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SOME FINANCING ISSUES FOR AUSTRALIAN HIGHER EDUCATION TEACHING

Bruce Chapman

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Contents

Some Financing Issues for Australian Higher Education Teaching

Bruce Chapman

Australian National University

Summary

Currently there are significant challenges for the funding of Australian higher education teaching. Since the early 1980s successive Australian governments have shown an unwillingness to maintain academic conditions through public sector funding, and there is little doubt that this trend will continue. In this context, the move towards enterprise bargaining in Australian universities has increased significantly the pressure on institutions to find an additional financing instrument.

The paper has two broad goals:

1. To establish the validity of three basic principles with respect to charging students for teaching services, which are
   - that undergraduates should pay a charge
   - that there should be a public subsidy, and most importantly
   - that there *must* be income contingent repayment of charges.

2. To examine, without necessarily coming to confident conclusions about, some issues which are central to our understanding of prospective areas of reform in funding. These include:
   - arguments for increased institutional independence and some price flexibility;
   - aspects of regulation related to limiting charges to students; and
   - the importance of the Budgetary situation as an influence on changed funding decisions.

Explanation of these issues leads to the posing of some questions to be considered in the lead-up to reform, and a possible model is suggested.

The model provides a framework for, but not a detailed solution to, the funding challenges. A radical overhaul of the current system is not called for, since the case is yet to be established that considerably different arrangements are necessary. However, it is clear that important changes are required, to reflect funding and industrial relations constraints, and in the context of the need for further product differentiation in a now large and still growing system.

The essential idea is to permit some limited pricing discretion for institutions, with all students (including post-graduate and TAFE) being allowed access to an income contingent collection mechanism. To encourage flexibility and some competition, all additional financial resources should be delivered directly, and unconditionally, to the institutions. Any apparent additional financing obligations can be designed to be revenue neutral for the government, in both the short and long terms.

Some Financing Issues for Australian Higher Education Teaching

Bruce Chapman

Australian National University

1 Introduction

Australian higher education stands at the cross-roads. Over the last ten years or so government funding policy has changed significantly, from essentially being centrally organised and financed to what is now a mixture of partial institutional independence with associated centralised rules. The system is developing internal tensions and the trend in government outlays is down; both imply that higher education is arguably unsustainable in its current form.

The contemporary policy stance is one which favours further 'deregulation' and more institutional autonomy, all which must be seen in the context of continuing fiscal parsimony and the perceived value of restraints on Commonwealth government expenditure. Given this, the paper following would do a disservice to the West Review by not according appropriate and realistic weight to those continuing forces moving higher education further towards differentiation and away from broadly-based rules of operation and funding.

Thus what follows recognises the potency and constraints of the contemporary political economy environment and offers analysis and policy perspectives influenced considerably by this. It is therefore not an academic exercise aimed at designing the optimal system from first principles but is instead an attempt to come to terms with what might be propitious policy developments given obvious politically defined boundaries.

Two broad goals have motivated what follows. The first is to argue and establish the case for some core principles concerning the funding of undergraduate teaching. Three propositions are advanced for the financing of higher education teaching. They are that there are strong cases for: (i) charging undergraduates; (ii) a public subsidy; and, (iii) income contingent repayment of charges. There can be no more important principle than the last of these.

The second goal is to examine, without necessarily coming to confident conclusions about, some issues which are highly pertinent to our understanding of prospective areas of reform in funding. They include: arguments for increased institutional independence and some price flexibility; aspects of regulation related to limiting charges to students; and, the importance of the Budgetary situation as an influence on changed funding decisions. Explanation of these issues leads to the posing of some pertinent questions to be considered in the lead-up to reform and, in this process, a possible model for reform is suggested.

The model provides a framework for, but not a detailed solution to, the funding challenges. Many issues are not considered in any detail, and several issues that some commentators might believe are significant are not examined at all. This means that what follows should be considered to be a contribution defined essentially by the author's comparative advantage in analysing some specific aspects of higher education financing, and is not a comprehensive treatment of all the major issues.

The suggested framework for reform is built around three fundamental criteria, in addition to the assumption that both students and taxpayers should pay some part of the teaching costs. These criteria are likely to be common to all financing models which embody sound economic and social welfare principles in the contemporary political economy context, and are:

(i) that there should be increased, but not unconstrained, institutional financial autonomy and price flexibility;

(ii) that financing arrangements must not discriminate against students from poor or ungenerous families (meaning that income contingent repayment must accompany any loan scheme which might be instituted); and

(iii) that the funding changes should be implemented without increasing the real measured trend of government outlays on higher education, in both the short term and beyond.

As noted, the proposed model is suggestive only, with there being a myriad of acceptable alternatives. The critical point at this stage is not the detail, but is instead the acceptance of a broad framework and a set of principles for reform.

2 What the Paper Will Not be Concerned With

2 (i) Student Income Support

AUSTUDY and ABSTUDY are critical issues for the Commonwealth Government's overall financing of higher education, but they are not dealt with in what follows. Student income support is not mentioned in the terms of reference for this paper, and there are several reasons for not pursuing it.

The first is that very different models for the financing of teaching costs are compatible with a range of student income support arrangements. In a policy sense the Australian experience bears this out strongly given that, on the one hand, the Higher Education Contribution Scheme was introduced in 1989 without any major corresponding changes to AUSTUDY and, on the other, that the AUSTUDY Loans Supplement came about in 1992 without there being any associated changes to HECS.

Second, if student income support was not available those who are currently in receipt of it presumably would be much less likely to be enrolled in higher education, and would more than likely thus be unemployed (and receiving unemployment benefits) or in paid employment. If receiving unemployment benefits there would be little change in outlays compared to if they remained on AUSTUDY, and if they are instead employed the question of relative government outlays depends on the extent to which this employment displaces others, and whether or not those unemployed as a result of the displacement receive unemployment benefits. That is, significant changes to AUSTUDY would have implications for other welfare expenditure, and tracing this through would be a complex and not necessarily relevant issue.

Even so, from time to time - and possibly as part of the West Review - consideration has been given in Australian discussion to the conversion of AUSTUDY grants into some form of loans scheme. Without debating the merits or otherwise of such a change there is a crucial point here: the only way to organise a fair and viable student income support loans scheme is to have all of the repayments depending on a student's future income[1]—no other loans arrangement should be contemplated. This point is explained in Section 5.

2 (ii) Administrative Issues with Respect to Resource Allocation within Universities

The question of how resources should be allocated within universities is not considered. This could be a significant issue because different institutional responses might be fundamental to an understanding of the consequences of a financing model. For example, if a university is given increased discretion over charging, and receives some monies directly, the affect of this on staff performance, or productivity more generally, will depend critically on the extent to which the additional resources are allocated to the relevant department within the university.

With respect to the above, the Industry Commission (1992) found that there were very important differences in universities' responses to overseas fee paying students depending on the proportion of the fee that was allocated between the administration and the teaching department. In so far as part of the motivation for increased institutional financial autonomy is a desire to improve the quality of teaching, resource allocation within the institution can be critical. While those interested in policy reform should keep this in mind it will nevertheless be assumed for the analysis following that university administrators will act in a way that maximises efficiencies in their given institution.

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1 The issue is explored in some depth in Chapman (1992).

2 (iii) Regional Issues

It is argued sometimes that an important matter for the reform of Australian higher education institutions relates to the location and the regional dimensions of universities. Undoubtedly the presence of a higher education institution can be very significant in economic and cultural terms for some regions, and can thus be important politically. But it is not an issue considered in what follows.

A question that might need to be raised for any policy change which has the possible consequence of the closure or relocation of some universities relates to the alternative uses of capital, including buildings, and the relative mobility of labour. For a broadly-based analysis of regional issues given industrial change, see Borland (1997).

A general point is that if governments believe that there are sound reasons for maintaining regional universities in the face of significantly different funding arrangements, there are ways in which this can be addressed. For example, a possible response might be to provide relatively high subsidies to those institutions.

2 (iv) Research Funding

The paper does not directly consider the potential relationship between teaching and researching funding, and this might turn out to be unrealistic. That is, under some funding models, departments at particular universities might qualify for relatively large support because some of the staff have shown research excellence while others are good teachers. In other words, it might be that decisions related to the financing of teaching cannot be readily isolated from research funding. Given that the issue is not addressed, it follows that conclusions reached on the teaching side of funding might well need to be reassessed in a research funding context.

2 (v) Funding for Private Universities?

This is an important question for the West Review, and one that is likely to become even more significant over time. Its growing relevance is assured if public sector subsidies to the current system continue to fall, because this makes alternative higher education providers more competitive. Without assessing whether or not the government should subsidise private universities, it at least might be noted that the onus would seem to be on those opposed to such an approach to make their case; that is, there doesn't seem to be any *a priori* reason to treat the consequences of higher education differently simply because of its source.

Further, the arguments offered below for a universal income contingent loans system to cover all post-compulsory education would seem to apply as strongly for private sector education as they do for the public sector. Because an income contingent loans mechanism can be designed to be

revenue neutral, there would not be public sector costs in having such a mechanism available to students enrolled in private universities and, as is explained below, the benefits to prospective private students might be very high.[2]

3 Core Principle I: There Should be a Charge for Undergraduate Teaching

3 (i) Introduction

The benefits of higher education teaching are thought to accrue to both individuals and to society as a whole. For individuals they take the form of personal, cultural and economic rewards, with there being little doubt that typically graduates enjoy substantial advantages over non-graduates in the labour market. Lifetime incomes are much higher on average, unemployment rates are lower, and the expected duration of unemployment is relatively short for those with higher education qualifications.[3]

All Australian (and other) studies show that investment in higher education is associated with high average private economic returns, both before and after-tax.[4] And even the large increases in the net present cost to students of HECS from changes introduced in the 1996/97 Budget have not decreased significantly individual rates of return to the investment.[5]

The essential arguments for charging the direct users for some part of the public sector costs of higher education are related to equity, but there is also an efficiency rationale. The equity reasons take several forms from economic theory, and are now considered.

3 (ii) Equity Issues for Charging for Higher Education

There are basically two equity reasons for charging the users of higher education. The first is known in the economics literature as 'vertical equity', and can be explained as follows.

If the government does not charge for higher education, the minority who receive it are being subsidised by those who do not attend higher education. That is, all taxpayers have paid for the gift of higher education, and it is

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2 There would also be significant benefits to the private universities in that having access to an income contingent loans mechanism is currently a great advantage to the public university sector, and one that obviously limits competition.

3. *Financing Higher Education*, Australian Government Printing Service, Canberra, 1988.

4 See, for example, Paul W. Miller (1982) and T.T. Chia (1990). An important point from Chia, however, is that there are considerable differences in rates of return given a variety of assumptions concerning the complementarity or otherwise of academic and non-academic abilities.

5 For most occupational groups the decrease in the internal rate of return for students entering after 1996 is only of the magnitude of 5-10 per cent according to Chapman and Salvage (1997).

equitable that those so advantaged pay an additional amount. The point can be made by posing the rhetorical question: should non-graduates pay a similar proportion of income for higher education teaching as do graduates?

This vertical equity point is independent from, although related to, the fact that the measured after-tax rate of return to higher education investments are high on average. While at the margin (given sufficient flexibility in the system), each individual will invest to the point where the marginal net returns are zero, the fact that the average returns remain high reflects the extent of the gift inherent in the subsidy.

The other standard equity point is known as 'horizontal equity', and can be explained as follows. Imagine two people on identical high incomes, with one being talented at sport (or good at business), and the other being a higher education graduate. If they both pay the same tax this is horizontally inequitable because the former has subsidised the education of the latter which has resulted in her/his higher education.

A second point concerning horizontal equity relates directly to the issue of graduates 'paying' for their education. That is, some opponents of graduates contributing to part of the cost of their education argue that this is unreasonable because the extra taxes that graduates pay more than cover the public subsidy involved. However, this is a basic misunderstanding of the philosophical basis of the tax system, a point now explained.

Tax revenue is used for a myriad of purposes - defence, health, compulsory education, prisons, and for redistribution, among other things. If the extra taxes paid by higher education graduates are only supposed to be allocated to repaying the public subsidy for their education, this implicitly excuses them from paying for (or means paying a lower proportion for) the other public services that all other taxpayers subsidise. The point is that graduates only 'pay' for their higher education gift through higher taxes if and only if the extra tax paid is used disproportionately for higher education.

Obviously this point is closely related to the initial horizontal equity issue, and can be put in the same terms: if the government implicitly excuses the graduate from the payment of other tax obligations from their additional tax payment in the same proportion as others on an identical income, non-graduates who have a high salary because of their hard work or natural talent are being treated unfairly; they will be paying a disproportionate amount of the tax bill for non-higher education public goods.

3 (iii) Efficiency Issues for Charging for Higher Education

Some individuals choose to invest in physical capital, or on-the-job training, while others invest in formal human capital. It follows that if the existence of a subsidy to human capital investment leads to an average private rate of return for graduates that is higher than alternative possible investments, there will be an over-investment in higher education. A possible solution to the above would be for the government to also subsidise physical capital investment to the same extent as higher education

investment.[6] From the higher education financing system, in the context of other subsidies, this would imply a bias against physical investment, so long as other subsidies for physical capital investment don't outweigh this.

In contradistinction, however, recent analysis by Miller and Pincus (1997) suggests that the tax system is biased the other way - against human capital investment - because there are tax deductions for physical capital investment. This proposition leads them to argue for an equivalent deduction for human capital investment such as for higher education charges. The issue is considered briefly in later discussion.

3 (iv) Lifetime Income Distribution Issues

Related to the equity issues explained above, there is a commonly expressed lifetime income distribution argument for charging for higher education. In the Australian context this is that there is overwhelming evidence that those who gain access to higher education generally come from advantaged socio-economic backgrounds, and certainly as graduates end up in the upper echelons of the income distribution.[7]

For example, the Wran Committee report, which recommended the introduction of HECS, noted that in the 1980s students whose father was in a professional or managerial occupation had four times the chances of experiencing higher education than others. Figure 1, presented in Section 5, shows clearly that, as far as participation and measures of family wealth are concerned, higher education enrolments confirm strongly that the socio-economic mix of students is skewed markedly towards the advantaged.

As noted, there is no doubt that graduates' lifetime incomes far exceed on average the incomes of less educated groups. The better measure of lifetime advantage, average after-tax rate of return calculations, support this similarly. It seems very likely that subsidies to support higher education are regressive in a lifetime income distribution sense.

In essence the argument for a charge made on the basis of the distribution of lifetime income reflects a value judgement about what a good society should look like. It suggests that a role for government is to redistribute towards and not away from the lifetime poor. It implies further that it is desirable to diminish the strength of the already strong nexus between children's' lifetime economic opportunities and the socio-economic standing of their parents. The case for a charge is clear.

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6 As noted by Miller and Pincus (1997), to some extent this happens through the existence in Australia of rebates for physical investment.

7 *Financing Higher Education*, Australian Government Printing Service, Canberra, 1988.

4 Core Principle II: There Should be a Public Subsidy

4 (i) Basic Issues

Economic theory suggests that government subsidies should be set equal to the valuation of the social benefits of an activity, above and beyond the advantages for the individual. These are known as spillover benefits. In an understanding of the spillovers from Australian higher education it is useful to distinguish the various components of expenditure into research, community benefits, and teaching.

The societal returns from research are likely to be very high. Ideas emanating from research do not generally result in significant material rewards for academics, and should be treated quite differently from spillovers from teaching. As well, academics frequently provide highly useful input into community discussion of research and policy issues, through, for example, radio and television commentary and debate, and by way of informing journalists, politicians and others of significant research findings. There is a strong case for a public subsidy for these community benefits, although their societal value is close to impossible to work out.

4 (ii) Spillovers from Undergraduate Teaching

The spillovers from higher education teaching are alleged typically to take the following forms:

- more informed public debate and voting behaviour, and more tolerance;
- the benefits accruing to workers and others from the imitation of the skills of the highly educated that do not accrue to graduates; and
- higher tax revenue resulting from the higher productivity and wages of the more highly educated.

None of the above has been quantified to the point that there is agreement on their worth. However, there is some consensus that at the margin the value of externalities is likely to be greater at the primary and secondary levels than it is for higher education. Even so, most commentators suggest that for at least points (ii)-(iv) the additional learning from tertiary education delivers some societal benefits, but there is little consensus concerning their size.

The other issue concerning the value of the spillovers from teaching is that, at the margin, they are likely to fall as the system expands. This would seem to imply a lower subsidy as higher education moves from elite to mass.

4 (iii) Higher Education Externalities and Technological Change

Over the last few years an additional issue has emerged that might help in the assessment of educational externalities. This research goes beyond,

and is a useful addition to, the conventional understanding of the potential benefits of tertiary education. It is known as 'new growth theory'.

New growth theory promotes to centre stage the potential significance of the accumulation of human capital as a determinant of economic growth. In particular, higher levels of education are seen to facilitate technological progress, which is the engine of growth.

One dimension to these relationships which has been well researched in the labour economics literature involves the nexus between formal education and on-the-job training, and the link between the latter and the adoption and adaptation of new methods of production. In this literature, higher levels of on-the-job training lead to the more efficient implementation of technological change which, as noted, is the most important factor for increasing productivity.

The essential point is that workers with high levels of firm specific skills understand how a given generic advancement in technology applies to their particular workplace, and will thus be able to implement it relatively effectively.[8] That is, it is well documented that a significant practical aspect of technical change at the firm level is the implementation of new production processes in the context of the idiosyncratic workings of a given work environment. The evidence points to a strong positive connection between higher levels of formal education and investments in informal training at the firm level.[9]

A more direct point with respect to the value of education in terms of the externalities related to economic growth is that there is now compelling evidence that high levels of formal education are critical to the successful introduction of new capital equipment (Bartel and Lichtenburg, 1987). That is, labour with high levels of education is in greater demand when the newest physical capital (machinery) is being introduced at workplaces, which implies that higher education enhances economic growth by facilitating the introduction of technical change embodied in new equipment.

Establishing that higher education matters for the process of technological change does not by itself mean that there are externalities. It also has to be the case that firms and their higher educated employees have difficulty in protecting property rights from the implementation of new technology. If technological change flows easily from one workplace to the next, the benefits of tertiary education are not completely captured by the individual, which means that some part of the social benefit is an externality.[10]

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8 See Tan (1980) for seminal work in this area.

9 The indirect evidence for this proposition relates to the slope of earnings-experience profiles, which are typically steeper for the more highly education (eg, see Miller 1982).

10 For analysis of this issue in the context generally of training, see Chapman and Stemp (1989).

One reason this might happen is through a highly imperfect patents system, meaning that improvements developed in one firm have only a poor legal basis for protection. A second is through the existence of practices such as reverse engineering (in which a firm takes apart the product of its competitors to determine how it has been made). Both imply that the rewards from technological innovations flowing from tertiary education investments are not restricted only to the more highly educated and the firms that employ them. Given that the benefits accrue broadly to society this promotes a case for government subsidies.

However, there are (at least) two complications in trying to apply the above lessons. One is that the benefits will differ between courses and disciplines (as well as between individuals). More 'vocational' study, for example, is sometimes argued to have fewer externalities than more 'educational' study.

The second difficulty, implied earlier, is that currently there are no empirical techniques or data which permit evaluation of these externalities. Indeed, it is unlikely that such quantification can be made, and presumed values of externalities will continue to be contentious and subjective.

A policy conclusion is that the existence of spillovers implies a subsidy, but in the absence of evidence for differentiation of public support the simplest approach would be to have equivalent subsidies across disciplines. The point is taken up further in discussion of policy options.

4 (iv) The Bottom Line

It is not currently possible to accurately quantify the extent of spillover benefits from higher education, but if they exist there is a rationale for some form of government subsidy to ensure that society receives the appropriate level of higher education investment. Because there are net private benefits there is still an equity case for a charge. In this context HECS was set at about 23 per cent (on-paper)[11] of the average public subsidy, which is a rough reflection of the charge in public fee-paying institutions in other countries, and about the level that had been previously levied in Australia before fee abolition in 1974.

Externalities from higher education - with the case being strongest for those associated with technological change - mean that the costs should not be paid for entirely by students. But with that noted, there is as yet no compelling evidence on the appropriate size of the subsidy, only that it should exist.

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11 For most students the charge is considerably lower than this because once the debt is undertaken the lack of a real interest rate significantly decreases the net present value of the charge, perhaps by around 35 per cent for a typical graduate (Chapman, 1997a).

This implies that the simplest rule is to subsidise all students to the same extent. Such an arrangement implicitly gives the same value to spillovers by discipline and institution; no evidence supports a different approach.

If funding arrangements reflect the notion that all courses deliver equivalent values of spillovers, charges are more likely to reflect course costs than if some other spillover assumption was imposed. Essentially this was the position held by the Wran Committee which recommended a differential cost recovery HECS in 1988, but the then government choose instead to impose a uniform charge.

The 1996/97 Budget introduced differential HECS charges, but the basis is a hybrid of cost recovery and a presumption of likely future earnings (at least in the cases of Law and Commerce). The latter is very hard to justify, particularly given that many students will take low cost-high charge units and not end up earning high incomes (Chapman, 1996).

The fact that it is not possible to estimate the value of spillovers has an important general policy implication. It is that ultimately funding decisions, including the proportion of teaching costs paid for by taxpayers, will inevitably be made in the context of the financial circumstances and priorities of the government of the day. This has to be accepted as a reality, and it is one that diminishes the relevance of research documentation of the empirical and unanswerable question concerning what is the true value of higher education teaching spillovers.

5 Core Principle III: The Correct Way to Collect Charges is Via Income Contingency

5 (i) Introduction

One of the biggest policy questions is that, since there is a case for charging, what is the appropriate way in which it is to be collected? This turns out not to be at all difficult given that there is now a plethora of economic analyses promoting income contingent repayment as the best model.[12] The HECS arrangements are generally consistent with these perspectives.

There are (at least) two different ways of paying a charge: up-front fees; and income contingent repayment. Within the first category there are many different approaches such as with and without scholarships, and with and without a government-subsidised loan scheme. What follows explores briefly some broad variations in these categories, and analyses in some depth why income contingent repayment schemes are preferable to all alternatives.

12 For example, see Friedman (1955) and Barr (1989).

5 (ii) Income Contingent Repayment and the Failure of Capital Markets

It seems clearly to be the case that a significant part of the population faces barriers to participating in higher education, and that these barriers are at least in part economic. If this is true and fees are imposed without recognition of financing problems there will be adverse economic and social outcomes.

Charging fees with the wrong collection system will mean, for example, that academic talent will be wasted if highly motivated but poor students can't access the system. The wrong charging system also means that being born with poor or ungenerous parents becomes a negative determinant of one's access to professional opportunities and success. This is impossible to justify on equity terms, for reasons now explained.

The first economic problem associated with charging up-front fees for higher education is that for those who can't afford to pay there is only an ineffective capital market available for borrowing. The basic concern for a bank lending for human capital investments is that, unlike many other investments, there is no saleable collateral in the event of default, such as would be the case for the housing capital market. This arises in part because slavery is against the law, and banks are thus unable to possess and sell the human capital development undertaken.

The other possible concern for commercial banks lending to students relates to collection costs in the event of default, an issue which assumes greater importance given the absence of collateral. The costs of default appear to be very real.[13]

Governments typically address the above problems by acting, in the limit, as a guarantor for student loans, and by paying the interest for the period before graduation. However, because of the expense involved loans are usually only made available to young people with poor parents or those who can establish independence through satisfying a complex set of conditions related to age and/or work experience. This suggests that some prospective students who need financial assistance because their families do not provide help will be unable to access the system.

The financial barrier, then, is not completely removed through means testing, because when this is done on the basis of family income such an approach presupposes that parents or partners are willing and able to share resources. However, if that assumption does not hold, then the use of family income to determine support is a flawed criterion. In essence, the idea of means-tested scholarships to circumvent up-front fees for "deserving" students relies on the assumption of willingness to help within the family, and can thus fail because of it.

The central point about barriers to entry in higher education is this: it is the high cost of participating in higher education (both through direct living costs and foregone income), combined with a lack of family and

13 The evidence on default rates from more traditional fees and loans schemes is disquieting. For example, Harris (1993) shows that in the US around 10–30 per cent of loans are defaulted for college, and that the percentage increases to around 50 for two year professional degrees.

capital market sources of finance, that creates a significant barrier for many students. Income contingent repayment arrangements avoid these problems because the nexus between current economic circumstances and access to the system does not exist with these approaches. This is a critical point: income contingent repayment makes family economic status less relevant for the prospective student.

5 (iii) Income Contingent Repayment and Default Protection

There is a further issue implying strongly that income contingent repayment is the correct approach compared to the normal loan arrangements designed to fix up the failure of capital markets as a solution to the lack of collateral in higher education investments. The key to understanding schemes such as HECS is acknowledging the difference between normal 'mortgage-style' loans, and the nature of the loan implicit in the deferred fee.

Normal loan arrangements involve the borrower's repayments being made over a specified period of time - for example, the term of a mortgage. Usually no account is taken of changes in the borrower's circumstances over that period, either for better or for worse. Most notably, a borrower is afforded no protection against having low income in the future - repayments are still due within the given period of time.

The essential difference between the two types of loans is that the income-contingent variety serves to protect low-income earners and those who generally do not benefit financially from the investment undertaken. What schemes like HECS offer is a form of 'default insurance', such that the former student does not have to bear the costs of not being able to pay their debt. This is diametrically opposite to a mortgage-style loan, in which the costs of defaulting on the loan may be very high indeed—in terms of being locked out of other capital markets (most notably housing) through the damage to a borrower's credit reputation.

Default protection via income contingent repayment sorts out the fundamental problem for prospective borrowers inherent in mortgage-style loans. That is, a concern with the possibility of being unable to repay a loan, or only being able to repay it with hardship, will mean that there is less borrowing for education purposes than is desirable. This won't be the case if repayment depends on income.

Some part of an aversion to borrowing for human capital investment is perfectly understandable. After all, the investment returns to higher education have a very high variance - many students don't graduate, unemployment exists, and the differences in income within occupational categories, even for graduates, are very high.[14] But when there is no chance of default, as is the case under HECS, the issue disappears.[15]

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14 In the Australian context, Miller and Volker (1993) demonstrate this strongly.

15 The point is made very clearly by Barr (1989).

5 (iv) HECS and the Access of the Disadvantaged

Perhaps the most important question about the likely consequences of income contingent charges is, do they in any way diminish access of the disadvantaged to higher education? Relevant to this is that the Australian system before HECS was essentially without fees, and basic economics tells us that when the price of a service increases, so too will the demand for it fall. Given this the all-important issue is whether those from relatively poor backgrounds were affected, as predicted by a host of HECS opponents at the time of its institution.

There are several levels on which the question of access to higher education can be examined. The simplest is through the use of enrolment data. However, establishing that higher education enrolments changed during a given period says nothing about the causes of those shifts. Moreover, the Australian higher education system is often supply constrained since domestic enrolments are determined by the number of places financed by the government. This suggests that better data are not the number of students, but are instead enrolments plus the level of unmet demand, information which is not available.

Even so, enrolment figures do give some pointers as to the aggregate level of demand for higher education, and all suggest a robust expansion after the introduction of HECS. That is, from 1988 the number of higher education students rose in each successive year with an average increase of over 4 per cent.[16] The increases reflect increased government outlays, encouraged in part by the promise of higher future revenue from HECS. But there is better evidence than this, some of which comes from independent inquiry.

There have been a number of academic surveys addressing the effect of HECS. In 1989 the government commissioned researchers from Curtin and Flinders Universities to explore the matter. The methodology employed was to use a control group to allow a comparison of those choosing to participate and those choosing not to, to determine whether or not HECS was a contributing factor.

In general, HECS was not very important in limiting access, with the possible exception of post-graduates who had intended to re-enrol. Even for this group, about 70 per cent gave other factors a greater weight than HECS as an influence on their decision.[17]

In 1991 the consulting firm of Ernst and Young surveyed individuals from sub-groups thought to be traditionally disadvantaged in terms of access to higher education. The study drew its sample from final year high school-leavers in 1991, and adults who were potential entrants to higher education. Sample sub-groups based on aspects of perceived disadvantage

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16 Women and Aboriginal enrolments have increased considerably. Both groups were predicted by some to be adversely affected at the time of the introduction of HECS

17 For descriptions and analysis of the reports, see Evaluation and Investigations (1990).

(such as low socioeconomic background, living in a rural area, non-English speaking background, and Aboriginal or Torres Strait Islander background) were surveyed.

The results were used in a National Board of Employment, Education and Training report (1992), and are as follows. Of 17 factors which might contribute to a final year high school student deciding not to participate in higher education, HECS was not frequently cited, and rated 13th overall. Moreover, there was no significant relationship found between an issue being cited and the socio-economic status of the student. The following conclusions were drawn:

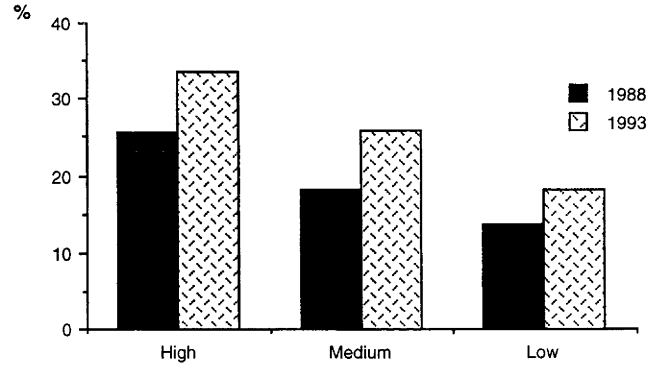
> "It seems unlikely that there are identifiable groups for whom HECS is the critically important influence on decisions about participating in higher education ... It is therefore likely that most qualified applicants from across all sub-populations in the study would not be significantly deterred by HECS" (page xii).

As well, there is evidence from the Australian Council of Educational Research (ACER), which has available one of the most interesting data sets for analysing changes over time in the composition of the higher education student body, at least for young people. The data include a host of information on family background and educational participation. What follows is a comparison of the composition of 18 year olds in higher education in 1988 (before HECS) and 18 year olds in higher education in 1993.

An indirect measure of family wealth in these data was constructed by the ACER using responses to questions concerning the presence in the home of material possessions, such as telephones, dishwashers, bedrooms and bathrooms. The distribution of the index was grouped in the three categories, high, low and medium, representing respectively the upper and lower quartiles and the middle fifty per cent. Figure 1 presents the results.

Each bar in the figure represents the proportion of 18 year olds enrolled in higher education in 1988 and 1993. As examples: around 25 per cent of the high wealth quartile were enrolled in 1988, and this number increased to about 33 per cent in 1993 (an increase of around a third); of the low wealth cohort around 13 per cent were enrolled in 1988 and about 17 per cent in 1993 (an increase of 31 per cent).

Figure 1
Family Wealth and High Education Enrolment, 1988 and 1993
(proportion of 18 year old cohort enrolled)



Source: Australian Council of Educational Research, reported in Chapman (1997a).

Two points are worth noting. The first is that in both time periods there was a much greater likelihood of those from wealthy backgrounds being enrolled, data which supports the notion suggested in Section 3 that higher education expenditure in Australia without a charge seems to be regressive. Second, the introduction of HECS does not seem to have had any discernible effects on the socio-economic composition of the student body.

In summary, there is no evidence of HECS diminishing access to higher education of the disadvantaged, nor indeed, in an aggregate sense. For the issue of the effects of income contingent repayment schemes these are important results. They suggest strongly that if the charging mechanism is income contingent repayment with parameters similar to the original HECS model, it is now established that there will not be access problems generally, nor do there appear to be barriers to those from disadvantaged backgrounds.

5 (v) Income Contingent Repayment as a Model for all Tertiary Education

The theoretical arguments and the empirical evidence offered concerning income contingent approaches to Australian undergraduate education apply equally to all other post-compulsory education. In the area of financing there is nothing special about TAFE, or post-graduate education, which would suggest that the essential problems on both the lending and the borrowing sides explained above do not apply.

This means that there is a strong case for designing a system of income contingent loans for all post-compulsory education. Indeed, it is an

indictment of Australian government post-compulsory education policy over the last decade or so that up-front fees have been permitted to evolve, given the general good sense that provided the basis for HECS.

With respect to TAFE the situation has become bizarre. This is because the breakdown of the binary system has lead to circumstances in which, even at the same institution (eg, RMIT), a student can pay an up-front fee leading to a TAFE Associate Diploma of around $600 per full-time year which can then be accredited towards a university degree for which students have paid an income contingent charge of around $2400 per year.

This is as close as it can get to policy being unintegrated, to put it most politely. The West Review should consider carefully how to sort out this anomaly, with the notion that a HECS-type system should be organised for TAFE being the obvious answer.

Of interest for reform is that one of the criticisms offered against having a HECS-type system in TAFE used to be that the first income threshold for HECS of around average incomes would be too high to make the collection of a charge from TAFE graduates economic for the government. However, the large changes to the HECS repayment arrangements instituted in the 1996/97 Budget now make this point much less potent.

Indeed, calculations done for this paper illustrate that, for the average TAFE Associate Diploma graduate income, these changes have considerably increased the government's return from using HECS in TAFE, with the results being presented in Appendix 1. The TAFE/HECS issue is considered in more depth in Chapman (1997b).

The poor policy related to post-graduate financing is similarly disquieting. Over the last few years universities have been allowed increasingly to charge up-front fees for post-graduate qualifications. Just as with TAFE, there is no reason to suggest that the financing problems for post-graduate education are different to the funding issues for undergraduates.

The above means that post-graduate up-front fees without an income contingent loans mechanism should never have been allowed to develop, suggesting also that the current Review into funding issues has the opportunity to fix the problem. The answer seems to be clear for both post-graduate qualifications and TAFE: a HECS-type system for all post-compulsory education is the only policy to promote propitious social and economic outcomes. As policy now stands, and is likely to develop further without thoughtful change, both TAFE and post-graduate funding systems will deliver the wrong outcomes.

Of interest is that recent changes to public sector accounting principles mean that increases in government outlays to finance TAFE and post-graduate HECS-type arrangements do not mean that there will be an increase in the Budget deficit. This issue is explained in Section 7.

5 (vi) Income Contingent Repayment: The Bottom Line

Economic theory is very clear about what is the right way to charge for higher education services: it is income contingent repayment. This approach maximises the potential for the most talented and motivated prospective students to be involved.

Unlike up-front fees, income contingent repayment is much less likely to diminish the participation of the talented poor. And unlike means-tested scholarship schemes excusing the payment of up-front fees for those from poor families, prospective students without scholarships and with ungenerous parents or partners will not have a direct financial barrier to access the system. This must mean a waste of talent, and thus a national economic cost.

Related to this is the social dimension. For those who make the value judgement that social justice is well served if policy acts to minimise the strength of the nexus between family background and likely future professional success, income contingent payments for higher education are the only way to go. They make far less relevant a prospective student's socio-economic background compared to all other possible charging mechanisms.

With the above as background, the 1996/97 decision to allow universities to charge whatever they choose for up to 25 per cent of course places after 1997 is potentially poor policy, from both economic and social perspectives. The essential problem is that no loan mechanism has been suggested in response to the capital market problems explained above.

For many universities having completely untied revenue (which on a per student basis most likely greatly exceeds the cost of providing the place) will be very attractive, and the incentives will be strong for institutions to find ways of increasing this source of funding. With likely continuing fiscal parsimony from the public sector it would be unconvincing to suggest that governments in future years would be greatly interested in resisting these pressures.

In other words, without an income contingent loans mechanism to underwrite moves for charges paid up-front, the Australian higher education system will move inexorably to one in which the ability to pay increasingly matters relative to the capacity to learn. This has associated detrimental social and economic ramifications.

The above discussion is critical. Reform to higher education teaching funding will be inadequate unless there is some form of universal income contingent loan scheme. Of interest is the possibility that government budgetary objectives can be met without recourse to up-front fees, an issue explained in Section 7.

6 Some Higher Education Funding Questions in the Contemporary Australian Context

6 (i) Introduction

There are policy reform issues which are less clear cut than is the case for the conclusions reached about principles. Even so, sorting them out is fundamental to propitious change to the Australian higher education system. Before these complexities are explored, it is useful to describe two fundamental problems related to the current condition of the Australian system.

The first is that the economic rewards associated with academic careers have declined significantly over the last decade or so, a point explored further below. The other is that, essentially because of the move to a much larger system, there is now a case for increased specialisation and competition. Both issues imply a need for financial reform, assuming that the government is not likely to significantly redress funding shortfalls.

It follows that in the current and continuing political economy environment the debate is much more likely than previously to be about institutional autonomy and the raising of non-government sources of revenue. This matters more now because the large expansion of higher education enrolments over the last 15 years or so has made the issue more important in expenditure terms.

Related to this is that for some time there have been some unresolved issues associated with centralised conditions. One is that teaching salaries between disciplines have traditionally been undifferentiated, a practice that might look fair, but such a regime will lead to differences in the quality of staff between areas. This is because potential job opportunities relative to academic salaries differ significantly between disciplines.

For example, teachers with Medicine, Law and Economics qualifications have better non-academic employment options than, for example, do Ancient Historians or Sociologists. Holding other things constant, the similarity of job rewards between disciplines implies that the Australian higher education system will have relatively able Ancient Historians and Sociologists, and relatively less able personnel in the areas of Law and Economics, for example. This is undesirable, not at least for those disciplines in which non-academic opportunities are expanding. The issue has been recognised through a salary loading for those teaching Medicine, but inflexibilities remain in other disciplines.

Salary inflexibility is not a reason *per se* for having institutional independence with respect to charging, but it does imply a case for greater sensitivity to broader labour market concerns, and greater responsiveness more generally. It should also be recognised that this problem is not a consequence of the way that higher education has been financed, but is instead a result of the application of award conditions that have shown little sensitivity to higher education institutional needs.

Nevertheless, there might be useful responses for the sector to address the issue, particularly in the contemporary industrial relations context in which awards are becoming much less significant. One way of approaching this would be through the further promotion of a lesser role for centralised conditions and more autonomy at the institutional level. This would at least enable universities a greater capacity to sort out employment priorities.

There are other anomalies that are likely to arise given centralised rules, which implies the benefits from greater institutional autonomy. But there are more important reasons why institutional financial autonomy is now seen generally to be an imperative, and these are addressed in what follows.

6 (ii) Institutional Funding Independence and Price Variation

There are four inter-related issues that might help to explain why the question of higher education institutions having more discretion over their revenue base is now very much on the agenda. In combination they imply the need for reform involving the provision of a price instrument for higher education institutions.

Fiscal Parsimony:

The first concerns the obvious fiscal stance of Australian (and other OECD) governments over the last several decades, a position which is likely to continue. Currently throughout the OECD there is considerable fiscal parsimony; that is, over the last ten years or more governments have been inclined to reduce rather than maintain existing real levels of taxes and expenditure. This has been accompanied by a questioning of the rationale for government spending in even the most well established areas of the public sector.

Whether or not this is desirable is not the relevant question for this paper. Indeed, some would argue that the maintenance of previous levels of government support is the preferred policy response. However, the budgetary stance is accepted as a contemporary constraint, a definition of boundaries for policy suggestion, for the nature of what follows. As noted in the introduction, this paper would not be a helpful input to the West Review if policy ideas were promoted that did not take into account this current and likely continuing political reality.

Related to this is that it should be of no great surprise that the Australian government significantly increased HECS in the 1996/97 Budget and, in the international context, that the Dearing Report on UK higher education reform has recently suggested that a charge for higher education be introduced for the first time. Other countries previously without higher education charges - South Africa, Malaysia, Papua New Guinea and Germany, for example - are showing interest in the introduction of charges repaid according to HECS-type arrangements.[18]

Salaries:

A consequence of fiscal parsimony in the 1983 to 1996 period is that the real wages of most academics have fallen significantly. For example, the salary of a Level E Professor has decreased by 25 per cent in real terms in this period. The decrease relative to both average weekly earnings and male full-time Professional salaries has been the same.

Relative job rewards will necessarily have had an effect on teaching and research simply because decreases in salary (and perhaps increases in workloads) will mean a diminution in the quality of new applicants for academic positions. As well, decreases over time in the relative attractiveness of academic employment mean increased resignations, with many of those leaving being some of the best, because these are the staff

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18 An additional critical point to take away from the fact that many countries are interested in the Australian system is that the collection mechanism - income contingent repayment through the tax system - is seen to be the right way to go.

with relatively good alternative job prospects.[19] It is likely, then, that the average quality of academic staff has fallen over about the last 15 years or so.

Enterprise Based Bargaining:

The third issue concerning the current need for increased independent funding for Australian universities relates to the industrial relations environment. For reasons that are hard to understand, and possibly difficult to support, there has been a government-initiated movement over the last five years or so to having enterprise bargaining as the industrial relations system for public sector universities. This arrangement implies increased pressure for independent funding sources given that real outlays are not also being maintained.

The essential problem with the application of an enterprise bargaining regime to what is basically a publicly funded system is that, unlike the application of enterprise bargaining in the private sector, there are no instruments available to make the arrangement operational. Private sector enterprise bargaining is much more workable because there are many things that a firm can adjust to accommodate a change in working relationships. Most obviously, private firms can choose to vary their prices, or they can institute profit sharing relationships, or they can change the level and/or quality of output.

However, universities in an enterprise bargaining situation face the unpalatable option of a fixed pie: they can, for example, choose to give salaried staff a pay rise to maintain real incomes, but if this option is taken something else has to give, such as the lay off of staff. And in the context of governments not being willing to increase or even maintain real levels of higher education expenditure, an enterprise bargaining system inevitably exerts significant pressure for the sector to find independent funding sources. Enterprise bargaining as an industrial relations arrangement only makes sense if there is an instrument available that can adjust to take into account changed economic relations between employers and employees.

Benefits From Competition:

The final factor relates to competition. Australia is now in, or is approaching, a situation whereby universities supply services for a large and potentially diversified market. Higher education is no longer elite and small, and there will increasingly be opportunities for specialisation in terms of both subject matter and the targeting of particular consumers.

In this context quality and price differentiation become more relevant than before. This suggests advantages in universities having opportunities to offer a more differentiated range of services and prices to potential diversified purchasers that reflect the circumstances and goals of the particular institution. This would allow more choice for both the providers and prospective students, and has the potential to improve somewhat service delivery.

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19 For evidence for this proposition see Beggs and Chapman (1989).

If there are broadly defined rules and centrally set prices, differentiation of the product will not happen unless institutions have access to independent (and untied) funding. Moreover, real decreases in salaries, and the diminution of other aspects of the academic environment suggest that if the maintenance of standards remains a goal, something has to change.

This promotes to centre stage the notion that in a much larger system, and continuing restraint in government outlays, there might now be need for an economic instrument for higher education institutions. The most obvious candidate would be that of universities having some discretion over the price charged for teaching services, with the financial resources from a top-up charge flowing directly to the institution.

6 (iii) Regulation Concerning Price Discretion for Universities

The precise forms of regulation in a reformed system is a most important question for the West Review, with the nature and content of government rules essentially defining a changed system. To assist somewhat in this area, questions for the role of government will be considered now that relate to how a changed charging regime might work. However, little attempt is now made to address comprehensively regulatory issues beyond the setting of a charge.

What follows is essentially about whether or not it is appropriate to allow Australian universities to charge whatever they like for their teaching services. The basic point is that there are important reasons to be concerned about unfettered price competition in the Australian higher education system, with this implying that there should be a government defined rule with respect to pricing.

One reason is that some part of the market advantage of institutions is a result of their location and history, a point that might matter given that the institutions do not pay rent. In other words, do we want universities to be able to charge whatever they like when some part of their market power derives purely from where they are located (which they don't pay for), and from the fact that an important part of their advantage which takes the form of prestige and status, is the result of many years of public subsidy which newer institutions have not had?

The answer to this question is not clear. However, it at least might be noted that in the contexts of both geography and history there would seem to be a case to limit such price setting (or to design arrangements that take the pricing implications into account) - at least until there are compelling arguments presented to do otherwise.

Related to this is that the government is likely to remain the principal funding source for higher education. This raises complicated issues concerning the desirability of institutions deriving rents subsidised by taxpayers. Because the universities are not private firms, there will not be a profit consequence, but the opportunity would exist to distribute some of the benefits (rents) to staff in various ways. No strong view is offered here on the matter, but it should be noted that many of these pricing issues

have yet to be sorted out in public debate, which implies again a need for caution in the reform process.

Third, much of the professional labour market which makes up the source of destination for graduates is not organised in ways that make the straightforward application of competitive principles easy concerning the supply side. The number of teaching and nursing positions, for example, are essentially determined by government decisions, and are thus influenced by attitudes towards spending and taxing. As well, professional associations and other non-market forces probably influence the output of graduates in various ways which could imply that unfettered price competition on the higher education side of the market could imply trade practices complications.

The above is essentially a cautionary note. It arises from the judgement that introducing radical free market principles to the pricing of higher education services in Australia is premature until convincing analysis of the likely consequences is available. An obvious area of weakness in the current debate relates to the lack of a generally accepted theoretical framework concerning the conceptual basis of funding, and the role of government in Australian public sector universities.

These uncertainties contrast starkly with the general consensus associated with the conceptual bases of the three principles espoused earlier, concerning the cases for a charge, having a public sector subsidy, and for the charge to be paid only according to the beneficiary's income. These principles are clear, and stand in contradistinction to the case for radical reforms to institutional price flexibility at this stage. The general policy point is raised again in Section 7.

Finally for the question of whether or not is desirable to have no regulation concerning price discretion is the critical issue of having feasible income contingent loan repayment arrangements. Under current HECS repayment parameters there is a limit to the size of a loan that can be collected for many students in the time between graduation and retirement. This could be addressed by some combination of increasing the repayment rates and/or decreasing the HECS thresholds. However, the recent large changes to these conditions probably mean that there is much less scope now for making the parameters less generous without impacting on demand, and possibly access.

To illustrate the above point some calculations have been done for this paper which assume that very large debts are owed and repaid according to current HECS rules. They show that some important groups will never repay very high debts. Given that the principle of income contingent repayment is one that should not be compromised, it follows that having debts at very high levels is unacceptable. The data are presented in Appendix 2.

7 Towards a Preferred Framework

7 (i) The Important Characteristics for Reform

The above analysis and discussion lead to a way forward. It has been argued that there are propitious generic ways in which to consider changes to the funding of Australian higher education teaching given the past and likely continuing restraints on government expenditure. The underlying principles of the suggested approach are not contentious.

What follows is the suggestion of a particular model for reform consistent with these principles, but it is not necessarily the right model, or even necessarily close to the only way to go. It is offered because it might lead to more informed debate concerning what should now be done given the economic and social imperatives constrained by contemporary political realities.

To be useful such a model has to:

- allow partial institutional financial autonomy;
- have a universally available income contingent loans mechanism; and
- not imply an increase in Budgetary pressures.

Given these imperatives there are a large number of options. For example, the models of both Karmel (1997), and Miller and Pincus (1997) are generally consistent with the above principles. Both, for example, argue the case for more financial institutional autonomy, and both endorse the notion that all charges paid by students should be repaid contingent on personal income. However, these authors argue for reforms which are more radical than what is now proposed, with the likely outcomes thus being more uncertain in the short run than they need to be.

In contrast, the approach taken in the following suggested model is cautious and moderate, because of the significant uncertainties associated with radical and rapid change. There is an important reason not to embrace radical reform to higher education funding at this stage, now noted.

The current funding system for Australian higher education has not resulted in our universities being in dire straits. It is true, however, that government financing has been, and will remain, frugal at best. In the contexts of both a move towards a mass system and the imposition of an enterprise bargaining regime for the sector, there is a case for change that reflects the strength of these pressures. That is, the forces for reform are apparent, but do not imply that a radical upheaval is called for.

However, if the judgement is made that a significantly different higher education system is required - a point that is yet to be established - further developments could be considered which might well be consistent with the broad thrust of both the Karmel and Miller/Pincus approaches. They could be put in place with the advantage of the lessons learned from the implementation of a first stage of reforms. That is, evolution is favoured,

the critical point being that the directions of reform are consistent with the broad set of principles that have been argued and espoused.

New policy directions have to be monitored closely and their effects evaluated properly before there can be confidence that the social, economic and institutional effects are correct. To this end a suggestion is offered later concerning the form that monitoring might take.

7 (ii) A Base Level of HECS

In a world in which there is to be some price flexibility and increased financial autonomy, institutions need the capacity to set charges above (or below) a given level. But if complete price flexibility is not desirable there remains a continuing role for a set of specified income contingent charges, imposed and set by the government. This could be known as a 'base level HECS'.

Several issues stand out for the design of a base level HECS, which are now considered. Some of the discussion is suggestive of the idea that even without changes to the essence of higher education financing there might still be cause to revisit and question the parameters of the original HECS. That is, HECS can be improved, with or without the introduction of a markedly different financing approach.

HECS as Cost Recovery:

The first issue is that a base level HECS should be understood to be a cost recovery mechanism for the government, as is the current HECS. A strict application of economic theory would suggest that the extent of a subsidy should only differ between courses if it can be established that the marginal value of the spillovers differ by course. As noted above, since there is no evidence of this kind, subsidies should be the same for each full-time student year; an implication would be that the charge reflects costs to some extent.

From theory, then, a base level HECS would reflect course costs. A sensible approach would be to have no more than three tiers of charges, which is the current approach. However, as argued previously, it is not easy to defend a charging policy which gives a weight to "expected benefits", simply because for a great many students this basis will be seriously inaccurate.[20]

However, in reality what the levels will be remains a matter for government, but the decisions should be informed by costs and reflect a subsidy. The essential point concerning the division between taxpayer and student contributions will inevitably be made with reference to such issues as broad social and economic goals, budgetary priorities, the perceived value of spillovers, and the implied burden for students.

On this last point, the student contribution should not be greater than can be recovered through the HECS repayment arrangements, because the case for allowing all charges to be repaid contingent on income is overwhelming. That is, a charge could be set that was sufficiently high to mean that under normal expectations of graduate income, the

20 For example, many students taking high charge courses will not even graduate.

government would not be able to recover the amount through the tax system. Some commentators would then suggest that the difference should be paid for via an up-front fee, but from the arguments presented in Section 5 such an approach should be strongly resisted.

The calculations presented in Appendix 2 for very high levels of HECS debts and what they mean for recovery of the loan, this should not be relevant because the likely new charges would not approach such levels if they are to remain consistent with good policy.

The Interest Rate Issue:

As currently constituted, a HECS debt, once incurred has been commonly understood to have a zero real rate of interest. The extent of the so-called subsidy involved for typical graduates is quite large, perhaps of the order of 35 per cent for average graduates (Chapman, 1997a). Many commentators argue that this is poor policy because the nature of such a loan does not reflect the financial opportunity costs of HECS.

This is more complicated than is sometimes suggested, and is well worth exploring because of the often expressed view that the HECS interest rate arrangements are erroneous. There are several points.

One is that whether or not there is a zero real rate of interest on a HECS debt depends critically on what the actual charge is, given that there is a 25 per cent discount for up-front payment, and a 15 per cent discount for sums paid later greater than $500. That is, it could be argued that if the actual charge is the up-front payment, those choosing the deferred route are repaying in net present value terms a debt which is (nominally) 25 per cent higher, and which thus has a positive real rate of interest. In other words, the issue of the true rate of interest for HECS can only be decided with reference to what the actual charge is: the up-front payment, or the net present value of the income contingent debt.

When HECS was designed in 1988, it was understood that not having a real rate of interest for those choosing the pay-later option would be progressive within this group. This is because, in net present value terms, graduates earning high incomes pay more quickly than those who earn relatively low future incomes.[21] This mattered both for issues of distribution and for the concern that the introduction of HECS might have the potential to deter prospective students who expect relatively low future incomes. At the time it was believed that this group was relatively likely to come from poor backgrounds.

Not having a real rate of interest is also consistent with a rationale that an income contingent repayment mechanism for higher education should be designed in such a way as to have higher contributions from former students who benefit the most from the investment (Friedman, 1955). This point becomes more significant when it is recognised that many students in Australia (upwards of 25 per cent of enrolments) don't graduate, and thus presumably derive little economic return to their investment.

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21 The extent of the subsidy is illustrated in Chapman (1997a).

From the above is that a real rate of interest on HECS debt was not, and perhaps should not be, considered only from the perspective of the alleged opportunity cost of finance. Moreover, conclusions on this issue need to be explicit about what is the actual charge, because in the context of a discount for up-front payment it is not obvious that the true real rate of interest of HECS has been zero. This leads to the following important policy point concerning the level of a base HECS.

It is that those arguing against a "subsidy" as a result of the apparent lack of a real adjustment to the interest rate on a base level HECS could incorporate an adjustment for this quite simply. It would be through having a higher charge to reflect a judgement of the average net present value of the so-called subsidy. For example, if the value of the subsidy is believed to be about 30 per cent, those concerned with the government not losing the opportunity cost of the finance involved would advocate a base level HECS at the bottom cost tier of, $3900 per full-time year, instead of, say, $3000.

The above approach to adjust for the value of the interest rate subsidy would preserve the progressivity of the debt repayments, in that students with high future incomes would in net present value terms still pay more of their HECS debt than those with low future incomes.[22]

Some commentators argue that having a high rate of interest on the debt might matter for the "visuals" of an income contingent repayment scheme. That is, it might be uncomfortable for a government if there is a high rate of interest on HECS because the groups who would then pay more in nominal terms would be those who have experienced unemployment, had low paying jobs, or because they spend time out of the labour force to raise children, as examples. Politically this will matter, in part because distributional issues (and "fairness") are rarely considered publicly as matters only of taxation and social security payments.

If the opportunity cost of the financing of an income contingent loan is an overriding issue however, the sort of approach adopted in New Zealand might be a useful compromise. The New Zealand income contingent loan scheme for higher education, introduced in 1991, has a real rate of interest, but it was designed in such a way that debtors with low incomes in particular years are given an implicit subsidy that means the real size of their debt does not increase in those years. This should be food for thought for the West Review.

Valuing and Charging for Default Protection:

It was argued in Section 5 that a major advantage of an income contingent loan scheme is that it offers a loan with default protection. That is, with repayment parameters designed sensibly, borrowers are given insurance from the prospect of not being able to repay their obligations, or to repay them with financial hardship. This is a very valuable aspect of HECS, and it is one that should command an implicit charge; after all, no loans

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22 There might be some adverse behavioural effects from this in that there is a disincentive to earn high incomes quickly, but it is difficult to believe that they are very significant. The point is recognised in Chia (1990).

arrangement of a mortgage style from the private sector has default protection.

The implication for a decision concerning what the base level of HECS should be in a reformed system is that the charge should reflect a judgement concerning the value of default protection. For example, and assuming that there is no interest rate issue, if having default protection from a loan is believed to be worth 10 per cent on average compared to if the repayment arrangements were of a mortgage-type instead, the base level HECS at the lowest tier would be $3300 per full-time year, instead of, say, $3000.

Tax Deductibility:

Miller and Pincus (1997) argue the case for making the payment of a university charge tax deductible, to ensure that there is a consistency in the tax system between the treatment of physical and human capital investment. This paper has little to offer on the validity or otherwise of their point[23], except to suggest that if there is such a case, there might be quite a simple way to take it into account that doesn't directly involve tax deductibility. In conceptual terms this solution has similarities to how an interest rate subsidy could be incorporated into a base level HECS.

It is that tax deductibility, if desirable, could be incorporated into the level of HECS by first making a judgement of its approximate net present value. This value would then be subtracted from the base level HECS charge. For example, if it is the case that tax deductibility for physical capital investment is worth 15 per cent, equality for human capital investments would requiring a decrease in the lowest tier of the base level HECS from, say, $3000 per full-time year, to $2550. The approach has the advantages of both simplicity and the maintenance of progressivity within the group repaying HECS, in much the same way as would the adjustment for the interest rate subsidy explained above.

Marginal Versus Average Income as the HECS Collection Basis:

When HECS was originally designed a factor that motivated the level of the first income level for repayment was that of perceived fairness. Having former students only start to pay back their debt if and only when they received the average income or above made it apparently equitable when considered in the context of the average taxpayer. As well, this level of income for the first repayment was considered very unlikely to disadvantage the poor, implying that it would help ensure that there would be minimal access consequences.

It was recognised at the time of the introduction of HECS that having the first repayment set as an average of taxable income means a very large effective marginal tax rate at this threshold, but the view was that this was unlikely to affect significantly labour market (or tax avoidance) behaviour. At the time the effective marginal tax burden was not as high as it has become through subsequent changes to HECS.

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23 For analysis of this issue, see Barr (1997).

That is, in the original HECS the first repayment obligation was set at 2 per cent of taxable income at about $28,000 per annum in 1997 terms, but it is now 3 per cent at an annual income of $20,700. This change means that the additional dollar earned to put the original HECS debtor over the first threshold cost $560 in that year, but the equivalent current figure is $621. More importantly is the fact that as a proportion of income the extent of the effective marginal Tax/HECS burden is simply 50 per cent higher (3 compared to 2 per cent).

The changes mean that there should now be more concern for the behavioural effects of having a large decrease in after-HECS income at the first threshold. As well, the political advantage of having average income as the first threshold for repayment is now gone as a result of the changes from the recent Budget. Both points mean that the case is now stronger than previously for changing the repayment condition to one with a marginal tax basis.

To avoid the effective marginal tax/HECS issue, one possibility would be to have a base level HECS collected at the rate of 10 per cent for each additional dollar earned over a certain level. If the stream of repayments is to remain revenue neutral, however, this must imply a much lower first threshold; this is the approach adopted in New Zealand, and it would be of interest to explore the results of that country's current appraisal of the effects of their scheme since it was introduced in 1991.

7 (iii) Price Variability

The first part of the preferred model is to have a base level HECS as a cost recovery mechanism for the government. In addition, and consistent with the need for institutional autonomy is that there should be some price discretion for institutions, with the additional revenue in the event of higher charges being paid directly to the university, with there being no conditions imposed as to how it might be spent. To encourage diversity there should also be scope to allow institutions, or disciplines with an institution, to have a lower charge than the base level.

It is imperative that any additional charge is organised in such a way that prospective students only ever have to pay it contingent on their personal income. This means that the government must act as a financial intermediary offering the HECS mechanism for repayment as a right to all prospective students choosing to enrolling in courses in which the charge exceeds base level HECS.

What now follows offers some suggestions concerning how this part of the reformed system might work. The discussion focuses on the mechanics for both students and government administration.

The idea is that institutions be allowed to charge above or below the base level HECS. But given the significant uncertainties surrounding the possible consequences of unfettered price competition, the government would restrict the size of the variation. The extent of price variation suggested could be to have the maximum additional charge set at 25 per cent above the base level HECS for a particular course. The additional

component could be referred to as a 'HECS premium', and it would work as follows.

A student enrolling in a particular course with a HECS premium could choose to pay the premium up-front, with the money being collected, and used without restriction, by the enrolling university. In this case of up-front payment of the premium, there are no implications for the size of the operating grant, and no administrative issues for the government.

If past experience is a guide, however, the majority of students enrolling in a course will choose instead to repay their additional charge through the HECS mechanism. In these cases the on-paper debt should be higher than the up-front fee, to compensate the government for any interest rate subsidy and as payment for tax office administration and the value of the default protection implicit in income contingent repayment.

That is, assuming that the current interest rate subsidy remains, a reasonable surcharge would perhaps be 35 per cent, which is close to the existing implicit arrangement with HECS in that those now paying up-front receive a 25 per cent discount in nominal terms. For example, if the base level of HECS for the lowest cost tier was set at $2800, the nominal charge for those choosing to pay later would be $3780. Even if a real rate of interest is imposed, the pay later charge for both the base level HECS and the premium should still be higher than the up-front price, as a compensation for default protection and to pay for administration.

With respect to the timing of outlays, the government would still pay the institution an operating grant on the basis of a planned amount of student load, given the implicit assumption that the students will all pay the base level rate of HECS. Under current arrangements the payment of the operating grant in respect of a particular year starts in December of the previous year, with the final student load being confirmed at the end of August in that year. If these arrangements are retained, under the HECS premium model the government would compare the actual with the expected HECS liability at the end of August of the year in which the student has enrolled.

With the charging of a premium the actual short term liability of the government would exceed the liability previously expected, which means that the government needs then to increase the institution's operating grant. This could be done in the following year, with the addition to the operating grant being the size of the HECS premium (as if it was paid up-front, because the government is charging the student for the privilege of the conditions associated with income contingent repayment).

Some institutions might choose to charge less than the base level HECS, perhaps to gain a foothold in a particular market. There is no obvious reason for the government to place a limit on the extent to which institutions can undercut the base level of HECS. In this situation the government would reduce the operating grant in the following year to take into account the difference between what was allocated previously and the new charge.

This model for reform sits easily with the fundamental goals espoused in this paper. Such a system is consistent with two pressing needs in higher

education funding: greater institutional financial autonomy, but in a context in which students only have to repay charges according to their income. Further, the illustration offered above suggests that the administrative mechanics for the government appear not to be complicated, although there is a financing issue considered below.

7 (iv) The Allocation of Places

A vital question which the suggested model does not address directly is whether or not the government subsidy and the capacity to defer payment of the student's fee should be restricted, in terms of both the institutions where students apply or the number who are eligible. At the moment the government effectively determines how many students it will subsidise (and who will have access to HECS), and their distribution between a limited list of institutions. Students beyond the specified number, or at institutions outside of the specified list, do not gain a place (although from 1998 some of these prospective students will be allowed to purchase places, a policy change considered earlier).

There are policy issues here which go beyond questions of financing. A government may decide for reasons of cost effectiveness, quality or regional development, for example, that it wishes to concentrate its subsidies for higher education on a limited number of institutions. It may decide for political or other reasons that it wishes to play a role in determining the distribution of those subsidies. On the other hand, as suggested by Karmel (1997), a government may decide to allow student choice to determine the distribution of public funds through some form of voucher system.

The fundamental point is that it is critical that students have access to an income contingent loan mechanism. If such loans are constructed as proposed above, that is, with the government retaining a proportion of the charge to cover its costs, then there should be no budgetary reasons not to allow the HECS mechanism to apply for extra students in public institutions, or indeed, for students at accredited private institutions.

7 (v) Budgetary Issues

In the early 1990s the model suggested above would not have been welcomed by government because of its implications for public sector accounting and, in particular, what it would have meant for the measurement of the Budget deficit. This is because there would have needed to be increases in operating grants to universities to fund premium HECS and, in an accounting sense, no weight would have been given to the fact that most of the revenue would be returned via the HECS mechanism. However, this is no longer the case.

In 1994/95 the Australian Bureau of Statistics reviewed its accounting procedures in a way which acknowledges that HECS is essentially a loan. This means that as well as being a government outlay, the HECS premium would now be treated as an asset. In other words, in budget accounting terms, government payment for the premium has no consequences for the measurement of the Budget deficit. This is a significant point for policy:

the suggested policy reform model achieves the objective of not adding to (at least perceived) public sector financial burdens.

Even so, and beyond the critical political issue of the measurement and perception of the Budgetary implications of a policy change, a government interested in implementing such a scheme might want for whatever reason to consider other financing options. Two possibilities come to mind, but it should be noted that neither have been researched in any detail for the current exercise.

The first is that of the AUSTUDY Loans Supplement, which allows higher education students to trade-in some part of their AUSTUDY grant for a doubled amount of an income contingent loan, paid back consistent with HECS arrangements.[24] The important point about the Supplement for the Budget is that a private bank provides the loan finance, which has meant that every dollar of the AUSTUDY grant traded-in reduces government outlays by the same amount. Such a mechanism might be used to finance a HECS premium.

The second suggestion for financing higher outlays associated with the suggested model relates to the fact that there is now a considerable asset for the government in the form of HECS debt, perhaps as large as $5 billion. In financing a new approach to higher education some part of this could be sold to the private sector, an issue known as securitisation.

While both of the above possibilities might be worth exploring further, it is relevant to emphasise that in terms of the measurement of the Budget deficit neither are necessary given recent changes in public sector accounting. In other words, the financing of a HECS premium does not mean an increase in the Budget deficit.

7 (vi) Monitoring the Effects of New Policy

When there is policy change, there is a need to know its effects. For the current higher education financing debate, there is a strong case for monitoring developments closely. This point is particularly pertinent if the government institutes new arrangements that are significantly different to the *status quo*. Even a moderate change (such as suggested in this paper) should be analysed closely, simply because good research leads to improved policy.

A suggestion in this context is that the government should now put in place a data collection mechanism which will allow properly informed analysis of the effects of potential reform of higher education. In terms of the consequences for prospective students of changed arrangements it is imperative that a survey is done before policy revisions become operational, and that the individuals surveyed are followed over the period of the policy change.

This research approach, known as a panel survey, is the best currently available way of understanding how changes in an institutional environment impact on individual behaviour. If the collection of data

24 For analysis of the Supplement, see Chapman (1992).

does not begin until after new policy has been instituted one consequence is that there will be a much more limited understanding of its real effects.

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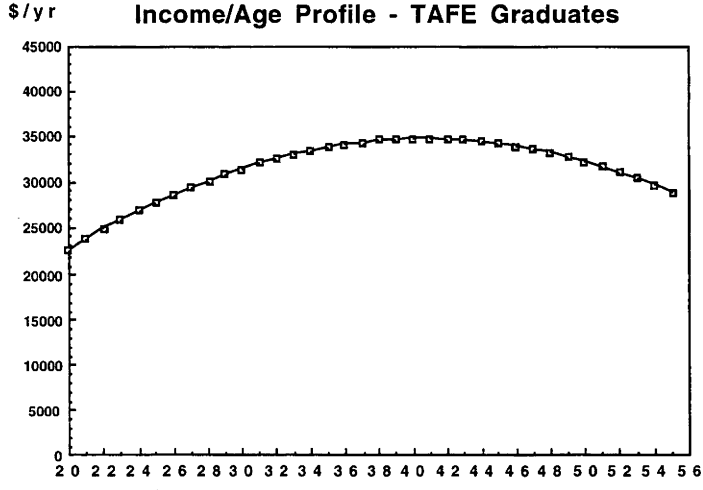
Appendix 1

Applying HECS to TAFE: Changes from the 1996/97 Budget

The following illustrates the extent to which the changes in HECS repayment parameters introduced in the 1996/97 Budget increase the net present value of revenue collected from TAFE graduates, under the assumption that TAFE charges are collected using the HECS arrangements. The median income/age profile of TAFE graduates working full time was taken from the 1991 Census of Population and Housing, and was converted to 1997 dollars using percentage changes in Average Weekly Earnings. The data were smoothed with the application of a quadratic age/income function, and are presented in Appendix Figure 1.

Appendix Figure 1



Source: ABS, 1991 Census.

The HECS repayment rates and thresholds for 1996 and 1997 were both used, with the NPV calculations being done with a discount rate of 5 per cent. The hypothetical student is assumed to start a two year Associate Diploma at age 18, and begins full-time work two years later as a TAFE graduate, earning in each year the median income of Associate Diploma TAFE graduates. Two different NPVs are calculated, for: the current TAFE Associate Diploma charges per annum of about $530; and, for purposes of comparison, a charge of $1000 per year. The results are shown in Appendix Table 1.

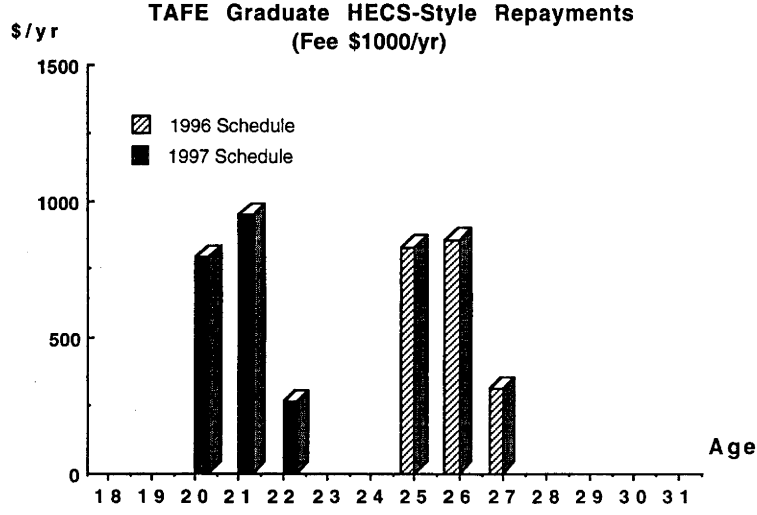
Appendix Table 1

Net Present Value of TAFE Charges Collected Through the HECS Mechanism

TAFE Charge	$530 pa for 2 years	$1000 pa for 2 years
Collected under the 1996 Repayment Schedule	$710	$1307
Collected under the 1997 Repayment Schedule	$905	$1668
Per cent increase	27.5	27.6

The important point is that the new lower thresholds for repayment of HECS have increased the NPV of the charge to the government from using HECS to collect TAFE charges by about 28 per cent. This is a significant change, and it implies that one of the former criticisms used against the use of HECS repayment for TAFE is now less important than previously. Appendix Figure 2, which shows the old and the new repayments by age, illustrates why the NPV increased: the much lower first threshold for repayment means that the typical TAFE graduate begins paying straight graduation, whereas under the 1996 parameters no payment was received before age 25.

Appendix Figure 2



Appendix 2

Loan Repayments Under Current HECS With Very Large Debts

The following illustrates that for very large HECS debts ($60,000 and $80,000), there is a considerable increase in the length of time taken to repay, for typical graduates defined as follows: the student is assumed to begin studying at age 18, and to earn the relevant income of the group (average male and female graduates working full-time, and award wage teachers) from age 22 to retirement at age 60. Descriptions of and sources for the data are to be found in Chapman and Salvage (1997).

Appendix Table 3 shows the age at which different levels of the HECS debt are fully repaid. The $16,600 figure is currently about the average nominal debt incurred for a four year degree.

Appendix Table 3
Age of Full Repayment of HECS: Various Scenarios

	HECS Debt of $16,600	HECS Debt of $60,000	HECS Debt of $80,000
Average Graduate Males	29	45	52
Average Graduate Females	34	Debt Unpaid Total paid by age 60: $58,189	Debt Unpaid Total paid by age 60: $58,189
Award Wage Teachers	31	47	55
Average Females*	44	Debt Unpaid Total paid by age 60: $44,730	Debt Unpaid Total paid by age 60: $44,730
Award Wage Teachers*	40	57	Debt Unpaid Total paid by age 60: $68,781

*The graduate is assumed to spend 5 years out of the labour force from age 27, and a further 5 years working part-time (and assumed to earn half the full-time salary) from age 32 to age 37, after which full-time work is resumed. This is a typical experience for those rearing children.

Three points are worth noting. One, the level of the debt chosen - even at $80,000 - is high, but plausible, if universities were given complete price discretion. For example, a 4 year degree with a charge of $15,000 per annum would not be out of the question, with an additional $20,000 of debt resulting from $5,000 per year of study in which the AUSTUDY Loans Supplement is accessed.

Two, any HECS debt greater than about $58,000 remains unpaid by female graduates earning average income, even if they are working full-time. And three, graduates choosing to spend 5 years out of the labour force, and 5 years working part-time, will not pay back more than about $45,000 if they earn a typical female graduate income, and will not pay back more than about $70,000 if they earn the teaching award.

Appendix Table 4 shows that, in net present value terms, as the debt becomes high the extra revenue received does not increase commensurately. This is a consequence of the interest rate "subsidy" (see Section 7), and the fact that additional debt must

inevitably be paid back a long time after it is incurred. A striking result is that for average graduates additions to the on-paper debt of the order of $20,000 at high levels of debt increase the net present value of the revenue stream by as little as $4,000, and by nothing at all for those spending 10 years not working full-time (because in the latter scenario any on-paper debt on top of $58,000 remains unpaid).

Appendix Table 4
NPV* of HECS Repayments: Various Scenarios

	HECS Debt of $16,600	HECS Debt of $60,000	HECS Debt of $80,000
Average Graduate Males	$10,784	$27,243	$31,590
Average Graduate Females	$9,428	$19,354 (Debt Unpaid)	$19,354 (Debt Unpaid)
Average Teachers	$10,906	$25,781	$29,584
Average Females*	$7,195	$12,352 (Debt Unpaid)	$12,352 (Debt Unpaid)
Average Teachers*	$10,733	$22,020	$23,414 (Debt Unpaid)

* Using a 5 per cent rate of discount.

** The graduate is assumed to spend 5 years out of the labour force from age 27, and a further 5 years working part-time (and assumed to earn half the full-time salary) from age 32 to age 37, after which full-time work is resumed.

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