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The Case for Income-Contingent Repayment of Student Loans

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In this issue...

For students, investing in postsecondary education involves financial risk, especially if they must borrow funds with no certainty that they can later recoup their investment with job earnings. This risk can distort the choices they make, discouraging low-income students, in particular, from attending university. Income-contingent student loans are essentially insurance mechanisms that would allow students to reduce their risk, thereby enhancing access.

The Study in Brief

Investing in education at the postsecondary level involves a certain degree of risk for students, especially if they must rely on student loans. This risk is illustrated by the highly variable individual outcomes after postsecondary education and the difficulty some students have in repaying their loans. Although Canada's progressive income tax system and income redistribution programs already insure part of the risks students face when undertaking postsecondary studies, and student loan plans all have provisions to help borrowers who have trouble repaying, there remains a large part of the risk that is not currently insurable. Non-insurable risk can discourage some potential students from pursuing their studies, especially those from poorer families, or it may distort program and career choice for other students.

Introducing income-contingent student loans, whereby loan repayments depend on income or earnings after graduation, would allow students to reduce the risks associated with investing in higher education. For student borrowers, income-contingent student loans can eliminate the possibility of default, as well as the possibility of having to shoulder debt repayment obligations that are unreasonable given their income. Even students who would not normally need to borrow could use the loans as a form of insurance, to make sure that tuition and other expenses paid for with loans would only be reimbursed if the investment pays off. The reform would encourage risk-averse students to pursue postsecondary education and acquire specialized skills, and it could help increase attendance of students from low-income backgrounds, who are currently underrepresented in the postsecondary sector.

Income contingency of repayment would have to be implemented carefully in order to alleviate two important problems inherent to insurance mechanisms: moral hazard and adverse selection. This *Commentary* discusses these problems in detail and offers suggestions for plan designs that would largely avoid them.

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"I'm loving what I'm learning. But I'm gambling. I'm here on a risk. I'm hoping it's going to work."

— Tara Katherine Spencer, arts and contemporary studies student at Ryerson University, on track to graduate in the spring of 2007 with at least $27,000 of debt (*The Toronto Star*, 9 March 2006, Page A1).

As the above quote illustrates, investing in human capital at the postsecondary level involves a certain degree of risk. Students cannot be exactly sure of how well they will perform in school, whether they will finish their study program or not, and how well they will do on the labour market after graduation. In other words, prospective students face an uncertain rate of return on investments in human capital.

People generally dislike risk. In the case of financial investments, investors limit their holdings of especially risky assets, or use various strategies to reduce the risks they face. When it comes to investments in human capital, however, fewer such strategies are available.

Over the past decade or so, we have observed a trend in Canada to making students bear more of the cost of postsecondary schooling through higher tuition. Letting students' financial investment in their education increase without a mechanism to insure the risks associated with it may distort educational choices and can discourage some potential students from postsecondary studies altogether. Knowing that students from low-income backgrounds are already underrepresented in the postsecondary sector and possibly the most sensitive to risk considerations, the possibility is especially worrisome.

The student loan system is one area to examine for solutions that would allow students to reduce the risks associated with investing in higher education. One proposal that periodically resurfaces is to introduce income-contingent student loans, whereby loan repayments depend on income or earnings after graduation. For student borrowers, income-contingent student loans can eliminate the possibility of default as well as the possibility of having to shoulder debt repayment obligations that are unreasonable given their income. Even students who would not normally need to borrow to finance their postsecondary studies would have the option of using the loans as a form of insurance, to make sure that tuition and other expenses paid for with loans would only be reimbursed if the investment pays off. Basically, income-contingent student loans can make available to all students a certain degree of insurance against adverse post-graduation outcomes. As such, they could be a useful part of a financial aid system that encourages risk-averse students to pursue postsecondary education and acquire specialized skills. Perhaps most importantly, they could help increase attendance of students from low-income backgrounds, who are currently underrepresented in the postsecondary sector.

Ottawa flirted with the idea of income-contingent loans for some time in the 1990s before letting it fall off the radar screen. Then, in his February 2005 report *Ontario — A Leader in Learning*, Bob Rae recommended that the government of Ontario establish such a program by "working with the federal government and

I thank Jim Davies, David Laidler, Jack Mintz, Finn Poschmann, Bill Robson, Saul Schwartz, Jeffrey Smith, Stephen Tapp and Alex Usher for their comments on earlier drafts.

other provinces to make it possible for students to pay for their education after graduation through a payment option that is geared to income and administered through payroll deductions."[1] It is unclear at this time whether the Ontario government intends to follow up on Rae's recommendation. Concurrently, in early 2005, the Quebec government announced a detailed plan supposed to come into effect in September 2005 that would have allowed graduates with post-graduation income below a certain threshold to gear student loan repayments to income. As part of negotiations with student unions during the winter of 2005, however, the Quebec government abandoned the idea. While Canadian governments dither, several other countries have gone ahead with income-contingent student loan plans in recent years.

I begin by briefly reviewing the justifications for government intervention in higher education funding before explaining in some detail how investments in human capital at the postsecondary level may represent a risk for an individual student. I then make the link between individual risk in skill acquisition, borrowing and access to postsecondary education, providing a justification for some insurance. The following section describes current student loan arrangements and the imperfect degree of insurance that their repayment terms provide, leading naturally into the justifications for a more fully fledged system of income-contingent loans. I then discuss a few important considerations for the design of a student-loan plan with income-contingent repayment; namely, how such a plan would have to be designed to alleviate the problems inherent in any insurance scheme: adverse selection and moral hazard.

The Role of Government in Funding Higher Education[2]

Higher education delivers important rewards to graduates in the form of personal, cultural and economic benefits, and in the form of substantial income advantages over non-graduates.[3] Higher education also generates externalities for the rest of society. Here externalities refer to the social benefits — political, cultural or economic, including effects on the rate of economic growth[4] — above and beyond the benefits that accrue to students.[5]

Since students, when choosing how much higher education to undertake, do not take into account the benefits of education that accrue to the rest of society, then without government subsidies there would be too little postsecondary education undertaken, leading to a loss of efficiency. To achieve efficiency, government subsidies should be just sufficient to entice students to undertake the right amount of higher education. At the margin, the value of public subsidies

1 See Rae (2005, p. 33). The Panel on the Role of Government in Ontario made a similar recommendation in Government of Ontario (2004).

2 Laidler (1996) has an excellent and more thorough discussion of the role of higher education in the economy and of the role of government in this sector.

3 See Finnie (1995, 2002) for an analysis of the labour market experience of recent graduates.

4 See for example Coulombe and Tremblay (2005).

5 See Davies (2003) and Riddell (2005) for the externalities associated with higher education and reviews of the empirical evidence.

should equal the value of the externalities, with attendant pricing behaviour by institutions. If subsidies were too large and covered all the operating costs of postsecondary institutions, however, students would have no incentive to take account of the cost of instruction in their decisions and could undertake too much higher education, similarly lowering efficiency. For example, unless the externalities associated with higher learning were much larger than what current research suggests, a policy of no tuition could lead to overinvestment. There is little doubt among economists who study higher education that the right policy in developed countries involves tuition costs to students.

If there should be a charge, how should it be paid? One possibility would be to allow the institutions to charge fees, with no other financing assistance provided. Such an arrangement would be unambiguously poor policy. In this context, the critical issue relates to a major borrowing problem: many prospective students do not have the resources to pay up-front fees and would need to approach a bank for a loan. However, banks would be unwilling to lend because of the prospect of default. An education loan — unlike a housing loan — is risky for a bank because in the event of default the bank has no collateral to sell. Without a guarantee of repayment, then, banks would generally not be interested in the underwriting of human capital investments. Thus, there is a role for government to play in insuring that prospective students can borrow to cover the private cost of higher education.

The current solutions to the lending problem used in Canada and in many other countries indeed involve government-assisted bank loans to students with low to moderate family incomes. Governments guarantee loans to students on the assumption that the financial return on postsecondary education will allow them to reimburse the loans. This assumption is reasonable, because postsecondary graduates typically enjoy much greater earnings than workers with only a high-school diploma (Figure 1). The most common method for measuring the private pecuniary benefits to higher education is to treat the process as an investment and calculate the financial returns based on the costs of studies and the lifetime income benefits of education, a technique that has been applied in a plethora of studies both in Canada and abroad.[6] Studies typically show that higher education, especially university education, is associated with high private economic returns, in the order of 10 percent for a first undergraduate degree. This is a relatively high return when compared to other investments of similar risk available in the economy, and it does not include all non-pecuniary types of compensation enjoyed by postsecondary students and graduates.[7]

The returns measured in economic studies are averages, however. The reality is that postsecondary education outcomes exhibit a great deal of individual variability. Casual observation is sufficient to know that some postsecondary graduates do very well on the labour market after graduation while others do not do so well.

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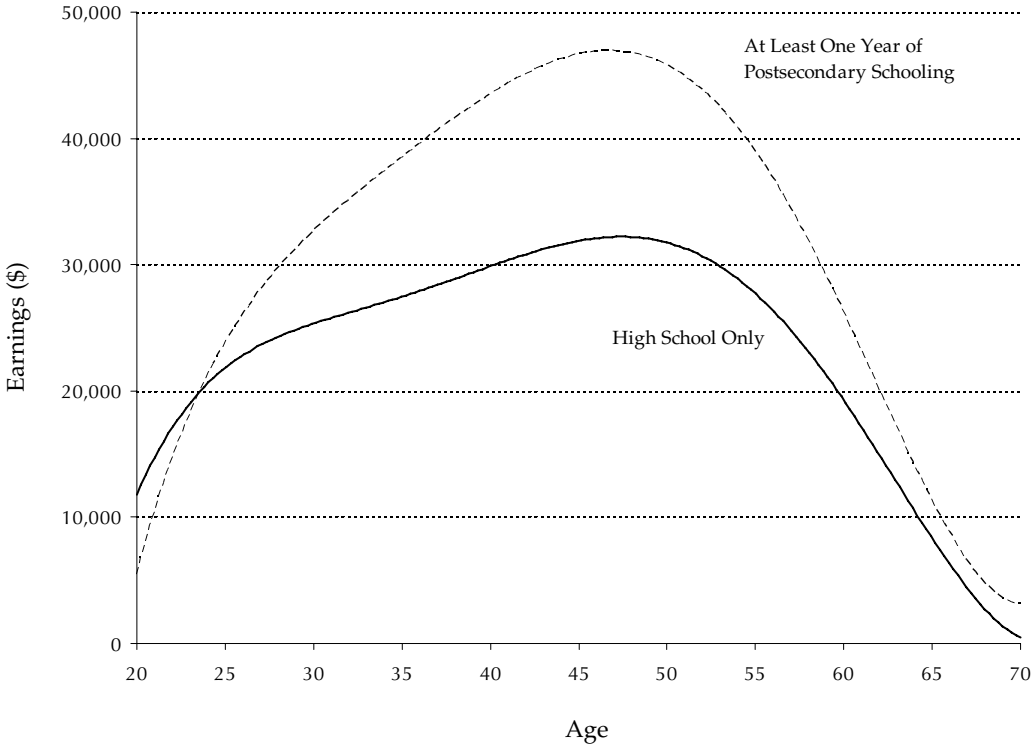
6 See Collins and Davies (2005) and references therein.

7 For example, Alstadsaeter (2004) estimates that the consumption value of a postsecondary degree can be as high as 38 percent of the present value of the additional lifetime income derived from it.

Figure 1: *Mean Earnings by Age*



Sources: Survey of Labour and Income Dynamics 2002; author's calculations.

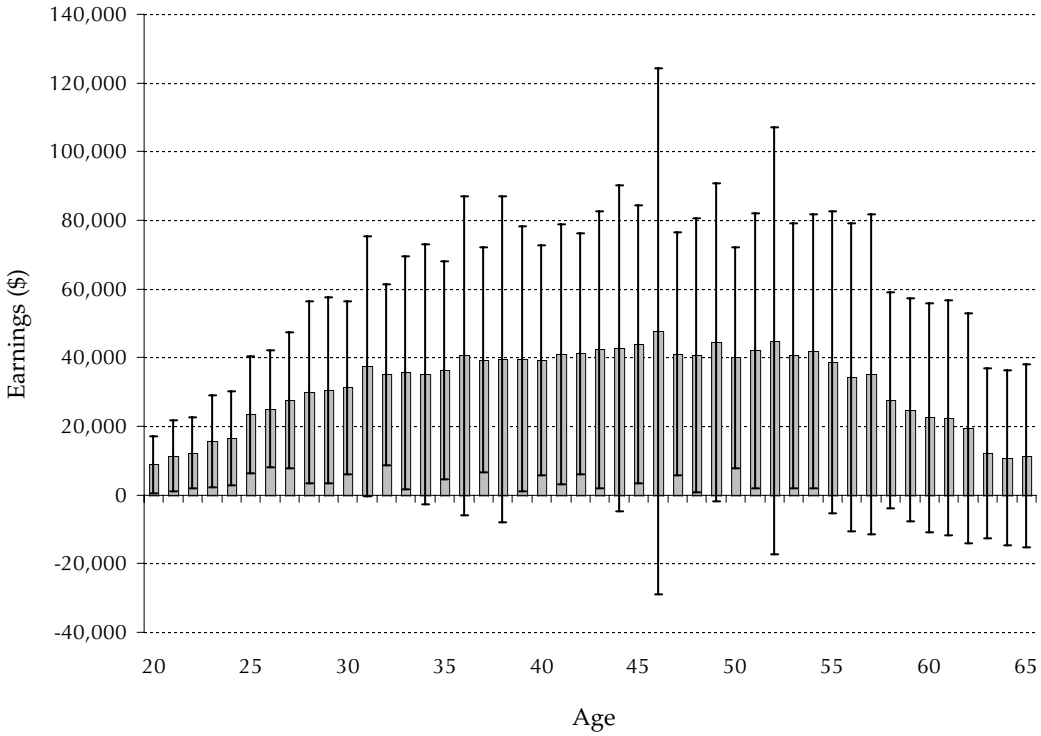
Notes: Earnings profiles were smoothed using a polynomial.
This figure is illustrative only. It presents mean earnings by age based on a "synthetic cohort" approach. The reader is warned that this approach tends to yield downturn in earnings in the late '50s and early '60s that do not appear in data using a single cohort. Due to growth in earnings across cohorts, it also likely understates mean life-cycle earnings growth within a given cohort.

Individual variability in the returns to higher education influences the demand for it if three conditions are met. First, it must be the case that some of the variability observed across individual returns is due to uncertainty (imperfect information as to an individual's own ability and career prospects for example) and not only to heterogeneity (differences in individual characteristics and choices that are known or anticipated by the individual) so that skill acquisition exposes the student to additional exogenous labour-market risk. Second, the demand for skill acquisition must be sensitive to the risks associated with the returns and by extension to the possibility of insuring those risks. Third, it must be the case that the risks are not already fully insured through other mechanisms available in the economy. I discuss the three conditions in turn.

Uncertainty vs. Heterogeneity

Consider Figure 2, which illustrates average earnings by age for Canadians with some postsecondary education along with the one-standard deviation range

Figure 2: *Variability in Postsecondary Earnings by Age*



Sources: Survey of Labour and Income Dynamics 2002; author's calculations

around the averages. Clearly the range of individual variation in earnings is quite large at each age. A number of recent studies from the United States have confirmed that human capital acquisition at the postsecondary level produces highly variable individual returns.[8]

Of course, a lot of the observed variability in postsecondary earnings as shown in Figure 2 does not stem from exogenous shocks that were completely unanticipated by students, but is the result of different factors known to students and graduates. Some of the variation in observed earnings is due to variation in individual ability,[9] for example, perhaps imperfectly known but not entirely so. Some of it is due to different choices of where and what to study, and some of it is due to labour market choices after graduation; for example, women choosing to work only part-time to take care of a child. To the extent that these different individual characteristics and choices are known or can be anticipated by the student ex ante, that is, before the decision to pursue postsecondary studies, the resulting variation in outcomes does not reflect uncertainty and would not influence schooling decisions. Only the uncertainty about future rates of return

8 Among others, Hartog et al. (2004) and Palacios-Huerta (2003). Unfortunately, there are no studies (that I am aware of) that examine the variability of returns to postsecondary education specifically in the Canadian context, but it is a good bet that it is similar to US measures.

9 The possibility that observed returns to higher education are mainly due to innate ability rather than to postsecondary education itself is simply the well-known signaling hypothesis.

that remains after accounting for known ability, school and field of study choices and anticipated labour supply choices represents a true ex ante risk from the perspective of prospective postsecondary students. To justify the provision of insurance, this true risk component must be large enough to deter especially risk-averse individuals from undertaking additional schooling.

In addition, we must recognize that labour market outcomes in the absence of postsecondary education are risky too, in large part due to greater unemployment risk for individuals without postsecondary education. So we are not merely interested in the variance of returns to postsecondary schooling, but rather in the variance differential, defined as the difference in the variance of returns to education that is caused by additional schooling. It could be that obtaining postsecondary education increases the value of the lifetime earnings stream one can expect, but also increases its variance. The first feature would make higher education desirable, but the second would make it less desirable if the increased variance is not insurable. Conversely, it is possible that individuals obtain higher education in order to reduce income risks. In this case both the higher expected earnings and the smaller variance would combine to make higher education a desirable investment.

There is plenty of evidence that investing in higher education increases lifetime earnings on average, as stated previously, but the evidence is much thinner on whether it also increases the variability of future earnings, and whether such effects can be anticipated by prospective students. Only a handful of recent studies in the US have looked at these complex questions.[10] Depending on the chosen assumptions and methodology, 6 percent to 53 percent of the variance differential in the returns to postsecondary schooling relative to that of earlier schooling is not forecastable by students at the time they decide whether to pursue postsecondary studies.

Most of the estimates suggest a substantial role for uncertainty in producing returns to higher education. Because most individuals exhibit some aversion to risk, unforecastable uncertainty may partly explain why many high-school graduates choose not to go to college despite the high average returns.

Impact of Risk on the Demand for Education

Is the demand for education sensitive to risk in human capital returns? Again, this question does not have a long history in economic research, but has received some attention lately.

First, it is important to distinguish between transitory labour market risk and permanent labour market risk. Transitory risk comes from unanticipated short-term shocks to an individual's labour market experience, such as short-term bouts of unemployment or health problems that temporarily reduce earnings. Permanent income risks refer to risks that affect outcomes for an individual's entire career, such as long-term disability, or the risk of not finding employment in one's desired field, which can affect one's entire lifetime earnings profile.

10 See the very recent studies by Carneiro et al. (2003), Chen (2005), Cunha et al. (2005) and Heckman et al. (2005), as well as Charles and Luoh (2003).

Economic theory predicts that more risk-averse individuals will demand more human capital if human capital reduces their exposure to transitory or permanent labour income risks, and vice versa.[11]

The existing empirical research,[12] which unfortunately has so far only used data from countries other than Canada, suggests that permanent labour income risks have a statistically significant and economically important effect on educational choices, while transitory income shocks have only a small effect. One of the most interesting results from this research is that the anticipated variance in permanent post-high school earnings is not a good predictor of schooling choices, whereas the anticipated variance of post-college permanent earnings is.

One reason this might be the case is that potential students might have relatively good information when deciding on postsecondary education about future income prospects; that is, where they would fall in the high-school-graduate income distribution as mature adults. Between the ages of 18 and 24, young people who work (in the summers or part-time during school) do so as young no-college workers, and will obtain information about their suitability for work in this segment of the market. This means that prospective postsecondary students may perceive their options as choosing between (1) a certain no-college earnings outcome and (2) a draw from an uncertain distribution if they get advanced education. Only the anticipated variance of after-college earnings would affect education choice in that case. In other words, variations in lifetime income for high-school graduates may be substantial, and possibly greater than variation in income for postsecondary graduates, when they are observed ex post. However, from the ex ante perspective of a high-school student, the anticipated variability in earnings after postsecondary education is greater because the student has less information on which to base expectations. The postsecondary option therefore appears as the risky choice, and the no-postsecondary option as the safe choice. More risk-averse students may naturally orient themselves toward the safer choice.

Already Existing Insurance

Consider first the acquisition of basic skills; that is, primary and secondary education. Investments in skills at these levels are completely subsidized, with no up-front costs to the students and parents, and little opportunity cost, considering that work by children under age 16 is restricted or entirely prohibited by law. Part of the return to basic skills is then taxed back later in life in what basically amounts to a co-insurance process. Society as a whole bears the costs of investments through governments, and governments receive a portion of the returns through taxation. In Canada's progressive income tax system, the particularly large individual returns are taxed back at a higher rate. At the primary and secondary education levels, then, risk does not pose a problem to skill acquisition. Mainly general skills are acquired at these levels, which by themselves

11 For theoretical approaches, see Levhari and Weiss (1974) and Wigger and Von Weizsäcker (2001).

12 See Nielsen and Vissing-Jorgensen (2005), Whalley (2005) and Charles and Luoh (2003).

constitute a form of insurance, and society pays all the costs out of general tax revenue, so there is very little individual risk.

The problem is more significant at the postsecondary level, because the skills acquired there are more specialized, making investments in them generally more risky, and because students face much higher out-of-pocket expenses for tuition and ancillary fees. Conceptually then, individual investments in higher education require a greater degree of insurance protection than investments in basic skills. For the roughly 60 percent of direct outlays on higher education paid for by society through general taxation, the co-insurance analogy still applies: government transfers can be loosely described as an income-contingent grant system, with grants arriving in the form of subsidized tuition; and being repaid later — conceptually, not literally — according to income through the progressive tax system. So a certain degree of individual ex post income insurance occurs automatically through the progressive tax system and through social programs such as employment insurance and social assistance.

Although they can eliminate the hardship associated with short-term income shocks, these programs do not fully insure against a permanent income shock; that is, the realization of a lower lifetime income profile than was anticipated at the time of the decision to pursue higher studies. Employment insurance eventually runs out. Social assistance offers only a basic subsistence level. The progressive tax system insures that a lower lifetime salary will be taxed proportionally less, but will not make up for a shortfall in expected lifetime earnings. In other words, full insurance for labour income risks does not exist.[13] Transitory income shocks — deviations from an expected lifetime income path — are quite well insured, but there remains substantial uninsured risk to one's lifetime income path, risk which, as we saw above, may increase with postsecondary education.

Besides the basic level of insurance provided by the social safety net, few opportunities exist for individual insurance. Some degree of informal human capital diversification and insurance occurs through informal intra- and inter-household linkages — for example through marriage when partners have different sets of skills and are not subject to the same income shocks exactly at the same time (e.g. Becker 1991) — but we are far from the hedging opportunities available in financial markets.

By making students pay more and more of the costs of postsecondary education themselves, however, we are reducing the amount of implicit insurance hitherto afforded by a small private contribution and by Canada's progressive income tax system and social programs. If students cannot insure the risks associated with a growing private contribution, they have an incentive to reduce such risks by choosing less expensive programs, programs that lead to occupations with more certain outcomes, more general rather than very specialized training, etc. Exactly how much insurance against these risks society wants to afford postsecondary students is an open question; surely full insurance is neither attainable nor desirable. The point here is merely that not enough of it may have adverse consequences on human capital formation through undesirable

13 The seminal papers on incomplete labour income insurance for the United States are Cochrane (1991) and Attanasio and Davis (1996).

Table 1: *Postsecondary Participation Rates by Parental Income, 2001*

Parental Income	in college	in university	in any postsecondary education
		percent	
Less than $25,000	29.4	19.5	48.9
$25,000 to $50,000	36.5	23.3	59.8
$50,001 to $75,000	38.2	25.0	63.2
$75,001 to $100,000	38.1	38.2	76.3
Over $100,000	31.8	45.6	77.4
Overall	35.4	30.0	65.4

Source: Drolet (2005) using the Survey of Labour and Income Dynamics.

Notes: For youths, aged 18-24, not attending elementary or high school and living with at least one parent. Parental income measured in 2001 dollars.

effects on the choices made by prospective students; in other words, who studies what and who goes to college or university and who doesn't.

The Link between Socioeconomics, Risk Aversion and Postsecondary Participation

Canadian children from low-income families have lower postsecondary participation rates than those from better socioeconomic environments (Table 1).[14] Drawing on the argument and evidence presented above to the effect that human capital investments are subject to non-insurable, non-diversifiable risks, we would expect the degree to which an individual is risk averse to influence that individual's decision on whether and how much to invest in human capital. So it may be that part of the socioeconomic access gap is due to people from poorer backgrounds exhibiting a greater degree of risk aversion.[15]

Although a link between risk aversion and postsecondary participation has not been demonstrated empirically, some evidence does suggest that students from poorer socioeconomic backgrounds may be more risk averse than average.[16] Not only may they be more risk averse — which means a dislike of variance per se,

14 See Corak et al. (2003) and Drolet (2005) for recent evidence.

15 Of course, there are other reasons related to socioeconomic status besides risk aversion that explain part of the socioeconomic access gap, not the least of which is a misperceptions of the costs and benefits of higher education, sharper among poorer households (Usher 2005). Such an information problem is best solved simply by providing information to prospective students.

16 An individual who holds more risky assets as her wealth increases is said to exhibit decreasing absolute risk aversion (DARA). The DARA hypothesis is supported by much empirical research in economics and finance showing that higher wealth is associated with more holdings of risky assets. If human capital acquired at the postsecondary level is a risky asset, this evidence predicts that individuals from poorer backgrounds should want to acquire less of it.

whether up or down, in the return to education — but they may be particularly averse to downside risk; that is, they may have a stronger dislike of poor payoffs. In other words, they may not particularly care for, or value, the potential for very good outcomes while wanting to avoid the potential for very bad ones.[17] A third but related issue is debt aversion. People from poorer socioeconomic backgrounds may be more averse to borrowing and the possibility of default, even if they can reasonably expect to benefit from the loan, than people from better socioeconomic environments.

An increasing proportion of Canadian students borrow in order to finance postsecondary education. Between 1982 and 2003, the proportion of university graduates who left school with government student debt increased from approximately 43 percent to 53 percent.[18] For college graduates, it increased from 34 percent to 48 percent during the same period. Among those with debt, the average debt load at graduation increased during this period from $6,715 to $20,300 for university graduates and from $4,629 to $13,100 for college graduates (in 2003 dollars). In the class of 2000, 5 percent of college graduates and 14 percent of university graduates held more than $25,000 of debt at graduation. These increases partly reflect a rise in tuition fees over the same period: between 1993 and 2001, average undergraduate tuition fees increased by 77 percent.

Leverage increases risk: the effect of borrowing to finance an investment is to increase the degree of risk, particularly downside risk, associated with the investment. With traditional student loans, this occurs because the constraint of fixed repayments compounds the disposable-income risks associated with borrowing, in other words, not being able to make the fixed repayments on a loan because of earnings that are too low, with all the stress and hardship it entails. According to statistics from the graduating class of 2000, 34 percent of college graduates and 28 percent of university bachelors' graduates reported difficulty with making their student loan repayments during the two years following graduation.[19] Unfortunately, we have no statistics on how repayment difficulty correlates with the socioeconomic origin of the graduate.

Fear of borrowing shows up in survey statistics. In a recent five-province survey of secondary school students' perceptions of barriers to education after high school, 25 percent of senior high-school students cited "fear of going into debt" as a "major/significant" barrier to further education (Prairie Research Associates 2005a). A similar survey of college students found that 33 percent of them were "very concerned" about the amount of debt they would incur before graduation (Prairie Research Associates 2005b). It would be very relevant to know how responses to these answers correlate with student characteristics such as family income and the likes, but unfortunately we do not.

When students pay some of the up-front costs of education out of borrowed funds and have to repay the loans out of their hopeful but uncertain future income stream, they have an incentive to reduce the uncertainty associated with their

17 Using the technical term from decision theory, they may exhibit an 'asymmetric loss function'.

18 The statistics in this paragraph are from various issues of *The Daily* from Statistics Canada and from Chapter 6 of Junor and Usher (2004).

19 See Junor and Usher (2004) Figure 6.V.6.

future income stream. This occurs because any unforcastable income risk associated with postsecondary studies is magnified by student loans, so the demand for student borrowing by those who are risk averse is lower than if risk to returns were perfectly insurable. Consequently, some people who have access to other sources of funds besides student loans will substitute out of the student loan programs, while those who do not have access to other sources will try to reduce risk on some other margin — i.e. select a program of study or occupation that involves less risk, etc — or decide not to pursue postsecondary studies at all.

Because access to liquidity is especially crucial for students from poor socioeconomic backgrounds, they are the most likely to require student loans. Their greater need for student loans and, possibly, their greater risk aversion suggest that they are the most likely to try to substitute out of the need for student loans by reducing risk in some other way or by foregoing the postsecondary option altogether. That a certain group of people in society have a sharper disincentive to attend postsecondary education when this group is already underrepresented is a serious concern for the proper allocation of talent to available postsecondary programs and options.

To summarize, the less likely someone is to attend postsecondary education on the basis of family socioeconomics,[20] and correspondingly the more in need of student loans she is likely to be on the basis of the same socioeconomics, the more likely she is to be afraid of borrowing to finance the investment, reducing further her incentive to attend. Perversely then, risk aversion and the compounding of risks due to student borrowing may reduce the demand for postsecondary studies relative to more certain schooling/career paths, particularly among poorer individuals.

By lowering the variance in returns to postsecondary degrees for borrowers, and particularly by lowering the chance of making a very bad investment, income-contingent student loan repayments have the potential to encourage risk-averse individuals, particularly liquidity-constrained individuals from poor socioeconomic backgrounds, to invest in them.

Making Student Loan Repayments Contingent on Income

As previously explained, one reason the government steps in to provide student loans or student-loan guarantees is that banks would otherwise not be willing to lend given the absence of collateral to insure against default risk. But even with the government student loans we now have, human capital investments are still risky *from the student's perspective*, and particularly for student borrowers, because as we have seen, returns remain subject to uncertainty.

Notice that the problem here is quite different from the problem of banks being reluctant to lend. The problem here is the reluctance of students to borrow — because of uncertainty about future outcomes — even if banks or the government are willing to lend to them. This type of risk aversion on the part of prospective students — what may be dubbed individual risk aversion as opposed to

20 Usher (2005) found that Canadians substantially underestimate the benefits and overestimate the costs of postsecondary education, and that this misperception problem is greatest among low-income families.

institutional (lenders) risk aversion — does not go away with government involvement in student loans with fixed repayment schedules. Such loans can eliminate the liquidity constraint facing some students, but they do not alleviate the risks associated with borrowing for educational investments. The resulting concerns are the same, however, and imply that unless the risk associated with human capital borrowing is offset, there will be less borrowing than there would be in the absence of this reluctance to take risks, and possibly underinvestment in postsecondary education. In the current student loan system, post-graduation loan repayment risks are only partially hedged through some provisions in repayment rules that help graduates who have difficulty repaying.

Features of Income Contingency in the Current Student Loan System

The Canadian student loan system is currently anchored by the Canada Student Loans Program (CSLP). Despite being a national plan provided by the federal government, loan eligibility is based on need assessments carried out by the provinces.[21] They compare direct educational costs (books, tuition, etc.), anticipated living costs and related expenses against students' expected savings from summer jobs, parental contribution, scholarships, bursaries and other sources of support. If expected costs exceed resources, a loan certificate is issued up to the established maximum. Additional provincial grants or loans from provincial programs are then added to make up the full financial support package available to students. These arrangements largely neutralize the reluctance of private financial institutions to lend to students.

After leaving school, Canadian graduates currently dispose of a six-month grace period before they have to start repaying their student debt. In the CSLP and some provincial programs, loan interests accrue during this six-month period. Loans are then consolidated and the student strikes a repayment contract that specifies the monthly payment and the duration.[22] Depending on the circumstances and the specific program, students experiencing difficulties making payments generally have access to three different types of relief: extension of the normal repayment term, interest relief and debt reduction in repayment.

Under the CSLP for example, students may first request an extension of the repayment period up to 15 years from the normal maximum of 10 years, thereby lowering monthly payments. Second, students who are unemployed or have low earnings may apply for interest relief by six-month periods, up to a maximum of 30 months (54 months if the student increased the repayment period to 15 years and completed her studies within the past five years). Finally, students who have

21 See Junor and Usher (2004) for a detailed description of the CSLP and the student loan programs in the provinces. Finnie et al. (2004) offer a critical review of the system and suggestions for improvement. Finnie and Schwartz (1996) discuss the history of the Canadian system and discuss income-contingent loans as well.

22 In some provinces, before consolidation, some students with a large amount of debt are admissible for partial debt reduction (also called loan remission), which is equivalent to a grant. Provincial debt reduction schemes vary considerably among jurisdictions (see Junor and Usher 2004, p. 208-9). These programs help borrowers have a smaller amount to repay, but they do not help borrowers who have difficulty repaying once repayment has begun.

been out of school for five years and have obtained interest relief for 30 months or more may be eligible for debt reduction in repayment' should monthly loan payments exceed an affordable payment considering family size and gross family income. Under this provision, students may receive one-time debt reduction of up to $10,000 or 50 percent of their outstanding balance, whichever is less. Some provinces have federal-provincial arrangements that complement CSLP provisions with extra provincial measures.

Thus, there is a fair amount of income contingency already present in the Canadian system of student loan repayment. Is there enough?

First, the current system provides good coverage for short-term drops in income, for example occurring because of short bouts of unemployment. The interest relief program that allows no interest payments for six months at a time covers this type of eventuality well. Interest relief is only available to former students whose loans are in good standing, however. Those who are already far behind in their repayment are arguably in the greatest difficulty and have no relief. Second, extending the repayment period to 15 years provides a limited amount of relief to graduates expecting low earnings for a significant period of time. For example, with a $30,000 loan and a 6 percent interest rate, paying back the loan over 15 years instead of 10 lowers monthly payments by 25 percent. Third, the debt reduction in repayment provision provides some insurance against a prolonged period of financial hardship, but kicks in only after a long period of financial struggle and only if a person has been out of school for at least five years.

The bottom line is that the patchwork of insurance features currently in place in the student loan system will serve some low-earning graduates well, but some others badly, the latter likely being those with a large amount of debt but unable to find well-paying, long-term employment. These graduates will struggle for a significant amount of time with high monthly payments before they can finally access debt remission programs, especially after they have used 30 months of interest relief but are not yet admissible to debt relief. In addition, since changes made a few years ago, student loans cannot be discharged in bankruptcy unless the bankruptcy is filed more than 10 years after finishing school.

The current programs can be said to offer a good degree of protection for people with short-term difficulties on the labour market following graduation, but these may not be the type of difficulties that debt-averse students, doubtful of being able to repay their debts once they graduate, worry about most. Rather, they may worry about their investment not paying off; either because they will not find employment in their desired fields or because the labour market will change substantially during their studies along with salary prospects. In other words, they may worry about facing a lower working-life salary path than they expected when they enrolled, which the current system does not do a good job of insuring against.

If society were only worried about individuals not being able to pay off their student loans in the event of severe exogenous and *observable* negative shocks such as severe health problems or disability, then existing institutions could be modified to deal with this. Long-term disability, for example, can be assessed by a physician and student loan plans can relieve debt for such unlucky people, as the federal and some provincial student loan programs currently do. But if we are

worried about insuring not so easily observable events and, more importantly, insuring the realization of a much lower lifetime income profile than expected for reasons outside of an individual's control, because of the negative effects these risks may have on the incentive to study, then simply tweaking existing repayment provisions will not do. The need for better and simpler insurance against post-graduation earnings risks compounded by student loan repayment obligations is at the crux of the case for fully fledged income-contingent repayment plans.

Fully Fledged Income-Contingent Repayment Plans

A typical income-contingent repayment plan is a contractual obligation to repay a student loan such that: (i) repayment only takes place in the event that income after graduation exceeds a pre-specified level; (ii) annual repayments constitute a set percentage of income or earnings; and (iii) repayment ceases once the loan (and any interest) has been repaid (Johnstone 2001).[23] Other optional features are sometimes associated with income contingency, for example capping the repayment period after a maximum number of years even if the loan is not completely repaid, which can ultimately release the low earner. The crucial feature to understand is that in an income-contingent repayment arrangement, the *repayment burden* (percentage of earnings that must go to loan repayment) is stipulated in the loan contract, but not the *repayment period*. This contrasts with conventional loan repayment contracts (like most mortgages and current student loans) where the repayment period is stipulated in the contract, but the annual relative burden of repayment — the relationship between fixed repayments and current income — varies.

Several countries have or have had operational, governmentally sponsored income-contingent student loan repayment plans of various shapes and sizes, including Sweden, Australia, New Zealand, the U.K. and the U.S.[24] As we have seen, student loan programs in Canada contain provisions that make repayments more or less contingent on income after graduation, but no program has a fully fledged income-contingent repayment system.

Income-contingent repayment of student loans can address the missing insurance markets for human capital investments outlined above. The problem with fixed repayments is that they are mostly insensitive to the borrower's financial circumstances. In an income-contingent repayment scheme, repayments in any one year are related to income in that year. The plan can then protect against both short-lived and long-lived risks at once, by aligning current repayments with current income in a much more straightforward manner than current loan plans and for the entire loan repayment period. Borrowers who cannot pay due to low income are allowed to defer — and perhaps eventually be

23 The third features differentiates an income-contingent repayment scheme from another financing scheme often discussed, the graduate tax. Under a graduate tax, there is no nominal amount to repay, all graduates with income or earnings above a certain level must pay into the scheme.

24 For a description and evaluation of income-contingent loan programs in other countries, including a detailed discussion of the Australian experience, see sections 4, 5 and 6 of Chapman (2005).

forgiven — repayment and do not suffer default costs. Income contingency ensures that part of the costs of higher education will be borne only if the investment generates a financial benefit. It does not make a good investment better, neither can it make a bad investment good, but it decreases the probability of making a very bad investment where the benefits do not materialize but the costs — repaying student loans — nonetheless have to be borne. If the possibility of making a very bad investment is what discourages some prospective students from paying — and borrowing — for higher education, then it has the potential to improve attendance from these individuals. The value-added from the government is that it can pool some of the individual post-graduation income risks together and diversify them away, thereby offering borrowers a degree of insurance that palliates for missing private insurance markets.

Two Important Design Issues

Designing a student loan system with income-contingent repayments would require careful consideration of the following two features, among others.[25]

Income Threshold below which No Repayments Are Required

To strengthen the insurance component of the scheme based on tying loan repayment to income, the repayment plan could be designed such that repayments only occur if a postsecondary graduate's annual earnings exceed the annual earnings of less-educated workers. In the case of a university graduate, for example, the relevant comparison group could be secondary school graduates of the same age. By setting the income threshold below which no student loan repayment is required at the average earnings level of secondary school graduates, it would make explicit the objective that unless investment in postsecondary education is paid off, there would be no loss of income.[26] Private contributions to the costs of higher education would conform well to the benefit principle because they would be proportional to the pecuniary benefits derived from the human capital acquired at the postsecondary level, but not the one acquired at the primary or secondary level. We could then think of student loans with income-contingent repayment as deferred payment for higher education with built-in insurance. In any given year, unless the investment was paying off, no repayment would be required.

On the other hand, human capital theory predicts that people who study longer will initially earn less than those who began working sooner, for the first few years in the labour force. Empirically, the cross-over point at which average income after postsecondary studies reaches income without such education is about 5-7 years after graduation. Choosing the high-school income level as a

25 See Alarie and Duff (2005) for a much more thorough discussion than I have space for here of the issues associated with the design of an income-contingent repayment plan.

26 The existence of non-pecuniary consumption-good benefits to postsecondary education argues for a lower threshold than the high-school graduate income level, but the high-school graduate income level would be an easier political sell.

threshold for repayment would signify that many postsecondary graduates would not have to start repaying their debts for several years. It might be more advisable to choose a threshold such as 75 percent of high-school earnings, or require some minimum repayment for the first few years.

In addition, choosing secondary school graduates' average earnings as the repayment threshold would be quite expensive in terms of lost repayments, requiring a higher interest rate for those above the threshold than otherwise. A lower threshold would be less expensive. Ultimately, the threshold chosen should reflect the degree of insurance society wants to make available to postsecondary students.

Risk Sharing

Under income-contingent repayment of student loans, as in any student loan plan, some graduates will inevitably not repay the complete principal and interest because of persistent low earnings. Under the current loan system, there are some mechanisms to temporarily relieve these graduates from debt repayment, but eventually default would occur. With income-contingent repayment, default does not occur per se, but graduates with earnings below a certain threshold do not have to reimburse. There are in general two ways to cover the costs associated with non-repayments: *risk pooling* among students and *risk shifting* to society.

With risk pooling, the risks of default are shared among borrowers. The interest rate on the loans contains a premium to cover the costs of default of those who are not able to repay. Students who succeed in repaying their loan are paying the costs of non-repayment of those who fail, so that they effectively reimburse more than their own loan principal plus interest. Consequently, there is redistribution from the lucky students to the unlucky students after graduation. In other words, prospective students collectively insure ex ante and the better-off redistribute to the worst-off ex post.

With risk shifting, the default risks are borne by society as a whole, or more precisely, by the general taxpayer. In that case there is in principle no redistribution from the lucky to the unlucky graduates, except for the fact that lucky graduates contribute via their tax payments to the government budget from which the costs of default are funded. The interest rate on loans can be kept at the government's cost of borrowing, but the difference between this interest rate and the conceptual marked-up interest rate that would cover non-repayments — the insurance premium — is taken out of general taxation. With risk-shifting, tax-financed education subsidies still enter the postsecondary education system, but in an ex post fashion. These subsidies are not given when students are studying (ex ante), but only after graduation when they are not able to repay their debts. Still, having the government assume the costs of non-repayment involve substantial fiscal costs.

The above two options can be seen as the opposite ends of a continuum from no risk sharing at all to full risk sharing, with varying degrees of risk sharing in between. The degree of risk sharing affects the distribution of the costs of non-repayments between the pool of borrowers and the rest of society, which in turn

largely determines the extent of one of the most important problems with any insurance plan, that of adverse selection.

Adverse Selection

The principal problem with risk pooling in an income-contingent repayment plan is the possibility of adverse selection, that is, the prospect that bad risks will drive good risks out of the program. Consider two prospective borrowers, Ms. A and Mr. B. Ms. A is confident that she will succeed in her degree program and find a good job. She would like to borrow, but she has options as to where to do so. Because she is confident in her future success,[27] she does not value the insurance component of the government income-contingent repayment plan very highly. In contrast, Mr. B is quite unsure about his future prospects, does not hold any collateral that would allow him to borrow outside of the government-sponsored plan, and values the insurance component of the government plan greatly because he is worried about financial hardship after graduation.

In this situation, Mr. B would borrow from the plan with income-contingent repayment. Ms. A, however, observing that she can get a lower borrowing rate than the government's risk-pooling rate — which includes a risk premium — will likely not borrow from this plan. Ms. A is better off borrowing privately because she can then avoid paying part of her income after graduation to cover the costs of non-repayment by the likes of Mr. B. If too many people like Mr. B embark in the plan and too many people like Ms. A pull out of it, the plan will not be sustainable because the contribution rate required for keeping the plan afloat will be prohibitively high. That is, only bad risks will find the plan attractive and will self-select into it, hence the term 'adverse selection.' It is easy to see that the more risk pooling a plan involves, the greater the incentive for good risks to seek other, cheaper, financing opportunities, and the more adverse selection there would be.

Adverse selection is the primary reason why the private market does not offer individual insurance against post-graduation earnings risk, suggesting that the problem is not trivial. Another nontrivial problem which affects the insurance system is that of moral hazard.

Moral Hazard

'Moral hazard' is the term used to describe the fact that insurance can change the behaviour of an insured person. In the case of income-contingent repayment plans, it refers to the perverse incentives given to borrowers, which can take several forms:

> First, [an income-contingent loan] would increase the relative attractiveness of disciplines that have a high consumption value […]. Second, it would increase the relative attractiveness of majors that lead to jobs with relatively high non-

27 Krueger and Bowen (1993) present empirical evidence from the US which suggests that students have some ability to forecast their future earnings, especially those who ultimately have high earnings.

> monetary compensation. […] Third, because the program would provide a sort of de facto income insurance for university graduates, it would increase the relative attractiveness of occupations with high variances in earnings. […] Finally, and perhaps most important, income-contingent loans would raise the already very high marginal income tax rates facing most […] workers. This would lead them to work less and enjoy more leisure. (Smith 1996, p. 275.)

The first point refers to the reality that higher education is not only a pure investment good, but offers consumption and non-pecuniary benefits as well. Financing education with income-contingent loans with full risk pooling implies that students with a stronger preference for the non-pecuniary aspects of the returns are implicitly subsidized by those with stronger investment motives. Education choices are then distorted and enrolment of consumption-oriented students could be inefficiently high (Jacobs 2002). The second point is closely related to the first but applies to career choice. Both points are correct in theory and "at the margin," but it is not clear how much they would matter in practice. Because the only existing empirical evidence on these effects is highly indirect, it is not possible at this point to confidently predict their magnitude. It is difficult to believe (at least for this author) that such effects would be economically significant when compared to the much greater concerns of choosing a study program and career that fit one's abilities and interests.

The third point can hardly be seen as a downside of student loans with income-contingent repayments, because increasing the attractiveness of career paths — including studies — that are risky in an income sense is one of the very purposes of income contingency. Risk aversion and the absence of a market to insure post-graduation earnings risks creating a distortion toward safer career paths. Rather than creating a new distortion, income contingency of student loan repayments works to eliminate an already existing distortion.

The fourth point, that income-contingent repayments would act as a form of tax on extra income and thus create a disincentive to work with the associated deadweight costs, is the most often mentioned drawback of tying loan repayments to income. The weakness in this argument is that it sees loan repayment as a tax. A tax is a compulsory levy. Student loans, however, are voluntary: it is the student's choice to pursue postsecondary education; it is the student's choice whether to finance it through government loans or other means and the student can choose whether to take a larger or smaller loan. In addition, loan repayments are 'switched off' once the loan is repaid, unlike a tax (Barr 1997). Even if repayments contingent on income are not taxes, however, it remains true that they would create some of the same disincentive effects. Like income taxes, loan repayments tied to income would discourage additional work and income. For good reasons, however, the effects can be expected to be milder than in the case of income taxation.

To see why, notice that the work disincentive effect of a tax such as the personal income tax comes from the fact that if a worker earns less in a given year than she could have, the tax on this extra income is avoided, forever. But in a student loan system with income-contingent repayment such as the one described above, loan balances not paid in one year carry over to the next year, and so on,

until they are repaid or written off. Working less does not allow postsecondary graduates to escape the obligation to eventually repay their debts. Payments avoided in one year would grow at the prevailing interest rate, making the present value of the loan obligation roughly independent of the timing of repayment. From workers' point of view, then, there is not much incentive to avoid repayment in any given year, unless they believe they can avoid repayments in all years until the loan obligation is forgiven.[28] By setting the age for debt forgiveness high enough, the only way one could avoid repayment would be to earn no more than the set threshold for repayment (eg: average income of high school graduates of the same age) for one's entire career or almost, because it would be difficult to suddenly switch to a high-paying job in line with one's postsecondary studies without having already started a career in the field. It is doubtful that many would choose, for their entire working life, to forgo the substantial disposable-income benefits associated with pursuing an occupation that builds on their postsecondary education in order to avoid reimbursing their loan.

Other avoidance options would be to realize income in forms other than earnings — if earnings are chosen as the basis of repayment — switch out of the labour force entirely, or participate in the black market to avoid declaring income or earnings altogether.

So there are disincentive effects associated with tying student loan repayments to income or earnings, but not so much of the 'marginal kind' that induce distortions on labour markets. Rather, they are mostly of the 'discrete kind,' involving life-altering decisions such as whether to follow the law or not and whether to pursue an occupation that uses one's education or not. These considerations are not insignificant and would surely influence some borrowers, but neither are they as serious as the marginal disincentive effects associated with income taxes for example, which affect everybody in the labour force to some degree.

Behaviours associated with moral hazard could increase the risk premium included in the interest rate on student loans. As was the case for adverse selection, however, there exists scant empirical evidence to help us evaluate the likely magnitude of such effects and how much higher the risk premium would have to be to cover them. Such evidence would be welcome.

Recommendations and Conclusion

A student loan system with income-contingent repayment would allow students access to funds on the basis of anticipated returns with an explicit fail-safe — repayments geared to income — for cases in which those anticipated returns do not materialize. Such a mechanism would explicitly insure the greater risks that students with no access to other sources of funding face when they borrow to invest in higher education, while being available to all students who want to insure part of their investment. If students from low-income backgrounds are

28 If an individual's time discount rate is higher than the interest rate on the loan, however, the individual discounts both future income and future leisure at a higher rate than interest accrues, giving her an incentive to consume current leisure at the expense of future income (and loan repayments).

more averse to the risks associated with education and with borrowing than students from richer backgrounds, it could also help close the socioeconomic participation gap.

Income-contingent loans, however, are characterized by adverse selection in the pool of borrowers, and moral hazard with respect to the labour/leisure choice once the repayment period begins. Although the desirability of implementing such loans in Canada is mitigated by the prospect of adverse selection and moral hazard, there are ways to design a loan system that would reduce such costs.

Alleviating Moral Hazard

Voluntary non-repayment of income-contingent student loan obligations can be reduced by enforcing repayments through an efficient collection mechanism and making them contingent on a broad definition of income. As Alarie and Duff (2005) argue, the most effective and administratively simple collection mechanism would be a payroll deduction administered through the Canada Revenue Agency (CRA), so as to rely on the well-established legal rules and administrative processes that already exist for collecting general income taxes.

Collection through the income tax apparatus would be much more difficult to avoid than collection through a separate administrative agency. As well, withholding at source would allow rapid adjustment of the rate of repayment as an individual's circumstances change. The definition of income under the income tax could be used, perhaps with adjustments such as not allowing deductions for contributions to retirement plans.[29] Such an efficient collection mechanism would alleviate the evasion issue for the government. Collection from participants who leave Canada would be more difficult, but could be accomplished by requiring emigrants to file Canadian tax returns until they discharge their student loan balances, or by converting loan balances into conventional-style loans with fixed repayment upon emigration. Of course, CRA collection of loan payments is a good idea for current student loan programs as well and would help reduce current default rates.

To reduce the incentive for graduates to work/earn income below the threshold for repayment and avoid all student loan repayment, a minimum repayment charge could be enforced. This charge could be low enough so as not to create financial strain on low-income graduates, while still allowing for some loan recovery over a graduate's entire working life. In the event a graduate becomes disabled or unemployable for some reason, they could be released from this obligation.

29 Even if the income definition does not cover all possible sources of income, the graduate has a weak incentive to avoid repayment by realizing income in excluded sources, for a reason already stated — that the present value of the loan obligation is roughly independent of the timing of repayment.

Alleviating Adverse Selection

To fight adverse selection, one possibility would be for the government to try and keep bad risks out of the system. But this immediately raises the question of how the government could identify bad risks with limited and imperfect information — the same problem the private market faces — and the equally important question of whether doing so would be in accord with other goals of the higher education system. Because bad risks would tend to come from poor families and/or have more dire prospects given their place of origin, language or intelligence for example, there is a danger of excluding from the student loan plan the very same people the higher education system is designed to give a chance to. This would not be a welcome solution.

A more promising avenue for government would be to design an income-contingent student loan system so as to include both good risks and bad risks. For example, the more universal and well-subscribed an income-contingent loan plan, the less of a problem adverse selection would be. Requiring every student who borrows from a government-administered plan to be part of the income-contingent repayment system would minimize adverse selection by at least forcing some good risks in. Offering the lowest possible borrowing rate (while still covering administrative costs) by taking advantage of the government's borrowing and collection power would be an effective means of attracting as large and varied a pool of borrowers as possible. Having provinces agree to one national plan, rather than having a different plan for each province, would be another way to create as large and varied a pool of borrowers as possible, as would covering all postsecondary students — college, vocational and university students — under the same plan.

Another way to mitigate adverse selection would be to do more to prevent the bad risks that are due to low academic ability from getting into the postsecondary system in the first place. For example, provinces could instil uniform high-school graduation exams to test students in core subjects and evaluate aptitudes for postsecondary studies. Exam results could then be used by colleges and universities to select students. This procedure would at the same time allow provincial education ministries to evaluate the performance of high schools in teaching core subjects, as well as help colleges and universities combat the phenomenon of grade inflation that renders difficult a fair comparison of students from different high schools.

As we saw above in the discussion of risk pooling versus risk shifting, the more risk shifting a plan design implies, the less of a problem adverse selection would be. Considering that students who borrow tend to come from poorer families and may have other characteristics that make them less likely to succeed on the labour market after graduation, then if risks are entirely pooled only among borrowers, there is a high likelihood that the interest rate would have to be quite high to cover the loans of graduates who cannot repay. This, in turn, would discourage other potential borrowers — with a better likelihood of being able to repay — from entering the pool of borrowers in the first place, creating a self-reinforcing dynamic of higher borrowing costs leading to a smaller insurance pool, etc.

On the other hand, greater risk shifting implies a higher degree of subsidy from the general taxpayer to borrowers, and a highly subsidized interest rate would create more moral hazard. This is because a subsidized interest rate reduces the incentive to work, as higher current repayments mean foregoing some of the interest subsidy. In some instances, then, there is a trade-off between reducing adverse selection and reducing moral hazard.

Rather than pool risks only among borrowers (which may create too much adverse selection), and rather than shift risks entirely to the general taxpayer (which may represent too high a subsidy to a generally privileged group), one midway solution might be to partly or completely cover non-repayments through a charge that would be part of all postsecondary students' tuition fees, for example in the form of a fixed levy per $100 of tuition or a fixed charge per course credit. Spread over all postsecondary students, including non-borrowers, this fee would be quite low. It could be justified on the basis that by making the postsecondary education system more accessible and attractive to otherwise underrepresented students, the income-contingent repayment system benefits the entire postsecondary education community. This course-related charge could be adjusted yearly to reflect changing labour market conditions that affected non-repayment rates in the student loan program. Such a charge, if not completely equitable to non-borrowing students — because it would represent a subsidy from non-borrowing students to graduates facing difficulty in making repayments — has however the potential to completely eliminate the adverse selection problem by reducing the interest rate to the government's cost of borrowing, thus attracting most student borrowers.

But the main roadblock to introducing income-contingent repayments may not be the design issues associated with reducing the incidence of adverse selection and moral hazard, but rather the widespread perception that any change to student loan systems, income contingency of repayment included, is but a trick to accommodate higher tuition and higher student loan limits. Presumably, this is because the two have tended to go hand in hand in countries that have considered or implemented income-contingent loans. There is nothing in the rationale for such loans that requires or presupposes an increase in tuition, however, or disengagement of the government in financing higher education.

A Canadian income-contingent loan program could be designed to replace the current national loan program without changing the government contribution to postsecondary education. Tuition policy could remain exactly the same. As I hope this *Commentary* has made clear, current student loan programs already contain a fair degree of 'income contingency' and the rationale for a more complete income-contingent loan plan is to make this protection available comprehensively, fairly and in a way that can improve access to the postsecondary education system.

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