

# **STUDENT FINANCIAL AID: THE WHYS, WHENS AND HOWS OF LOANS AND GRANTS**

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**December 2004**

## **ABSTRACT**

This paper addresses the roles of loans and grants as forms of student financial aid. It begins with a simple choice model where individuals decide to pursue post-secondary studies if i) the net benefits of doing so are positive and ii) no financing or liquidity constraints stand in their way. The effects of loans and grants on these two elements of the schooling decision are then discussed. It is argued that based on equity, efficiency, and fiscal considerations, loans are generally best suited for helping those who want to go but face financing constraints, whereas grants are more appropriate for increasing the incentives for individuals from disadvantaged backgrounds to further their studies. Loan subsidies, which make loans part-loan and part-grant, are also discussed, including how they might be used to address “debt aversion”. Given that subsidised loans have a grant (subsidy) element, while grants help overcome the credit constraints upon which loans are targeted, the paper then attempts to establish some general rules for providing loans, for subsidising the loans awarded, and for giving “pure” grants. It concludes with an application of these principles as embodied in a recent proposal for reforming the student financial system in Canada.

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## **I. INTRODUCTION**

Why do governments provide loans to post-secondary students? The fundamental reason is that some individuals lack the funds they need to pay for their schooling and loans are an obvious source for that financing, but private lending institutions are generally reticent to loan to students because they (or their families) may not be able to provide the necessary collateral and a student's capacity to repay a loan in the post-schooling period is inherently uncertain. In the absence of a government-run loans system there will be limited lending to students, a general under-investment in post-secondary education, and access is likely to be particularly restricted for individuals from lower income families. To serve both economic efficiency and equity goals, governments around the world operate student loan systems.<sup>1</sup>

Governments also provide student grants (defined here to include need-based scholarships and bursaries and other kinds of non-repayable support) which have the effect of not only (like loans) providing students with the money they need to meet their direct schooling costs and related living expenses, but also of increasing the incentives to invest in higher education by effectively decreasing the student's share of the costs of the investment.

The general goal of this paper is to identify in a precise fashion the effects of loans and grants on access to post-secondary education, to compare the effects and effectiveness of these two forms of assistance, and to identify some general rules on how they should be combined in student financial aid systems.

The paper begins by outlining a simple choice model of post-secondary participation and describing how loans and grants affect individuals' participation decisions by helping them overcome financing constraints and by shifting the net benefits of the schooling by reducing its effective cost to the student. It then makes the case for loans (over grants) for addressing financing/liquidity barriers on equity, efficiency, and fiscal grounds. The role of grants is then discussed, with their natural function being to make higher education a more attractive investment for individuals from disadvantaged backgrounds – while also helping overcome any financing barriers as a matter of course. This is followed by a discussion of loan subsidies and the establishment of some general principles for determining when and how loans should be subsidised,

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<sup>1</sup> See Barr and Crawford [1998], Chapman [1997], Mankiw [1986], and others for general discussions of these principles.

including both “back-end” and “front-end” assistance. Given that loans typically have a grant element associated with any subsidies provided, while grants help overcome the credit constraints upon which loans are targeted, the paper then attempts to provide some general rules for the use of loans, loan subsidies, and “pure” grants in any full student assistance system. It concludes with an application of these principles as embodied in a recent proposal for reforming the student financial system in Canada.

Student loans should probably comprise an important part of any student financial aid system, and this is increasingly the case in practice as governments around the world attempt to expand and improve their higher education systems and in many cases shift the costs of post-secondary education from tax-payers to students and contain the costs of student support programs. Yet grants also continue to be used extensively, especially for individuals from lower socio-economic backgrounds. The existing literature tends, however, to be characterised by relatively vague discussions of exactly how loans and grants affect individuals’ participation decisions and largely ignores how the two sources of support typically become intrinsically entwined in terms of their financing and subsidy effects. The aim of this paper is to drill more deeply into the student loan and grant instruments and to establish a framework for discussions of how they should be combined in any complete student financial aid system.<sup>2</sup>

## **II. HOW GRANTS AND LOANS AFFECT POST-SECONDARY ACCESS**

A useful starting point for discussions regarding student financial aid is the standard economist’s approach of considering post-secondary education as an investment, whereby individuals decide whether or not to go to university (or college) by weighing the benefits and costs of doing so. On the benefits side are higher expected future earnings and other improved career opportunities, other enhancements of the individual’s future quality of life, and any other benefits gained from the schooling, including any enjoyment derived from the education experience itself

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<sup>2</sup> Student financial assistance can come in other forms (e.g., tax credits and savings subsidies) and have other goals, including promoting the independence of students from their parents, providing general subsidies to the costs of post-secondary education to students and their families beyond those required to ensure access, putting money into the hands of students so that the system might be more responsive to their preferences, encouraging student effort and performance, and more. This paper, however, focuses on loans and grants, which are the principal forms of student financial aid in most countries (and to which most other forms of aid can effectively be reduced in one way or another), and the access goal which typically represents the first and foremost objective of any student financial aid system.

(i.e., its “consumption value”). On the costs side are tuition fees and other direct costs (books, computers, etc.), as well as foregone earnings.

Students thus pursue post-secondary studies if i) they perceive that the benefits outweigh the costs, and ii) they have the means of paying the associated out-of-pocket expenditures, including both the direct costs of the schooling and living costs. That is, they choose to participate in post-secondary education if the schooling is deemed worthwhile and they face no “liquidity constraint” (or “credit” or “financial” constraint – the terms are used interchangeably) in doing so. In short, they both *want* to go, and are *able* to go.<sup>3</sup>

This said, two other conditions must be met before a student’s *demand* for post-secondary education is translated into actual *participation*, or enrolment: the system must have a place for the student, and (related) the student must possess the marks and pass any other entry criteria for being admitted. For the remainder of these discussions, however, the focus will be on how student financial aid affects the *demand* for post-secondary education, leaving these other issues – central as they are to any more general discussion of participation in the post-secondary education system – to other venues.<sup>4</sup>

Different forms of student aid affect the demand for post-secondary education in different ways. The two principal types are loans and grants (the latter taken here to include scholarships, bursaries, and other non-repayable awards).

Grants affect the demand for post-secondary education by operating through both of the two principal factors that determine individuals’ participation decisions as just described. First, by putting money into the hands of students, they help individuals overcome any liquidity or financing constraints they may face. Second, because the money is given and does not have to be repaid, grants reduce the effective cost of the education to the student and thus increase its net return. Both influences will tend to increase the demand for post-secondary education among recipients.

Student loans have different effects on post-secondary participation decisions. Like grants, they help provide the money individuals need to pay their schooling-related expenses and thereby overcome financing constraints. But unlike grants, loans do not generally change the costs of the

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<sup>3</sup> See Cameron and Taber [2004] and Keane [2002] for more formal representations of this kind of model, but the basic elements are consistent with those just described.

<sup>4</sup> See Finnie [forthcoming] for a discussion of the role of capacity as well as demand-side factors in determining who gains access to post-secondary education.

schooling or its rate of return – precisely because the money is lent, not given. The effects of loans on the demand for post-secondary schooling may, therefore, potentially be strong and direct (i.e., to the degree liquidity constraints are binding), but will never be as powerful as an equal amount of money given in the form of grants.

To the extent a student loan is subsidized, however, it may also possess the characteristics of a grant, because such subsidies can reduce the effective cost of the schooling, thus affecting the rate of return and influencing participation decisions through this path as well.<sup>5</sup> In particular, student loans are, in practice, very often interest-free while students are in school, and this can represent a major subsidy (even if it is often not recognised as such).<sup>6</sup> Any covering of default costs represents another kind of subsidy, as is assistance provided for those experiencing difficulty in repayment more generally.

But although loans begin to resemble grants to the degree they are subsidised, the subsidy is never as great as it is with a grant as long as at least a portion of the loan is paid back. Furthermore, some kinds of loan subsidies act principally to offset the costs of the borrowing, including those related to the risks of the loan being excessively burdensome if the student’s future income is lower than anticipated (or the debt load higher), as well as other kinds of “debt aversion”. Such “loan-facilitating subsidies” do not, therefore, necessarily decrease the true overall costs of the schooling, and as a result do not change the net returns of the investment – or the student’s schooling decision – in the same way as grants or loan subsidies which do reduce the student’s effective schooling costs.

Having outlined the ways in which grants and loans affect the demand for post-secondary education, we now turn to the cases for each of these kinds of support.

### **III. THE CASES FOR LOANS AND GRANTS**

As described above, the basic case for student loans is quite simple. Loans permit students for whom post-secondary education is a desirable and worthwhile investment to finance that activity by tapping into their own (expected) future income flows to meet the required up-front expenditures.

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<sup>5</sup> As Barr [1993] states: “Subsidised loans are a mixture of loan and implicit grant; the source of support is in part the student himself [i.e., paid out of future earnings] and in part the taxpayer (if it is the state which pays the subsidy).” (p. 724).

<sup>6</sup> A full interest subsidy means that the real value of the loan falls over time with the rate of inflation (i.e., the value of the money that the student repays is less than the value of the money borrowed) – effectively reducing the student’s cost of schooling. These issues are returned to below.

Providing student loans is thus an important function of governments, because opening up opportunities for higher education in this way is appropriate on both equity and efficiency grounds. First, by reducing the financial barriers that potentially stand in the way of the schooling, its direct benefits are made more accessible to a wider population of individuals, especially those from lower income families who would have particular difficulty coming up with the required financing. And second, by expanding the schooling option to all those for whom the investment is most worthwhile – and thus (generally) “productive” – rather than just those who can pay for it, there will be an increase in the quality (productivity) of the pool of individuals with higher education, which is especially important to a nation’s economic efficiency and competitiveness in the new knowledge-based economy.<sup>7</sup>

But if grants can also provide the funds students need to meet their schooling costs and are likely to have an even greater effect on access since they also reduce the costs of the investment borne by the individual and thus make it more attractive, as described above, why would loans ever be preferred to grants? There are three main reasons for favouring loans over grants.

The first argument is an entirely fiscal one. The simple arithmetic is that a given amount of government spending on student financial assistance will generally go much further when put into loans rather than grants, precisely because in most cases at least some of the money is paid back and can thus effectively be recycled. A loan system can, therefore, provide a greater number of students with more money for any given amount of government spending than can a set of grants, perhaps by a factor of three, four, five, or even more, depending on the degree of subsidy in the loan system, administration costs, and other related factors.

It thus follows that to the degree the relevant access problem is one of individuals being prevented from gaining access to post-secondary education due to credit constraints – that is, individuals want to go to school but they lack the money to do so – loans will generally be the more effective vehicle for delivering student financial aid. Especially in times of scarce government dollars, this is an important practical consideration.

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<sup>7</sup> It is worth noting that “education for its own sake” is also facilitated by a student loans system, as cash-strapped individuals again obtain the money they need to pay for their schooling to be repaid out of future income flows – even if those future flows are not the primary reason for the investment, and even if those flows are not particularly enhanced by the schooling.

The second argument in favour of loans over grants rests on equity considerations. Post-secondary education has a strong individual investment component which is generally characterised by a very favourable rate of return, and it can thus be argued on grounds of fairness that students should be expected to pay their loans back out of their future earnings, which in turn derive to a significant degree from the investments in their schooling which the loans make possible.<sup>8</sup>

In short, it is the individual student who undertakes the schooling, it is the individual student who is the principal beneficiary of that schooling, and so it can be argued that it is the individual student who should pay for the schooling – those payments effectively coming out of future earnings in the case of a loan system. This argument is strengthened by the fact that post-secondary graduates tend to earn higher than average incomes, and are thus “wealthy” relative to the average taxpayer in a lifetime perspective.<sup>9</sup>

The final argument for loans over grants is grounded in the concept of economic efficiency. It has been explained above how student loans can ensure that those for whom post-secondary education is a worthwhile investment can obtain the financial means to make those investments and then pay those loans back out of future earnings. Grants can, in contrast, by their very nature of reducing the net costs of schooling cause individuals for whom schooling is *not* a worthwhile personal – or social – investment undertake it precisely because a grant makes it “cheap”. Grants can thus result in an *over*-investment in post-secondary education on the part of at least some recipients (i.e., the benefits do not justify the costs at the social level – even though it makes sense for the individual to undertake the schooling in the face of the reduced costs faced).

These comprise the principal arguments for loans over grants. But what, alternatively, is the case for grants over loans? Grants are most appropriately used precisely where the net returns to education *should* be boosted in order to encourage members of certain targeted groups to invest in higher education, and this can only be achieved by *giving* money with no obligation to repay, even if

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<sup>8</sup> See Vaillancourt and Bourdeau-Primeau [2001] for recent evidence on the returns to post-secondary education in Canada and a review of the existing literature.

<sup>9</sup> These equity arguments are typically offered from all sides of the political spectrum – from “left” and “right” alike. A recent justification that has been offered for grants is that in a progressive tax system post-secondary graduates support higher education through their higher taxes. This is false reasoning. Although a well-functioning progressive tax system does in fact redistribute income (and wealth) from the rich to the poor, such transfers serve to finance *all* government activities, and any particular transfer back to the better-off segment of the population (such as post-secondary graduates) simply represents a partial undoing of the equalising effects of the tax system.

this makes it an inherently more expensive form of aid. Such interventions may, again, be justified on what might be classed as both equity and efficiency grounds.

The “efficiency justification” (which also has equity elements) relates to situations where individuals for whom post-secondary education is in fact a worthwhile investment in (objective) benefit-cost terms might choose not to undertake the schooling in the absence of a grant because they underestimate the benefits or overestimate the costs, because they apply inordinately high subjective discount rates to the benefits, because they under-value higher education or its associated benefits for “cultural” reasons, or because they are otherwise deterred from investing in the education they “should”.

One policy option might be to deal with these problems directly by correcting any erroneous perceptions, or “educating” individuals with regard to the benefits of higher education (see below in the context of loan subsidies), or otherwise helping individuals see the wisdom of undertaking the favourable investments they face. A grant will, on the other hand, change the actual benefit-cost ratio of the schooling, and thereby increase the incentives to undertake the investment, thus causing more individuals to do so. Using grants in this manner would be especially appropriate, and feasible on a practical level, where the under-investment problem exists along certain identifiable characteristics, such as family income, which can become the criteria for grant eligibility.

In terms of more full-blown equity considerations, grants can also be used to improve the incentives for certain disadvantaged individuals to undertake higher education even when the schooling is not necessarily a worthwhile investment in strict benefit-cost terms, perhaps because the individuals in question are less well prepared for the schooling precisely due to their disadvantaged background. That is, a grant can again – in lowering the costs of the schooling to the individual – make it worthwhile for the individual to undertake the schooling when this would not otherwise be done in the absence of the grant. Awarding grants to this end is again especially feasible on a practical level, and probably most justifiable on grounds of fairness, when the disadvantages deemed worthy of being counteracted can be identified in terms of observable characteristics, such as family income.<sup>10</sup>

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<sup>10</sup> Grants can also be used to meet other participation-related policy goals, such as providing incentives for students to enter certain “non-traditional” fields of study (such as the grants Canadian women receive to enter the natural sciences and engineering at the graduate level). Our focus here, however, is on strategies aimed at evening opportunities at a more general level, such as encouraging individuals from low income families to go to university.

In practice, these equity and efficiency justifications (as defined here) will often go together hand in hand, as individuals from disadvantaged groups will typically face objectively less attractive benefit-cost calculations because they are less well prepared for higher education, and also more likely to be less oriented towards choosing higher education even when it might actually represent a good investment in objective terms – although in principle, different amounts of grant might be required to overcome each of these factors.

The money awarded in the form of a grant can also, of course, help overcome any financing barriers, but it is useful to recognise that the argument for issuing a grant may hold even in cases where the targeted individuals do not actually face such a financing constraint and would in fact be able to pay for the schooling even in the absence of any financial support – the problem being that they would choose not to do so for the sorts of reasons just described (which comprise the fundamental justification for awarding grants rather than loans).

The general cases for loans and grants have now been established. Loans should be used when the principal problem is the need to help students overcome credit constraints – that is, to help those who *want* to pursue advanced schooling be able to do so, whereas grants should be used when individuals need the cost-reducing (and net benefit-increasing) incentives grants embody to make them *want* to engage in higher education.

The two forms of aid are, however, fundamentally entwined, since grants can help overcome financing constraints and thus do at least some of the job that loans could otherwise do, while student loans are often subsidised, effectively making them a mix of loan and grant, thereby affecting the incentives to invest in schooling, which is the principal domain of grants. We begin to address these inherent overlaps in the next section by looking at the issue of when loans should be subsidised and the form those subsidies should take, before turning to the issue of how loans, loan subsidies, and pure grants should be assembled together in any overall student financial aid package in the following section.

#### **IV. LOAN SUBSIDIES**

General subsidies for post-secondary education are typically grounded in the idea that higher learning has external benefits – that is, some of the returns to the schooling are realised by society as a whole rather than the individual alone. This is one of the principal reasons used to justify setting tuition fees at levels which do not cover the full costs of the schooling, as practiced in most

developed countries.<sup>11</sup> Going beyond such general subsidies, we have discussed in the preceding section the case for grants, which (as discussed here) represent a form of subsidy targeted on specific groups, such as those from disadvantaged backgrounds (or others), with the intention being to increase the incentives of the targeted individuals to undertake higher education, such interventions justified on efficiency or equity grounds. In this section we concern ourselves with a different set of subsidies – those targeted neither on the general student population nor necessarily on “disadvantaged” students, but rather on student borrowers as a group. The questions we address are: Why, when, and how should student loans be subsidised?<sup>12</sup>

### ***Back-End Loan Subsidies***

We begin with “back-end” subsidies, defined here as those provided in the repayment (post-schooling) period. The first, clearest, and strongest case can be made for helping students whose loan payments represent excessive burdens because their incomes are low relative to their debt loads. Such assistance provides not only direct benefit to those actually facing the hardship, but in doing so also offers an implicit insurance plan which benefits *all* borrowers, including those who never receive the assistance.<sup>13</sup>

This kind of assistance effectively allows the loan system to better do its basic job of getting funds into the hands of students by reducing the risk – which represents an important part of the cost – of the borrowing. In short, individuals who might hesitate to take out a loan to finance their schooling out of concern that they would face significant hardship were they to have lower-than-expected future earnings (or higher debt loads) would be more willing to borrow in the presence of

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<sup>11</sup> The basic idea is that students will under-invest in post-secondary education from a social perspective if they consider only the private benefits of the schooling. A general tuition subsidy will thus encourage individuals to invest beyond that point. See Barr [1993], among others, for general discussions of this principle, including discussions of the difficulties involved in estimating the social returns to higher education.

<sup>12</sup> We do not address here the issue of using subsidised tuition fees as a means of improving access. The issue is discussed in many other places (e.g., Barr [1993], Chapman [1997], and Finnie and Schwartz [1996] and Finnie [2001, 2002] for the Canadian context.) The general conclusion in the literature is that because reduced tuition fees essentially deliver the same benefit to all students, whether they need the assistance or not (i.e., rich and poor alike), they represent an inefficient means of delivering student aid where it is truly needed, while possessing the same equity, efficiency, and fiscal disadvantages discussed above regarding the advantages of loans over grants.

<sup>13</sup> See Barr [1993] and Chapman [1997] for discussions of these issues, the latter in the context of Australia’s HECS income contingent repayment system which provides a means for students to pay their fees in the post-schooling period rather than up-front.

such an implicit insurance scheme. This kind of assistance thus helps alleviate what we might call “risk-based debt aversion”.<sup>14</sup>

Such assistance would be of particular benefit among those with the greatest chances of facing excessive debt loads (including those more likely to have lower earnings in the post-schooling period), and those for whom the consequences of any such excessive debt burdens would be more serious (such as individuals from lower income families who would be less likely to receive support in such circumstances).

Practical design issues regarding this kind of back-end loan support would generally involve deciding what constitutes an “excessive” debt burden and determining the precise form the aid should take, including the amount of the assistance, how long it should continue, how much it should consist of abating current payments (“interest relief”) versus reducing the principal owed (“debt reduction”), and so on. The central design principle is simply that the aid should take into account the individual’s debt load and post-schooling income, thus targeting the assistance on those who are truly “needy” in the sense of facing hardship with their loans in the repayment period. Simplicity and ease of use would also be important real-world design issues.

This concept of assistance in repayment is directly related to the well-known notion of income contingent repayment (ICR), because ICR in some sense simply represents a particular form of this kind of back-end loan support whereby payments are geared to the individual’s income according to an established formula, typically collected through the income tax system.<sup>15</sup> Whereas a “mortgage”-style loan consisting of fixed payments may be seen as one extreme form of repayment system and ICR another (Barr [1993]), any system which provides assistance in repayment or which otherwise adjusts payments to an individual’s particular circumstances in the post-schooling period

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<sup>14</sup> This form of debt relief can be contrasted with “loan remission”, a particularly Canadian form of assistance which forgives loans based only on total accumulated borrowing (over the course of a year or an entire program), without regard to the individual’s current (or future) income level, thus treating those for whom the debt is a greater or lesser burden in the same way. Canada also has, however, a set of debt-reduction and interest subsidy programs which have more attractive – and more efficient – risk-reduction properties of the kind discussed here.

<sup>15</sup> See Barr [1993], Chapman [1997], Krueger and Bowen [1993], Nerlove [1975], Friedman and Kuznets [1945] and Mankiw [1986], among others, regarding ICR. In some cases, including the best-known Australian and New Zealand cases, ICR has been presented as a means of introducing new fees so that students can bear a greater share of the costs of their education, but this need not be the case. ICR can instead be thought of as any income-sensitive payment scheme which can apply to conventional loans taken out in the traditional, explicit fashion, as implemented in the UK in recent years; to deferred fee payments (with no “loan” as such taken out) as in the Australian HECS system or as about to be adapted in the UK; or to any other kind of future payment obligations (Finnie and Schwartz [1996]).

effectively represents a movement away from the former and towards the latter – or what we might call a “quasi-ICR” (Finnie and Schwartz [1996]) or “income sensitive” repayment system. The relative merits of these different approaches – quasi-ICR and “income sensitive” systems versus a purer ICR system – will depend on the complexity of the associated design issues, the relative administrative costs, and other such factors.

While the particular form of assistance offered in repayment is open to discussion, what is effectively beyond debate is that any student loan system (or delayed fee payment system) not possessing back-end subsidies (or related forms of “risk pooling”) of this general type will be lacking an important manner of reducing the risks of borrowing and thereby realising the potential of the loan system (explicit or implicit as in the HECS system) to meet students’ financial needs – and thus advancing the potential of the loan system to improve educational opportunities, particularly among those from lower income families.

Equally important to recognise is that while such assistance does represent a form of subsidy in the way discussed by Barr [1993] and others (see the relevant note above), the primary purpose of this kind of subsidy should only be to neutralize the costs of borrowing (it’s risk component in particular), and thus not affect the net costs, net returns, or incentives to undertake the schooling. In short, the subsidy should only make the loan system work better – allowing those who need the money to undertake any worthwhile schooling investments.<sup>16</sup>

### ***Front-End Loan Subsidies as General Schooling Subsidies***

The other general manner in which loans may be subsidised is “up-front” (or at the “front-end”), which we can define as either at the point the loan is taken out or otherwise while the individual is still in school. Under what conditions would such subsidies – such as making loans interest-free (or interest-subsidised), replacing them partly or even fully with grants (thus in the limit making them no longer loans), or adding additional subsidies/grants to the amounts borrowed – be appropriate? It is worth identifying the possibilities even if in order to try to understand where existing systems might lie in this respect, as well as to think about what changes should perhaps be made or how new systems should be structured.

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<sup>16</sup> See Finnie [2004] for the more technical aspects of this proposition.

One potential set of reasons might be essentially the same as those suggested earlier for awarding grants more generally. Individuals requiring loans may, for example, generally tend to (also) over-estimate the costs or under-estimate the benefits of schooling and thus generally under-invest in higher education as much as they “should”. Or they might – again “also” (i.e., in addition to needing loans) – be disadvantaged in some general manner, such as being less well prepared for higher education, which reduces the actual net benefits of any schooling investments made and thus again reduces their schooling rates as compared to those not facing such disadvantages. In such cases, subsidising loans (e.g., a general interest subsidy or adding an explicit grant component) could be a relatively expedient manner of delivering support where it was deemed appropriate – for essentially the same equity or efficiency reasons discussed previously.

In short, loans could be a vehicle for delivering the same sort of support for the same reasons as the pure grants discussed earlier. It should, however, be carefully considered as to why subsidies justified on these grounds should be attached to loans in such an automatic fashion, rather than allowing loans and grants/subsidies (including those subsidies attached to loans) to be kept more separate in order to deliver each kind of support in the optimal amounts to different kinds of individuals in different kinds of situations. If some borrowers, in particular, do not require or merit subsidies/grants on these grounds whereas others do, then attaching subsidies to loans in this manner will not be as efficient, or fair, as separating the different classes of borrowers and delivering grants/subsidies only to those who need/merit them – in which case we are simply back to the general rule of awarding grants where they are appropriate, awarding loans where they are appropriate, and keeping the two separate, as previously suggested as a general strategy for awarding student financial aid.

### ***Front-End Loan Subsidies to Overcome “Debt Aversion”***

A second set of conditions under which up-front loan subsidies might be warranted is where potential borrowers are “debt averse”. Since the meaning of this term is often unclear, it might be worth attempting to define it with some precision. One general definition of debt aversion might be situations where individuals are unwilling to take out loans to finance their post-secondary schooling even though they know the schooling represents a good investment *and* it could be facilitated by the loans in question. That is, the two conditions for choosing to invest in higher education presented

earlier are met – and hence grants *per se* are not required – but individuals are unwilling to borrow to finance their (worthwhile) investments.

With that general definition of debt aversion established, let us consider some specific forms it might take. “Risk-based debt aversion” was defined above as referring to situations where individuals are unwilling to borrow out of concern that debt burdens in the post-schooling period could turn out to be excessive if earnings are lower than anticipated or accumulated borrowing is higher. But in such cases the problem would – as described earlier – be best addressed more directly by providing interest relief and debt reduction programs in the post-schooling period, fully income contingent repayment system, or some other form of targeted back-end support, not broad up-front subsidies.

A second, more extreme form of debt aversion – what might be called “value-based debt aversion” – could be defined as where individuals are unwilling to borrow as a matter of principle, perhaps grounded in personal, religious, class-based, or other culture-related values. To be clear, this definition implies that individuals will not borrow even though the borrowing facilitates a worthwhile investment, and risk is not the issue.

In such cases, the policy options would seem to be i) to try to change individuals’ attitudes towards borrowing – at least insofar as it concerns investments in higher education, ii) to identify and provide such credit-constrained debt averse individuals with subsidies (or even complete grants) while others are not so favoured, iii) to provide subsidies (or pure grants) to all those needing financial support to pursue their studies, or iv) to accept such risk aversion and its attendant effects on post-secondary participation as something the government cannot, or should not, address.

The first option is similar to the ones offered above regarding comparable information problems, and seems similarly laudable at least as a starting point. The second option would appear to be inequitable, difficult to operationalise, and run the potential risk of generating undesirable incentives (as individuals attempt to qualify as subsidy/grant-receivers). The third option carries the same disadvantages of grants relative to loans for the fiscal, equity, and efficiency reasons discussed above. The fourth option will depend on societal norms, the level of tolerance for different cultures and attitudes, and related factors.

Nevertheless, if – at last in principle – this sort of debt aversion did exist in a wide-spread manner among those needing financial assistance to meet their schooling costs, up-front loan subsidies, adding pure grant components to loans, or more likely – since it is a matter of *principle* we

are talking about here – providing all assistance in the form of grants rather than loans might in fact be required to provide students with the financing they need. Implementing such subsidies would involve some serious policy design challenges, however, including identifying to what extent and perhaps among which groups (if more specific targeting were considered) this kind of debt aversion – which is inherently difficult to identify – existed.

And coming back to the last policy option (essentially doing nothing), such loan subsidy-grant strategies might also present a potential dilemma at the level of principles: should this kind of debt aversion in fact be accepted as grounds for providing subsidies? After all, it is (by definition) a problem of attitude, and beliefs, not an objective barrier. To the degree it was a general social (e.g., class-based) phenomenon among a well-defined group of individuals (e.g., those from lower income families), then one of the subsidy strategies might make sense. Beyond such neatly aligned circumstances, it is hard to imagine coming up with a practical policy to deal with this kind of debt aversion.

Furthermore, we might well question how widespread such debt aversion based on this sort of fundamental principle could be such in advanced economies which are so credit-oriented in general – and especially when the borrowing in question here is to finance the best and most important investment most individuals would ever make.

A third form of debt aversion might be referred to as “sticker price debt aversion”, which could be defined as situations where potential students are deterred from borrowing because the total debt expected to be accumulated over a given year or an entire schooling career somehow *seems* “excessive” – and this even though the schooling investment is worthwhile, and the aversion comes from something other than the actual risks of excessive debt burdens associated with borrowing (i.e., the first kind of debt aversion defined above) or some absolute opposition to borrowing in principle (the second kind of debt aversion).

Once those other kinds of debt aversion are allowed for, however, this third type becomes difficult to precisely identify, but may exist nonetheless, perhaps because students are simply not used to borrowing, especially the sorts of larger sums that might be needed to finance their schooling.<sup>17</sup> At least part of this kind of debt aversion would, however, seem to be closely related to

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<sup>17</sup> The individual would have to possess an attitude along the following lines: “The schooling is a worthwhile investment for me. The loan permits that investment. I am confident I won’t face any excessive debt burdens after school. And I am not opposed to borrowing (for education) in principle. Still, it seems like a lot to borrow, and

the same sort of information problems noted above, especially if it in fact stemmed from over-estimated debt loads or under-estimated future earnings flows – in which case it would again be more directly addressed by correcting any such erroneous information. Additional loan subsidies (or pure grants) would then presumably be required only to the degree those more simple, direct, and ultimately more efficient and equitable measures did not deal (completely) with the problem. Simply familiarising students with the general concept of borrowing – especially borrowing for an investment that is likely to pay them substantial returns over their lifetimes – might represent another simple yet effective policy option.<sup>18</sup>

In the end, however, if this particular form of debt aversion did in fact deter individuals from borrowing for their own benefit, was extensive, and could not be addressed in any of these other ways, it might in fact be appropriate to provide up-front loan subsidies (or pure grants) – although consideration should be given to the fact that such subsidies would again carry the attendant equity, efficiency, and fiscal disadvantages of grants relative to loans previously discussed.

Other kinds of debt aversion could perhaps be defined – and any attempts to do so would comprise a useful contribution to the related policy discussions, since identifying the specific nature of the alleged problem would presumably help focus discussions and lead to the most appropriate policy options.

## **V. STUDENT LOANS AND GRANTS AND COMPLETE FINANCIAL AID PACKAGES**

Given the fundamentally different functions of loans and grants, the different financial needs of different students with respect to overcoming financing constraints versus more fundamental disadvantages in their preparation for higher education and associated attitudes, and the different equity, efficiency, and fiscal implications of each kind of aid, most full student financial aid system should probably include an integrated system of loans and grants, including both up-front and back-end loan subsidies for the latter, as appropriate. To consider what integrated packages should look like, it is worth reviewing the different functions and effects of loans and grants.

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therefore I won't.”

<sup>18</sup> Students are, after all often exposed to this kind of “education” especially as they approach graduation as banks, car companies, and others line up to convince them of the benefits of borrowing in order to finance current consumption out of future income.

Student financial aid systems have two basic purposes. The first is to help students overcome credit constraints which stand in the way of their making the schooling investments they want to make – that is, the investments are worthwhile in benefit-cost terms and recognised as such, but the individuals lack the money to pay for those investments (including living costs). The second purpose is to boost the net returns of the educational investment so that certain individuals who would not undertake the investment in the absence of the aid because the investment is not worthwhile in net benefit terms, or is not *perceived* to be worthwhile, do so once the financial assistance is factored in. In both cases, levelling the higher education playing field for those from different socio-economic backgrounds by making available the optimal type and amount of aid will improve schooling outcomes in terms of efficiency and equity goals.

Loans are more suited to the credit constraint problem because they can deliver considerably more support for a given amount of government spending, because they recognise the personal investment nature of the schooling investment and the generally regressive nature of non-repayable assistance (i.e., grants), and because they do not (in general) distort individuals' benefit-cost decisions in a way that can cause some individuals to undertake the schooling simply because it is made less costly (even though it is inherently not a worthwhile personal/social investment). Grants are, conversely, best suited for shifting individuals' schooling decisions in order to cause recipients to undertake schooling when they would otherwise not do so in the absence of the support.

The different objectives, and effects, of loans and grants are therefore at least conceptually separable and can lead to an optimal mix of the two policy instruments – relieving credit constraints with loans, providing subsidies with grants.

The two kinds of aid are, however, more inextricably intertwined than this dichotomisation suggests. On the one hand, loans are usually subsidised, thus making them part-loan and part-grant. Conversely, by putting money in students' hands, grants help individuals overcome credit constraints (i.e., meet schooling-related costs) in addition to shifting the net benefits of the individual's investment. There is, furthermore, often overlap in the individuals upon whom the different kinds of aid are targeted – typically including those from the middle or lower income families who may need help overcoming financial barriers that stand in the way of the investment, or who merit subsidies that improve the returns to schooling.

Further complicating these aid issues are the related empirical issues. Stated most generally, it is typically difficult to identify precisely where and how financial aid dollars should be spent in

order to improve access and advance various equity and efficiency goals in the most effective manner (i.e., which kinds of aid help most?) For example, although loan systems can get more money into the hands of more students for a given level of government spending, grants may be sufficiently effective in increasing participation among certain types of targeted individuals so as to make their greater cost worthwhile, at least in some cases. It all depends on the underlying elasticities – how individuals respond to an increase to the amount of loan money available versus what happens as grants are expanded – in addition to how well the different forms of aid can be effectively targeted on their intended recipient groups.

We might, however, hazard a few general principles in terms of the design of student financial aid systems in general – at least in terms of equalising the opportunities for pursuing post-secondary education. First, given the two different purposes, and effects, of loans and grants, most student financial aid systems should probably include both kinds of aid.

Second, loans should generally focus on helping individuals overcome any credit or financing barriers that stand in the way of their schooling, while any loan-based subsidies should be geared to making the loan system work better, such as counteracting any debt aversion that might prevent individuals from taking out loans that make sense in terms of the investments they permit. Grants should, in contrast, be used to provide the extra incentives required to encourage certain types of individuals to undertake schooling where justified on equity or efficiency grounds – whether or not, or to what degree, they are borrowers.

In such an integrated system, it would be expected that some students would receive loans, some grants, and some both – depending on the relative importance and distribution of the financing constraint barrier versus the more fundamental disadvantages individuals may face, particularly as pertaining to their family backgrounds. The final mix of loans and grants will depend on the extent of the competing underlying needs, the effectiveness of each kind of aid in terms of addressing the two different kinds of access problems, the resources available, the general political environment, and other factors.

It thus makes sense to start with grants – at least conceptually. Once grants are correctly targeted, any remaining liquidity constraints could be addressed with loans, subsidised as appropriate. The art in the program design will be in determining the optimal applications of grants and loans, and making them fit into a coherent overall package.

## **VI. CONCLUSION: AN APPLICATION TO THE CANADIAN STUDENT AID SYSTEM**

Finnie, Usher and Vossensteyn [forthcoming] propose an integrated student financial aid system for Canada based on the general principles described above distilled into a form which would have the additional attribute of fitting relatively easily into existing financial aid structures, thus obviating the need for more wholesale reform and presumably conforming to prevailing Canadian values regarding student financial assistance. It begins by calculating students' financial needs, essentially estimating the money individuals need to pay their direct schooling costs plus living expenses after factoring in expected contributions on the part of the student and his or her family. This assessed need, which represents the potential financial barrier to the individual's schooling, would represent the individual's student financial aid package, which would be delivered with a combination of loans and grants.

In the baseline proposal, the first \$5,000 (CAN) would be provided in the form of loans, the rest in grants – this in a context where financial aid packages would generally range up to around \$12,000 CAN (about \$9,600 U.S. at current exchange rates) for those with low family incomes who left home to go to university. Such a loans-first approach would require students to contribute the first dollars to their education, thus ensuring certain efficiency properties with respect to the investment (i.e., it is not made “too” inexpensive), but would also cap loans at reasonable amounts (thus addressing general “debt aversion” problem and otherwise not saddling individuals with “excessive” loan burdens). Grants would make up the rest of the package, and would thus be implicitly targeted on individuals from lower income families (who would be assessed to have greater overall financial need precisely due to the limited expected parental contributions), for whom such subsidies are likely to have the greatest effect in terms of overcoming various background effects which constitute the sort of non-financing barriers to post-secondary participation discussed in this paper.

The main loan system would be interest-free during school principally in order to (further) counteract any general debt aversion problems and – perhaps more importantly in a political sense – to conform to established Canadian practices in this respect (although the extent of those subsidies should perhaps be debated). A parallel unsubsidised loan program would be introduced for students whose parents did not provide the assumed level of support, or for students who were not able to come up with their own expected contributions, with lending permitted up to the maximum of those amounts.

The main loan system would include substantial back-end subsidies targeted on those whose loan payments were high relative to their incomes in the post-schooling period (which should be relatively uncommon given the borrowing limits established above), while we leave open the possibility of adopting an explicit income contingent repayment system, run through the tax system. These subsidies (like the up-front loan subsidies at least in part), would exist to essentially make the loan system work more effectively by addressing any risk-based debt aversion.

The particular parameters of this system are open to discussion, as are even some of its basic structures (e.g., grants could be front-loaded), but it seems reasonable in terms of attempting to use loans and grants in a coherent manner to improve access to post-secondary education in Canada in an efficient and equitable manner. In short, loans would be focussed on helping individuals overcome any financing constraints that might stand in the way of a worthwhile schooling investment. Loan subsidies would be designed principally to make the loan system better accomplish that function by counteracting any general sort of debt aversion that might exist. Pure grants would be focussed on shifting the net benefits of the schooling investment for those facing more fundamental disadvantages, while also of course helping overcome credit constraints. (Additional grants focussed on specially disadvantaged groups, such as aboriginals, would be layered on top of this system.)

Different designs might be proposed, but having a clearly enunciated set of goals and using the different policy levers available in a coordinated fashion to meet those different goals in this sort of way would seem to represent a good general approach, the principles of which could be adapted for other countries.

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# Student Financial Aid: The Whys, Whens and Hows of Grants and Loans

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# I. Introduction – The Basic Questions

- Why loans?
- Why grants?
- Why subsidize loans?
- How to combine in a full financial aid system?
- What about “debt aversion”?
- Applications to Canada?



# I. Introduction – Layout of the Paper

- Model of how grants and loans affect access
- The cases for loans and grants
- Loan subsidies
- Combining loans, grants (and loan subsidies) in complete packages
- An application: SFA reform in Canada
- Maybe obvious, maybe interesting...



## II. The Model – The General Set-Up

- Benefits of PSE:
  - Earnings
  - Other future benefits
  - “Consumption”
  
- Costs:
  - Direct (tuition, fees, books, etc.)
  - Opportunity costs of lost earnings
  
- Choose schooling if:
  1. Net benefits positive (benefits > costs)
  2. Can afford it – i.e., no “liquidity constraint”



## II. The Model – The Effects of Loans and Grants

- Grants:
  - Overcome liquidity constraints
  - Improve net benefits of the investment (reduced costs)
  
- Loans:
  - Overcome liquidity constraints
  - No (necessary) effect on net benefits
  
- Effects of grants therefore generally greater
- But loan subsidies make them part grant
- While offsetting certain borrowing costs...



# III. The Cases for Loans and Grants -- *Loans*

- Help overcome liquidity constraints
- Grounds for favouring loans over grants
  - Fiscal – more money to more students
  - Equity – students benefit and are generally well off in lifetime perspective
  - Efficiency – Schooling not made too inexpensive



# III. The Cases for Loans and Grants -- *Grants*

- Change costs/incentives of PSE
  
- Grounds for favouring such subsidies
  - Individuals don't act on good investments ("efficiency")
  - Individuals disadvantaged ("equity")
  - Typically based on family background: money, attitudes...
  
- Appropriate even if there is no liquidity constraint
- Although can help overcome any such constraints



### III. The Cases for Loans and Grants – *Summary*

- Loans best for liquidity constraints
- Grants best for other disadvantages
- While grants also help liquidity problems
- And loans are typically subsidised
- With overlap of eligible candidates
- ...getting a little complicated



# Loan Subsidies – *Back-End Support*

- Reduces risks associated with low earnings
- Thus provides “insurance” to all borrowers
- Offsets (rational) “risk-based debt aversion”
- Makes sense, clearly efficient
- Can take “ICR” form
- Or not...
- Requires “subsidy” due to adverse selection



# Loan Subsidies – *Front-End Support*

- Why load “grants” to loans automatically?!
- Possibility of “debt aversion?”
  - Risk-based – treated above
  - “Value-based debt aversion”
  - “Sticker-price debt aversion”
  - Other definitions?
- Could justify subsidies
- But think carefully



# V. Full Financial Aid Packages

## ■ Principles

- Use loans to overcome credit constraints
- Use grants to change incentives (for the disadvantaged)
- Subsidise loans to offset borrowing costs – not as quasi-grants

## ■ Practice

- First issue grants as appropriate
- Meet (remaining) liquidity constraints with loans
- Subsidise loans if/as appropriate
- While considering effectiveness of each kind of aid



## VI. An Application: A New Architecture for the Canadian Student Financial Aid System

- Attempt to apply above principles and rules
- While recognising established practices, etc.
- The system:
  - Define “financial need”
  - Start with loans (up to \$5,000?)
  - Finish with grants (as required)
  - Back-end support
  - Interest subsidies?
  - ICR? – “Go now pay later”?...



## VI. An Application: A New Architecture for the Canadian Student Financial Aid System

- Entire system focused on “financial need”
- “Loan first” approach efficient, fair, fits current practice
- But loans limited, burdens limited
- Grants generally to lower income families



# But Does Any of This Matter?

- Yes! – Need to get aid right *first*
- But also attack more fundamental barriers
  - Attitudes
  - Perceptions
  - System capacity
- Then make other reforms on top of this fundamental building block of PSE

