DISCUSSION PAPERS

FIGHTBACK!
SOME OBSERVATIONS ON THE HIGHER EDUCATION POLICIES OF THE COALITION

Bruce J. Chapman

DISCUSSION PAPER NO. 284

January 1983

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FIGHTBACK!
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DISCUSSION PAPER NO. 284
January 1993

ISBN: 0 7315 1611 7
ISSN: 0725 430X

* This paper was first presented to a conference on Fightback! organised by Professor John Head at Monash University, June 1992. I am grateful to Anthony Salvage for terrific research assistance, and to Peter Karmel and John Quiggin for comments on an earlier version. Eileen Berry helped with word-processing. Errors are mine.
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Summary

The Fightback! policy statement on higher education offers a radical perspective with a strong reliance being placed on the role of market forces. It argues that the so-called 'Dawkins reforms' have moved the system away from flexibility, and that what is desirable is a remodelling of arrangements towards giving prices and centralised organisation respectively high and low weights.

This paper presents analyses of three aspects of the Fightback! policy stance. The first considers some reforms to the Australian higher education system over the last few years which mean that there is no simple conclusion to be drawn concerning the effect of recent changes to higher education on flexibility and centralisation. Several factors imply greater institutional autonomy and a developing role for the market, although it can't be argued easily that the system is not in need of further such reform.

A second issue examined is the effect of the Fightback! income tax changes to the private rate of return to investment in higher education. It is demonstrated that average male graduates will experience relative increases in discounted lifetime incomes from this aspect of Fightback!, a conclusion which is unlikely to be compromised by taking into account the incidence of the goods and services tax. One conclusion is that this aspect of Fightback! implies increased regressivity in Australian income distribution, under the plausible assumption that graduates make up part of the lifetime income advantaged. A postscript notes that the changes to income tax rates announced in Fightback! Mark II in December 1992 imply a significant policy move in that there is now no difference between graduate and non-graduate relative after-tax earnings in a comparison of Coalition and One Nation tax rates, at least until 1996 when the original calculations again assume relevance.

Perhaps the most interesting exercise reported relates to the implications for economic efficiency of Fightback!'s plans for higher education financing. The Coalition approach is explained, which seems to entail a hybrid system of
direct grants to universities which are allowed to set their own prices, with
the charges being met by students through an extended Higher Education
Contribution Scheme (HECS)-type mechanism. There are overriding equity
and access reasons for maintaining the HECS arrangements, and in so doing
the Coalition will be able to avoid the criticism that its reforms favour
prospective students who are advantaged. But it needs to be recognised that,
so long as there is an interest rate subsidy and a positive probability of default
associated with HECS, the resource allocation implications from the scheme
will not be as efficient as implied in Fightback!

Some empirical insights are offered on the issue through a comparison of the
net present costs of HECS for very different expected lifetime income streams.
The price on paper differs greatly from the present value of the charge for
typical teachers spending five years out of the labour force, but is relatively
similar for average male lawyers. Thus, as is the case with current HECS,
there are considerable cross-subsidies involved in the Coalition’s approach to
higher education financing.

I Introduction

What follows is an analysis of selected aspects of the Higher Education
Policies of Fightback. The policy statement offers a radical perspective with
strong reliance on the role of market forces. It is designed to move the system
towards one in which prices and centralised organisation are respectively
accorded high and low weights.

Before the substantial points are developed it is useful to explore briefly a
particular (implicit) supposition of the policy statement that is open to
question, which is that changes to higher education over the last five years or
(the so-called “Dawkins reforms”) have moved the system more towards
centralisation and inflexibility. Some qualifications to this view are offered in
Section 1.

There are two major contributions from the substantive analysis. One is the
presentation of calculations of the lifetime income advantages for male
graduates from the change to the income tax rates recommended in
Fightback! Through an exploration of the internal rate of return to higher
education under current and alternative regimes, and given particular
assumptions about the incidence of the goods and services tax (GST) on
students, graduates and non-graduates, it seems that Fightback! tax rates
increase the investment returns for the average male gaining higher
education entry, relative to current and One Nation income tax rates.
Assuming that - in a lifetime sense - graduates are relatively advantaged these
income tax changes can be seen to distribute resources to the well-off.

The second contribution is an examination of those elements of Fightback!’s
higher education policies that appear to be or are in reality radically different
to current arrangements, all of which are associated with changes to
financing. The Coalition’s approach is explained, and a potential dilemma is
considered. It is argued that, on the one hand, the policy agenda promotes
price signals for efficient resource allocation but, on the other hand, the
strength and directions of the price signals are influenced considerably by
building on the current Higher Education Contribution Scheme (HECS) type
loan arrangements.
The basic point is that using HECS to pay fees necessarily means that the "price" faced by the student is different to the price charged by the institution. The reason is that for students the price is conditioned by expectations of future income, given that the repayment conditions depend on income. This must influence the potential for the approach to bring about allocative efficiency.

To ensure the disadvantaged have access to the higher education system the use of the HECS mechanism is justified, with the Coalition's approach representing then a trade off between efficiency and equity. The possible extent of the compromise involved between these goals can be illustrated with reference to the net present value calculations of HECS-type repayment for groups differing widely in expected lifetime incomes.

II Has the System Become More Centralised and Inflexible?

The move to the so-called Unified National System in 1988 has been argued by some to have resulted in less flexibility and choice, given the significant reductions in the number, and increase in the average size, of higher education institutions. As well, the endorsing of "educational profiles" by the Department of Employment, Education and Training (DEET), an exercise in which universities report to the Government on their activities, has been presumed by some to involve less autonomy for the institutions. This may be true, but whether or not recent changes necessarily imply more central control and a decreased reliance on "market forces" cannot be decided by alluding only to the above issues: there have been other changes arguably pushing the system in the other direction.

One is that higher education institutions in the past were penalised for the use of over-award payments in that their budgets were reduced by the extent of the payment. Obviously this made it expensive to reward particularly valuable staff and, as a consequence, made it more likely that some of the best academic staff would leave. The penalty was removed in 1988.

Two, full-fee paying overseas students have become much more important in both numeric and financial terms over the last few years, with the number rising ten-fold from 1988, to 20,000 in 1990. In that latter year this group provided around 5 per cent of the higher education budget. The important distinction between the resources received from overseas students and those from the Government is that the former funds are distributed at the discretion of the institutions themselves; clearly, from this, there is now and will continue to be greater financial autonomy than before.

Three, while the charge does not reflect course costs, the imposition of HECS in 1989 has, for the first time since 1974, put a direct price on the service which is more than a token one. There is now a market signal in the system, although there are arguments from economic theory to suggest that the structure of HECS charges is not correct (Chapman and Chia, 1989; Hope and Miller, 1988).

Four, it has become apparent to informed observers that the Department of Employment, Education and Training (DEET) has recently exercised fewer attempts to co-ordinate major new developments in higher education teaching than perhaps was the case under the former Commonwealth Tertiary Education Commission. Of most significance is that the former Colleges of Advanced Education no longer require permission to put on new courses or degrees. Arguably the removal of this constraint has resulted in considerably more academic autonomy for about half of the institutions.

Obviously none of the above means that the system can't or shouldn't be made more flexible, the typical argument put forward being that DEET has undesirable control over research management plans through earmarked grants. But the examples offered imply at least that some statements made in Fightback! related to the increase in centralisation and resulting loss of autonomy should not be accepted without reservation. This should be seen

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1For the modelling of analogous propositions concerning labour turnover from the Australian Public Service, see Beggs and Chapman (1988).


3Although there was an up-front fee, the Higher Education Administration Charge, which was instituted in 1986 and discontinued in 1989. In 1986 terms it was $250 and paid irrespective of course load.

4Professor Peter Kemel has recently made this observation.
as background to the bigger themes of the effect of Fightback! on the users and providers of higher education.

III The Effects on Returns to Higher Education from Income Tax Changes

III (i) Introduction

One consequence of Fightback! is that just about all Australians receiving income will pay less direct tax. What now follows immediately is an attempt to determine what such changes might mean for individuals' rates of return to investment in higher education. From this some inferences can be made about the consequences of Fightback! for income differences between graduates and non-graduates.

III (ii) Conceptual and Measurement Issues

An important distinction made by economists is that between consumption and investment expenditures. Expenditure on consumption items yields immediate satisfaction or benefits to the consumer but, in contrast, investment items are purchased currently, with the benefits accruing only in future periods.

Prior to the early 1960s, it was uncommon to regard education as anything more than a consumption item like food or clothing. But the work of Schultz (1961), Becker (1964), and others dramatically altered the way economists view such expenditures. In his presidential address to the American Economic Association in 1960, for example, Schultz argued strongly for expenditure on education (and, in general, all activities which improve the capacity and productivity of human resources) to be treated as an investment. The essence of the framework is that education provides individuals with an opportunity to acquire "human capital" at a cost (foregone earnings and other direct costs such as fees), with the expectation of higher earnings in the future.

Thought of in this manner it is sensible to ask how profitable education is relative to other investment opportunities available to the individual. Cost-benefit analysis techniques have been used to demonstrate the private and social profitability of education. From the individual's point of view,

profitability (in a wealth maximising perspective) depends on the cost, the expected returns, and the personal discount rate.

Formally, an individual's earnings maximisation decision can be expressed as follows. Let the present value associated with the two income streams be denoted by \( V_A \) and \( V_B \), respectively. Then,

\[
V_A = \sum_{t=0}^{R} \frac{Yu}{(1+r)^t}
\]

(1)

\[
V_B = \sum_{t=0}^{R} \frac{Ynu}{(1+r)^t}
\]

(2)

where \( Yu \) and \( Ynu \) are respectively expected net income from higher education use and higher education non-use, \( t \) is time, \( R \) is expected length of time in the work force and \( r \) is the individual's discount rate.

The net present value (NPV) associated with investing in higher education is given by \( V_A - V_B \). Whenever NPV exceeds zero, the investment is considered profitable from the individual's point of view, and the rational (assumed to be wealth-maximising) decision would be to enrol. NPV calculations can also be used to analyse the possible effects of changes in charges to higher education; this is explored further in Section 4.

An alternative way of making income comparisons is to calculate the value of \( r \) which equates \( V_A \) and \( V_B \). This particular statistic is known as the "Internal Rate of Return" (IRR). The decision rule is that if the IRR exceeds the individual's discount rate, the investment is considered profitable, the advantage of this approach being that it presents us with an easily understood summary statistic. More generally, the IRR can be used a measure of the financial attractiveness of higher education, with changes to its value reflecting variations in the private costs and benefits of university graduation. The costs and benefits associated with the process are illustrated for conventionally shaped age-income profiles in Figure 1.
From the figure the pecuniary costs associated with investment in higher education, the forgone earnings from the process, are illustrated by the first shaded area. The second shaded area shows the pecuniary benefits, the additional lifetime earnings of graduates over non-graduates. The IRR is the rate of interest which equates the net present values of the costs and benefits, as calculated at the beginning of the investment, in this case for a hypothetical individual aged 18 undertaking a three year degree and expecting to be in full-time graduate employment at age 21. The issue is taken up empirically later.

Figure 1

Hypothetical Financial Costs and Benefits of Full-time University Study

![Graph showing the financial costs and benefits of full-time university study.]

There are several different ways of analysing the income distribution consequences of changes to tax systems. A common method with Fightback! has been to examine the implications for income and indirect tax changes for particular income class groups, to determine the extent of changes in after-tax purchasing power at a particular point in time (Savage, 1992; Quiggin, 1992). What follows uses a different approach.

An attempt is made to determine the effects of changes in the income tax structure on the private internal rate of return associated with investment in higher education. The expected lifetime income experience is considered under different tax regimes, but no weight is given to the effects on disposable income of the GST (see Savage, 1992) or of fiscal drag in combination with the changes to the income tax structure (see Quiggin, 1992). The assumptions imposed on the incidence of the GST on the internal rate of return are described in what follows.

III (iii) The Data

The analysis uses a broadly based data source, the 1985/86 Income Distribution Survey (IDS). The number of observations is adequate for a useful analysis, with the male income profiles being converted into 1992 dollars. The reason female IRRs have not been calculated is as follows.

It is sensible, albeit unfortunate, to focus on the data for males only. This is because a cross-section survey done seven years ago is likely to be a poor representation of the experience for females starting higher education in the present. Female labour force participation rates and hours worked are much less stable over time than is the case for males, with there likely being differences in this context between graduates and non-graduates. The analysis of women's experience is left to another day and a more suitable data set.

The 1985-86 survey covers about a sixth of one percent of the population of Australia and has information on 253 variables. Demographic variables include age (15, 16-17, 18-20, 21 to 24, and in 5-year groups from age 25), school-leaving age, and details of post-school qualifications. The amount the individual received in 1985/86 from many different sources is known, including: wages and salary; own business or farm; own partnership; and unemployment benefits. Only earned income was used in the analysis.\(^5\)

For the hypothetical individuals described below a degree-holder is defined as anyone with a Bachelor or higher degree or post-graduate diploma, and a high-school leaver is defined as anyone who finishes school at age

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\(^5\) This is defined as the sum of the pre-tax incomes from wages and salaries, and from own business, trade or profession.
seventeen or above and does not possess any post-school qualifications. The data do not permit us the luxury of more disaggregated analysis.

The net income received whilst studying has the potential to have a major impact on calculations of the IRR to higher education. DEET (1987) estimated that in 1984 the average course-related expenses (union and general service fees, cost of books, stationary equipment, materials, etc.) for a university undergraduate amounted to $595. Also, the data reveal that university students not on student assistance schemes averaged $1,483 in income from employment during the year. Converting these figures into 1992 dollars and rounding off, it is assumed that the direct cost to the individual of studying amounts to $900, earnings are $2270, leaving adjusted student income at $1370. These data make up part of the income profiles derived directly from the IDS which are presented in pre-tax form in Figure 2.

Figure 2
Male Graduate and Non-Graduate Age-Income Profiles

The data illustrate what is very familiar to students of Australian (and other countries') age-income profiles: a clear cost and benefit associated with investment in higher education; and a relative steepness in the more highly educated profiles. The differences between the graduate and non-graduate incomes are as expected and about the same as those revealed in other studies, for example Miller (1982) and Chia (1990). This suggests some confidence in their use for the IRR calculations.

III (iv) IRR Calculations for Different Income Tax Scenarios

Analysing the effects of changes to income tax rates can be clarified by considering (hypothetical) men in 1992, whose expected lifetime earnings are reflected in Figure 2. The individuals have finished year 12 at age 18 and have the options of joining the workforce without any further formal education and receiving for the rest of their lives the average after-tax income of the group with this level of education; or of attending university full-time for three years after which they receive the average income of male graduates.

The average IRR has been calculated for various tax scenarios associated with personal incomes, with Figure 3 illustrating what the Fightback! income taxes compared to the current rates imply for changes in the (smoothed) lifetime after-tax incomes of statistically average male graduates and non-graduates.

From the Figure the changes to income taxes from Fightback could increase or decrease the IRR for males from investment in higher education, since the after-tax incomes of both graduates and non-graduates increase. What matters for the calculation is the relative extent and the timing of the changes (in terms of the individuals age).

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6 Those on TEAS, on the other hand, received an average of $2,565 in assistance during the year (1984 dollars) and earned an average of $865 during the year.

7 The income profiles are for those recognised in the sample as working full-time at the time of the survey.
Figure 3
(Smoothed) Male Average Lifetime After-tax Age-Income Profiles: Current and Fightback! Tax Rates

$ / y r

50000
40000
30000
20000
10000
0

graduate income (after Fightback! tax)
graduate income (after current tax)
non graduate income (after Fightback! tax)
non graduate income (after current tax)

18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 Age

A preliminary interpretive point concerns the role accorded the IRR calculations. The IRR reflects more than just the pure returns to higher education investments so long as graduates and non-graduates differ in ways not controlled for in the data (such as with respect to ability and motivation). This implies that the return estimated is probably an overstatement of the "true" investment consequences of higher education, but this is not a big concern for the exercise at hand. The reason is that the goal is to illustrate how the IRR changes given different income tax scenarios, implying that the underlying actual return is a second-order issue.

Before the rate of return estimates are presented it is important to examine how the effects of the GST are being handled. No adjustments have been incorporated for the GST and the associated increases in family assistance for those with children, nor has any attempt been made to incorporate the effects of fiscal drag (Quiggin, 1992). In essence this imposes the assumption that the GST has no redistributive implications, a perspective at variance with the analyses of Savage (1992) and Quiggin (1992). But this is not necessarily a problem, for the following reason.

Savage suggests that - in a cross-sectional sense - the GST is regressive in that those on relatively low incomes use a greater proportion of their incomes for the purchase of goods and services which will be subjected to the highest price rises from the GST. The point is developed further by Quiggin who demonstrates that in combination with fiscal drag Fightback! redistributes less to the disadvantaged than others.

There are two possible results from the IRR calculations for which the above information is relevant. One is that the IRR increases under Fightback!, meaning that since graduates appear to be advantaged in a lifetime income context (Chapman and Chia, 1989) taking into account the regressivity of the GST, in both inflationary and non-inflationary environments, would reinforce this finding.

The other possibility is that the IRR falls under Fightback! income tax rates. This leaves us not knowing whether or not from Fightback! graduates are made better or worse off relative to non-graduates, because the GST will be less of a burden to the former group. Thus the implications of the neutrality assumption concerning the effects of the GST on the IRR depend on the results of the exercise. In anticipation of what follows, it is pertinent to note that the IRR increases under Fightback! which implies regressivity from the income tax changes even without taking account of the Savage and Quiggin results; this implies that the extent of the regressivity suggested is highly likely to be an understatement of the true situation.

Two further observations should be made on the possible consequences for the rate of return calculations taking no account of the GST. The first is that the increases in family assistance for those with children are thus assumed to exactly compensate for the GST effects on family expenditure, implying no need to take this into account. The other is that the increases to AUSTUDY and decreases in taxes on student income, including that received both directly and kind from parents and/or spouses, are implicitly assumed to

8 These amount to $40 a week per child for those earning less than $30,000, and $20 a week per child for those earning above this amount.
exactly compensate for the effects of the GST on students’ purchasing power. For many students the latter is unlikely to be true, suggesting that the GST could decrease purchasing power at the time of study. Consequently, the possible effect of this on the IRR calculations is examined briefly.

Table 1 presents the IRR calculations for alternative income tax scenarios under the assumptions outlined above. All the after-tax calculations assume that the existing Higher Education Contribution Scheme (HECS) arrangements are maintained, which for some is unlikely under Fightback! The issue is explored further later.

The results suggest that if nothing else changes the One Nation and both Fightback! income tax regimes will relatively benefit the average male user of higher education, with the additional return from Fightback! over the current rate being about one percentage point, or around 10 per cent. One Nation increases the rate of return by a bit less than half the effect of Fightback!

<table>
<thead>
<tr>
<th>Tax Scenario</th>
<th>Pre-tax</th>
<th>Current</th>
<th>One Nation</th>
<th>Fightback</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR</td>
<td>13.57</td>
<td>9.88</td>
<td>10.33</td>
<td>10.92</td>
</tr>
</tbody>
</table>

Of interest is that the current (after tax and with HECS) IRR for the use of higher education of 9.88 per cent per annum is arguably high, implying for comparisons involving graduates and non-graduates that the changes envisaged deliver financial resources to the advantaged. In this sense both One Nation and Fightback! can be argued to be regressive, and taking into account the GST would apparently reinforce this conclusion for the latter policy.

However, it is unreasonable to suggest that everything else would remain the same, since the Fightback! approach to higher education might lead to higher charges but paid back through the HECS mechanism, a point analysed in detail below. Accordingly, it is of interest to pose a further question: what level of HECS charges and/or repayment rates and/or income thresholds for repayment would imply an unchanged rate of return to investment in higher education given the institution of the Fightback! income tax scales?

Various calculations reveal that no minor change to the existing HECS level or structure of repayment is likely to reduce the income tax benefits accruing to the users of higher education from Fightback! Even a total HECS debt four times the existing level - to $27000 for a three year degree - in combination with a 5 per cent across-the-board rate of repayment at a first income threshold of $20000, which would constitute radical changes, do not reduce the IRR below the current levels. The lifetime income distribution conclusion, that Fightback! apparently assists average male graduates is correspondingly unlikely to be compromised by even large changes to HECS.

A further experiment was carried out to test the robustness of the result. This relates to the possible effects on the IRR of students being far worse off than is estimated because of the impact of the GST. The most extreme assumption would be that students only consume goods and services that attract an additional tax of 15 per cent.

The above scenario can be handled by decreasing student income by 15 per cent. This results in a trivial fall in the IRR, from the original 10.92 per cent to a new level of 10.82 per cent. This is not to say that students will be unaffected by the GST, but it is to suggest that the likely impacts are small in a lifetime context for the average male. But for some students the GST may have significant short-run purchasing power consequences, particularly if access to borrowing is limited.

From the above it seems uncontroversial to suggest that Fightback! will be redistributing relatively more resources to typical male graduates than would be the case under One Nation, with the latter also being regressive relative to...
the current arrangement. However, there are two important caveats now considered.

III (v) Qualifications

There are two significant assumptions built into the exercise which are hard to live with. They are that:

(a) The institution of other elements of Fightback! will not affect the relative pre-tax income profiles of graduates and non-graduates, which is a variant of the more commonly expressed reservation about using past income data to project about future economic relationships; and

(b) Changes to the IRR from the new tax scenarios will not be associated with supply and demand responses that eventually re-establish the IRR to its former level.

On the first matter it seems hard to predict the likely changes to the Australian wage structure given the introduction of Fightback! Perhaps the most important issue surrounds the consequences of the planned industrial relations reforms, with an increased stress being given to enterprise-based bargaining. Some commentators (for example, Gregory, 1992) have argued that such a move will increase the dispersion of earnings; that those with the highest pay will experience the largest increases in pre-tax wages.

If the prediction of greater pay dispersion is correct the implications for the major result of the IRR exercise is straightforward: the average graduate earnings increase will exceed the average non-graduate earnings increase, and the after-tax IRR will increase even more under Fightback! than is suggested above. A comparison with an industrial relations system with a relative emphasis on enterprise-bargaining, the United States, reinforces this perspective in that in practically all dimensions US wages are more dispersed than those in Australia (Daly, 1991). Nevertheless, if pre-tax earnings dispersion decreases under a Coalition Government, the IRR to higher education is likely not to increase as much as has been suggested above.

The second qualification relates to the possibility of there being a supply response to the higher IRR associated with Fightback!, which would imply that the initial increase from the changes in income taxes is not sustained. But in this context it is pertinent to note that even with the extraordinary expansion in the number of graduates over the past twenty years or so, Chia (1990) found that the calculated IRRs were robust; for example, his research suggested that the returns to males from higher education actually increased between 1976 and 1986. This suggests that a simple comparative static story not be given too much weight, implying no demonstrated straightforward relationship between the IRR and the supply of graduates.

The other point to keep in mind here is that the evidence suggests a current excess demand for university places (Industry Commission, 1991) which, if maintained, could mean a persistently high return from university education. However, Coalition policy has been motivated in part by a desire to reduce the queues for university places.

In summary, there are conceptual reasons to be skeptical that the calculated changes to the IRR and their implications for regressivity would eventuate and be long lasting. But the likely wage structure changes under Fightback! probably reinforce the basic story. Further, there is no compelling reason that even a substantial increase of students into the system would have important effects on the new post-tax rate of return.

IV Some Consequences of Fightback!'s Approach to Higher Education Financing

IV (i) Introduction

In broad terms Fightback!'s higher education policies are an attempt to reduce the role of centralised decision-making by giving more emphasis to market signals and greater autonomy for the institutions. It is presumed that such a reorientation will result in more efficient outcomes for the sector.

There are four major ways in which the market is to be given greater weight: by allowing institutions to set their own prices; by giving institutions the right to decide the number of students to be admitted; through industrial relations reform; and by giving institutions the right to admit, under
conditions decided by the institutions, any prospective students not funded by the government. A commitment is made that current and projected future per capita funding will not be reduced.

In what follows the focus is on some of the analytical issues raised by the first issue, that institutions be allowed to set their own prices, the payment of which is ultimately the responsibility of individual students. In terms of the impact on the users of higher education, currently numbering about 550,000, and the potential radicalism of the proposal, this is the most significant reform envisaged.

IV (ii) The Pricing Changes Proposed

At this stage the precise details of the pricing arrangements are not available, and it is understood that the shadow Minister, Dr Kemp, is currently consulting representatives of the industry. In broad terms, however, the following features are likely to make up the package:

(a) all institutions will be allowed to set whatever price they wish, implying strongly that there will be a large variance in charges both between institutions and between courses within institutions;

(b) current funding levels will be maintained, with "awards" (vouchers) being distributed to qualified students who are then able to use them to pay all or part of the charge in a course and institution to which they are admitted;

(c) HECS arrangements are to remain in place for students with awards, so that about 20 per cent of average course costs will still be paid back through the tax system or up-front with a discount increased from the current 15 to 25 per cent of the charge;

(d) the difference, if any, between the price, on the one hand, and the value of the award plus the HECS charge, on the other, to be paid for by the student; and

(e) to assist in the payment of the fee suitable loan arrangements are to be set up to ensure that students are not denied access for financial reasons.\footnote{The words used in the policy statement imply strongly that the HECS mechanism will be used in the repayment of the loans: "For university fees which exceed the standard fee level, loan arrangements will be available, with repayments guaranteed through the HECS mechanism. As a result loans will be available on favourable terms." Fightback! Supplementary Papers, page 49.}

This might all work in the following way. Majorie does well in her Year 12 exams and receives an award equal to the value of $8,000 which she wishes to put towards the cost of enrolment for a medical degree at an established university, the charge for which has been set at $15,000 per year. She agrees to pay $2250 of the remaining obligation of $7,000 through HECS, leaving her with a fee to pay of $4,750 which she borrows through a Government scheme (analysed below).

The university (or medical faculty) cashes in the award for $8,000 and also receives directly from the Government the $2250\footnote{It is quite possible that a Coalition Government would institute different HECS charges depending on the course undertaken. The example is illustrative only.} that Majorie will pay back through the tax system, and takes from Majorie the up-front payment of $4750. The overall receipts are used to pay for the associated administration, teaching and material costs. Because of the popularity of the degree, the fee level is such as to imply a profit which is used to increase the salary of a brilliant staff member, Dr Smith, currently on the verge of seeking more attractive alternative employment.

The presumed benefits of this arrangement relate to the use of market forces. The price is assumed to reflect supply and demand conditions, implying more efficient resource allocation. Majorie is prepared to pay for a service that she values highly, compared to the current system in which some medical students would prefer to be in other activities rather than pay the additional charge. And Dr Smith receives a salary commensurate with her productivity, which is arguably less likely in a more centralised or union controlled environment.

Other than the anecdotal there is little evidence relevant to the measurement of the efficiency gains from a movement towards allowing a greater operation
of market forces. Even so, and judging policy only on the basis of efficiency, the absence of compelling evidence as to the size of the net benefits does not in itself constitute a case against a movement of the system in the direction suggested in Fightback.

However, it is not clear, at least as currently presented, that this package will necessarily lead to highly efficient outcomes. As well, there is apparently an inherent dilemma for the type of policy orientation outlined above between efficient pricing and the important questions of access and equity. The basic concerns relate to the nature of the loan arrangements used to provide the necessary finance to allow prospective students to pay increased charges.

IV (iii) Pricing and Efficiency: The Role of Loan Arrangements in Theory

Fightback! implies that the loan arrangements to be set up will be of a form in which the repayment depends on personal income; these are known as income-contingent loans (ICL) of which HECS is an obvious example. It is useful to analyse the advantages of this type of loan scheme by comparing it with conventional loans from banks with an interest rate subsidy from the government, the latter being the usual approach taken internationally to student assistance.

The approaches differ in one fundamental way. Conventional loans require repayment over a set period of time, and thus show no sensitivity to individual economic circumstances. ICL, on the other hand, are paid back depending on individual income and can be designed, as HECS was, to require no payment at all unless incomes exceed average earnings. This aspect of ICL, in combination with an interest rate subsidy, means that the approach is progressive between members of the group receiving them.

The most important difference between the two types of schemes lies in their implications for the access of the disadvantaged to the system. This is that, unlike conventional loans, ICL take away from prospective students the costs associated with default, such as not being able to borrow easily in the future for other purposes (for example, housing). It is unlikely that there will be default with relatively generous ICL arrangements, simply because if the first income threshold is not reached in a particular period there is no payment obligation.

In other words, ICL schemes allow the government to act in an insurance capacity for the investor, potentially reducing significantly the borrowing risks for the student (see Chapman, 1992). That is the essential reason why this type of loan is highly unlikely to have deleterious consequences for the educational participation of the disadvantaged. If the income threshold of repayment is sufficiently high and the repayment rates relatively low, there is almost no prospect of default, and thus bankruptcy, and about a zero likelihood of having to sell assets to repay the debt.

The most important point in a comparison of loan arrangements is that because of the repayment conditions conventional loans are relatively likely to erect educational barriers for the disadvantaged. ICL, on the other hand, protect prospective students, and are thus highly unlikely to have deleterious consequences for the participation of the poor. On distributional and access grounds, therefore, there are strong reasons for favouring the suggestion in Fightback! to use the HECS mechanism in the payment of additional student charges.

However - and a dilemma for the proponents of Fightback's higher education policies - is that the use of the HECS mechanism in a loans scheme changes the price signal received by the student relative to its on-paper level. It is likely that the extent of this change is such as to influence the presumed efficiency gains from the policy.

The major issue is that using the HECS mechanism turns the "price" facing the student from the charge on loan repayments, which must depend on expectations of future income, the interest rate subsidy, income thresholds for repayment and the rates of repayment of the loan. There are several implications for efficiency in terms of student choice, all relevant to the basic point that compared to an upfront

13 For discussion of the conceptual issues, see Chapman (1992).

14 This benefit is recognized in Fightback! in the following way: "The value students place on different courses will be accurately indicated, and this will assist in the proper targeting of the public contribution to higher education." ibid. page 51.
fee a pay-later scheme with an interest rate subsidy and default protection loan imposes a lower financial burden and decreased price sensitivity.

Higher education institutions would be able to set the price at a much higher level with an ICL than for an up-front fee, simply because the nature of repayment implies a lower demand response from the former. This means that it would be in the interests of the institutions to price discriminate (on paper) between domestic and full-fee paying overseas students so that the former would be charged more on paper—perhaps much more, if the implicit interest rate subsidy and income threshold for repayment were sufficiently generous. It is highly unlikely that this would be acceptable, implying that the institutions would choose instead a simple cost mark-up rule which does not entail price discrimination. In so doing the price would reflect in part costs for suppliers who would receive resources directly from the government, but the price won't correspond to the signals facing the domestic student.

If the cost mark-up rule is used to set the price, there could be unusual implications for student demand between courses because of expected future income differences. To take an example, the low cost and expected high incomes associated with studying Law imply that the net present value of an up-front fee scheme is unlikely to be very different to that of a fee financed with an ICL with an interest rate subsidy. However, this is highly unlikely to be the case in other areas such as Fine Arts because of low expected incomes and thus greater interest rate subsidies.

The application of an ICL to help students finance the payment of charges arising from allowing students to set their own prices has the potential to put a wedge between the demand and supply responses to the prices so set. This could mean, in a resource allocation sense, inefficient responses, implying that Fightback's approach to higher education is less likely than would be considered a priori to deliver marked net benefits. The possible extent of the "distortions" introduced are now considered.

IV (iv) An Empirical Illustration of the Potential for Price Signal Variations

It is possible to illustrate the potential differences in the prices faced by calculating the net present value of a HECS-type charge for different

assumptions concerning expected future incomes. Three streams are offered: for male lawyers, NSW Teachers, and NSW Teachers who spend five years out of the paid labour force from age 25 to 30, thus paying no HECS at that time. The different scenarios have been chosen to show a range of possible experience, from the very high incomes of lawyers to the fairly low incomes of teachers. Figure 4 shows the income data, with that of lawyers being derived from Blandy et al (1992) and the teachers profile being constructed from current awards.

Since both education and law are inexpensive courses, the experiment can be simplified by assuming that the charges are the same and equal to current HECS for a 4-year degree, or $9,000 in total. A zero real interest rate is assumed, which is an important factor in explaining the results. The net present value of the charges are calculated at age 18 and with discount rates of 5 and 10 per cent. Table 2 presents the results, with columns (ii) and (iii) respectively being for teachers spending 5 years out of paid work from 25 to 30, and teachers remaining in full-time work until the debt is discharged.

Figure 4

(Smoothed) Male Lawyer and Teacher Award Age-Income Profile ($1992)
Table 2

Net Present Values of HECS-type Charges: Various Income Scenarios

<table>
<thead>
<tr>
<th>Discount Rate (per cent)</th>
<th>(i)</th>
<th>(ii)</th>
<th>(iii)</th>
<th>(iv)</th>
<th>(v)</th>
<th>(vi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Lawyers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4yr NSW Teachers (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>$6020</td>
<td>$4317</td>
<td>$5282</td>
<td>71.72</td>
<td>87.74</td>
<td>81.73</td>
</tr>
<tr>
<td>10</td>
<td>$4140</td>
<td>$2237</td>
<td>$3231</td>
<td>54.03</td>
<td>78.03</td>
<td>69.24</td>
</tr>
</tbody>
</table>

The major result is the sensitivity of the net present value of the charge to expected future income. A fairly extreme difference, between male lawyers on the one hand and NSW teachers not paying any HECS between the ages of 25 and 30 on the other, results in the latter facing around half the discounted cost of the former at high rates of time preference. Of interest also are the consequences for the charge of a teacher expecting and not expecting to be paying anything between the ages of 25 and 30: at low and high rates of time preference respectively this makes a difference of about 20 and 30 per cent.

Two further points are worth making on the calculations. The first is that the charge facing the student will be influenced considerably by the rate of interest applying to the loans. If a market rate is charged the cost consequences of having different expectations of future income is reduced significantly, and the charge will only remain relatively low for those not expecting to pay the debt off completely.

Second, all of the above concerns related to so-called “price distortions” remain true for existing HECS arrangements. Indeed, the current system is less likely to deliver efficiency in resource allocation than will Fightback! because the HECS charge does not differ between courses, meaning that substantial cross-subsidies exist.

V Conclusions

If instituted Fightback! will have several important consequences for the users and suppliers of higher education services. All income earners, but high earners in particular, will experience income tax decreases, implying the potential for the policy package to influence the relative lifetime incomes of graduates. Further, allowing the institutions to set their own prices and offering prospective students the opportunity to finance the possible extra charges with income-contingent repayable loans is likely to change things substantially for both students and the institutions, but not necessarily in ways currently understood.

Even ignoring the effects of the GST, it is apparently the case that the income tax changes will relatively benefit the average male user of higher education, at least as reflected in changes to the internal rate of return to the educational investment. Assuming that graduates on average are an advantaged group, this result implies increased regressivity from Fightback!, which is true but for a lesser extent with respect to the new tax rates under One Nation. It is apparently the case that taking account of the distributional incidence of the GST and its interaction with fiscal drag would exacerbate the presumed regressivity of Fightback!

The Coalition’s policy with respect to new financing arrangements in higher education gives far greater weight to institutional autonomy than does the current system, and in this sense is likely to be judged to be relatively consistent with educational financing directions in mainstream economic theory, at least with respect to allocative efficiency. Interestingly, and importantly, the Coalition seems to favour putting in place expanded HECS-type mechanisms for student loans in order that access to finance does not act as a constraint to prospective poor students’ involvement in higher education.

There is a strong distributional case to be made for using income-contingent loans, but it needs to be recognised that there will be some - perhaps slight - efficiency implication. As demonstrated in the empirical analysis, this is a
consequence of the fact that the price facing the prospective student will be determined significantly by expectations of future income because of an interest rate subsidy and the repayments being income-contingent. This is true also for the existing HECS arrangements, which probably offer greater cross-subsidies to expensive courses than would be the case under Fightback!

VI. Fightback! Mark II: A Postscript

The relaunching of Fightback! on December 18 1992 affects significantly the calculations reported in Section III. This is because the revamped income tax scales are radically different to those proposed in the original policy statement, most significantly for those earning over $40000 per annum for whom marginal tax rates will remain at 46 per cent compared to being lowered to 30 per cent.

Under Fightback! Mark II the income tax rates to be introduced in 1994 given a Coalition Government are almost identical to those that will occur under One Nation. This is made obvious in Figure 5, which compares the scales for the average male graduate and non-graduate for the data used in this paper.

Figure 5
(Smoothed) Male Average After-tax Age-Income Profiles:
Fightback! Mark II and One Nation Tax Rates

The new IRR calculations confirm the similarities between Fightback! Mark II and One Nation in terms of the effects on investment returns to higher education. Under the new Fightback! the rate of return is now 10.35 per cent compared to 10.33 per cent under One Nation. This is a clear fall from the 10.92 per cent calculated under the original Coalition policy proposal.\(^{15}\) and means that as far as the income distribution consequences are concerned - at least as between average male graduates and non-graduates - the Coalition and Government policies are not distinguishable.\(^{16}\) None of the other issues canvassed in this paper are affected by the changes announced to Fightback!

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\(^{15}\) Presumably the Coalition plans to introduce the original income tax scales of Fightback! in a second term in government. If so these calculations remain useful.

\(^{16}\) Removing the GST from food reinforces this conclusion.
REFERENCES


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Elizabeth Savage (1992)
