduate students. **nr** Not reported. *Source:* AVCC 1996.

### What is the appropriate degree of cost recovery?

Determining the appropriate level of private contributions made by students towards the costs of higher education is not a clear-cut issue. Since higher education yields spillover benefits, it is inappropriate to seek full cost recovery. Equally, in the presence of substantial private benefits, it is inappropriate to seek an insignificant degree of cost recovery.

As discussed in appendix 3, there are many views on the size of spillover benefits arising from higher education and, consequently, the appropriate degree of cost recovery. Based on this, the Commission has examined three approaches:

- a 40 per cent cost recovery rate equivalent, on average, to the charges associated with the existing differential HECS and broadly consistent with maintaining existing funding levels as supported by Karmel (1997a);
- a 50 per cent cost recovery rate, consistent with the proposal by Pincus and Miller (1997) in their submission to the Review; and

- a 75 per cent cost recovery rate, which could be viewed as relatively generous in the context of the observations of Brennan (1971, 1988) and Fane (1988) who have suggested that the spillover benefits from higher education are likely to be relatively small or even negligible.

A comparison of the current differential HECS charges with the resulting HECS charges from the three approaches canvassed above is presented in table A5.2. The comparison is based on the estimated cost per EFTSU for different discipline groups linked to the existing recurrent funding rate for universities reported in table A5.1. The estimated costs do not take capital costs into account and, as a result, the cost base does not fully reflect the costs of providing courses. (The issue of the appropriate cost base on which to set HECS charges is discussed in the next section.)

Compared to the current regime, a uniform pro rata charge that recovered 40 per cent of costs would lead to lower charges for computing and for low cost courses such as arts and humanities, administration, business and economics, and law. For higher cost courses such as education, nursing, agriculture, science, engineering, medicine and veterinary science, HECS charges would rise. At 50 per cent cost recovery, HECS charges rise for all courses, except administration, business and economics, and law. At the 75 per cent rate of cost recovery, the HECS charge would rise for all courses except law — where it would yield a charge less than that currently applied.

The initial HECS does not appear to have had a significant impact on enrolments (Chapman 1996a). Although it is too early to assess the impact on demand of recent changes to HECS, initial evidence suggests that it has not adversely affected the overall level of enrolments in 1997 (Vanstone 1997b). Similarly, the Commission does not expect that applying the higher cost recovery rates (referred to above) to the HECS regime would significantly impact on overall enrolments. Based on an examination of selected occupational groupings, even a 75 per cent cost recovery regime would permit many graduates to continue to earn, on average, private rates of return in excess of 10 per cent (appendix 4).



Table A5.2: Illustrative HECS charges at varying levels of cost recovery<sup>a</sup>

<i>Discipline</i>	<i>1997 level<sup>b</sup></i> \$	<i>Level of cost recovery (\$)</i>		
		<i>40 per cent</i>	<i>50 per cent</i>	<i>75 per cent</i>
Arts, Humanities	3 300	2 734	3 418	5 127
Education	3 300	3 524	4 405	6 607
Nursing	3 300	4 147	5 184	7 775
Computing	4 700	4 147	5 184	7 775
Agriculture etc.	4 700	7 238	9 048	13 572
Science	4 700	5 990	7 488	11 231
Admin, Busn., Econ.	4 700	2 734	3 418	5 127
Engineering	4 700	5 990	7 488	11 231
Law	5 500	2 734	3 418	5 127
Medicine	5 500	7 238	9 048	13 572
Veterinary Science	5 500	7 238	9 048	13 572

**a** The figures presented for the three different levels of cost recovery were derived from the estimated cost per EFTSU for each discipline as reported in table A5.1. **b** These figures correspond to the actual fees applying under HECS to these disciplines. The level of cost recovery associated with the existing HECS fee regime varies considerably across disciplines as shown in table A5.1.

*Source:* Commission estimates.

The Commission acknowledges that the paucity of empirical data about the size of the spillover benefits from higher education necessarily means that an assessment of the appropriate degree of cost recovery is judgemental. However, it is clear that there are substantial private benefits linked to higher education. Further, while an examination of the literature on spillover benefits (appendix 3) highlights considerable uncertainty about the magnitude of these benefits, it does provide some support for the view that the current broad level of cost recovery may be too low. A detailed examination of the nature and extent of spillover benefits associated with different types of higher education is urgently needed to inform the policy debate. In the interim, the Commission judges that it would be appropriate to raise the current level of cost recovery to 50 per cent. This would imply a greater absolute increase in HECS charges at the postgraduate levels, where typically course costs are greater.

## A5.2 Improving other aspects of the design of HECS

HECS has proved to be a relatively successful method for ensuring that students contribute to the costs of their education. Administrative and default costs are

reasonably low compared to other forms of student loans and a number of studies have shown that, at least up until the latest round of changes, the HECS charge has had no discernible effect on the participation of disadvantaged students (see Chapman 1996a; Harding 1995). Nevertheless, a number of aspects of HECS impair its efficiency and equity. This section discusses improvements that could be made to HECS, including:

- introducing a capital charge into the cost base;
- allowing for some fee flexibility between institutions;
- introducing a penalty for completion of courses outside acceptable minimum periods; and
- modifying the loan mechanism in terms of the:
  - interest rate applied;
  - repayment rates and income thresholds; and
  - coverage of educational institutions and students.

### **Broadening the cost base of HECS**

The Commonwealth, and particularly the State and Territory governments, have provided land and buildings for university activities and continue to provide funds for new buildings and facilities as well as capital maintenance.

Institutions are required to charge fees to overseas students that partly reflect capital costs (ie there is no rate of return requirement). The DEETYA administrative guidelines covering fees for overseas students explicitly specify that the following costs are relevant:

- operating costs, including equipment costs, which should take account of:
  - staff costs;
  - overheads (eg utilities, rent and marketing costs);
  - common services costs (eg libraries and student counsellors); and
- average capital costs, which should include an appropriate amortisation rate for capital and interest, but do not need to take account of capital facilities provided by sponsors (HED 1996).

The current cost base of the HECS does not include an allowance for capital maintenance, nor are institutions required to generate a notional return on capital. This provides a ‘hidden subsidy’ to students and may distort the purchasing and production decisions of students and institutions alike. The absence of a capital charge also provides a notional subsidy to ‘asset rich’ institutions relative to ‘asset poor’ institutions. It also disadvantages private institutions that are required

to set fees on a commercial basis. It would be consistent with a mixed funding model if part of these capital costs were borne by users through their HECS contributions.

Accordingly, the Commission considers that the West Review should consider the merits of this proposal, including the possibility that the charge could be applied on an institution-by-institution or zonal basis (ie capital city and regional rate), rather than on a system-wide basis. Such differentiation in charges is likely to be desirable in view of the potential for sizeable variations in capital costs between institutions.

### **Allowing for some fee flexibility between institutions**

Costs vary from one institution to another, even for courses of a similar content and quality. Differences in the materials used, the number of staff employed and in the capacity of the institution affect costs across courses. This is confirmed in a study by Williams et al. (1989) which found wide variations in unit teaching costs in selected Victorian institutions.

Because of cost variations, it may even be possible for some institutions to provide some courses — such as law — at a lower charge than the current HECS. However, a system-wide charge regime prevents institutions from reflecting cost differences in the charges applied to students and provides little opportunity for universities to attract students on the basis of lower costs.

The Committee on Higher Education Funding (1988) discussed a proposal for allowing some price flexibility within a system-wide charging regime. The Committee canvassed a proposal whereby institutions would be free to vary their charges by up to 15 per cent above or below the standard charges. While acknowledging that differential charging between institutions would make the system more complex to administer and could have equity consequences, the Committee considered that the proposal could enhance institutional efficiency and flexibility.

If the West Review decides that it is desirable to maintain a central fee-setting mechanism, it should consider the merits of permitting some flexibility of this type.

### **Introducing a penalty for completion of courses outside acceptable minimum periods**

In a situation where there is excess demand for some university courses, access to higher education for new students can be affected by the time that existing students take to finish their courses. Students swapping courses during the year or

having to repeat courses can add to difficulties some students face in being able to secure a university place. The most efficient outcome would be for students to complete their courses as quickly as possible.

Additional time spent at university means forgoing income, which provides some incentive to complete studies quickly, as does HECS. A penalty for undue delays in course completion rates could increase these incentives. It could take the form of an extra loading to the standard HECS charge, which would have the effect of reducing the course subsidy.

Prior to adopting such a proposal it would be desirable to examine a number of issues. Key issues include the current levels of waste and failure rates, the main proximate causes, the extent to which a 'fee penalty' could improve completion rates and the identification of acceptable performance targets.

## **Modifying the loan mechanism**

### *Interest rates*

If students elect to defer payments under HECS, the charge becomes a debt which is owed to the government. The debt is indexed to the inflation rate, so that its real value is maintained over time. No explicit interest rate charges are applied to the debt.<sup>1</sup> This arrangement provides an implicit loan subsidy to students that elect to defer their HECS payments. The implicit loan subsidy arises because graduates are not required to contribute to the full costs incurred by the government in providing the loan, including administration costs, default costs<sup>2</sup> and the financing costs. Individuals who study the highest cost courses, study for the longest periods of time and take the longest time to repay their debt attract the greatest subsidy (Harrison 1995a).

Harrison (1995a) and Harding (1995) note that the loan subsidy could reduce incentives to work, as higher current repayments mean forgoing some of the subsidy. The failure to apply an explicit real rate of interest to HECS loans also adds to the bias against private universities inherent in the current policy framework.

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<sup>1</sup> However, if at least \$500 of a HECS charge is paid upfront, the debt attracts a discount of 25 per cent. Beyond this, voluntary contributions of \$500 or more at any time attract a 15 per cent discount. From the students' perspective, this effectively implies that a real rate of interest is applied to deferred HECS payments. For each student this real interest rate will depend on when the loan is repaid — that is, the time path of future income. This is unknowable at the time of decision making.

<sup>2</sup> Default costs, in the context of an income-contingent loan, refer to any debt that cannot be recovered.

Much of the support for the loan subsidy attaching to deferred payments has rested on access/equity arguments. The concern is that students from disadvantaged backgrounds are relatively more risk averse than those from advantaged backgrounds and may be further deterred from incurring debt if a significant interest charge applies (Maani 1996). However, the income-contingent nature of HECS already provides a strong degree of protection to students in relation to the risks associated with investing in higher education, despite the recent reduction in the income threshold that triggers repayments (appendix 2).

At a more general level, Harrison (1995a) has argued that the HECS loan subsidy is not a good equity instrument as, at best, it targets graduates with low incomes, which does not necessarily correspond with the most needy in society (ie it takes no account of individuals' asset holdings).

There appears to be a case to support the application of an explicit interest rate to the deferred payment under HECS. In principle, the interest rate should be set to recover the cost of providing the loan. Thus, it should at least reflect the cost of providing finance — that is, the government borrowing requirement.

In addition, an interest rate premium designed to recoup default costs could be added. However, seeking to recover the default costs of the loan scheme may require applying relatively high interest rates. This may deter some individuals from investing in education and/or affect later labour force participation decisions. Alternatively, some form of tax surcharge would allow these costs to be recovered from successful graduates. However, its deterrent effects relative to equity objectives would need to be assessed.

The effect of applying a real interest rate charge to HECS needs to be weighed up carefully in determining the appropriate interest rate. The Commission suggests that the West Review examine the merits of applying an explicit (real) interest charge to the HECS debt. In this context, it may be useful to examine the student loan arrangement applying in New Zealand.

### *Repayment rates*

Repayment rates applying to debt incurred under the HECS are determined by total income, not just increases in income beyond the repayment threshold (table A5.3). While this potentially speeds repayment, it can have unintended effects on individuals at the margins of the income thresholds associated with the repayment schedule.

Under the current HECS repayment arrangements, a dollar earned above each income threshold necessitates an additional payment greater than the additional dollar earned. This can leave the borrower with a lower net income (after a debt

repayment), despite being on a higher income. For example, if a graduate's income was to rise from \$20 700 by just one dollar, that graduate would be worse off in net income terms by \$620. Viewed another way, the graduate would need to earn at least \$21 430 to be no worse off in net income terms. (There is, of course, an offsetting wealth effect due to the reduction of the debt.) If graduates are also repaying an AUSTUDY loan, the impact can be much greater (Harding 1995). This might have some impact on incentives to work or evade income tax (Harding 1995; Harrison 1995a).

In recognition of these potentially adverse incentive effects, the government has recently amended the HECS repayment schedule by introducing additional income threshold bands incorporating more graduated repayment rates (table A5.3). However, as can be gleaned from table A5.3, the threshold problem continues to exist.

In view of these potential adverse incentive effects, the West Review should consider the benefits of applying marginal repayment rates to HECS. To generate the same level of revenue, the marginal repayment rates for HECS would need to be higher and/or the income threshold lower than under the current system. Alternatively, the initial income threshold could be maintained by applying an average rate initially and marginal rates for income beyond the minimum threshold level. A comparison of the existing system with average and marginal repayment rates (of 10 per cent) is provided in table A5.3.

As the Commission favours a scheme that minimises adverse incentive effects, it prefers a scheme based on marginal repayment rates. However, such a scheme could raise concerns because it requires a lower minimum income threshold. If this is judged to be a serious drawback, a scheme incorporating a combined average and marginal rate schedule could be introduced. In the Commission's opinion, this would represent a significant improvement over the existing regime.

Table A5.3: Illustrative annual HECS repayment schedules<sup>a</sup>

Threshold income	1997–98 repayment schedule		Marginal rate repayment schedule <sup>b</sup>		Combination rate repayment system <sup>c</sup>	
	Rate	Annual repayments	Rate	Annual repayments	Rate	Annual repayments
	\$	%	\$	%	\$	%
Below 14 491	nil	nil	nil	nil	nil	nil
14 491 to 20 700	nil	nil	10	0–621	nil	nil
20 701 to 21 830	3	621–655	10	621–734	3 <sup>d</sup> , 10	621–734
21 831 to 23 524	3.5	764–823	10	734–903	10	734–903
23 525 to 27 288	4	941–1092	10	903–1 280	10	903–1 280
27 289 to 32 934	4.5	1228–1 482	10	1 280–1 844	10	1 280–1 844
32 935 to 34 665	5	1647–1 733	10	1 844–2 017	10	1 844–2 017
34 666 to 37 262	5.5	1907–2049	10	2 018–2 277	10	2 018–2 277
37 263 and above	6	2236 –	10	2 277 –	10	2 277 –

**a** Repayment rates and income thresholds are based on those required to maintain revenue in the existing income thresholds at roughly the current level. **b** Assumes that the initial income threshold is \$14 491 and repayment is made at a marginal rate of 10 per cent thereafter. **c** Assumes that an average repayment rate of 3 per cent applies at the initial income threshold of \$20 701, and thereafter a marginal repayment rate of 10 per cent applies. **d** Average repayment rate.

Sources: DEETYA 1996c and Commission estimates.

### Coverage of educational institutions and students

The Commission believes that the West Review should consider the merits of offering a HECS-style student loan, on a capped or uncapped basis, to all tertiary education students at accredited institutions, whether they are fee-paying undergraduate students in the UNS, studying at TAFE or equivalent private sector institutions, or at a private university. This would:

- be fully consistent with the rationale for providing a student loan scheme to overcome capital market problems;
- promote competition across the tertiary education sector; and
- promote equality of opportunity.

This proposal is consistent with suggestions made by some other parties participating in the West Review (eg the University of Notre Dame) and with the views expressed by the Committee on Higher Education Funding (1988) which recommended that HECS be extended to higher education courses provided at TAFE. The complexities of Commonwealth and state/territory responsibilities for education may have contributed to the Government's decision not to apply HECS

charges to TAFE colleges. However, provision of a student loan facility should not present these problems. Indeed, students at TAFE colleges and private universities have access to the AUSTUDY loan supplement scheme already. Providing a loan facility to the wider student body would be a natural extension of existing policy. Moreover, in the light of the government's recent changes to youth unemployment benefits, which are likely to increase demand for tertiary education significantly, having a broad-based student loan scheme in place may help to alleviate pressures on particular institutions.

### **A5.3 Improving institutional fee regulations**

The basic aim of the Government's regulations of fees set by UNS institutions has been to ensure that all students that meet required entry standards (as determined by individual institutions) undertaking a basic professional qualification (in most cases a bachelor degree) are HECS-liable rather than being required to pay upfront fees. In line with this principle, the Government has concentrated its funding efforts on increasing the domestic undergraduate intake. To provide incentives for institutions to expand university places further and to give students opportunities to purchase a place, the government has also given institutions greater freedom to charge fees in different segments of the higher education market. Fees now apply to overseas students and those undertaking non-award courses, with the Government making no direct contribution to the cost of these courses. In addition, institutions have been given greater freedom to apply fees to postgraduate and graduate students (appendix 2).

At the time of the 1996–97 Budget, the Government announced a further fee deregulation initiative. From 1998, universities will be able to charge up to 25 per cent of domestic undergraduates enrolling in courses upfront fees.

This section comments briefly on two areas where there is scope to improve institutional fee setting arrangements — charging arrangements for second undergraduate degrees and for domestic undergraduates.

#### **Charging arrangements for second undergraduate degrees**

With the exception of the over-quota market for domestic undergraduates, which is to become operational next year, universities are precluded from charging students undertaking undergraduate degrees. Yet, as discussed in appendix 3, study beyond a first degree is likely to provide a diminishing social return on the public investment represented by the subsidy. Greater scope for institutions to charge fees to students undertaking study beyond a first degree, including a second degree or additional study units towards a combined degree, would



improve access to higher education for new students and target the existing subsidy more cost-effectively.

This initiative would also remove an inconsistency with other fee policies. More specifically, institutions are able to charge most graduates full fees if they undertake graduate or postgraduate studies. However, if the same student were to undertake further undergraduate studies, an institution is precluded from charging that student.

### **Charging for domestic undergraduate award courses**

From 1998, higher education institutions will be able to directly charge upfront fees to 25 per cent of the total enrolment of domestic undergraduates in all courses, except medicine. However, to preserve opportunities for entry to courses on a HECS liable basis, institutions will be required to fill their target load of HECS places before offering fee-paying places. At a minimum, institutions will be required to charge fee-paying students the equivalent of the relevant differential HECS charge.

In principle, this fee initiative would seem sensible — full fees are, for example, paid by overseas students. Moreover, this initiative removes the inequity of excluding Australian students who are willing to pay for a place while providing fee-paying places to overseas students. It also provides greater choice for undergraduate students as they may be able to purchase a place in institutions and/or courses from which they may otherwise be precluded. However, a loan scheme has not been included as part of this new initiative.

The lack of a loan scheme severely limits the potential benefits from the new initiative because, in practice, it provides an option that can only be exercised by those who can secure the necessary financial backing. It clearly provides only very limited access for students from less advantaged backgrounds. In commenting on these issues, Chapman and Salvage (1997, pp. 18–19) observed:

When higher education financing policy is one in which access is increasingly determined by the ability to pay, and decreasingly determined by the capacity and motivation to learn, many able but poor prospective students are likely to be excluded. This wastes talent and is thus poor economics. Perhaps most importantly, having up-front fees without an appropriate loans mechanism means a greater entrenchment of the nexus between one's socio-economic background and future life opportunities; this has to be poor policy for those who believe in equality of opportunity.

The Commission's agrees with this assessment, and considers that it would be highly desirable to make loans available to domestic fee-paying students.

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## **APPENDIX 6 PERFORMANCE-BASED FUNDING — SOME KEY ISSUES**

The institutional block grant currently used to deliver most of the public funds to public higher education institutions is largely determined on the basis of the size and mix of an institution's agreed student load, with limited regard to efficiency and/or effectiveness. Under a performance-based funding mechanism, part or all of the block grant would be allocated to each institution in line with its performance in key areas. The more 'efficient' and 'effective' providers would gain a growing proportion of public funding. In this way, performance-based funding would promote an indirect form of competition between providers.

The previous Government's White Paper on Higher Education (Dawkins 1988b, p. 85), flagged an intention to develop a funding system designed to respond '... to institutional performance and the achievement of mutually agreed goals' that took '... into account a range of output, quality and performance measures ...'. However, to date, performance measures have only been used to a limited degree — as the basis for funding of quality assurance and equity programs, and for distributing some research funds (ie the research quantum). Experience in these areas has been relatively successful. Clearly, there is scope to apply performance funding more broadly and, in particular, to teaching, the dominant component of the institutional block grant.

This appendix examines some key issues relating to the development and use of a performance-based funding mechanism. Some broad benefits from adopting such a mechanism are outlined in section A6.1. The main elements of a framework for performance measurement and monitoring are outlined in section A6.2. Some additional design issues for a performance-based funding mechanism are discussed in section A6.3. Finally, some broad principles for linking funding to performance are summarised in section A6.4.

### **A6.1 Benefits from performance-based funding**

The adoption of a performance-based approach to the delivery of some or all of the public funding for higher education institutions offers a number of potential advantages over the present arrangements.

First, the process of developing and reporting performance measures would require clarification of the objectives underlying public funding of these institutions and the desired outcomes associated with such funding. This process would make more explicit the expectations of government — as one of the

purchasers of services. This would help to make performance more transparent and strengthen accountability.

Second, the information obtained from the performance monitoring system could be drawn on and used to reinforce the wider dissemination of 'best practice' approaches to teaching and learning.

Third, the collection and reporting of performance measures would also provide useful information to students and other groups in the community about the quality and effectiveness of outputs produced by individual higher education institutions.

Lastly, by identifying performance differences, it could form the basis for developing performance incentives to encourage institutions to focus on improving their performance over time.

All but the last of these benefits could be obtained by simply introducing a performance measurement and monitoring system to complement the existing funding system. However, incentives for improved performance would be considerably enhanced by formally linking funding to relative performance outcomes.

## **A6.2 Performance measurement and monitoring**

Any performance-based funding mechanism, or even a performance monitoring system, relies on the development of measures against which to judge the performance of service providers.

Performance measurement and monitoring is, of course, not new to the higher education sector. Various reviews and commentators have examined issues relating to performance measures, including their use in funding mechanisms (eg Williams 1979; Linke 1984; 1991; Bourke 1986; AVCC 1988; HEC 1996). Moreover, as a recent survey by the HEC (1996) demonstrates, a number of Australia's universities already use performance measures as a factor in allocating publicly provided funds between their operating units (ie faculties and schools).

The Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) has developed a generic framework for measuring the performance of public service providers. The framework encompasses measures of both efficiency and effectiveness. These measures recognise that service providers (including universities, although they are not currently included in the Review) have multiple objectives and offer a range of services (SCRCSSP 1995, 1997a,b).

Efficiency generally relates to organisations' use of resources in producing services. This can be measured in terms of the quantity of output relative to inputs or on a cost basis. In general, the lower the inputs for a given level of outputs the greater the efficiency. Effectiveness reflects how well the outputs or services of an organisation achieve their stated objectives. Effectiveness normally encompasses a number of different dimensions of a service. From the perspective of (say) the teaching function of universities, relevant dimensions of effectiveness could include:

- appropriateness — do services match clients' needs? This could be assessed in terms of how satisfied students, employers and staff are with the teaching process and how well places supplied match demand for those places;
- accessibility — how easily can university services be accessed by students, particularly those students traditionally under-represented at university (eg socio-economically disadvantaged groups)?
- quality — the degree of excellence in service provision (often a particularly challenging dimension of service to assess). It could relate to excellence in teaching and efforts to improve quality standards; and
- outcomes — the key results arising from providing a service. It could encompass various dimensions such as pass and completion rates, student learning outcomes in terms of value-added to their skills and the time taken for graduates to find employment.

For illustrative purposes, a selection of efficiency and effectiveness measures is summarised in table A6.1. None of the measures represents a perfect measure of performance. Each provides useful information, but also has some drawbacks. For example, teaching expenditure per student only provides a useful measure of efficiency if the quality of teaching is similar. Interpretation of this indicator would require additional contextual information, such as the learning outcomes achieved and the composition of the student body.

Table A6.1: An illustrative selection of performance measures for universities

Measure	Definition	Some examples
<b>Efficiency</b>	Ratio of outputs to inputs	<ul style="list-style-type: none"> <li>• Teaching expenditure per student</li> <li>• Student to staff ratios</li> <li>• Asset utilisation rates</li> </ul>
<b>Effectiveness</b>		
Appropriateness	Do services supplied meet client needs?	<ul style="list-style-type: none"> <li>• Student/employer/staff satisfaction</li> <li>• Non-completion rates</li> </ul>
Access	Ability of students to use the university	<ul style="list-style-type: none"> <li>• Flexibility of course timetables, content and location</li> <li>• Representation of target equity groups in the student body</li> <li>• Credit transfer arrangements and cross-institutional offerings</li> <li>• Remote learning options</li> </ul>
Quality	Degree of excellence	<ul style="list-style-type: none"> <li>• Entry scores</li> <li>• Perceived quality and relevance of teaching (student and peer review)</li> <li>• External student awards, prizes and scholarships</li> <li>• External course accreditation</li> <li>• Teaching excellence awards</li> </ul>
Outcomes	Service results and the ability to add to students skills and knowledge	<ul style="list-style-type: none"> <li>• Progression or retention rates</li> <li>• Student completion rates</li> <li>• Employment rates</li> <li>• Graduate starting salaries</li> </ul>

*Sources:* Derived from SCRCSSP 1995, 1997b; and HEC 1996.

Many practical matters must be addressed in developing a set of performance measures. For example, their usefulness depends on having good information and data. But information on some aspects is scarce. For instance, the output of one part of the education process (eg secondary schools) is often an input for subsequent parts (eg higher education) and can affect the capacity of these downstream activities to add value. Thus, numeracy and literacy skills gained at primary and secondary schools are essential for higher education. Quality assessment presents another problem because it is often difficult to quantify and involves subjective judgements. Further, associated data can be costly to obtain and hard to verify. These transactions costs need to be kept in mind in developing performance measures.

Some aspects of performance may be complementary, while others may conflict. For example, universities may be able to progress students through the system quickly, but at the cost of a poor education which, amongst other things, may impair their effectiveness in the workplace. Similarly, better research may mean institutions pay less attention to teaching activities. As a rule, the more diverse the range of outputs, the less useful will simple output indicators be for assessing providers and the level of services received by clients. Thus, a suite of measures is needed to judge performance adequately.

However, using a suite of measures adds to the complexity of the system, particularly if an overall assessment requires that weights be attached to each measure. The weights applied to particular indicators could be applied system-wide as with the research quantum or be adjusted to better reflect the priorities agreed for individual universities. There are obviously trade-offs between setting a system-wide standard and seeking to reflect variations between institutions arising from product-based differences between them.

According to Ashworth (1994, p.5), the ‘touchstones for any performance funding system should include availability of data, simplicity, and flexibility to measure performance...’. The HEC (1996) and SCRCSSP (1995 and 1997a,b) have made similar observations. Some useful principles to follow in developing performance measures are summarised in box A6.1.

#### Box A6.1: Principles to follow in developing performance measures

1. Set out clearly the service objectives and broader policy goals underlying the funding of higher education.
2. Consult with students, employers and service providers.
3. Keep the number of performance measures to a manageable size.
4. Adopt a set of performance measures that reflect the effectiveness of the service relative to key objectives and overall levels of efficiency.
5. Collect adequate contextual information so that the value added by each service provider can be assessed from the performance measures.
6. Be mindful of the costs as well as the benefits of collecting performance measures.

*Sources:* Drawn from SCRCSSP 1995, 1997a,c.

### A6.3 Some additional design issues

A number of additional issues need to be addressed in developing a performance-based funding mechanism. Three key issues include: the scope of performance funding; the method of allocating performance funds; and the extent of control exercised over the use of performance funds. These issues are addressed below.

## **The scope of performance-based funding**

Some key questions to be resolved about the scope of a performance-based funding mechanism include which areas to target (eg teaching, research and/or equity programs) and whether it applies to some or all of existing base funding or only additional funds tied to system growth.

At present, the only component of the block operating grant subject to performance-based funding is the research quantum. The adoption of a more comprehensive approach would involve the extension of performance funding to other areas of the grant — notably teaching.

A number of Australian universities have elected to use performance measures to assist in the internal allocation of public funds for teaching, research and other activities. However, the use of performance funding for a sub-set of an institution's activities can have perverse effects. For example, the HEC (1996, p. 63) noted that:

The research quantum is reported to have had the effect of diverting interest from students and shifting resources in departments towards research and away from teaching.

Performance-based funding applies to teaching in a number of countries — including the Netherlands, Sweden, Denmark and, within the USA, to publicly funded higher education institutions in Tennessee (box A6.2).

The funds allocated on a performance-basis could be provided from the existing block grant or from supplementary funds. The research quantum was established by earmarking funds within the block grant for this component of funding. In Sweden, Denmark and the Netherlands, performance-based funds represent a portion of base funds. In contrast, they represent a supplement or bonus payment in Tennessee (box A6.2). Based on its survey of performance funding overseas and in Australia, the HEC (1996, p. 62) observed that 'the prospect of a relatively small prize is frequently sufficient to provoke a very substantial response'. Consistent with this assessment, performance-based funding could be applied, at least in the first instance, to a portion — say 5–10 per cent — of the existing block grant.

**Box A6.2: Examples of performance-based funding from overseas**

In the **Netherlands**, universities receive funding for students that complete their degree program in the normal time (usually four years). In **Sweden**, around 60 per cent of the base grant for undergraduates is provided to higher education institutions according to student progress rates. Output funding has encouraged institutions to take steps to eliminate avoidable failure drop-out. Moreover, it appears that this has occurred without any decline in standards. However, it may have adverse effects on access. For example, in **Denmark**, around 95 per cent of teaching funds are allocated on the basis of ‘active students’ and pass rates. According to the Head of the Danish Higher Education Division (cited in HEC 1996, p. 18):

One clear impact is that universities do not race to enrol students. The fact is that universities are reluctant to admit as many students as our government wants them to .... This reluctance presumably stems from the fact that universities prefer to enrol students who are very likely to pass.

In 1979, in consultation with institutions, the **State Government of Tennessee** began offering its publicly-funded universities and colleges a budget supplement if they achieved specified quality measures. After several revisions, the performance measures now cover accreditation of courses, assessment of student performance, student satisfaction, external review and equity goals. The funding supplement has also grown — from 2 to 5.45 per cent of the operating grant. This is offered as a bonus — institutions cannot lose any of their base operating grant. Other key features of the system are that funds: are for substantial improvements in performance against an institution’s stated goals and targets; may be spent at the discretion of the institutions; and are not offered on a competitive basis (any funds that are not allocated are returned to consolidated revenue).

The aim of the scheme has been to improve teaching and student learning and to reward good performance. While evaluations of the scheme are generally positive, it has created an additional workload for staff and there is little direct evidence that it has improved quality. Students’ test scores have not changed much and the scheme has had a limited impact on incentives for academic staff not directly involved in the measurement process.

*Source:* Derived from HEC 1996.

*The method of allocation*

Performance-based funds could be allocated competitively to institutions from a common funding pool or non-competitively at a set rate to all institutions satisfying minimum agreed standards of performance. A system of rewards



and/or sanctions could be included as an element of the allocation process in either case.

The research quantum is presently allocated on a competitive basis tied to success in attracting competitive research grants as well as other performance measures (appendix 2). The performance-based funding of teaching in Sweden, the Netherlands and Denmark is also competitively allocated. However, performance funding in the Tennessee scheme is based on meeting agreed minimum standards (box A6.2).

The method of allocation used will influence incentives and patterns of resource use within institutions. Where there is broad agreement about desired outcomes and the attributes of 'good' performance, a competitive approach is likely to be appropriate. However, where such outcomes are less clear, it may be desirable to vary the weights to recognise institutions' differing capabilities and positioning strategies.

The allocation mechanism could also include a system of rewards and sanctions. For example, institutions exhibiting 'good' performance could be given a first option to bid for growth funding linked to the expansion of teaching and/or research activities. As a further incentive to encourage better use of public funds, institutions could be allowed to retain a portion of any cost savings arising from better management and work practices.

These considerations emphasise the importance of weighing up the implications of different allocation and incentive mechanisms for the internal use of funds by institutions, as well as their wider impact on the diversity and innovativeness of institutions.

### **The extent of control over the use of funds by institutions**

Once performance funding is allocated, guidelines could be applied to their use. Alternatively, this could be left to the discretion of the institutions.

The Commission considers that institutions should have full discretion in the use of performance funds. However, this should be subject to meeting agreed outcomes as this would provide government with an effective accountability device. Indeed, a number of studies have found that institutions often adapt their internal funding and management systems to take account of the criteria included in public funding mechanisms. For example, most universities have used the relative funding model or a close variant to allocate the teaching component of the block operating grant (IC 1991; Piper 1995). Similarly, a significant number of institutions distribute the greatest part of the research quantum to the departments or faculties that secured the funds (HEC 1996).

## **A6.4 Principles and observations**

Performance-based funding offers a mechanism for focusing funding on key outcomes or outputs and promoting indirect competition between institutions. However, the design of an effective performance framework represents a highly challenging task.

Some commentators consider the practical issues associated with developing a system of performance-based funding preclude its effective operation. Some identify potential gains relative to the existing system of funding, but express concerns about the potential costs and, hence, have doubts about whether such a mechanism would produce net benefits. For others, the potential benefits are judged as being more significant. However, the Commission considers that, where it is not possible (or it is judged inappropriate) to promote competition by more direct routes (eg competitive tendering or student-based funding), performance-based funding offers a technique for promoting competition indirectly.

Clearly, the introduction of performance measures, and tying funding directly to these measures, must be done with care to avoid perverse incentives and gaming of the system. It is essential to develop robust performance measures. Structures for improved performance (including the profiles process and supporting reporting mechanisms), experience with small scale performance-based funding mechanisms and growing use of performance measures as an internal management device within institutions have laid a foundation which could support the greater use of this form of funding.

If the uncertainties about the introduction of a broadly-based performance related funding mechanism are judged to be relatively high, one option would be to conduct small scale experimental exercises to trial such mechanisms. Wider application of performance-based funding would effectively be delayed pending the outcome of such trials, which could provide useful ‘learning by doing’ insights.

Based on a review of the literature and its own experience in developing performance measures, the Commission has developed a set of principles for linking funding directly to performance (box A6.3). Prior to applying such a funding mechanism, it would be necessary to address the principles set out in box A6.1, including the clear identification of policy goals underlying the funding of higher education and the service objectives for providers.

### Box A6.3: Principles for linking funding directly to performance

1. Determine whether providers can directly control definable and measurable outcomes. If not, focus on outputs.
2. Clearly define the outputs or outcomes, including quality specifications, that are funded, paying attention to boundaries and complementarities between outputs (eg research and teaching) to limit the potential to shift costs or shave quality.
3. Determine how different client aptitudes and needs can be classified (eg students from non-English speaking backgrounds and rural and remote areas).
4. Establish robust information on the structure and level of costs across outputs (eg different courses; on-campus versus off-campus), institutions (eg urban/regional; different service categories), different client aptitudes and needs, on a neutral basis (ie include tax equivalents and capital charges).
5. Determine whether adjustments need to be made for different provider characteristics (eg scale of operations, age of capital and capital/labour mix if only funding recurrent costs).
6. Establish the appropriate cost relativities to ensure an appropriate mix of courses, and access for students that are more costly to service than the average.
7. Determine the most appropriate mix of incentives and sanctions, after considering: whether the portion of funds allocated on the basis of performance should be phased in over a number of years; who should bear the final incidence of any sanctions; and whether there are any barriers to the effective operation of rewards and sanctions (eg employment arrangements).
8. Establish the appropriate frequency for revision of the level and structures of regulated fees after considering the pace of technical change, the likely precision of cost estimates (and thus the need to revise them) and the need to offer providers certainty to foster sound investment decisions.
9. Consider conducting periodic and independent reviews of the mechanism to assess its efficiency and effectiveness.

*Sources:* Adapted from SCRCSSP 1997a,b,c.

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## APPENDIX 7 COMPETITIVE TENDERING — SOME KEY ISSUES

Competitive tendering offers a mechanism for allocating the public subsidy for teaching and related services on a competitive basis, in a way similar to much of the public funding provided for research undertaken by the higher education sector. Under a competitive tendering approach, institutions would compete directly for the right to supply teaching and related services. For instance, higher education institutions could be asked to tender for all, or a portion of, the public funds currently provided for these purposes.

Competitive tendering would involve a shift to a formal contractual arrangement for funding the higher education teaching function. This would involve a less fundamental change than may first appear to be the case. Indeed, the existing funding arrangement represents a form of contract funding — the main elements being an institution's agreed student load target set in the context of a broader educational profile and a system-wide unit cost allowance. However, the potential usefulness of competitive tendering is shaped by the nature of the good or service involved and features of the market in which they are provided. Important issues in this regard include the qualitative dimensions of education and the extent of effective competition.

As recognised by the IC (1996, p. 1) in its report on *Competitive Tendering and Contracting by Public Sector Agencies*, competitive tendering:

... is not an end in itself. It is a valuable, but currently under-utilised, option for improving government throughout Australia. To maximise its potential, it must be applied intelligently.

Competitive tendering seeks to employ competition directly to improve service delivery outcomes. The main perceived benefits include: better clarification of objectives and desired outcomes; improved transparency and accountability; and improved service outcomes (ie more cost-effective services).

The use of competitive tendering to allocate funds for enrolment growth within the higher education and vocational sectors has been canvassed by NBEET (1992). Indeed, some governments are already using competitive tendering to allocate public funds to technical education institutions. For instance, the ACT Government recently announced that, from 1998, it will operate a tendering process for the provision of \$5 million of vocational education and training services.

This appendix briefly discusses some key issues relating to the use of competitive tendering to allocate public funds for teaching in the higher education sector.<sup>1</sup> A number of issues relating to developing a tender process are examined in section A7.1. Two key elements to managing service providers are addressed in section A7.2. Barriers to the application of competitive tendering are discussed in section A7.3. Finally, some broad principles to follow in applying competitive tendering are outlined in section A7.4.

## **A7.1 Developing a tender process**

There are four main elements to developing a tender process — service specifications, the size and scope of the contract, contract length and the form of the tender. The effective design and management of each of these elements is important if the potential benefits of competitive tendering are to be realised.

In principle, it would be desirable to allow all existing and potential higher education service providers (including private institutions) to participate in a competitive tendering process. However, this would require the higher education sector to address competitive neutrality issues to ensure that public and private providers were able to compete on an ‘equal footing’. Issues relating to the operation of not-for-profit and profit-making institutions would also need to be addressed if competitive tendering was applied beyond the existing UNS institutions.

### **Service specifications**

The service specifications provided by the purchaser (ie government) for any tendering process comprise the primary source of information for service providers (ie higher education institutions). To ensure the service meets the expectations of the various stakeholders, it is crucial that the expected service outcomes are clearly specified. It is also important that program and policy objectives are made explicit and that they are related to the desired outcomes. To achieve these ends, the purchaser needs to develop a systematic approach to considering client views, as well as those of service providers.

The specification of service requirements could be achieved by documenting required process characteristics or desired performance attributes. Process characteristics are typically input related, whereas performance attributes are

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<sup>1</sup> A detailed examination of the benefits and costs and implementation issues associated with competitive tendering is contained in the IC (1996) report on *Competitive Tendering and Contracting by Public Sector Agencies*.

typically output or outcome focussed. In general, it is better to outline desired outcomes or performance levels and allow providers to outline how these desired results could be best achieved. This approach allows providers to consider alternative processes and approaches. It also supports innovation in service delivery.

The current educational profile process does not meet this latter criterion. The bulk of block grant funds are allocated to providers on the basis of an agreed student load rather than desired outcomes relating to the delivery of the teaching/training function.

Many of the desired outcomes which would need to be included in the tender specification could draw on performance measures like those outlined in appendix 6. Drawing on its existing knowledge of the services provided by higher education institutions and experience in funding these services, DEETYA would have a number of options in setting up a formal competitive process for allocating public funds to teaching. For example, it could specify:

- the total amount of funds available and the minimum acceptable quality of outputs, with providers competing on quantity and quality (above a prescribed minimum) and, thus, partly on unit cost;
- the unit cost and quantity of outputs (and thus a fixed level of funding), with providers competing on quality;
- the quantity and quality of outputs, with providers competing on unit cost; or
- the unit cost, with providers required to accept all clients meeting agreed admission requirements, and competing on service quality.

Thus, DEETYA could seek to promote direct competition on the basis of quantity, quality and unit cost. Alternatively, it may elect not to seek competition in some of these dimensions. In these circumstances, it could specify the desired or acceptable parameter value (eg unit cost per student) and encourage competition in the remaining areas.

### **Contract size and scope**

The size and scope of a contract is important to a successful tender process. Broadly specified contracts that group the delivery of a number of services (say delivery of courses in all disciplines and a range of other student services) into one contract gives bidders the potential to offer innovative solutions regarding the integration of related or complementary services. This approach also provides greater scope for institutions to achieve the benefits of large scale operations and consider opportunities for collaboration in meeting service requirements. On the

other hand, a broad based approach would reduce competition if it locked out smaller specialised institutions from the process. Many of the private universities and colleges are considerably smaller (in terms of student numbers and course offerings) than most UNS institutions. Similarly, the purchasing process may need to allow for consortia bids that allow suppliers to offer specialised courses using expertise across a range institutions. Cooperative solutions would be a natural extension of current articulation and infrastructure sharing arrangements and may provide opportunities for considerable cost savings.

In developing tenders, the implications of the spatial distribution of suppliers for the scope of the contract needs to be addressed. In this context, tenders could be organised on a geographical or zonal basis with the aim of promoting economies in the supply as well as the distribution of services.

The introduction of contracts could be linked to making funding of growth beyond existing agreed targets contestable. Alternatively, a portion of base funding — say 10–20 per cent — could be subject to tendering.

### **Contract length**

In determining the appropriate length of contracts, the government — as the purchaser — needs to balance a number of considerations. Short contracts provide opportunities to revisit service specifications, ensure flexibility in responding to changing needs and resources, and provide opportunities for new providers to emerge. They may also carry less risk of inadequate performance, particularly in service areas where it is difficult to monitor quality. Longer term contracts give providers greater opportunities to invest in developing staff, courses, teaching processes and physical facilities. They also provide greater certainty for students and staff. These features of longer term contracts may provide stronger incentives for improvements in service quality and effectiveness and/or reductions in service costs.

While some higher education institutions are funded by the Commonwealth Government on an annual contract basis, the bulk are funded on a rolling triennial basis with opportunities to re-negotiate aspects of the profile as the need arises. A similar approach could be adopted with a competitive tendering process. However, provision needs to be made for re-negotiation in response to changing policy priorities and significant unexpected developments.

### **The form of the tender process**

As a part of the tender process it is useful to include the relevant evaluation criteria and associated ranking or weighting system in the tender documentation.

This assists tenderers in preparing their tenders and also enhances the objectivity of the tender process.

At a broad level, there is a choice between selecting a single or multi-stage tendering process.

In a single stage or open tender process, bidding institutions address the full range of selection criteria and conditions specified in the tender. An open tender may maximise the number of potential participants, but it can impose significant cost burdens on bidders and the contracting agency.

A multi-stage tender process enables shortlisting of bidders through an initial expression of interest. This allows the purchaser to undertake a preliminary evaluation of the bids with a view to inviting a smaller number of bidders to prepare a full tender. This approach has the advantage of leaving the purchaser with a more manageable number of tenders to evaluate. In addition, institutions with limited prospects of ultimate success are spared the cost of preparing a full tender.

Multi-stage tendering is likely to be more effective in higher education because:

- outcomes and quality are difficult to define accurately;
- the service requirements are relatively complex — there may be several alternative approaches to particular tasks; and
- service providers vary considerably in focus as well as in skills and capabilities.

## **A7.2 Managing service providers**

Any competitive tendering mechanism needs to incorporate performance indicators against which to assess outcomes and the ongoing performance of the service providers. Beyond this, it may be useful to develop an incentives framework to encourage service providers to improve their performance.

Performance monitoring is an important element of any purchase-provider arrangement and should be closely linked to the agreed service specifications. At the same time, the performance monitoring process needs to be well focussed to ensure that providers are not burdened with unnecessary costs.

Competitive tendering arrangements could also incorporate an incentives framework to reward good performance and penalise poor performance. Examples of potential rewards/sanctions in the context of higher education funding arrangements include increasing or decreasing the rigours of performance monitoring, providing bonus payments or applying penalties,



allowing providers to retain a portion of any cost savings they realise, and expanding or reducing the value of future contracts.

### **A7.3 Barriers to the application of competitive tendering**

The aim of competitive tendering is to employ direct competition between service providers to improve service delivery outcomes. The tender process and conditions in the market for higher education are important factors influencing the likely success of tendering.

In this context, a number of factors are relevant including genuine rivalry between suppliers, absence of collusion between bidders and the attributes of the good or service.

The higher education market and post-secondary school education market are characterised by a relatively large number of potential bidders. While there are legislative barriers to new entrants to parts of the market, including the university market, many segments of the market are potentially highly competitive. In some cases, spatial factors may limit the scope of effective competition faced by regional universities, although more flexible learning packages such as Open Learning impose some competitive disciplines on these institutions. In other cases, government policies circumscribe the competitive process somewhat. For example, public subsidies for teaching only apply to UNS institutions. From a competitive neutrality perspective, it would seem appropriate for governments to review the merits of these arrangements.

Collusion between bidders can significantly undermine the benefits associated with competitive tendering. The university system is characterised by both cooperative and competitive activities. Thus, there is scope for collusive behaviour. For example, in the US, there is some evidence of higher education institutions engaging in price fixing (Rothschild & White 1993). In the UK, a competitive tendering scheme for university places was abandoned due to the uniformity in the bids received, while a scheme covering the polytechnic sector was found to be successful (box A7.1).

The UK experience suggests that it may be advisable to introduce tendering with only a small pool of funds or services. The pool could be progressively expanded as service providers and the government acquired greater experience with a formal contracting approach. The UK experience also reinforces the importance of developing an effective tender process.

**Box A7.1: Competitive tendering — the UK experience**

A proposal to put all university students places out to tender within the UK from 1994–95 was abandoned following the receipt of (almost) uniform bids. By contrast, 5 per cent of the polytechnic and colleges budget was opened to competitive tender in 1990–91. Bids varied considerably and, in light of the initial success of the scheme, 10 per cent was put out for tender the following year. So successful was the scheme that, in 1992–93, the polytechnics and colleges sought relief from the rigours of the competitive bidding process.

There were some important differences between the two schemes. A key difference was the size and scope of the contracts. The proposed university scheme covered all student places and appeared to threaten the very existence of some universities. Hence, it was rational for some universities to devote time and resources to seek to neutralise its effects. The design of the university scheme was also relatively complex, which may have encouraged uniform bidding.

*Source:* Cave, Dodsworth and Thompson 1992, pp. 100–101.

The potential benefits available from competitive tendering are also affected by the nature of the service involved. In general, competitive tendering is likely to be most effective if the desired attributes of a service can be specified with relative precision, the production process is relatively simple, and where the overall market is likely to remain relatively stable over the contract period. Examples of services readily meeting these pre-conditions include: refuse collection; cleaning services; energy distribution and public transport. However, somewhat more ‘complex’ services like prisons, home and community care and aspects of education and training have also been successfully subject to competitive tendering.

Within higher education institutions, the potential benefits from competitive tendering are likely to be greater for courses where contract specification and assessment of outcomes are relatively uncomplicated (ie for standardised courses). While contract specification and measurement problems may lessen the benefits for less standardised courses, these factors would seem unlikely to significantly limit the overall usefulness of tendering. Even so, careful specification and evaluation of tenders is needed to avoid creating obstacles to product and process innovations and other forms of product differentiation. Beyond this, it is also important to structure the tender process to take account of supply costs in different locations relative to prospective student loads so that costs of supply and provision are jointly considered.

## A7.4 Some broad principles

A competitive tendering process offers an avenue to open the higher education market up to more direct competition and, in the process, yield improvements in service delivery. However, to be effective, the tendering process must be well designed and intelligently applied (IC 1996). As part of a broad investigation of the practice of competitive tendering, the Commission has identified some key principles to help users develop an approach to tendering. These principles — which are summarised in box A7.2 — are also relevant to higher education.

### Box A7.2: Some key principles to follow when applying competitive tendering

1. Specify the service objectives in clear, accurate and easy to follow terms.
2. Consult both the clients (or their representatives) and service providers in preparing the specifications and other aspects of the tender documentation.
3. Adopt performance-based specifications wherever possible.
4. Use industry-wide standard forms of tender documentation (including contracts) and standardised tender processes where possible.
5. Select a type of contract appropriate to the characteristics of the service and nature of the market.
6. Include an appropriate mix of incentives and penalties when specifying the service contract.
7. Consider incorporating dispute resolution procedures which reduce the need and likelihood of court action into the service contract.
8. Identify the risks involved in any contractual arrangement and allocate these risks to the party best able to manage them.
9. Use multi-stage tendering whenever feasible and shortlist as quickly as possible.
10. Allow adequate time for bid preparation and between tender stages, taking into account the scope and difficulty of information requested from tenderers.
11. Seek no more than the information required at each tendering stage.
12. Publish tender evaluation schedules as early as possible, and adhere to them.

### Box A7.2: (Cont'd)

13. Specify the selection criteria to be used in the tender evaluation and rank them in order of importance in tender documentation.
14. Consider employing an independent auditor on the evaluation panel and undertaking a probity audit of the tendering process.

*Source:* Adapted from IC 1996, p. 41.



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## APPENDIX 8 DEMAND-BASED FUNDING — SOME KEY ISSUES

Competition is being increasingly embraced in a wide range of areas, including infrastructure and social services, as a means of promoting better outcomes. Specific examples include reforms in areas such as public transport, electricity, telecommunications and health services. In primary and secondary education, various governments have facilitated competition by allowing public schools to accept students from outside defined ‘catchment’ areas and directing public subsidies to private providers.

In higher education, recent and announced reforms have seen a growing share of university incomes derived from private sources. The introduction of the HECS, the expansion of full-fee paying places for foreign students, the introduction of full fees for some postgraduate courses, commercialisation of various activities and, from 1998, the capacity to admit full-fee paying domestic undergraduate students all point to a growing market orientation within the sector and a shift in funding from taxpayers to users.

Similar trends are apparent in a variety of developed countries. According to the OECD (1990, p. 3):

In many OECD countries the 1980s has been a decade of rapid and quite radical changes in the pattern of financing and control of higher education systems. Key factors behind these changes are strong limitations on central public funds, increased reliance on the market, trends toward decentralisation and greater openness to community needs, and claims for greater institutional autonomy. By now many governments see financial schemes and incentives as a more effective way of steering developments in higher education institutions than direct administrative intervention.

This appendix examines options for increasing the efficiency and effectiveness of Australia’s higher education system by placing greater reliance on a decentralised market-oriented approach. Key elements required to link institutional funding more closely to student demand are discussed in section A8.1. Section A8.2 examines the pros and cons of a shift toward student-driven funding, while section A8.3 discusses factors that impinge on the ability of this approach to deliver better outcomes. Equity and research issues are addressed in section A8.4.

## **A8.1 Key elements of a demand-based funding model**

Demand-based funding can improve the performance and student orientation of higher education institutions by placing greater reliance on competition and the capacity of prices to reflect differences in the cost and perceived value of different courses. It links public contributions to the performance of these institutions (judged from a student's perspective) by attaching teaching subsidies to student enrolments at particular institutions. In this way, the distribution of tuition subsidies reflects student valuations and choices — recognising that education is a significant investment for students, primarily, in earnings foregone in delaying their entry to the workforce. Consequently, they have a significant interest in the overall cost and quality of the teaching services they receive.

Demand-based funding gives institutions greater freedom to determine the price, quantity and the range of services offered in response to student demands. It involves:

- linking tuition subsidies to individual students;
- removing restrictions on the number of subsidised students each institution can enrol;
- allowing institutions to determine their own fees; and
- allowing full portability of tuition subsidies (ie giving subsidised students that satisfy entrance requirements an unrestricted choice of institutions and courses).

A system of funding in which subsidies to higher education follow and reinforce student demand has found support among various commentators, both overseas (eg Friedman 1955, 1980; Blaug 1972; Crew and Young 1977; West 1988, 1997) and domestic (eg Hogbin 1988a; Blandy & Sloan 1988; NCA 1996; Karmel, 1991, 1995, 1996, 1997a,b). Discussion has generally occurred in the context of education 'vouchers', but variations on this theme include proposals for 'fee remission entitlements', 'tuition scholarships' and 'learning entitlements'. In what follows, the term 'portable scholarships' is used to cover these options.

In some respects, a shift from the current funding system to a portable scholarship system would involve only minor administrative changes. Universities are already paid a teaching grant on the basis of student load (amounting to around \$4.4 billion this year). West (1988, 1997) has noted the growing use of payment systems in which 'funds-follow-the-student' and has suggested that these might be seen as a de-facto voucher arrangement. However, while this is an important feature of demand-driven funding, it is only one of a number of measures needed to promote competitive service delivery. It needs to be complemented by action to remove restrictions on student intake, pricing and

the range of eligible education providers, all of which can limit competitive pressures and reduce the potential gains from linking scholarships to students.

Karmel (1997a,b) has outlined in some detail how a system of student scholarships might operate within Australia. An overview of key elements is provided in box A8.1. However, a variety of options are available for the ultimate design of a portable scholarship scheme, with differing implications for the cost, flexibility, diversity, efficiency and perceived fairness of the system. The ultimate form and impact of a portable scholarship system would depend on decisions about the following five key elements.

- **Number of scholarships**
  - a fixed number each year?
  - a proportion of the population or a target group within the population?
- **Criteria for scholarship eligibility**
  - merit-based?
  - means-tested?
  - available for second and further degrees?
  - available to Australian residents only?
- **Value of scholarships**
  - fixed?
  - proportion of course fees?
  - capped or uncapped?
  - uniform duration?
  - duration linked to scheduled course length?
- **Degree of institutional fee autonomy**
  - partial regulation — prescribed fee bands?
  - full autonomy — no fee controls?
- **Degree of scholarship portability**
  - accredited public universities only?
  - accredited public and private providers, including equivalent or all accredited TAFE courses?
  - redeemable at recognised overseas universities?

**Box A8.1: The Karmel higher education scholarship proposal****Value of scholarships**

- Varies with course costs, but should be set to promote efficient resource allocation.
- On current course costs, would vary from \$5 000 per annum for less expensive courses to \$13 500 per annum for the most expensive courses.
- Average scholarship value determined to be equal to current average subsidy per full-time student equivalent.

**Number of scholarships**

- Could be linked to demographic changes by setting the number equivalent to a proportion of a cohort (eg 40 per cent of 18–24 year olds); or
- Could be linked to tertiary entry scores with appropriate provision for mature age entry (eg access to a scholarship would be granted to all those above the 50th percentile); or
- Could be varied at the government's discretion.

**Allocation of scholarships**

- Awarded on a national ranking basis in response to student applications.
- Provided to students entering the higher education system for the first time.
- Provision for entrants from secondary school and mature age or special entry with scope for a tranche provided direct to universities for special cases or to meet regional needs.
- Scholarships would be of limited tenure (say, for a maximum of 5 or 6 years), beyond which students would be required to pay in full for further study.
- Unsubsidised university students eligible for scholarship after displaying successful performance.

**Fees**

- Universities have full autonomy over fees (against which the scholarships would be offset).
- HECS deferral and repayment arrangements would continue to apply up to a specified margin beyond the value of the scholarship.

**Transitional arrangements**

- Current funding arrangements would apply to students enrolled prior to commencement of the scholarship program; or
- Transitional scholarships awarded for partially completed degrees.

*Source:* Karmel 1997a,b.

**A8.2 Potential implications of a demand-based approach**

A degree of competition already occurs within the current system. Universities compete for the best students — because they are most likely to enhance the reputation of the university, are often easier to teach, and can confer benefits on other students (Rothschild & White 1995). Many students compete for their preferred university through their performance at secondary school — yet for



those that miss out on a place at their preferred university or in their preferred course, there is currently little scope to gain entry.<sup>1</sup>

Against this background, for most students and institutions a portable scholarship system might not result in a radical departure from current enrolment and funding patterns. But, at the margin, a move to a portable scholarship system could have important effects. Students would have greater scope to influence the nature of courses offered by institutions in terms of attributes such as price, teaching methods and quality. Similarly, institutions would have greater freedom to respond to these preferences and adapt course offerings accordingly. This enhanced flexibility and responsiveness could deliver considerable benefits.

While proponents of a demand-based system highlight the potential gains such an approach might bring, others point to the potential costs, and question whether the structure and characteristics of the higher education market lend themselves to effective competition, and the realisation of net gains. These issues are examined below.

### **Expected benefits**

Demand-based approaches to funding the teaching activities of universities are directed at promoting efficiency and dynamism within the sector. Allowing prices to reflect the cost of providing particular courses and students' valuations of those courses and teaching techniques would give important signals to universities about how to allocate their resources so they provide the greatest benefit to participants.

Demand-driven teaching also increases incentives to adopt new and better methods of teaching that can enhance the educational experience of students and/or allow universities to reduce their costs.

Harrison (1993, p. 32) notes that:

The outcome would most likely be a greater variety of offerings, as each university strove to find a market for its services and to match the vast diversity in student circumstances, abilities and interests. The appropriate mix of subjects and qualities would then be determined by market demands, resulting in a more diverse and responsive system.

Proponents of demand-driven funding for higher education point to a range of potential benefits.

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<sup>1</sup> From 1998, students that fail to get into their preferred course/institution may be able to buy a place. However, this would mean relinquishing the tuition subsidy that most would otherwise be entitled to. This significantly constrains mobility.

- **Students, who bear significant costs in undertaking education, would have a more direct influence over the range and quality of course offerings**
  - this could underpin more effective communication of labour market needs to training institutions, through the students themselves and through incentives for greater liaison between universities and industry aimed at identifying and anticipating employment and skill needs;
  - institutions would have greater incentives to be responsive to student needs and values; and
  - the need for bureaucratic (and administratively costly) approaches to funding would be reduced.
- **Public universities would face greater competitive pressures and rewards**
  - funding would flow to those courses and institutions offering the most attractive combination of price, quality, flexibility, facilities, convenience, etc;
  - there would be greater scope for institutions to offer higher quality courses in response to student demand;
  - increased scope would exist to attract and retain high quality staff;
  - incentives for institutions to specialise in courses that they can provide at lower cost or higher quality than competitors would be greater; and
  - there would be greater incentives and scope for innovation, including development of new techniques and imitation of best-practices.
- **Increased transparency**
  - cross-subsidies between courses and institutions that were not consistent with demand and cost considerations would become more transparent and would need explicit justification; and
  - government intervention in support of particular courses or institutions would be explicit.

Demand driven approaches have been emphasised as a means of promoting and rewarding excellence within the higher education system. For example, Milne (1996) highlights the difficulties of maintaining adequate career paths for talented academics in Australia under current pricing and funding constraints, and the tendency for this to lead to a ‘brain drain’ to the UK and North America. Concerns that academic salaries are currently too low to attract and hold high

quality staff, particularly within vocational disciplines, are echoed by Karmel (1997a); Coady (1996); Nicholls (1996) and others in the academic community.

Removal of fee controls would permit greater flexibility in the pricing of different types of courses and also provide institutions with greater freedom to develop effective remuneration packages for good staff, subject to students being prepared to pay a premium for entry to an institution offering better instructors and better education. Conversely, institutions offering lower quality instruction, or a less attractive education ‘package’, would face pressure to lower tuition fees or improve their performance.

Nevertheless, there are fears that a move to a demand-driven approach might have some undesirable effects. These are examined below.

### **Potential costs**

Potential costs or difficulties associated with increasing the market discipline faced by higher education institutions have been raised by various writers (Sale 1992; Albrecht and Ziderman 1992; Nicholls 1996; Carnoy 1997; Karmel 1997a). The key ones include:

- the possibility that students do not have sufficient information to make informed choices;
- the potential for low student demand and high-cost courses to be discontinued, even though there may be important external (society-wide) benefits associated with the courses;
- planning difficulties and uncertainties facing institutions as a result of variations in student demand;
- the possibility that teaching quality and research may suffer if institutions become more attuned to student demands;
- threats to the viability of institutions that are heavily reliant on the cross-subsidies generated under the current system; and
- the potential for abuse of market power, reflected in significant fee increases and reduced student access.

These potential problems are discussed below.

#### *The possibility that students do not have sufficient information to make informed choices*

Within the existing market for higher education, educational institutions, industry groups and client based groups (eg the Graduate Careers Council of Australia) provide a variety of information services to assist students in making decisions

about courses and institutions. Students also rely on a number of informal information sources, including parents and friends.

While the extent and quality of information about institutions varies, there is clearly a considerable body of readily accessible information on career paths, necessary qualifications, course offerings, accreditation by professional or industry groups, quality of institutions, and ancillary information on course and living costs. Within a market where opportunities for competition are being enlarged, institutions and client servicing groups will have considerable incentives to identify new information needs and seek to satisfy them. For example, institutions seeking to demonstrate 'quality' in terms of acceptance of their courses, good teaching techniques and learning outcomes would have an incentive to participate in course accreditation and quality assurance programs involving professional groups and peer assessment. Similarly, they would have an interest in demonstrating high levels of satisfaction amongst their graduates in terms of teaching techniques and learning outcomes, as well as employment.

In this context, it is not readily apparent that the existing arrangements would fail to serve the information needs of students adequately. However, if a move to student-based funding were initiated, it may be useful for government to monitor the performance of the various information agents relative to identified student needs and assess whether there was a need to improve information flows.

#### *The potential for low student demand and high-cost courses to be lost*

Under a demand-based funding system, low demand and high-cost courses will undeniably experience greater pressure in attracting, or even retaining, resources. In fact, one of the advantages of such a system is that it puts pressure on universities and their administrators to examine the revenue and cost relationships for different courses and allocate resources to activities whose value to students exceeds their cost of supply.

It is important to recognise that decisions about the teaching and research activities of universities are not just demand driven, they also have regard to interdependencies between activities. To the extent that some courses are complementary to others, there will be scope for institutions to carry courses that are not in high demand and/or have relatively high costs. Some courses may, in effect, be an input to a wider program that is highly valued, making it feasible for institutions to cross-subsidise lower demand and/or high-cost units. The use of cross-subsidies to finance a wider range of courses has parallels with the strategies of commercial entities, such as the way that shopping centres find it profitable to support child care services or department stores find it profitable to provide 'marginal' services to enhance their overall attractiveness to customers.

Similar interdependencies are likely to exist between teaching and research activities. For example, Nerlove (1972, p. 201) suggests that ‘... a range of research and teaching activities are mutually supportive and more efficiently carried on (using fewer scarce resources) together than apart’. In cases where this is true, competition is unlikely to drive out courses and activities that contribute to synergies within the university environment.

There are some areas in which the private interests of students may not coincide with wider community interests — certain courses such as (say) Philosophy and English Literature may be under-valued in the marketplace, yet their existence may be seen as socially desirable. As discussed in appendix 3, if external benefits are thought to attach to particular courses there may be a case for providing explicit subsidies to the courses.

*Planning difficulties and uncertainties facing institutions as a result of variations in student demand*

A portable scholarship system could make the life of universities more uncertain because it would remove the ‘assurance’ of a minimum number of enrolments each year at a guaranteed price — although, even under the current system, some universities have not been able to fill their student load targets (DEETYA 1996c). To some extent, the increased uncertainty is the ‘price’ paid for increasing dynamism within the sector and introducing greater incentives to innovate and serve student needs. The Commission recognises that the teaching and research activities undertaken within universities have relatively long planning horizons and are likely to benefit from operational and financial predicability. However, these supply characteristics are shared by a wide range of activities which have to compete in the market place without ‘assured’ levels of demand for their goods and services. More specifically, a variety of large and research-oriented enterprises must live with considerable uncertainties about the environment in which they trade. Typically, they respond to these circumstances by engaging in market research, active marketing, competitive pricing and continuous product and process improvement. Moreover, the apparently low mobility of Australian students and relative stability of enrolment trends suggest that there are unlikely to be sizeable ‘swings’ in enrolments.

*The possibility that teaching quality and research may suffer*

Albrecht and Ziderman (1992) note the potential for a student driven funding system to lead to a drop in higher education standards. They suggest that it is likely to increase pressures on institutions to pass marginal students, or give students incentives to seek out ‘degree mills’ where the chances of passing, or obtaining better grades, are higher.

To some extent, these incentives are present in the Australian system already. While a change in the status of lecturers, from ‘pedagogue’ towards ‘purveyor of teaching services’ has understandable ramifications for the power balance between university staff and students, the current arrangements can just as easily lend themselves to the perpetuation of poor teaching practices and lethargy among both students and staff as they can to the pursuit of academic excellence.

Within a more competitive environment there would, however, be strong commercial incentives for the maintenance of academic standards. Factors that tarnish an institution’s reputation would make the job of attracting students more difficult and reduce income in the medium to longer term. However, this points to the need for effective mechanisms for communicating information on teaching and graduate performance and, in light of the long lead times often involved in establishing this sort of feedback, processes of external assessment and accreditation. Such mechanisms are important irrespective of whether the current arrangements, or portable scholarships, underpin university funding.

The scope for research activity to be diminished under a more student-oriented higher education system is also relevant. The teaching component of the operating grant currently paid to universities includes general funds for research activity linked to teaching and research training. Universities have full discretion in allocating these funds between their operating units, including the level of funds earmarked for general research. In its inquiry into *Research and Development* (IC 1995), the Commission recognised that some research was integral to good teaching practice and maintaining expertise within a particular field. Hence good teaching would necessarily imply a need for accompanying research activity. In this context, it would seem appropriate to include an element of general research funding within the value of each tuition scholarship. The issue of funding research is taken up in section A8.4.

Fels (1996) has observed that within the US higher education sector there is a tendency for students to be drawn toward the better research universities thereby reinforcing, rather than detracting from, quality research effort within universities. According to Fels, this is because the reputation of universities is often built on their research rather than their teaching — largely because the former is easier for outsiders to assess. Hogbin (1988b) has also noted this reinforcing effect.

*Threats to the viability of institutions that are heavily reliant on the cross-subsidies generated under the current system*

The potential for significant reductions in student loads at some regional universities — and associated implications for the viability of the range of courses and faculties that are currently available — is sometimes raised as an

argument against the introduction of portable scholarships (Sale 1992; Nicholls 1996). Given the demonstrated capacity of these institutions to develop market niches and take advantage of opportunities for distance education under the existing funding arrangements, the extent to which these activities and institutions would be put at risk is unclear. Nevertheless, there are likely to be some universities that expand their student numbers at the expense of others.

To the extent that some institutions might face problems in attracting sufficient students to retain a critical mass, there would be scope for governments to assist these institutions by direct and transparent means — if this were considered appropriate. At present, the cost of supporting high cost/low demand institutions is effectively hidden, hindering explicit assessment of the economic, social and regional benefits and costs of such policies. This is not to deny the possibility that, in some circumstances, it may be appropriate for some courses, or even whole institutions, to close.

*The potential for abuse of market power, reflected in significant fee increases and reduced student access*

Concerns have been expressed that a move to greater fee autonomy would enable some institutions to set ‘excessive’ fees for some courses and earn ‘excess’ profits (Marginson 1996). This could occur if some universities have market power and are able to extract a price premium from students. Perceived differences in the quality and prestige of institutions, the availability of particular courses, or the fact that significant relocation costs might be associated with bypassing a local university to attend another could all provide institutions with a degree of market power.

In practice, the market power of higher education institutions would be circumscribed by a number of features.

First, while rationing of places within universities with strong reputations can be a device for supporting tuition fees that are significantly above course costs, it is unlikely that such practices could be sustained in the long term if reputation is not backed up by actual performance. Quality commands a price premium but, if quality and reputation diverge, demand will eventually become more price sensitive. Related to this, the ability of some institutions to charge higher prices acts as an incentive to rival suppliers to compete in these relatively high price market niches. In the medium to longer term, this constrains the ability of leading universities to sustain fees at levels that are significantly above the cost of delivering particular courses.

Second, although the higher education market is regionalised, major cities normally offer several providers. As a result, the majority of students will have a

range of institutions and courses available to them, and the opportunity to identify those that represent better value.

Third, the extent of competition within the higher education market is not just influenced by the existence of rival suppliers at a particular location. Advances in information and communication technology and the continuing development of distance learning options are a further source of competitive pressure. Indeed, these developments are broadening the base of competition beyond a national to an international market.

Finally, decisions by institutions to exercise market power would be influenced by provisions within the Trade Practices Act relating to market conduct and anti-competitive behaviour. These provisions, together with the risk of government sanctions in the event of serious abuses of market power, are likely to provide strong incentives for institutions to avoid the misuse of any market power they may possess.

### **A8.3 Promoting competitive outcomes in higher education**

A demand-based funding system encourages competition and efficiency by giving students greater freedom to choose between education providers. And, by freeing up fees and student places, it gives greater incentive to institutions to tailor their teaching practices and levels of quality to demands within the student population. However, the magnitude of the benefits, in terms of more cost-reflective pricing, more relevant course offerings and greater innovation, will depend on the degree of effective competition.

The New Zealand experience of deregulation in the tertiary education sector offers some lessons for Australia. Constraints on tuition fees were removed in 1992. At the same time, the government introduced a student loan program and reduced the per-student tuition subsidy. These changes took place against the backdrop of a sector experiencing excess demand and pressures on course quality. With fee deregulation there are now much wider differences in fee levels across courses and institutions. The average level of fees increased considerably initially, in part, as a response to the reduction in the per-student tuition subsidy and the existence of pent-up demand. The fee increases have allowed universities to improve the quality of courses, fund more places (even in the face of shrinking tuition subsidies), and student participation rates have increased. Some universities are now moving to open new campuses in direct competition with established providers. The larger private contributions of students toward their tuition costs has also led to greater demands on institutions to provide quality services and to increased scrutiny of universities' costs and pricing policies.



Some concerns have been expressed about the extent to which some of the fee increases in New Zealand have reflected the use of market power by certain institutions. In part, this could be due to failure of policy initiatives in New Zealand to ensure that all obstacles to the development of effective competition were removed. To this end, all regulatory barriers to competition should be removed and measures introduced to ensure that public and private providers compete on equal terms (ie regulations and other government measures treat suppliers within the same market on a competitively neutral basis). These complementary policy initiatives were applied only partially in New Zealand.

Factors likely to play an important role in influencing the degree of effective competition in the higher education market include:

- **Student mobility**
  - Competitive pressure will be increased if students have a choice of universities and courses and are able to ‘shop around.’
  - In general it is likely that low student mobility will be less of an impediment to competition in city-based education markets where there are usually several higher education institutions.
  - Although students have tended to exhibit low levels of mobility (DEET 1993), greater use of information and communication technology and open learning systems provide growing opportunities for the university to ‘travel’ to the student.
- **Barriers to market entry**
  - It is important that government-based entry requirements for new higher education institutions are not overly restrictive.
  - Accreditation procedures provide students with an assurance that courses are appropriate and satisfy minimum standards. University level courses are accredited by the relevant academic board, sometimes in consultation with professional bodies. Private providers can only offer a course leading to a higher education award if the course is accredited under the Tertiary Education Act and the provider is authorised to provide the course. Such courses must also be included on the relevant State/Territory Register of Accredited Courses. Similar arrangements apply for accrediting vocational education and training courses.
  - While these accreditation and quality assurance arrangements promote adherence to minimum standards and help to reduce the costs to students of gaining information on service providers and courses, an appropriate balance needs to be struck between maintaining quality

standards and facilitating student access to diverse and innovative providers.

- **Competitive neutrality**

- As far as possible, public and private providers should compete on their merits and be subject to similar regulatory and other obligations.
- At present, lack of portability of tuition subsidies to private institutions and constraints on the ability of their students to borrow on the same terms as public university students are key areas of commercial inequality.
- Tax exemptions for public universities, establishment concessions and capital charge issues require further consideration in the context of the dominance of not-for-profit institutions in the higher education sector and the desirability of establishing a level playing field for all providers. As noted in appendix 5, inherent commercial advantages are enjoyed by public universities with city locations and, currently, neither city or regional public universities are explicitly required to provide a return on the valuable land and buildings they occupy.

- **Availability of information on relative performance**
  - The availability of reliable and relevant information on university performance can facilitate informed student choice and signal a potential divergence between reputation and current practice.
  - As indicated in appendix 3, the public good nature of this sort of information once it is provided can lead to under-supply by private providers.
  - Technological developments, such as the internet, can help increase the efficiency of information dissemination, thereby allowing students to gauge teaching performance and value for money more accurately.

Technological developments can be expected to increase significantly opportunities for competition and efficiency within higher education. It is likely that they will allow students to make more informed education choices, reduce the cost of ‘attending’ distant universities, and provide scope for cheaper teaching methods.

The rapid growth of enrolments under the Open Learning Initiative and scope for further improvements in the quality of distance education suggest an increased potential for these facilities to offer a flexible, low cost alternative to traditional teaching methods in many subjects. A recent evaluation of the Open Learning Initiative (CSHE 1996) found that students within the program achieved results comparable with, and in some cases better than, those obtained by students studying on campus or through distance education. While the financing of Open Learning as an add-on to the existing higher education infrastructure suggests some cross-subsidisation of it by established facilities, the direct costs associated with its operation nevertheless point to its capacity to drive price competition in some areas.

Recent moves by the University of Melbourne to establish an international consortium of universities, *Universitas 21*, also highlights the increasing scope for international co-ordination and competition in the higher education sector, made possible largely through technological development. Such consortia may have a significant impact on the complexion and relative standing of Australian universities in coming years. The university’s strategic plan (University of Melbourne 1997, p. 2) suggests that:

The world’s leading universities of the twenty-first century will be first and foremost international institutions.

Such universities will recruit and retain academic and general staff of the highest quality from around the world, attract national and international students of exceptional ability, promote high levels of staff and student interaction with other leading universities, irrespective of location and maintain curricula that are valid and relevant internationally.

Against this changing background, the design features of a portable scholarship system will have an important bearing on the degree of competition within the higher education market as well as the vocational training and education market.

Currently, students attending private institutions do not have access to the public subsidy for higher education or income-contingent loans (as provided under HECS). These represent formidable competitive disadvantages for these providers. Both private universities are fully accredited and have demonstrated a degree of innovation within the Australian system, yet pressure on public providers to emulate these innovations is muted by the substantial 'comfort zone' that the current funding arrangements provide. Allowing these and other private providers that satisfy minimum quality and probity requirements to enrol public scholarship bearing students would be a significant stimulus to competition within the higher education market.

Applying the same funding principles to TAFE equivalent courses would place public funding for equivalent study on a comparable basis. Students would have wider choices and the degree of competition between institutions would be increased. Hence, the Commission considers that the West Review should examine the merits and feasibility of extending a portable scholarship and autonomous fee regime (with provision for an income-contingent loan mechanism) to courses offered by TAFE colleges.

Other features of a portable scholarship system of relevance in this context include the number and basis for allocating scholarships, the value assigned to them and the process of implementation.

A decision about the number of portable scholarships to offer would reflect judgements about the appropriate scale of the publicly funded component of the post-secondary education sector. Clearly governments would need to determine the appropriate level of funding. Students' eligibility for a portable undergraduate scholarship could be based on their tertiary entrance scores and, in the case of mature aged entrants, their results for an admission test. Students would receive a scholarship having regard to their relative merit in national rank order. Postgraduate and merit-based equity scholarships would be allocated on much the same basis.

As previously discussed, the Commission favours an interim cost-sharing arrangement for funding higher education teaching involving a uniform proportional 50:50 split between private and public contributions for undergraduate students (appendixes 3 and 5). Accordingly, the Commission proposes that the portable scholarships would — pending more evidence on spillover benefits — cover 50 per cent of undergraduate course fees at accredited institutions, including TAFE equivalent courses. In the case of postgraduate students of exceptional ability the Commission considers that an arrangement

similar to the Australian Postgraduate Awards Scheme would continue to be appropriate. Postgraduate students meeting the eligibility criteria would receive a portable scholarship with a full fee remission.

For the undergraduate scholarships and, with full fee autonomy, the absolute value of the public and private contributions would vary in accordance with the course and institution in which a student enrolled.

The cost sharing arrangement, together with competition between accredited institutions for students, would impose disciplines on institutions in setting course fees. However, if the government were to be concerned about its exposure to unpredictable budgetary costs it could apply a funding cap to its component of the cost-sharing arrangement. To the extent that fees increased so as to trigger such a cap, students would become liable for any ‘excess’.

All students (subsidised and unsubsidised, public and private) would have the option of paying their share of the fee up-front or deferring payment. Where students opted to defer payment of their fees, they would be able to access a generally available income-contingent loan facility — similar to that available under the HECS. However, as outlined in appendix 5, it would be desirable to reform the interest charging and repayment arrangements for this loan mechanism.

The actual pattern of fees, teaching outcomes and student flows that would emerge under a portable scholarship scheme is difficult to predict. However, in view of the significant nature of the changes associated with adopting a portable scholarship/full fee autonomy approach, the Commission recognises a transition period would be necessary to address design, operational and implementation issues. The transition period would need to be carefully managed to avoid unnecessary costs and unwarranted delays. There are a number of possibilities.

A detailed planning phase could be initiated to address key design and implementation issues. A key aspect of this would involve finalising arrangements for the introduction of a full portable scholarship/autonomous fee setting regime from a specified date.

Alternatively, a formal evaluation project could be set up involving either a simulation exercise or a staged approach to implementation. The simulation exercise could involve running a portable scholarship/full fee autonomy arrangement in parallel with the existing funding mechanism, with a focus on settling design issues, identifying areas of adjustment pressure and formulating proposed responses to them.

A staged approach could involve allowing public universities greater discretion to deviate from enrolment targets (for subsidised students) and HECS-prescribed fee levels within allowable limits (say by up to 20 per cent above prescribed fee

and enrolment levels) in combination with the introduction of portable scholarships (and loans) redeemable at all accredited institutions. These constraints could be progressively modified or lifted so that after a period (say 2 to 3 years) implementation would be complete.

## **A8.4 Approaches to equity and research funding**

Government involvement in the higher education sector is partly driven by a desire to promote equity objectives and ensure adequate and effective funding of research activities (appendix 3). Moves to more market-oriented funding arrangements for the financing of higher education often generate fears in relation to equity and research funding issues. These issues are briefly examined below.

### **Equity issues**

The adoption of a demand-driven approach to financing higher education would not preclude the continuation of programs directed at addressing equity objectives relating to access and promoting equality of opportunity. Indeed, as the equity discussion in appendix 3 demonstrates, there is a need for a range of general and specific measures to address equity objectives.

Hence, there would remain scope to continue initiatives like an income-contingent loan mechanism for students who opt to defer fee payments, as well as specific equity initiatives such as the merit-based equity scholarship scheme to provide certain students with full or partial exemptions from course fees. Similarly, there would be scope to continue other specific programs which target access related barriers for particular student groups — such as AUSTUDY and the higher education equity program.

Incorporating equity-related programs into a demand-based funding approach would also help to overcome legitimate concerns, commonly associated with portable scholarship schemes, that greater fee autonomy and student discretion to attend those institutions that best match their educational aspirations and budgets can lead to social stratification within the system (Carnoy 1997).

The essence of a portable scholarship system is to reduce restrictions on both students and institutions and increase the range of choices available to all students. This outcome would complement equity initiatives.

## Research funding

Research within universities is a key issue in its own right. It has been extensively reviewed by the Commission in its inquiry into *Research and Development* (IC 1995).

Research activities within universities can be broadly broken into two components. The first is research (and associated training) necessary to complement and inform teaching within a university environment. The second is leading-edge research directed towards adding to the stock of knowledge. In practice, there is considerable overlap between these components.

Currently, the teaching component of the block operating grant includes notional funding for the first form of research mentioned above. Because teaching and research activities are intertwined, and often complementary, it is not possible to be definitive about the appropriate split between teaching and research funding within this component of the block operating grant. Indeed, under existing arrangements, institutions are given full discretion in determining the allocation of these funds between teaching and research in support of teaching.

In the Commission's view, this is appropriate as it provides institutions with flexibility in allocating funds to different disciplines. The costs of undertaking research in support of teaching vary across discipline areas. For example, larger student numbers usually require more teachers with an associated increase in supporting research requirements. Research that requires laboratories is usually more expensive than 'desk type' research and requires more resources. Similarly, courses with a larger research component will benefit from being taught by those researchers at the cutting-edge and will, in general, require more research resources. Overall, institutions are in the best position to assess the needs of their students, as well as the capabilities and skills of their staff. Reflecting these considerations, the Commission considers that the public subsidy corresponding to the value of the portable scholarship under a demand-based funding approach should cover the teaching and research training elements of the existing teaching component of the block operating grant.

The second component of research is more variable in nature across institutions and is not well suited to funding based on student numbers and types of teaching. Consequently, it has different funding arrangements and is currently primarily funded by grants from the research quantum and research infrastructure programs, selective funding of projects under the control of the Australian Research Council and through other mechanisms such as the National Health and Medical Research Council and the Cooperative Research Centres program. Postgraduate awards for research represent a separate stream of research funding. In the Commission's view, it would be appropriate to broadly retain these arrangements although, as outlined in its *Research and Development* report (IC

1995), it considers the Australian Research Council is best placed to assume ongoing responsibility for the research quantum, including the disbursement of quantum grants and decisions relating to the performance of universities relative to the funding criteria.



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