International Reforms in Higher Education Financing: The Quiet Income Contingent Loan Transformation

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Abstract

Over the last several decades there has been, and there is on-going, a quiet transformation in the form and structure of higher education student loans. The movement has been away from the traditional form of government intervention of guaranteed bank loans towards income contingent student loans (ICL). With the latter approach students' debts are repaid if and only when their income exceeds a certain threshold, and are typically collected through the income tax system (internal revenue service). The first country to adopt a national scheme of this type was Australia, in 1989, but since then about 8 other countries have done the same, or will do so in 2016. The paper examines the conceptual bases for these on-going higher education policy reforms and reports data related to the main disadvantage of non-ICL systems, that of excessive repayment burdens for debtors which lead to repayment hardships and/or default.

Key words:

Income contingent loans; government-guaranteed bank loans; consumption smoothing; default insurance; repayment burdens.

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1 Introduction and Background

In 1989 a higher education policy initiative took place in Australia which can be seen to be a first step to international reform in the nature of higher education student loans. The scheme, then known as the Higher Education Contribution Scheme (HECS), involved domestic students being charged tuition but with the obligation to pay being deferred until debtors earned above a given income threshold, which was set at a maximum of between 4 and 8 per cent of annual personal income. A critical aspect of this reform was that the debt would be collected by employers and remitted to the Australian Tax Office (internal revenue service (IRS)) in much the same way that personal income taxes are.

Twenty-six years later HECS (now known as HECS-HELP) which can be accurately categorised as an income contingent loan (ICL), now exists in different forms in more than a handful of countries, although scheme design, eligibility, interest rates, and debt forgiveness regimes differ widely between systems, and have been changed over time in most jurisdictions. Critically, however, the essential characteristics of the loans, income contingency and collection through auspices of the equivalent of each country’s IRS, are shared.

Countries other than Australia that have adopted (or soon will) adopt ICL, and the year in which the arrangement first began, are as follows: New Zealand (1991), South Africa (1991), England and Wales (1998), Hungary (2001), Thailand (for 2006 only), South Korea (2009), the Netherlands (revised for 2016) and Malaysia (planned for 2016). A Bill was put to the US Congress in 2013 which, if it had passed would have meant the adoption in that country of an ICL as default option in an array of student loan choices; it is widely regarded in the US that this reform impetus towards ICL remains.

It is argued in this paper that the economic, administrative and equity case for ICL are very strong, although there are caveats with respect to both design and administration. The paper considers: the need for government intervention in higher education financing in the form of loans (Section 2); the limitations of what has been the most common form of intervention, government guaranteed bank loans in terms of what are known as repayment burdens (Section 3); and the advantages of, and difficulties associated with, ICL (Section 4).

2 Higher Education Financing: Why do we need student loans?

A significant financing issue for higher education is that there is generally seen to be a case for both a contribution from students and a taxpayer subsidy (Barr, 2001; Chapman, 2006). An important question is: is there a role for government beyond the provision of the subsidy?

An understanding of the issue is facilitated through consideration of what would happen if there were no higher education financing assistance involving the public sector. That is, a government, convinced that there should be a subsidy, could simply provide the appropriate level of taxpayer support to higher education institutions, and then leave market mechanisms
to take their course. Presumably this would result in institutions charging students up-front on enrolment for the service.

However, there are major problems with this arrangement, traceable in most instances to the potent presence of risk and uncertainty. The essential point is that educational investments are risky, with the main areas of uncertainty being as follows¹:

(i) Enrolling students do not know fully their capacities for (and perhaps even true interest in) the higher education discipline of their choice. This means in an extreme they cannot be sure that they will graduate with, in Australia for example, around 25 per cent of students ending up without a qualification;

(ii) Even given that university completion is expected, students will not be aware of their likely relative success in the area of study. This will depend not just on their own abilities, but also on the skills of others competing for jobs in the area;

(iii) There is uncertainty concerning the future value of the investment. For example, the labor market - including the labor market for graduates in specific skill areas - is undergoing constant change. What looked like a good investment at the time it began might turn out to be a poor choice when the process is finished; and

(iv) Many prospective students, particularly those from disadvantaged backgrounds, may not have much information concerning graduate incomes, due in part to a lack of contact with graduates.

These uncertainties are associated with important risks for both borrowers and lenders. The important point is that if the future incomes of students turn out to be lower than expected, the individual is unable to sell part of the investment to re-finance a different educational path. For a prospective lender, a bank, the risk is compounded by the reality that in the event of a student borrower defaulting on the loan obligation, there is no available collateral to be sold, a fact traceable in part to the illegality of slavery. And even if it was possible for a third party to own and sell human capital, its future value might turn out to be quite low taking into account the above-noted uncertainties associated with higher education investments.

It follows that, left to itself - and even with subsidies from the government to cover the presumed value of externalities - the market will not deliver propitious higher education outcomes. Prospective students judged to be relatively risky, and/or those without loan repayment guarantors, will not be able to access the financial resources required for both the payment of tuition and to cover income support.

These capital market failures were first recognised by Friedman (1955) who suggested as a possible solution the use of a graduate tax or, more generally, the adoption of approaches to

the financing of higher education involving graduates using their human capital as equity. The notion of “human capital contracts” developed from there and is best explained and analysed in Palacios (2004). A critical point for policy is that without some form of intervention higher education financing will not deliver the most propitious outcomes in aggregate, nor can such markets left alone deliver equality of educational opportunity because those without collateral – the poor – will be unable to participate.

Consequently, in almost all countries governments intervene in the financing of higher education. There are currently two major forms that this intervention takes: government-guaranteed loans provided by banks, and ICL. In concept here are several varieties of the latter, with the only type currently in existence being what is known as a “risk-sharing ICL”, in which governments in effect pay the debts for former students whose lifetime incomes turn out to be insufficient to pay the debt. What now follows examines some critical empirical findings with respect to both forms of assistance.

3 Higher Education Financing: Government Guaranteed Bank Loans

3 (i) Background

A possible solution to the capital market problem described above is used in many countries, such as the US, Canada and Japan. It involves higher education institutions charging up-front fees but with government-assisted bank loans for both tuition and income support being made available to students on the basis of means testing of family incomes. Public sector support usually (for example, in Canada) takes two forms: the payment of interest on the debt before a student graduates; and the guarantee of repayment of the debt to the bank in the event of default. Arrangements such as these are designed to facilitate the involvement of commercial lenders, and the fact that they are internationally a common form of government financial assistance would seem to validate their use.

3 (ii) Government guaranteed bank loans: Solving market failure for lenders

This form of assistance seems to address the capital market failure problem for lenders, since with this approach banks do not need borrowers to have collateral because the public sector assumes the risks and costs of default. That is, government-guaranteed bank loans address the higher education financing problem for lenders, essentially because the guarantee removes the bank’s needs for collateral in the event of default. However, solving the problem of the provision of finance from the perspective of the banks is not the end of the story.

Government guaranteed bank loans raise two problems for borrowers (students). They are that loans requiring repayment on the basis of time, rather than capacity to pay, are associated with both default-risk and the prospect of future financial hardships related to borrowers’ repayment difficulties.

2 These are examined in detail in Chapman (2006, 2014).
3 (iii) Government guaranteed bank loans: default risks for governments and students

All forms of bank loans have repayment obligations which are fixed with respect to time and are thus not sensitive to an individual’s future financial circumstances. This raises the prospect of default for some prospective borrowers, and this means damage to a student’s credit reputation and thus eligibility for other loans, such as for a home mortgage (Barr 2001; Chapman 1997a). Thus in anticipation of potential credit reputation loss, some prospective students may prefer not to take the default risk of borrowing because of the high potential costs. The possible importance of this form of ‘loss aversion’ is given theoretical context in Vossensteyn and de Jong (2004).

There is a distributional issue here, related to the evidence concerning which students actually do default. Dynarski (1994) used the National Post-secondary Student Aid Study for the US and found strong evidence that experiencing low earnings after leaving formal education is a strong determinant of default. Importantly, borrowers from low-income households, and minorities, were more likely to default, as were those who did not complete their studies. An important issue from these findings is that some poor prospective students might be averse to borrowing from banks because of the risk of default.

Even so, it would be an exaggeration to suggest that students with bank loans have no alternative other than default in unanticipated circumstances in which they are unable to meet their repayment obligations. In the US, for example, borrowers have the potential to defer loan repayments if they are able to demonstrate that their financial situation is unduly difficult, and in some cases this might lead to loan forgiveness. But there would generally be no expectation that a bank loan repayment takes into account capacity to repay.

3 (iv) Government guaranteed bank loans: repayment hardships for students

A related, and arguably the biggest, problem for students with bank loans concerns possible consumption difficulties associated with fixed repayments. If the expected path of future incomes is variable, a fixed level of a debt payment increases the variance of disposable (after debt repayment) incomes. The essential issue comes down to what are known as “repayment burdens” (RB), the proportions of graduate incomes per period that need to be allocated to repay mortgage-type student loans. Formally:

\[ \text{Repayment burden in period } t = \frac{\text{Loan repayment in period } t}{\text{Income in period } t} \] (1)
RBs are the critical issue associated with mortgage-type student loans because for a given level of income the higher is the proportion of a graduate’s income that needs to be allocated to the repayment of a loan the lower will be disposable income. And lower student debtor disposable incomes have the two mortgage-type loan problems: higher default probabilities and repayment hardship. The point is critical in the policy choice context, because the essential difference between bank loans and ICL is that the latter have RBs set at a maximum by law; by contrast, RBs for mortgage-type loans are unique for each individual borrower and can in theory be close to zero for high income debtors and well over 100 per cent for very low income debtors.

There is by now considerable empirical analysis of RBs associated with mortgage-type student loans in many different countries, including with respect to Vietnam, Thailand, Indonesia, Germany and the US. An important and innovative aspect of this empirical work is that in all cases the calculation or simulation of RBs for graduates is done at different parts of the graduate earnings distribution using an unconditional quantile regression approach (UQR); this allows the impact of student loan repayment obligations to be revealed for the whole of the graduate income distribution by age and sex, a major improvement over previous analysis which focussed on RBs at the means of the graduate income distributions.

The main results in summary for graduates in the bottom 25 per cent of the income distribution of graduates in that country are:

(i) In Vietnam, RBs are between 20 to 85 per cent (and even graduates in the top 25 per cent of the earnings distribution would have to spend between 14 to 17 per cent of their income in the first ten years to pay off the debt);

(ii) In Thailand, where the student loan scheme has a large public subsidy, RBs range from 5 per cent to 30 per cent;

(iii) With respect to Indonesia, the simulation of a typical mortgage-style student loan scheme reveals that RBs would vary from around 30 per cent in a relatively high income area (Java), to around 85 per cent in a relatively low income area (Sumatra); and

(iv) Even graduates in developed countries face high repayment burdens, ranging from 50 per cent for lawyers in the United States to 70 per cent for East German women (Chapman and Sinning, 2012).

3 For theoretical work on the desirability of different forms of ICL financing for higher education, and their connection with broader issues of political economy, see Del Rey and Racionero (2010, 2012).
The results for the study involving the US system of Stafford loans (Chapman and Lounkaew (forthcoming, 2015) are particularly striking and are reproduced below. Figure 1 and Table 1 show the RBs for borrowers with either $20,000 debts (all graduates) or $100,000 debts (law graduates). The data are shown for graduates in the bottom 10 and 25 per cent (Q10 and Q25), and for both public and private sector lawyers. For those in Q10 the RBs are extraordinarily high: for example, 80-100 per cent for very young lawyers working in the public sector, and around 30-50 per cent for all young graduates.

**Figure 1**

**US RBs for Low Income Borrowers (10th and 25th Quantiles)**

**Males**

![Graph showing repayment burdens for males across different quantiles and sectors over 10 years.]

**Females**

![Graph showing repayment burdens for females across different quantiles and sectors over 10 years.]

These estimates reveal that mortgage-type student loan schemes are associated with very high RBs for low income young graduates and thus likely significant problems of consumption hardship, and a concomitant high minority of prospective students facing defaults. This promotes for discussion the alternative higher education financing option ICL, in which, by design, RBs cannot be an issue.

4 Higher Education Financing: Income Contingent Loans

4 (i) Background

The essential benefit of ICL explained below is that, if properly designed, the arrangement avoids the problems outlined above with respect to government guaranteed bank loans. The critical point there can be no concerns with RBs with an ICL. Further, for many countries, the administrative costs of collection of ICL are very small. Some of the empirical consequences of the HECS system are summarised, and commentary is offered on key points related to administration and design.

4 (ii) ICL: Consumption smoothing

The essential difference between the two types of loans is that the income contingent variety serves to protect former students who earn only low incomes; capacity to pay is an explicit feature of the approach. That is, unlike bank loans, ICL schemes offer a form of ‘default insurance’, since with ICL debtors does not have to pay any charge unless their income exceeds the pre-determined level. And after the first income threshold of repayment is exceeded, ICL repayments are typically capped at a fixed and low proportion of the debtor's annual income. For example, in Australia, New Zealand and England/Wales, the maximum repayment proportion of annual income for their ICLs are 8, 9 and 10 per cent.

As noted above, this is very different to a mortgage-style loan, in which the costs of defaulting on the loan may be very high in terms of being denied access to other capital markets (most notably housing) through the damage to a borrower’s credit reputation. The removal of repayment hardships and the related advantage of default protection via income contingent repayment thus resolves the fundamental problems for prospective borrowers inherent in mortgage-style loans.

4 (iv) ICL: Transactional Efficiencies

As emphasised by Stiglitz (2014), a key point is that ICL can be collected very inexpensively, a feature he has labelled "transactional efficiency". Some of the evidence is as follows. The

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5 It should be emphasis the default is very expensive for debtors because of the associated effects on individuals’ credit reputations.
Australian Tax Office estimates put the collection costs for the government at around $45 million (2015 dollars) annually, or less than 3 per cent of yearly receipts. To this figure Chapman (2006) adds an estimate of the compliance costs for universities and comes up with a total administration cost of less than 5 per cent of yearly receipts. In collection terms the system seems to have worked well and there are apparently significant transactional efficiencies in the use of the income tax system for the collection of debt. Estimates of the costs of collection of the England and Wales ICLs are very similar (Hackett, 2014).

The reason is that the collection mechanism simply builds on an existing and comprehensive personal income tax system, and is essentially a legal public sector monopoly. There is no reason that if legal jurisdiction was granted to the private sector to be able to know citizen's incomes this could be changed in the future, although it is difficult to imagine that a commercial entity could do this as cheaply as happens through the taxation authorities.

4 (v) ICL: Some Empirical Consequences Related Access

At the time of the implementation of HECS important areas of concern were raised with respect to the potential for the new tuition arrangement to exclude prospective students from disadvantaged backgrounds. The main area of investigation into the effects of HECS has been with respect to the consequences of the scheme for the access of relatively disadvantaged prospective students. There is by now considerable evidence on this issue with the main conclusions from the Australian research with respect to socio-economic mix and access being:

(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 has been associated with increases in the participation of prospective students from relatively poor families (although the percentage point increases were higher for less disadvantaged students, especially in the middle of the wealth distribution);

It is apparent than that there have been few consequences for the accessibility to higher education for students from relatively disadvantaged backgrounds, at least as represented by enrolments. Broadly speaking, the socio-economic make-up of the higher education student body was about the same 25 years after the introduction of the policy as in the late 1980s. This might have also happened with other financing approaches, of course.
4 (vi) ICL as Higher Education Policy: A Significant Caveat and the Role of Design

In Australia and other countries in which an ICL has been introduced, this has turned out to be a relatively simple matter from an administrative point of view. The reasons for this are that the public administration systems of these countries feature a strong legal framework, a universal and transparent regime of income taxation and/or social security collection, and an efficient repayment mechanism. The last involves computerised record keeping of residents’ vital financial particulars and, very importantly, a universal system of unique identifiers (often accompanied by an identity card).

Under these circumstances it is not complicated to identify and track individual citizens and their incomes over time and space. It is not expensive, moreover, to tack onto some existing tax collection mechanism an additional function: the collection of payments from ex-students, on the basis of a fixed proportion of income. In the developing world, however, the preconditions to allow ICL are often lacking.

The difficulty in the administration of an ICL compared to a mortgage-type loan is that with the former there needs to be an efficient way of determining with accuracy, over time, the actual incomes of former students. Further, it would seem to be clear that a basic requirement for the introduction of an ICL is a strong legal framework and functional judicial system. Indeed, it is hard, from a developed-world perspective, to imagine implementing a workable scheme outside this context.

A final set of points needs to be made with respect to design issues. This is that ICLs around the world differ importantly with respect to some key collection parameters and other policy features. This implies that there is no one ideal system, with the following examples of differences being as follows.

One, approaches to interest rates vary widely, with the Hungarian system having close to no interest rate subsidies with in contradistinction the New Zealand arrangement having a zero rate of interest, implying very high subsidies in present value terms. Two, the first income levels and repayment conditions are quite different, with most countries having collection being based on a marginal rate involving additional income, compared to the Australian system which collects a percentage of total income. Consequently the amount of unpaid debt in countries such as England/Wales is considerably higher than is the case for Australia.

These administration and design issues are very important to the success or otherwise of an ICL system, at least in terms of public sector subsidies. But the big point remains: if designed properly ICL are a superior student loan system to the more conventional mortgage-type loans essentially because the former offer insurance against hardship and thus default. It should not be a surprise that the international transformation of higher education financing has taken the clear directions apparent over the last 25 years.
References


