

**Higher Education Financing and Student Access:**

**A Review of the Literature**

by

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## **Executive Summary**

This paper contains a review of the evidence on the effect of the Higher Education Contribution Scheme (HECS) on student access to higher education. Analysis is offered of proposed changes to student charges for higher education announced in 2003 by the Government and the Australian Labor Party.

### (A) Studies of the impact of HECS

One alleged advantage of an income contingent loan scheme such as HECS is that it should not deter potential students from disadvantaged backgrounds from university participation more than other students, since loan repayments depend on future ability to pay, rather than current financial circumstances. That is, while it would seem to be the case that the introduction of a charge might decrease the incentives for students in general to undertake higher education, there is no obvious reason for there being particularly strong disincentives from HECS for students from disadvantaged backgrounds.

Studies of the impact of HECS have focussed on three issues:

#### 1 Its impact on demand

Two approaches have been adopted. One addresses this issue through the estimated impact of HECS on rates of return to higher education study. These studies suggest the impact of HECS on returns for graduates who undertake their studies immediately after completing school has been small. That is, the charge is unlikely to have had a substantial impact on the demand for higher education study for that group (see, for example, Chapman and Ryan 2003, and Borland 2002). Other studies have analysed time series of applications for higher education places (for example Andrews 1997, Aungles, Buchanan, Karmel and MacLachlan 2002). The latter study found that the introduction of HECS had no impact on applications, but that the changes introduced from 1997 lowered school leaver applications by a small amount and mature-age applications more substantially.

#### 2 Its impact on student attitudes towards higher education

Studies that ask people about the factors that shape their decisions to participate in higher education have found that HECS has not been a dominant factor influencing individual decision-making, either in aggregate or for low socioeconomic status groups. In a related approach, Chapman and Ryan (2003) looked at student intentions to participate in higher education and found a temporary “announcement effect” across all social background groups associated with the changes made in the 1996 Budget, but no lasting impact on student intentions among any group.

### 3 Its impact on access by those from low socioeconomic status backgrounds

Other studies have sought to test whether the relationship between university participation and socioeconomic status has changed over time, specifically after the introduction of HECS and the changes introduced from 1997. Studies that use administrative data from those enrolled suggest that the share of participants who are from low socioeconomic status backgrounds did not change after the changes introduced from 1997 (Andrews 1999, Aungles *et al.* 2002). However, the latter study found that higher charges for Band 3 courses may have induced a small number of low socioeconomic status males to switch to courses with lower HECS charges.

Studies that have analysed university participation among cohorts of young Australians at different points in time have not found that participation fell among individuals from low socioeconomic status backgrounds, either after the introduction of HECS or its amendment (Chapman 1997a, Marks, Fleming, Long and McMillan 2000, Chapman and Ryan 2003). Growth in participation from 1988 was considerably stronger among individuals from the middle of the wealth distribution, however (Chapman and Ryan 2003). Marks and Evans (2003) found that among individuals with similar university entrance scores in 1999, individuals whose parental occupational backgrounds were 'blue' collar were as likely to participate in university as those whose parental occupational background was professional. They concluded that since occupational origins had little influence on university participation once entrance scores are taken into account, HECS had not deterred students from less privileged backgrounds from attending university.

#### (B) Proposed changes to student higher education charges

The Commonwealth Government proposed changes to higher education student charges in the 2003-04 Budget. These involve: (i) allowing universities to charge up to 30 per cent more for HECS funded places (HECS-HELP), but with an increased first repayment threshold, and; (ii) to extend HECS-type repayment arrangements to cover full fee-paying students (FEE-HELP).

Through an analysis of the present value implications of these proposals we find that, for males, the HECS-HELP fee increases translate quite directly into increased equivalent charges for higher education. For females the impact of the fee increases on the present value change in costs depends importantly on their experiences in the labour market after graduation. For those on high incomes, the fee increases translate directly into increased 'true' (present value) charges. However, for those on average or lower female graduate incomes, with or without intermittent labour market activity, the eventual increase in the true charge is lower than the nominal increase. This occurs because the repayment of their debt occurs over a longer period and there is no interest paid on the outstanding debt.

The impact of the FEE-HELP proposals on individuals also varies according to their post-course labour market experiences. Those who are more successful face the largest ‘true’ charge, but it constitutes the smallest proportion of their lifetime incomes. Females who earn incomes 15 per cent lower than the graduate average over their careers, or who leave the workforce for a short period of time, would never repay their FEE-HELP debt.

With respect to the implications for student demand and access of the disadvantaged groups to higher education, the main proposal put forward by the Australian Labor Party (ALP) in its *Aim Higher* policy statement is an increase in the first HECS repayment threshold, to \$35,000 per annum. Studies that have analysed the impact of the opposite change (a decrease in the threshold) suggest that such a change might induce a small increase in the demand for education (across all groups) but is unlikely to have important positive effects on participation by disadvantaged groups. In addition, the ALP proposes moving mathematics and science courses from band 2 to band 1. While this will significantly reduce the costs for maths and science students, it is not expected that there will be important effects on higher education demand in these areas. This suggestion is consistent with overall findings that changes to HECS charge levels have not had discernible effects on the access of the disadvantaged to the system

## **1 Introduction**

This paper is a review of the evidence on the effect of the Higher Education Contribution Scheme (HECS) on student access to higher education, both with respect to its introduction in 1989, and as a consequence of changes to HECS in the 14 years after. Both the Government and the ALP have proposed changes to student charges for higher education and the likely effects are analysed.

One alleged advantage of income contingent loan schemes - such as HECS - is that they should not deter potential students from disadvantaged backgrounds from participating in higher education any more than other students, since loan repayments depend on future ability to pay and not current financial circumstances. The broad policy context is as follows.

First, the changes to higher education student charges announced in the 2003-04 Commonwealth Budget appear to mark a radical new higher education financing path. Second, there has recently been some controversy associated with the non-publication of (possibly) unfavourable research findings on the impact of HECS undertaken by the Commonwealth Department of Education, Science and Training. Accordingly, it seems very valuable and appropriate to review the literature concerning the impact of HECS on student access.

The next section contains a brief history of student financing in Australia since the 1970s. The section following sets out some of the theoretical considerations related to the adoption of an income contingent loan scheme such as HECS. This provides essential background to help understand the basis of studies undertaken which assess the impact of HECS on university access, which are reviewed in Section 4. The likely impact on access of the new charge arrangements proposed in the 2003-04 Commonwealth Budget are described in Section 5, and these are compared briefly to the likely impacts of Labor student financing policy.

## **2 University Student Financing in Australia from the 1970s to 2003**

### *2.1 Fee abolition in 1973*

In the early 1970s a minority of students paid up-front fees of around \$400 per annum, in \$1972, or around \$2,200 in today's prices. However, charges were abolished by the Labor Government in 1973. This policy change had a number of motives, among them to remove perceived barriers to participation in higher education by the poor.<sup>1</sup>

The abolition of university fees at this time had no discernible effects on the socioeconomic composition of higher education students,<sup>2</sup> for two reasons. First, only a

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<sup>1</sup> See Chapman (1997a) for a discussion of this and other objectives of the policy change.

<sup>2</sup> See Wran Committee Report (1988).

small proportion of students (20-25 per cent) paid fees, since the great majority had either Teacher's College or Commonwealth Scholarships. Second, because secondary schooling retention rates to the equivalent of Year 12 were very low at the time (less than 30 per cent), most prospective students from poor families had left the education system well before university entrance became an option.

## *2.2 The Higher Education Administration Charge*

The Labor Government introduced the so-called Higher Education Administration Charge in 1986. HEAC was an up-front fee and its introduction is a watershed: it represented the first move in Australia towards universal user-pays for university study. The charge was small - \$250 (in 1986 terms) – and did not vary with respect to course load. There is some evidence that the charge had a small negative effect on mature-aged part-time enrolments.<sup>3</sup>

## *2.3 HECS*

The Higher Education Contribution Scheme, recommended by the Wran Committee in 1988,<sup>4</sup> was adopted in 1989. This was a universal charge to undergraduate students of \$1,800 (in 1989 terms), with a unique feature: students could defer payment until their future incomes reached a particular threshold, with no real rate of interest being charged on debt incurred in this way. This was the world's first income-contingent charge for higher education,<sup>5</sup> a policy arrangement that has since been adopted or recommended in many other countries.<sup>6</sup>

HECS came about because the government wanted to increase higher education enrolments but was not prepared to pay for the increased expenditure through taxation. More importantly, "free education" was seen to be regressive and unfair.<sup>7</sup> That is, there seemed to be significant benefits accruing to individuals who were seen generally to be advantaged over the course of their lifetimes; however, the costs of a no-charge system are met by all taxpayers, the vast majority of whom have no direct access to higher education. Many critics of HECS argued at the time that the new system would have major adverse consequences for the access of the disadvantaged.

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<sup>3</sup> See National Institute for Labour Studies (1988).

<sup>4</sup> Wran Committee Report (1988).

<sup>5</sup> For analysis of the background to HECS, see Edwards (2001).

<sup>6</sup> Income-contingent loan schemes for higher education are now in place in New Zealand, the UK, the US, South Africa and Chile, and have been recommended by the World Bank in Ethiopia, Rwanda, Malaysia and the Philippines.

<sup>7</sup> For further analysis of the background to the policy, see Chapman (1997a).

## 2.4 HECS: The 1996/97 Budget changes

In its first Budget the Coalition government announced four significant higher education financing modifications<sup>8</sup>:

- all HECS charges were increased, by around 40 per cent on average;
- the HECS income thresholds for repayment of the debt were reduced considerably – for example, the annual income initiating the first repayment fell from about \$30,000 to about \$21,000 (in 1996 terms);
- the uniform HECS charge was replaced with three levels; and
- universities were allowed to set whatever level of fee they wanted for undergraduates not accepted under existing HECS quotas for up to 25 per cent of students covered by HECS.

The most significant direct change to HECS related to the repayment thresholds. Because the whole structure of repayment rates was moved down, all people repaying HECS – most of whom had graduated before 1997 – would now pay more in present value terms, because they would have less time to benefit from the subsidy implicit in an interest-free loan. Chapman and Salvage (1997) estimate that this meant an average increase in effective repayment obligations of about 10 per cent.

The three-tier charge structure was set with reference to a combination of course costs and what seems to be a presumption of the income advantages of different degrees. For example, one of the lowest cost courses (Law) was accorded the highest charge, and one of the high cost courses (Nursing) was accorded the lowest charge. Of interest is that the Wran Report also suggested a three-tier charge structure, but with the charges reflecting course costs only.<sup>9</sup>

In the same Budget the Coalition announced changes to student income support. The first was an increase in the age of ‘independence’ from 22 to 25 years under AUSTUDY, commencing in 1997. The second was some tightening in the operation of the family means tests. The third, to take place from the middle of 1998, was that the AUSTUDY allowance would be subsumed under the Youth Allowance, a means-tested payment also made to eligible unemployed young people. In a series of papers several authors have argued the operation of the family means tests and the age of independence change have acted to deter young people from more disadvantaged backgrounds from attending university.<sup>10</sup>

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<sup>8</sup> For analysis of the effects of these changes, see Chapman and Salvage (1997).

<sup>9</sup> For critical commentary on these changes, see Chapman (1997b).

<sup>10</sup> See Birrell and Dobson (1998), Birrell, Dobson and Smith (1999), and Birrell, Calderon, Dobson and Smith (2000).

## 2.5 PELS

In January 2001 the Federal Government announced, as part of its Innovation Statement, that in 2001 an income contingent loan would be made available to all fee-paying non-research postgraduate student, to cover up-front charges. The scheme is known as the Postgraduate Education Loans Scheme (PELS), and has the following features: there are no limits on the amount a student can borrow; the loan has repayment conditions the same as HECS; and universities remain free to set postgraduate charges.<sup>11</sup> The recent Budget has suggested that PELS be subsumed into the proposed FEE-HELP scheme, which is analysed below.

## 2.6 The 2003 Budget (*Backing Australia's Future*)

*Crossroads* - the name given to the policy process initiated by the Commonwealth government at the beginning of 2002 - signalled an opportunity to revisit and reform several areas of tuition funding, and led to the very significant 2003-04 Budget changes proposed for higher education financing.

The government announced radical planned reforms for student loans in its manifesto, *Backing Australia's Future*. There are two different dimensions of changes to student financing, known as "HECS-HELP" and "FEE-HELP". The likely implications of these proposed changes are summarised below. To help motivate this analysis we first summarise the theoretical basis for income related loans for higher education.

### 3 **Theoretical Issues: What is the Right Way to Charge for Higher Education?**<sup>12</sup>

One role for government is to help ensure the production of optimal quantities of goods and services. In some circumstances this requires public subsidies equal to the marginal value of what is known as "externalities" associated with an activity. "Externalities" is the name given to the social benefits of an activity above and beyond the benefits that accrue to individuals, with their nature being considered in Chapman and Ryan (2002).

Unfortunately, while research supports the existence of such externalities from higher education – mostly related to the effects of higher education on an economy's capacity to attain high levels of economic growth – there is no agreement on their size. The other aspect of a financing rule for government entails the extent to which the direct beneficiaries of higher education – graduates – derive private benefits from the experience.

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<sup>11</sup> For analysis of PELS see Chapman and Salvage (2001).

<sup>12</sup> The discussion of theoretical issues follows closely that in Chapman (1997a) and Chapman and Ryan (2002).

Since graduates generally do very well in the labour market, an important rationale for charging for higher education is that of equity. In addition, university students are more likely to come from privileged backgrounds (see Birrell, Calderon, Dobson, and Smith, 2000; and James, 2002, for example). Consequently, and given that graduates receive over their lifetime important investment returns to higher education, it follows that not charging for university is regressive.

How should be a charge for higher education study be paid? One possibility would be for the government to offer financial resources to universities to cover the presumed value of externalities, but beyond that allow the institutions to charge fees, with no other financing assistance being provided. Such an arrangement would unambiguously be poor policy.

The basic problem, often referred to as “capital market failure”, is that some prospective students do not have the resources to pay up-front fees and would need to approach a bank for a loan. However, banks will be unwilling to lend to students because of the costs associated with default. An education loan is risky for a bank because, in the event of default the bank has no collateral to sell. This implies that, without a guarantee of repayment, banks will not be interested in the underwriting of human capital investments.

Thus prospective students without sufficient financial resources to cover fees will not be able to enrol. There will be three important consequences: a loss of talent, and thus a cost to the society; a foregone opportunity to affected individuals; and a cementing of the nexus between family background and a person’s lifetime income, meaning that such a system is regressive in an inter-generational context.

A possible solution to the capital market problem described above is used in many countries and involves government-assisted bank loans to students with low family incomes.<sup>13</sup> The most important form of public sector support is the guarantee of repayment of the debt to the bank in the event of default. While this seems to address the capital market failure, there are several remaining problems.

The first is that students’ access to loans is usually means-tested on the basis of family income. Means-testing denies financial assistance to prospective students whose families are apparently not unprivileged, with such a system thus presuming equal access of individuals to family finances. However, those in charge of the distribution of finances within households may not share the prospective student’s view of the value to them of education.

The second problem is default. For the government this is costly since bank-financed student loans default rates are very high.<sup>14</sup> And, if there is a guarantee that defaults will be paid for by the government, banks will put less effort into debt recovery, and this helps

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<sup>13</sup> For example, this happens in the US and Canada.

<sup>14</sup> Harrison (1995) notes that in US Propriety Colleges the default rate is as high as 50 per cent. The average default rate for student loans is around 15-30 per cent (Wran Committee Report, 1988).

ensure that the level of default will not be small. Consequently, default can be very expensive for taxpayers. Students also face an important default issue. This is that some may be reluctant to borrow for fear of not being able to meet future repayment obligations and thereby damage their credit reputation (and thus access to future borrowing, for example, for a house). These concerns imply that there will be less borrowing than there would be in the absence of this default concern.

A reluctance to borrow due to the uncertainty of repayment constitutes what might be labelled an *ex ante* default problem for prospective students. There is also an *ex post* problem, which is that a proportion of those students who took the credit risk of borrowing for a human capital investment will end up not being able to repay because of low incomes. In these circumstances default imposes a potentially large cost on those unlucky borrowers who do poorly in the labour market. A consequence of this uncertainty about labour success is that some eligible prospective students will not be prepared to take bank loans.

Another student financing policy, income related loans such as HECS, can be designed to avoid the problems associated with alternative financing policies outlined above. First, there is no concern with intra-family sharing so long as the scheme is universal. That is, no students would be denied access through the imposition of means-testing arrangements that could exclude some whose families are unwilling to help.

Second, given an efficient collection mechanism, there is no default issue for the government. That is, if the tax system is used to collect the debt (at least for Australia, this is essential because the Australian Taxation Office is the only institution with reasonably good information on a former students' income), it is extremely difficult for the vast majority of graduates to avoid repayment.<sup>15</sup> There is a trivial "default" issue in that some students will not pay back in full, but this is because income contingent systems are designed to excuse some former student's payments because their lifetime incomes are too low.<sup>16</sup>

Third, because repayments depend on income, there should be no concerns by students with respect to the potential incapacity to repay the debt. That is, once an individual's income circumstances determine repayment – so long as the repayment parameters are sufficiently generous – it is not possible to default because of poor future circumstances. This is the critical practical advantage of income contingent collection schemes – unlike any other form of assistance, there is insurance for students against default. Income related schemes have significant advantages in theory over alternative financing arrangements, in that they can be designed to avoid the major problems of their

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<sup>15</sup> The existence of an efficient administrative collection mechanism is essential for the operation of an income related scheme. This point is emphasised in Chapman and Ryan (2002). Nevertheless, default is still possible in some respects. One way is through death, and another is through emigration.

<sup>16</sup> Harding (1995) calculates that the total repayments remaining uncollected because of the nature of HECS would be of the order of 20 per cent for the original scheme (when the repayment conditions were much more generous for the student (before the 1996/97 changes)).

alternatives.<sup>17</sup> The issue to be addressed next is what has the impact of the introduction and amendment of HECS been in general and specifically with respect to higher education access for low socioeconomic status groups.

## 4 Studies of the Impact of HECS Access Effects: The Literature

### 4.1 Introduction

There are several areas of interest in an assessment of the empirical consequences of HECS. They concern the effects of HECS on the private benefits to higher education and the consequent demand for admission, and the access of the poor to the university system.

### 4.2 Studies of Aggregate Demand for University Places

Two approaches have been adopted to assess the impact of HECS on student demand. One has been to estimate its impact on the private returns to investment in higher education. The second has been to explore whether higher education participation changed after either the introduction of HECS or the 1996 variations to its operation.

Chapman and Ryan (2003) adopt the first approach. They analysed whether the introduction of student charges through HECS in 1989, and the major changes to the system in 1997, had significant impacts on the net economic benefits to graduates from a university education. The approach involves examination of private internal rates of return to higher education, a calculation requiring the construction of income profiles for hypothetical individuals, based on data from representative individuals.<sup>18</sup>

The internal rates of return estimates before and after the introduction of HECS, and following the 1996 changes are shown in Table 1 (taken from Chapman and Ryan 2003).

**Table 1**  
**Internal Rates of Return to Higher Education for Males and Females: Various HECS Scenarios (per cent) (after tax)**

	<b>Men</b>	<b>Women</b>
<b>1988 (No HECS)</b>	14.6	13.9
<b>1989/90</b>	14.1	13.8
<b>1997/98</b>	13.1	12.6

<sup>17</sup> This is not to suggest that income related schemes are the correct approach in all countries, or problem-free for Australia. In many countries the institutional context does not facilitate the adoption of such policies (Chapman, 2003), and with respect to HECS there remain some concerns with graduates emigrating and not repaying all their debt.

<sup>18</sup> The hypothetical individuals are men and women assumed to begin a four year science degree at age 18 which is completed at age 22, after which they work full-time until retirement earning the average annual incomes of full-time graduates of their sex. It is assumed that the earnings foregone in their four years of study is that of the earnings of full-time non-graduates of their sex from age 19 to age 22, and that HECS is repaid according to the rules operating at the time. The data used are from the ABS 1995/6 Income Distribution Survey.

There are several points of significance from the Table. First, before HECS (in 1988), real rates of return to both men and women, of 14.6 and 13.9 per cent per annum respectively, were very high. Second, both the introduction of HECS, and the substantial changes in both the level of the HECS charge and the generosity of the repayment rules introduced in 1997, were apparently associated with no major changes to internal rates of return. Australian university graduates on average have done very well in the labour market, and HECS has had little impact on these private benefits according to the Chapman and Ryan (2003) calculations.

Borland (2001) also estimated rates of return based on income profiles, but from a different ABS data source. In Borland's results the difference in the returns for a representative male who repaid his post-1996 HECS Band 2 course debt after entering the labour market, and for a no-HECS regime, was 1.5 percentage points. This is the same finding as that found by Chapman and Ryan (2002) and reported in Table 1 between the pre-HECS 1988 rate of return and the post-1996 return.

If HECS has not affected the return on the investment in a substantial way, it would seem reasonable to expect little change in the aggregate demand for higher education. This is not as straightforward as it seems since the issue requires some background commentary on the different potential meaning of the notion of "aggregate demand".

An important point involves the distinction between applications and enrolments. That is, a potential senior high school student's interest in pursuing higher education begins with her making an application for a place. If a place is offered her next decision concerns whether or not to accept and to thus enrol. The distinction between applications and enrolments is not very interesting if there is an excess supply of places, but this has not been the case in Australia over the last several decades. Indeed, HECS was motivated in part by the perceived need to diminish the number of "qualified" students unable to access higher education due to the shortage of places.

There have been several empirical exercises exploring the effects of HECS on applications. The first, from Andrews (1997), used a multiple regression approach attempting to explain changes in the ratio of applicants from Year 12 to the total number of Year 12 students. He included measures of youth job opportunities, and allowed the effects of the announcement, introduction and changes to HECS to be estimated separately. He found the introduction of HECS had arguably lowered applications from school leavers, (but not mature-aged applicants). However, he estimated that the 1996 changes had no impact on applications from school leavers, but may have had a negative impact on mature age applications.

More recent analysis of similar data in Aungles, Buchanan, Karmel and MacLachlan (2002) used application numbers, rather than ratios, and in contradistinction found no effect on school leaver applications following the introduction of HECS. After 1996, however, there was a small yet significant decrease (of less than 10 per cent). The decrease in applications from mature-age people after 1996 was somewhat higher.

Some uncertainty remains about these results, for the following reasons. The first is that the analysis did not have available a lot of data points. Second, in all exercises of these types potentially other factors are at work but their influence hasn't been taken into account. These could include the role of student income support, changes in the expected benefits of higher education, or the indirect influence of the expansion or otherwise of the number of places.<sup>19</sup>

One candidate for an important variable not taken into account is raised by Birrell *et al.* (2000). They argue that the announced increase in 1996/97 in the age of independence with respect to eligibility for student income support arrangements affected university participation among young people. There is no direct test of this proposition.

Overall, the analyses of aggregate demand effects do not provide a simple and unambiguous story. But it seems reasonable to conclude from the available evidence that, if HECS has reduced demand for university places among school leavers, the effect has been small. Its effect may have been more substantial with respect to mature-age applicants, for whom the return to university study might be expected to be smaller in general (since they have less time to earn higher incomes before retirement). Further, mature aged potential students are more likely to be earning over the income repayment threshold already, meaning that changes to HECS have a more immediate potential effect. Changes in mature aged demand cannot be properly analysed without taking into account this effect.

### 4.3 Student Surveys

Australian studies have used two approaches to assess the impact of HECS on enrolments in higher education (as opposed to applications) by low socioeconomic status groups. The first has been to ask people about the factors that shape their decisions to participate in higher education. These studies have usually involved comparisons of individuals who were eligible to attend university, and either chose to attend or chose not to, and the role of HECS in that decision-making process. These studies suggest that HECS has not been a dominant factor influencing individual decision-making, either in aggregate or for low socioeconomic status groups (Higher Education Council, 1992; Robertson, Sloan and Bardsley, 1990; and Ramsay, Tranter, Charlton and Sumner, 1998).

Chapman and Ryan (2003) examined intentions to go to university reported at around age 14 in three cohorts of young Australians who could have attended university in 1988, 1993 and 1999. They found that university enrolment intentions changed very little between the 1988 and 1999 cohorts for the lowest and highest wealth groups. These proportions even fell marginally in the 1993 cohort, who reported them in 1989, which may represent some kind of initial HECS announcement or implementation effect.

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<sup>19</sup> A more technical issue is that the main explanatory variable included in the school leaver equation, the number of Year 12 completers, was subject to considerable mismeasurement over the estimation period, as explained in Ryan and Watson (2003)

However, the Chapman and Ryan analysis revealed that the growth in the number of those indicating they intended to go to university was substantial in the middle of the wealth distribution. In the 1999 cohort, the same individuals were asked in each year from 1995 to 1998 what they intended to do when they left school. This makes it possible to identify any ‘announcement effect’ on university study intentions from the 1997 changes to HECS. These changes were announced as part of the Australian Government 1996–97 Budget in August 1996, with the data on intentions being collected in December of that year.

Analysis of that time series of ‘intentions’ suggests that there was a pronounced ‘announcement’ effect in 1996 associated with the 1997 changes to HECS. This effect was evident for all wealth groups, though it was less strong for low wealth groups than the in the middle or top of the distribution. However, the announcement effect was temporary, with the proportion indicating they intended to go to university rebounding in the following year for all wealth groups.

#### *4.4 Studies of Participation by Disadvantaged Groups*

The second approach used to assess the impact of HECS on enrolments involves testing whether participation behaviour among low socioeconomic status groups changed in a way that was different from other groups, after either the introduction of HECS or with respect to changes to the scheme introduced from 1997. Therefore, the focus of these studies is not on the relationship between socioeconomic status and university participation at any point in time, but rather on whether the relationship changed.

One example is Andrews (1999), who traced the share of low socioeconomic status students among 17 to 24 year olds who commenced higher education from 1989 to 1998, including their share of disciplines included in the high cost Band 3 introduced in 1997. Individuals were assigned the socioeconomic status score of the region where they or their family lived, based on the postcode of their home address.<sup>20</sup> Individuals from low socioeconomic status backgrounds were defined as those whose home postal address was in the lowest quartile of the population, as determined by the value of the relevant socioeconomic status index. Andrews found that neither the introduction of higher and differential HECS nor the lowering of the income repayment threshold after 1997 affected the share of low socioeconomic status individuals among total higher education students.<sup>21</sup>

Aungles *et al.* (2002) also used the local area socioeconomic averages concerning education and occupation like Andrews (1999) to explore the possibility of there being an effect on commencements of the relative disadvantaged from the 1996 HECS changes. In

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<sup>20</sup> The index used by Andrews was constructed by the Australian Bureau of Statistics.

<sup>21</sup> Andrews (1999) also analysed attitudes to debt by individuals in different socioeconomic status groups. Andrews concluded that observed patterns in Australia did not show any variation by socioeconomic status. Consequently, he argued there should be little or no aversion to acquiring HECS debt by low socioeconomic status groups.

general, they found that the share of university commencements of students from low socioeconomic backgrounds did not change after the 1996 changes. However, there was an effect of differential HECS on subject choice, with a decrease in enrolments of low socioeconomic status males in courses in which the HECS charge increased most. The actual numbers involved were very small (less than 200 individuals) and these individuals were not discouraged from attending university *per se*, they simply changed their course choice. Chapman and Ryan (2003) report a similar effect in direction terms for this group using the direct measure of family wealth, but it was not found to be statistically significant.

A major uncertainty about the analysis of Andrews and Aungles *et al.* (2002) relates to the attribution to individuals of the average socioeconomic status level of the postcode of their home address as their socioeconomic status background. Western, McMillan, and Durrington (1998) present results based on a survey of 3000 university students in Queensland that suggest such an approach is not reliable. They found that the correlations between individually based socioeconomic status measures and the same postcode based index used by Andrews were quite low.<sup>22</sup> This might be consistent with there being a role for geographic area, and constitute support for the Birrell thesis that the have-not areas perform relatively poorly.

The main implication of the Western *et al.* (1998) results is that it would generally be better to attempt to assess the impact of the introduction of HECS on the social composition of the university student body by using individually based measures of socioeconomic status.<sup>23</sup> Other studies have utilised individually based socioeconomic status measures in analysis of Australian higher education participation. Long, Carpenter, and Hayden (1999) and Marks, Fleming, Long and McMillan (2000) used four and five panels of longitudinal data<sup>24</sup> respectively to identify how education participation changed in Australia over the 1980s to the late 1990s. Long *et al.* used parental education and occupation to identify differences in education participation by socioeconomic status, as well as an indirect wealth index constructed from responses by individuals to questions about the presence of material possessions in their houses.<sup>25</sup>

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<sup>22</sup> Among students aged less than 25, the highest correlation between the postcode-based index and any individual measure was 0.271 (with 'Father's occupational status'). The correlations were particularly low for individuals whose home address was in a rural or remote region.

<sup>23</sup> There also seems to be some level of 'official' acceptance of the value of individually based measures of socioeconomic status. The Australian Department of Education, Science and Training commissioned Jones (2002) to provide advice on how to implement the Western *et al.* (1998) recommendations that parental education and occupation be collected from individuals for inclusion in the student administrative collections.

<sup>24</sup> Long *et al.* (1999) analysed panels from the Youth in Transition Survey collected by the Australian Council for Educational Research. The additional panel used by Marks *et al.* (2000) is a school grade based panel of students who were in Year 9 in 1995. This panel is the 1995 cohort from the Longitudinal Surveys of Australian Youth programme.

<sup>25</sup> Individuals were asked about the number of telephones, dishwashers, bedrooms and bathrooms in their home when they were at school. Long *et al.* developed wealth scales based on these responses and compared participation in higher education by wealth quartile.

Long *et al.* (1999) analysed participation in higher education by age 19, for two reasons. The first is that in Australia many school leavers defer university entrance for a year. The second is that their data are drawn from cohorts of individuals of the same age. Since the structure of schooling varies across Australian states, many individuals would not have had the opportunity to attend university until the year they were aged 19 in the data used. Long *et al.* analysed data for individuals aged 19 in 1980, 1984, 1989 and 1994, interpreting loosely their third and fourth cohorts as pre- and post-HECS introduction cohorts.

Long *et al.* found that wealth has a strong positive effect on higher education participation. In addition, they found that differences between socioeconomic status groups widened somewhat in the last cohort compared to the third cohort. However, they acknowledged that such a trend was evident in the earlier cohorts, so that it may not have been a specific HECS-related effect.

Chapman (1997a) analysed university participation among 18 year olds in the last two cohorts analysed by Long *et al.* (1999) and concluded that the introduction of HECS had not affected university participation by students from disadvantaged backgrounds. Chapman's approach had the advantage of measuring university participation in 1988 for the third cohort, prior to the introduction of HECS. However, not everyone aged eighteen in these data had completed school when surveyed in the relevant years, so the estimates understated university participation among young Australians.

The measure of participation used by Marks *et al.* (2000) for the additional cohort they analysed differed from that used for the earlier cohorts by Long *et al.* (1999). It was the proportion of individuals in higher education in 1999 that had been in the Year 9 in 1995. The wealth measure used by Marks *et al.* (2000) for the last panel also differed from the earlier ones.<sup>26</sup> This research confirmed the positive impact of wealth on higher education participation. However, in general, their results suggested that socioeconomic status was less important in determining higher education participation in the 1999 data than had been the case in the earlier panels.

Both Long *et al.* (1999) and Marks *et al.* (2000) analysed university participation among those from non-English speaking. Students whose fathers were born in primarily non-English speaking countries had higher university participation rates than those whose fathers were born in either Australia or in other English speaking countries. If anything, the simple differences in participation were greater in 1999 than they had been in earlier cohorts. The differences were significant after controlling for other factors, such as fathers' occupation and educational backgrounds. Marks *et al.* (2000) concluded that the regression-based estimated positive differentials by non-English speaking background had been relatively constant from the mid-1980s to 1999.

Marks and Evans (2003) analyse university participation within ranges of the entrance scores used by universities to select students for undergraduate courses in 1999. They

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<sup>26</sup> Individuals responded yes or no (rather than the number) to questions about whether their house contained a dishwasher, computer, piano and swimming pool, among other items.

find that within these entrance score ranges, individuals whose parental occupational backgrounds are ‘blue’ collar are as likely to participate in university as those whose parental occupational backgrounds was professional. They conclude that since occupational origins have little influence on university participation once entrance scores are taken into account, HECS has not deterred students from less privileged backgrounds from attending university.

Chapman and Ryan (2003) analyse the access effects of HECS using three of the longitudinal panels of data used in the Long *et al.* (1999) and Marks *et al.* (2000) studies. They use a consistent definition of university participation across these three cohorts. Chapman and Ryan (2003) analyse the participation in higher education of 18 year olds in the first year they could potentially attend university. This is now explained. For the first two cohorts they estimated the participation in higher education in 1988 and 1993 of individuals who should have reached Year 12 in 1987 and 1992 respectively.<sup>27,28</sup> For the 1999 cohort analysed in Marks *et al.* (2000), Chapman and Ryan analysed higher education participation among 18 year olds.

Chapman and Ryan concluded that the introduction of HECS did not affect the access of the disadvantaged, in terms of enrolments. They found that the socioeconomic composition of the higher education student body changed somewhat between 1988 and 1993 in Australia, with the main change being the relative increase in participation by individuals in the middle of the wealth distribution.

In the period after significant modifications to HECS, there were no differences between the proportionate increases in the participation of all socioeconomic groups. Further, while there was an across-the-board decrease in the intentions of secondary students concerning university participation in 1996 after the announcement of the changes, in the next year for all socioeconomic groups enrolment intentions rebounded to their previous level. Finally, for a particular group, those who had not intended to participate in university, no differences associated with socioeconomic background were found in the proportion that eventually did participate.

More generally, Chapman and Ryan (2003) concluded that changes in overall university participation appeared to reflect different behaviour across genders rather than across socioeconomic groups, with the exception that growth was highest among the middle of the wealth distribution.

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<sup>27</sup> The approach avoids two problems with the Long *et al.* (1999) and Marks *et al.* (2000) studies. The age-based nature of their initial cohorts means that the observations were spread over three school grades, so the participation rate by age 19 includes individuals who potentially could have been at university for one, two or three years. Second, the 1989 cohort analysed in Long *et al.* (1999) includes some individuals who commenced university after the introduction of HECS, invalidating any pre- and post- HECS implementation comparison between the 1989 and 1994 cohorts.

<sup>28</sup> Given the structure of schooling in Australian states, this lowers the contribution of students from New South Wales, Victoria, Tasmania and the Australian Capital Territory in all cohorts for our estimates below their true importance in the population.

The Long *et al.* (1999), Marks *et al.* (2000) and Chapman and Ryan (2003) analyses all capture the change in relative higher education participation between males and females in Australia since the 1980s. Where males once had higher participation rates, these are now lower than female higher education participation rates. The faster growth of females does not reflect specific developments within the higher education sector that favoured female participation, such as the transfer of nursing and teacher training to the sector. Females increased their share of commencing students in every major field of study in Australian universities between 1988 and 1999.<sup>29</sup>

The conclusions from the Australian research with respect to socioeconomic mix and access are as follows.

- (i) The relatively disadvantaged in Australia were less likely to attend university even when there were no student fees. This provides further support for the view that a no-charge public university system (that is, financed by all taxpayers) is regressive;
- (ii) The introduction of HECS was associated with aggregate increases in higher education enrolments;
- (iii) HECS did not result in decreases in the participation of prospective students from relatively poor families, although the absolute increases were higher for relatively advantaged students, especially in the middle of the wealth distribution; and
- (iv) There was a small decrease in the aggregate number of applications after the 1997 changes, but no apparent decreases in commencements of members of low socioeconomic groups, except perhaps for a small number of males with respect to courses with the highest charges.

## **5 Higher Education Charge Proposals in 2003<sup>30</sup>**

### *5.1 The 2003-04 Budget Proposals: HECS-HELP*

Under the new arrangements proposed by the Government from 2005 universities will be able to set their own prices for all HECS students, up to a ceiling. With the exception of nursing and education (where no real changes will be allowed) the ceilings will be 30 per cent higher than the projected 'standard' HECS levels in that year.

The other important feature of the new HECS arrangements is that the first income threshold of repayment has been raised, from about \$26,000 to \$30,000 per annum in 2005 (and there are some additional steps, including higher repayment rates for incomes above \$50,000). In combination the pricing and threshold reforms have the potential to

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<sup>29</sup> Figures drawn from Table 13.1 DEETYA (1996) and Table 9 DETYA (2000).

<sup>30</sup> The discussion in Section 5 follows closely the analysis of Phillips and Chapman (2003).

change significantly the true HECS prices faced by students, and this is considered further below.

One important motivation for the proposed introduction of HECS-HELP is the recognition that in the early 2000s there are significant financial pressures on Australian universities, and that some price flexibility would be likely to increase revenue going to universities. Phillips and Chapman (2003) argue that overall there is little doubt that the new arrangements will mean higher average contributions from HECS students; in a sense the government will be transferring the problem associated with indexation shortfalls away from government-supplied resources (including HECS) on to students.

### *5.2 The Empirical Consequences of HECS-HELP for Students*

The new policy regime will have an ambiguous effect on the true nature of the HECS impost for a majority of students. The reason is that once a HECS debt is incurred there is no real rate of interest with respect to on-going debt obligations. This means, in true financial terms, that individuals with an on-going HECS debt implicitly receive a subsidy for each period in which the debt remains. The size of the subsidy depends on a student's path and level of future income.

It follows that all prospective students will face a different additional impost as a consequence of the proposed HECS arrangements. The importance of this is that it is not possible to generalise what the suggested changes mean for students. What now follows is an attempt to sort out the extent of the differences with respect to particular hypothetical student earnings profiles. This exploration of the financial effects of the changes to HECS requires some basic economic modelling. The assumptions required are similar to those described earlier for the impact of HECS on aggregate rates of return.

That is, the expected lifetime graduate incomes have been estimated from the 1995 ABS Income Distribution Survey, with earnings adjusted for inflation so that they reflect the likely 2005 experience. This has been done separately for men and women. Again, we have assumed that students begin university at age 18, and undertake a science course completed after four years. After graduation at age 22 it is assumed that graduates begin work with the prospect of earning the average income of all graduates of their gender working full-time.

At this point variations in work experience and incomes can be introduced to illustrate the diversity of the true financial effect of the HECS charge. The following scenarios have been examined.

- i. A male expecting to work full-time and earn the average income by age of full-time male graduates [referred to below as "Average Males"].
- ii. A male expecting to work full-time and earn an income by age, which is 15 per cent lower than the income of average male graduates ["Poor Males"].

- iii. A male expecting to work full-time and earn an income by age, which is 100 per cent higher than the income of average male graduates [“Very Rich Males”].
- iv. A female expecting to work full-time and earn the average income by age of full-time female graduates [“Average Females”].
- v. A female expecting to work full-time and earn the average income by age, which is 15 per cent lower than the income of average female graduates [“Poor Females”].
- vi. A female expecting to work full-time and earn an income by age, which is 100 per cent higher than the income of average female graduates [“Very Rich Females”].
- vii. A female expecting to work full-time and earn the average income by age of full-time female graduates until the age of 25, after which she leaves the labour force until age 28. At the age of 28 she re-enters the labour force and works part-time earning \$28,000 per annum until the age of 33 when she then works full-time earning the average income by age of the average full-time female graduate [“Females Out”].<sup>31</sup>

Note here that “Rich” and “Poor” descriptors refer specifically to future earnings and not a student’s socioeconomic background. The hypothetical scenarios have been chosen to reflect a wide variety of potential graduate earnings and labour force experiences.

The questions of interest are: what are the true financial costs to students of the new HECS parameters compared to current arrangements; and how do these costs vary for students with the expectation of different lifetime labour market experiences?

Tables 2 and 3 present the results for the hypothetical scenarios described above. The results from the Tables should be interpreted in the following way. The true financial costs (the present value) facing students of today’s HECS have been compared with the new proposed arrangements with respect to two possibilities. One is that the charge level remains at its current level, which is described as “No Fee Change”. The other is that there is a 30 per cent increase in the level of the HECS charge, as would be allowed under HECS-HELP. The results are now summarised.

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<sup>31</sup> The age-earnings profiles implied by these scenarios are presented in Phillips and Chapman (2003).

**Table 2**  
**Percentage Change in True HECS-HELP Costs: Males\***

	<b>No Fee Change</b>	<b>Fee Increase 30%</b>
Average Males	-1%	29%
Poor Males	-1%	28%
Very Rich Males	2%	37%

\* Discount rate of .05.

**Table 3**  
**Percentage Change in True HECS-HELP Costs: Females\***

Average Females	-1%	19%
Poor Females	-15%	0%
Very Rich Females	2%	35%
Females Out	-13%	3%

\* Discount rate of .05.

The major conclusions of the exercise are as follows. First, for a variety of labour market outcomes for male graduates expecting to work full-time, an increase in the HECS charge results in a true financial increase which is very close to what the apparent charge implies. That is, if there are no changes to HECS levels in 2005 typical male graduates will experience no important effective benefits from the new first income threshold (and additional steps) of HECS repayments. This occurs because the hypothetical individuals earn incomes above the proposed first income repayment threshold of \$30,000 per annum.

For women the story is different, and much more complicated. For two groups - relatively poor women graduates working full-time, and those in and out of the labour force (working part-time for a few years) - the HECS-HELP arrangements will deliver important financial benefits if the HECS charge does not increase, of around 15 per cent of the present value cost of HECS. Also, members of this group will generally not be made worse off even with a 30 per cent nominal increase in the charge.

### *5.3 The 2003-04 Budget Proposals: FEE-HELP*

The second significant change to student funding proposed in the 2003-04 Budget is known as FEE-HELP, and represents an extension of HECS. Under FEE-HELP HECS-type loans will be made available to cover full-fee paying undergraduate domestic and post-graduate courses, with repayments to be made according to HECS-HELP parameters. However, a major difference between FEE-HELP and HECS loan repayment arrangements is that the former will attract an interest rate above the rate of inflation of

3.5 per cent per annum for the first ten years, with the rate being reduced to zero in real terms after this. As well, loans of this type will be capped at a level of \$50,000. The possible effects of these changes are now analysed.

#### 5.4 The Empirical Consequences of FEE-HELP for Students

We now illustrate what FEE-HELP means for the true costs of debt repayment for the seven hypothetical students described in analysis of the true effects of HECS-HELP. The following table shows the true cost of FEE-HELP, and the size of this debt burden as a percentage of each group's lifetime incomes. The calculations assume that a student incurs a debt of \$16,000 each year for a three-year degree, or \$48,000 in total.

**Table 4**  
**The True Effects of FEE-HELP: Various Scenarios**

	The present value of the charge	Present value of the charge relative to lifetime incomes
Average Males	\$42,143	3.8%
Poor Males	\$38,117	4.1%
Very Rich Males	\$44,826	2.1%
Average Females	\$31,944	4.1%
Poor Females	\$21,708*	3.3%*
Very Rich Females	\$44,178	3.1%
Females out of the workforce	\$24,174*	3.7%*

\*Note: Debt remains unpaid. Discount rate is 0.05.

The results reveal that an apparent charge of \$48,000 has very different true costs for students, from around \$45,000 for Very Rich Males, to less than half of this for Poor Females. Relative to lifetime income, these differences range from about two to four per cent. A critical point is that the extent of the impost is quite different if the issue is its absolute size, or instead, if it is relative to lifetime incomes. That is, for a given level of charge, the richest graduates pay the most in absolute terms, but the least compared with their lifetime incomes

#### 5.5 The Likely Effects of the Proposed Budget Changes

The evidence presented above concerning the effects of the introduction of, and radical changes to, HECS over the 1988-2003 period is of assistance in assessing the possible consequences of the introduction of HECS-HELP and FEE-HELP. It is important to note that with much higher degrees of price flexibility than previously, there will undoubtedly be a much broader range of different charge levels for future students. And for some students the increase in the first income threshold of repayment of the debt will mean an effective price decrease in the charge. But for others, particularly males expecting to graduate and work full-time, it is clear that HECS-type obligations will increase.

We expect that implementation of the HECS-HELP proposals will have a negative but only small impact on applications, at least for school leavers. We base this expectation on the available evidence concerning the impact of the introduction of HECS and the 1996 HECS changes on higher education applications.

If reductions in applications for HECS-HELP are small, the higher education system is likely to remain supply-constrained (that is, the number of applications will continue to exceed available places). Therefore, it is very unlikely that aggregate enrolments will fall below the level they would reach in the absence of the proposed changes.

Since the introduction of HECS and the 1996 HECS changes do not appear to have affected the socioeconomic mix of enrolments, we consider that the likelihood that the HECS-HELP and FEE-HELP proposals having adverse consequences for that mix is not important. Like HECS, repayment of the proposed new charges remains contingent on future incomes, rather than existing financial circumstances. While there may be some responsiveness in enrolments in expensive courses by low socioeconomic groups, we would not expect substantial changes in the socioeconomic mix of aggregate enrolments.

A final point is that, compared to the current system of full up-front fees for domestic students, FEE-HELP is very likely to be associated with a significant increase in enrolments of those full-cost places. This is because the existing arrangements have been largely irrelevant since the system requires prospective students to find very large sums of money, there being no financing assistance offered. Since FEE-HELP allows students to access a HECS-type loan, there is little doubt that the response to this arrangement will be very much larger than has been the case for full-fee paying students since enrolments of this type were first allowed in 1997.

### *5.6 The ALP's Aim Higher*

In its *Aim Higher* policy statement, the ALP opposed the increase in fees contained in the HECS-HELP proposal, and the main elements of the FEE-HELP proposal. The Opposition supported a larger increase in the first HECS threshold (to \$35,000) than that planned by the Government. It also proposed an increase of 32,000 in the number of funded higher education places (the full flow on effect; or 14,000 extra places with pipeline growth to follow), a reduction in the age of independence for the Youth Allowance to 23 years, and moving mathematics and science courses from band 2 to band 1. While the latter will significantly reduce the costs for maths and science students, the effects of HECS charge levels on demand document above is such as to suggest that there will not be important effects on higher education demand in these areas

The main change likely to have an impact on the majority of students is the proposed increase in the first HECS repayment threshold. Previous analysis has shown that such a change would increase the rate of return on education for students (Chapman and Salvage 1997). In what now follows we present an analysis of the changes in the present values of ALP HECS suggestions for band 2 courses, following the approach adopted and reported above with respect to the seven scenarios of hypothetical students. *Aim Higher* does not explain what will happen to repayment rates above \$35,000, so in the interests

of simplicity we have assumed that the existing rates will remain. The results are reported in Table 5.

The most important general result from the Table is that no enrolled student can be made worse off under Labor. However, males expecting to graduate and earn the average male graduate salary or more will not be affected by the proposed changes. Members of some groups, for example, females expecting to spend time out of the labour force or to earn very low salaries, will be markedly better off than is currently the case. Some additional students in these categories would now expect to repay none of their HECS debt, although our calculations probably exaggerate the extent to which this might happen.<sup>32</sup>

**Table 5**  
**Present Value of HECS repayments, various scenarios, 2005\$**

Scenarios	Current HECS	Raising Threshold to \$35k	% change
<b>Average Males</b>	14,243	14,243	0.0%
<b>Poor Males</b>	13,464	13,057	-3.0%
<b>Rich Males</b>	15,482	15,482	0.0%
<b>Average Females</b>	12,701	10,740	-15.4%
<b>Poor Females</b>	11,629	*	*
<b>Rich Females</b>	15,016	15,016	0.0%
<b>Females Out</b>	10,705	7,383	-31.0%

(discount rate used 5%)

\*Note: Does not earn above minimum threshold.

## 6 Conclusions

HECS was designed to provide revenue from students in such a way as to minimise the consequences for aggregate demand, and to not erect barriers to the participation of the disadvantaged. From a large number and range of different types of research a broad overall conclusion is that this has essentially turned out to be the case.

The research findings suggest that if it is introduced HECS-HELP is similarly unlikely to have a significant effect on enrolments, although it is possible that there will be a small fall in the number of applications. We also do not expect HECS-HELP to adversely effect the socioeconomic composition of enrolments of this type. Because an income related loan would be available to students taking full-cost places, we expect the take up of FEE-HELP to be much higher than the existing number of full-fee places, although there is no

<sup>32</sup> This is because our scenarios implicitly assume zero productivity and thus no real wage growth unrelated to labour market experience, and this is very unlikely.

reason to expect the scheme to markedly affect the overall socioeconomic mix of higher education.

The ALP's policy reforms are far less radical than those of the government with the principal change being a larger increase in the first income threshold of repayment, to \$35,000 per annum. This will have the effect that no future student will incur a higher effective debt than is currently the case (which will also be the case for maths and science students given the proposed decrease in these charges), and a large number of students will necessarily face lower effective charges, particularly those enrolled in maths and science. Even so, we do not believe that this will have an important effect on either enrolments or the socioeconomic mix of the student body.

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