

**Reducing the Debt Sentence:  
An Analysis of Income-Contingent Loans  
for Student Borrowers in Canada**

**by**

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## **Abstract**

This study assesses the potential role of income-contingent repayment loans in the Canadian student financial aid system. Applying relevant and available data, this research seeks to present ways that the current student loan system can be amended in order to include repayment provisions that are less onerous on student borrowers in the early years after graduation in order to minimize risk for the borrower and government. A literature review, case studies analysis, and interviews with policy-makers, researchers and government officials are used to help assess three policy alternatives. Policy goals include avoiding unduly heavy repayment obligations in the early years after graduation, recouping the maximum amount of student loans, and minimizing default rates on the loans. This study recommends reforming the student financial aid system in Canada by adopting a carefully designed, universal, moderately subsidized income-contingent loan repayment scheme.

**Keywords:** Canada Post-Secondary Education; Canada Student Financial Assistance; Student Loans; Income-Contingent Repayment Loans

## **Dedication**

To future generations of Canadian students from coast-to-coast who wish to pursue a post-secondary education without the financial hardships that typically accompany this investment in human capital.

## **Acknowledgements**

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## List of Acronyms

CSGP	Canada Student Grants Program
CSL	Canada Student Loans
DRR	Debt reduction in repayment
HECS	Higher Education Contribution Scheme
ICL	Income-contingent loans
ICR	Income-contingent repayment
IR	Interest relief
NSLSC	National Student Loans Service Centre
OSOG	Ontario Student Opportunity Grant
PSE	Post-secondary education
RAP	Repayment Assistance Plan

## **Executive Summary**

The cost of post-secondary education (PSE) in Canada today means that many students need to borrow large amounts of money in order to pay for tuition and other schooling-related costs. As a result, students are graduating with record levels of debt. Moreover, with debt levels and repayment terms that are often too onerous in early years after graduation, too many individuals are defaulting on their student loans. In 2010-2011, 13.8% of student borrowers defaulted on their Canada Student Loan (HRSDC, 2011). Furthermore, one in four current student borrowers is enrolled in the government's Repayment Assistance Plan, a program designed to assist students in repayment who are experiencing periods of low income. In order to reduce the number of student borrowers who default on their student loans, and make the system more efficient by ensuring the government recoups the maximum amount of loans, changes to the financial aid system are needed.

My research focuses on ways that Canada could reform its current financial aid system by introducing income-contingent repayment (ICR) elements into its current student loan provisions. The study formulates and evaluates several key design aspects of ICR provisions to optimize their efficacy in meeting the stated goals. These goals include a reduction of the default rate by offering repayment obligations that reflect an individual's income and a system that allows for consumption smoothing for individual borrowers after graduation. A literature review, case studies analysis, and interviews with policy-makers, researchers and government officials are used to help assess three policy alternatives. Finally, in an era when governments are constrained for resources, an additional goal may be to reduce the public cost of student loan schemes.

ICR is a scheme in which student loans are paid as a percentage of a student's income in post-schooling years, rather than a percentage of the total amount borrowed. A reform of the student financial aid program by allowing student loans to be repaid in ways that reflect each borrower's income would make it impossible for student borrowers to default on their loans and therefore ensure that government is recouping the maximal proportion of its loans. Furthermore, it would decrease the financial burden placed on students who pursue PSE in the post-schooling years and shift more of their loan repayments to their later higher-earning years, which facilitates their ability to smooth consumption.

# 1. Introduction

The primary goal of Canada's student aid programs should be to ensure that the financial costs of pursuing post-secondary education (PSE) do not pose an undue barrier to entry. Additionally, the programs should limit or reduce unnecessary financial hardship during the schooling period as well after it. At the same time, the overall system of financing PSE should provide an appropriate balance between the burdens imposed on the general public in their role as taxpayers and on the students while also reflecting the relative benefits derived by these two groups. Finally, investing in PSE involves a certain amount of non-insurable risk that can prevent some individuals from pursuing a PSE (Guillemette, 2006).

This study examines ways in which the existing financial aid system can be enhanced by introducing an income-contingent repayment (ICR) loan scheme in order to reduce the financial hardship that recent graduates are facing as a result of their student loans. I pursue this by providing background information on the benefits of PSE and the risks associated with such investments in human capital. Furthermore, I describe the current student borrowing patterns in Canada and the types of repayment assistance options available to the borrowers. This material provides justification for government intervention in PSE funding. I explain how the federal and provincial governments could continue to financially assist young people pursue PSE by providing student loans with affordable repayment structures that share part of the risk students undertake when deciding to pursue PSE. With rising debt levels among young Canadians as a result of the rising cost of PSE, alternate repayment options for student borrowers warrant close consideration. A carefully designed ICR scheme could ensure that the funds lent to students are recouped as a percentage of their future earnings without burdensome repayment obligations that too often put recent graduates into default.

Originally, a primary objective of this study was to reform the financial aid system in Canada so that it would entice prospective PSE students from lower socioeconomic

backgrounds to consider the benefits of PSE and encourage a greater proportion to enroll in PSE institutions. The question was whether less burdensome repayment obligations as a result of ICR loans would assure debt-averse individuals from lower socioeconomic backgrounds and increase their PSE enrollment rates. Research on this subject in Australia where an ICR financing scheme has been in place since the late 1980's has shown that the share of students from the lowest income quartile did not change after the Higher Education Contribution Scheme (HECS) came into effect, nor did it change after the Australian government amended the scheme and repayment conditions became less generous for students in 1997 (Andrews, 1999, as cited in Chapman, 2005). These studies concluded that neither higher HECS charges nor the lowering of income repayment thresholds affected the PSE participation of individuals from lower socioeconomic backgrounds. These findings were echoed in my interview with Nick Barr, a renowned scholar on this subject. According to Barr, governments have far more effective policy instruments than ICR loans to increase the PSE participation of lower socioeconomic individuals. As a result, this objective was removed from the analysis, and my criteria used to evaluate the policy alternatives focused on the objectives of eliminating defaults by student borrowers in their early years after graduation, improving consumption smoothing for borrowers, and recouping the maximum proportion of loans for governments.

## **2. Background**

The idea of a financial aid system where students could borrow from the government in order to finance post-secondary education costs and repay that loan as a percentage of future earnings was first introduced by Milton Friedman in his 1955 essay entitled “The Role of Government in Education.” Friedman saw this as a way to phase out automatic public subsidy of universities and colleges and allow a greater role for student choice in allocating public subsidy. To a certain extent, an ICR is “a compelling solution to theoretically separate, but practically entangled, goals: injecting more financial resources into universities without raising government expenditures, and facilitating student access by providing a fair method of loan repayment” (Bosma, 2007, pg. 14). Of course, the level of government support for PSE is a separable issue from the structuring of student loans; the ICR concept could be implemented without reducing—or even with increasing—the public subsidy provided to PSE institutions.

### **2.1. Benefits of Post-Secondary Education**

Research has consistently indicated that education has a positive effect on the social and economic prosperity for individuals and their society. The most obvious reward to individuals who pursue a PSE is increased lifetime earnings. Further benefits to the individual include improved prospects of obtaining employment, augmented job security and enhanced social status. Since these are private benefits that will reward the individual who is pursuing higher education, making students pay for a portion of their PSE tuition is warranted. Higher education, however, also generates positive externalities for the rest of society, which justifies a governmental role in assisting students finance the cost of PSE (Guillemette, 2006).

Some of the economic benefits to society include an increased rate of economic growth, augmented tax revenues, greater productivity, increased consumption, improved

workforce flexibility as a result of an improved ability to adapt to new and emerging technologies and decreased dependence on government financial support. Additionally, the social benefits of higher education include a reduction of crime, increased civil engagement, and a stronger social cohesion and appreciation for diversity. For example, post-secondary graduates are more likely to vote in elections and be involved in their communities (Bosma, 2007). Furthermore, studies in the United Kingdom have shown that an additional social and economic benefit of higher education is less reliance on the health care system since PSE graduates are less likely to be depressed and on average live healthier lives and consume nutritional foods that increase their productivity. A final positive effect of PSE is that graduates are more likely to encourage their children to attend college or university and are in a better position to help with their children's education, financially and otherwise.

When deciding whether to pursue PSE, most students do not take into account the aforementioned benefits that their higher level of education will have on society. Since these externalities benefit society, it should be the responsibility of governments to share the cost of PSE. By subsidizing PSE and providing student loans to prospective students, governments are providing an additional incentive to students and ensuring that postsecondary education is undertaken at a socially optimal level (Guillemette, 2006). The repayment obligations within student loan programs, however, cannot be too onerous in early years after graduation or else some individuals may be discouraged from pursuing a PSE. This will reduce the public benefits society derives from participation in PSE. Furthermore, if the repayment obligations are too onerous in early years after graduation, a portion of student borrowers will be unable to make their monthly payments and find themselves in default. This is costly not only to the individual borrower in default, but also to society as a whole.

For the past several decades, young people in Canada have begun to realize the benefits of PSE, which has led to unprecedented enrollment numbers in Canada's universities and colleges. As a result of the unprecedented number of Canadians choosing to pursue a PSE, universities and colleges across the country have grown significantly. All the while, government funding for universities and colleges has declined in inflation-adjusted per-student terms. The result is that tuition fees have been rising steadily as universities and colleges are passing more of the cost on to students.



Increased enrollment rates and increased tuition fees as a result have led to greater need for the provincial and federal governments to find ways to assist students pay for PSE.

## **2.2. The federal-provincial institutional context**

Any analysis of student loan schemes needs to recognize the institutional context of education in Canada. Constitutionally, education, including PSE, falls under provincial jurisdiction. Nevertheless, the federal government has taken on a role in student financial assistance. Since 1964 it has done so by funding and operating the Canada Student Loans Program and other grants and scholarships aimed at assisting students finance their education. Given the engagement by both levels of government, the potential for jurisdictional complications can arise in considering any reforms to Canada's student financial aid system. Provincial and territorial governments have different approaches to funding post-secondary education that reflect the budgetary realities of each province and territory. Finding a common methodology for reforming the student financial aid systems across the country will require dialogue among these governments in order to arrive at an efficient update of the student financial aid programs that all provinces and territories can afford and are willing to accept (Finnie, Usher and Vossensteyn, 2004).

## **2.3. The federal-provincial institutional context for higher education**

Tuition rates have been rising steadily across the country since 1990, intensifying the need for financial assistance for PSE. From 1990 to 2011 the average annual increase in tuition and schooling related fees was 6.2%, while inflation over the same period was just 2.1% (Macdonald and Shaker, 2012, pg. 6). As a result, the national average for tuition fees across Canada and across disciplines for the academic year 2011-2012 was \$6,186 (Macdonald and Shaker, 2012, pg. 6). Although this is a significant sum, tuition fees are only one component in the finance of PSE. In Ontario as an example, the tuition fees contribute approximately 45% of university operating costs

(Bosma, 2007). The provincial government pays the balance of the costs with some private funding added to the equation. It is important to note that since 1979 provincial governments have steadily reduced the amount of funding it provides post-secondary institutions. To be precise, the proportion of university operating revenue provided by provincial governments has declined from 84% to 58% (Macdonald and Shaker, 2012, pg. 35). As a result, student tuition fees have increased from 12% to 45% (Macdonald and Shaker, 2012, pg. 35). Along with higher tuition fees, prospective students also face a higher amount of risk and an uncertain rate of return on their investment in PSE (Guillemette, 2006). With students bearing an increasing proportion of the full cost of PSE, governments should establish mechanisms within the student loans system that reduce the incremental risk associated with higher tuition fees. Uncertainty and risk will be discussed at length later in the background section.

Provinces have made very different choices to assist students with increased debt levels as a result of high PSE costs. In an attempt to encourage Canadians to pursue a degree or a diploma and to diminish the financial burdens that higher education generates, the provincial as well as federal governments have established financial aid programs. These programs have become essential in providing students with financial liquidity in order to pay for schooling related expenses.

## **2.4. Student debt levels and default**

The number of young people relying on student loans and student grants so they can afford to attend university or college is rising across the country (Bosma, 2007). The statistics are summarized in Table 1.

**Table 1. Canada Student Loan Enrollment Rates**

Year	Total number of students enrolled in full-time PSE programs ( <i>in millions</i> )	Total number of students with a Canada Student Loan ( <i>in thousands</i> )	Loan uptake rate (%)
2008-2009	1,023,000	365,363	35.9%
2009-2010	1,229,000	405,000	33.0%
2010-2011	1,248,000	429,000	34.3%
2011-2012	1,290,000	454,000	35.2%
2012-2012	1,277,000	455,000	35.7%
2013-2014	1,261,000	453,000	35.9%

Source: Office of the Superintendent of Financial Institutions Canada. Actuarial Report: Canada Student Loans Program (as of July 2009), page 23.

In 2008-2009, there were 365,363 full-time students who relied on loans from the Canada Student Loans to pay for PSE related costs (HRSDC, 2009). Two years later, in 2010-2011, this number had risen to 425,575 full-time students requiring financial assistance (HRSDC, 2011). Consequently, debt levels have increased at a rapid rate and graduates face increasing difficulty in repaying their loans (Bosma, 2007). Choice of PSE institution type plays a role in how much debt a student will incur. In 2010-2011, the average loan balance of university students was higher than that of college students and of those in private institutions (HRSDC, 2011). Tuition fees and the length of the programs account for the variance in debt levels. Furthermore, loan balances differ by province or territory across the country.

According to the Canada Student Loans Service Centre, a loan is deemed in default when the borrower has missed the equivalent of nine monthly payments. Although the proportion of students who default on their student loans has been declining in recent years, in 2009-2010, 13.8% of student borrowers defaulted on their Canada Student Loan (CSL) (HRSDC, 2011).

The default rate matters to both the individual borrower and the lender. From the point of view of individual borrowers, defaulting on one's CSL can lead to financial hardship for several years damaging their ability to borrow and obtain credit. Since a majority of defaults tend to occur after graduation when young people are beginning to

establish themselves financially and get married, buy a house, etc., the effects of a negative credit rating are magnified. If a borrower's loan goes into default at any point in the amortization period it is reflected on their individual credit rating for 6 or more years. The exact length of time varies by the type of negative information and by province or territory. This implies that during those years, the individual is perceived as a relatively high risk for lenders. This will limit the amount of financial liquidity they have access to and if they are approved, affect the terms of the loan. For example, the interest rate charged on loans to individuals with a negative credit rating is significantly higher than interest rates charged to individuals with a positive credit history. This could prevent some borrowers from being able to improve their lives through consumption.

From the point of view of the lender (the government), the number of individuals who default on their student loans is a problem since it represents a loss of government resources. Ultimately, if students are in default, they are not making payments towards their balance, meaning the government is not recouping its loans. They are also losing the opportunity cost on those funds. Therefore, a financial aid scheme that offers protection against periods of low or no income will assist borrowers who encounter difficulty making payments during the amortization period, thus reducing the number of balances in default and therefore the amount of lost government resources.

The following table demonstrates the percentage of CSL borrowers who defaulted on their student loans from 2003-2010. It is important to note that default rates outlined below reflect only the federal portion of a student loan. The federal portion accounts for 60% of a student's loan. The remaining 40% is made up of provincial funding. Therefore, the percentage of student borrowers in default is likely higher than shown in the Table 2. Unfortunately, data on total default rates are unavailable.

**Table 2. Canada Student Loan Default Rates**

2009-10	2008-09	2007-08	2006-07	2005-06	2004-05	2003-04
13.8%	14.3%	14.7%	15.8%	16.6%	19.4%	28.0%

Source: Canada Student Loans Program Annual Report 2010-2011-Program Results

The majority of the defaults occur within three years after graduation (HRSDC, 2011). In order to assist graduates in repayment, particularly in the post-schooling

years, in 2008 the Repayment Assistance Plan (RAP) was launched. The details of this policy intervention are discussed at length later in the background. The financial assistance measures provided in RAP have reduced the default rate by almost half. Another reason for the decline was the creation of a new Canada Student Grants Program (CSGP) in 2009. The CSGP grants have disbursed approximately \$593 million annually and in 2009-2010, 367,309 grants were provided to 289,522 students (OSFI Actuarial Report, 2010, pg. 9). These grants are distributed to low and middle-income students who have applied for a Canada Student Loan. Eligibility is based on family income.

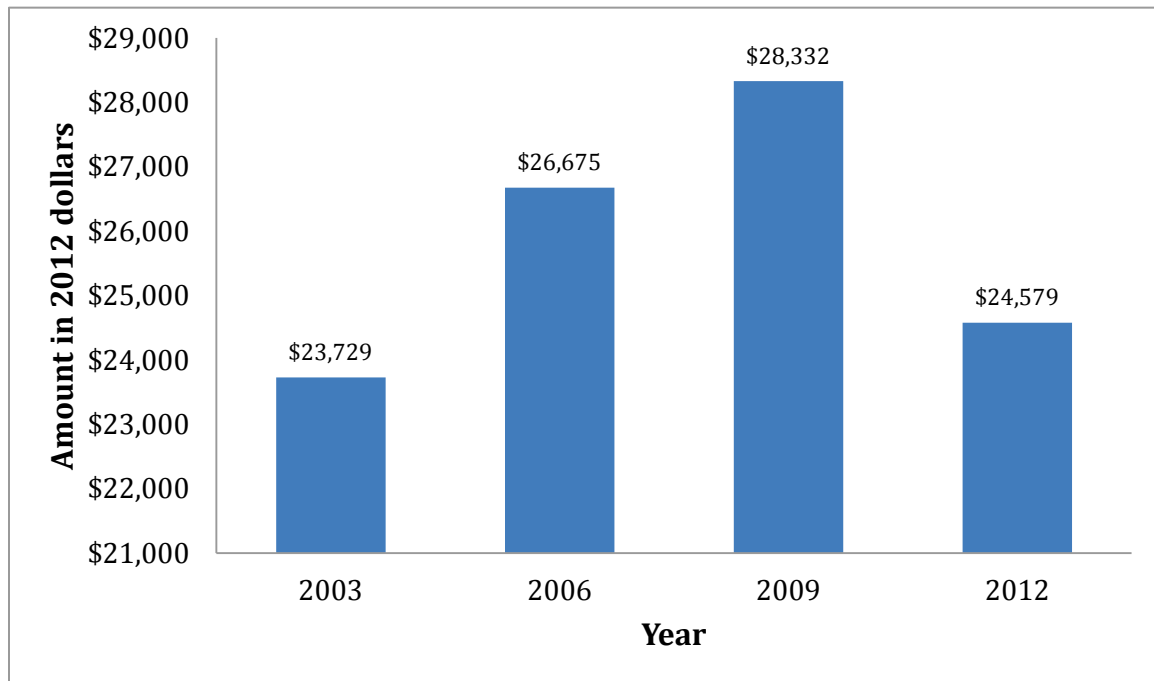
Although the vast majority of students repay their loans fully and on time, the negative impacts on consumption smoothing during those years in repayment have yet to be examined. The analysis that follows will attempt to shed light on the manageability of repayment obligations. It will do so by outlining alternative ways that the government can recoup the money it has lent to students while making the system more efficient by eliminating defaults altogether. Furthermore, by reforming the financial aid system so that a student's monthly payment on their loans is a percentage their income facilitates consumption smoothing. This will be fully explained later in the analysis.

Unmanageable amounts of debt as a result of higher cost for attending PSE have several negative ramifications for recent graduates. In 2010-2011, 424,575 full-time students obtained a CSL, which represents \$2.2 billion in loans. This is an increase of approximately 6% in the number of full-time students who received a loan from the government in the previous year. The average annual amount borrowed by full-time students was \$5,186 (HRSDC, 2011, pg. 11). This figure does not include the amount of provincial or territorial loans that a student may have also received. In 2010-2011, 60% of full-time student borrowers attended university, 30% attended college and 10% attended a private institution (HRSDC, 2011, pg. 13). Part-time students can also apply for CSL and in 2010-2011, 3,974 part-time students received a loan to attend PSE. This is an increase of 47% from the previous year and represents \$6.9 million in CSL.

The average university graduate who borrowed money to finance PSE in Canada today is finishing school with an average student debt of \$27, 474 and it takes the average student 15 years to pay off this debt (TD Canada Trust, 2012). This has led

one financial advisor to suggest, “Graduates today can choose a car or a wedding. Not both. And not a house” (Preet Banerjee, The Globe and Mail, section L3, September 4, 2012). To be clear, in inflation adjusted terms, the average debt among students who borrowed to attend PSE has not changed. Figure 3 is a time trend indicating the average loan per student from 2003 to 2013.

**Figure 1. Average Debt among Student Borrowers in Canada**



Source: Education Financing and Debt in Canada: Canadian University Survey Consortium (CUSC) Survey of Graduating Students, 2003-2012. Council of Ministers of Education, Canada.

Although debt levels have not been increasing, excessive debt levels means that graduates have less income liquidity; they cannot borrow as much as other young people who are not carrying student debt, so that they are also spending less, investing less and saving less. These effects are magnified and affect more adversely students from low-income backgrounds (Bosma, 2007). Debt levels often mean that graduates must delay major life decisions and purchases such as a buying a vehicle, saving for a down payment on a house, getting married or having children. Furthermore, high debt loads as a result of student loans can also influence an individual’s career choice

(Bosma, 2007). Graduates with more debt may opt for a job with a higher income rather than pursue a career with a modest income in their field of study or within the public service (Bosma, 2007). Finally, students who wish to pursue additional education beyond a bachelor degree may be discouraged or unable to do so as a result of their excessive debt load resulting from their undergraduate studies (Finnie and Schwartz, 1996).

For all these well-documented negative side effects of high student debt loads, the financial aid system in Canada should be reformed to assist students more in the period following graduation. Alternative repayment options would ease many of the cited side effects of increased debt levels. Under the current repayment system, students repay a fixed monthly amount over the course of 5 to 15 years depending on the amount borrowed and regardless of their ability to repay the fixed amount. Leaving school with debt that is high relative to future earnings delays the accumulation of wealth (Luong, 2010). By introducing ICR into the Canadian student financial aid system, repayment obligations would be a percentage of an individual's future income rather than a fixed repayment schedule determined by the size of the loan, the repayment period and the interest rate fixed in the original loan agreement set by the government. The defining feature of an ICR scheme is that collection of the debt depends on the borrower's future levels of income. Therefore, repayment is based on capacity to pay, rather than the amount borrowed and time. An ICR type of repayment approach would provide better protection against unmanageable repayment burdens (Johnstone, 2009). Furthermore it will allow for consumption smoothing, a term used to describe an optimal balance of individual spending and saving, while a student is in repayment (Chapman, 2005).

Because most students who pursue a PSE will eventually earn higher earnings than those who do not, further subsidizing PSE by offering income-contingent loans could have a potential regressive impact on income distribution. The concern is that individuals who do not pursue a PSE are further subsidizing the cost of PSE for those who do, since taxpayers generally pay for the subsidies inherent in income-contingent loans. To be clear, income-contingent loans do not reduce the cost of PSE; they simply prolong the repayment period in order to make the loan more manageable. Since the repayment provisions within the existing financial aid system provides an insufficient amount of insurance against the risk of borrowing to pursue a PSE, income-contingent

loans should be thought of as “public sector financial instruments designed to address aspects of so-called market failure” (Chapman, 2010, pg. 236). This will be discussed at length in the proceeding section of the background.

## **2.5. Risk and the rate of return on post-secondary education**

Since PSE is by its nature an investment, it also involves a certain degree of risk. Pursuing a post-secondary education requires some upfront costs, including tuition fees and the opportunity cost of forgone earnings while in school. These upfront expenses are compensated by the improved prospects of employment, increased earnings, job security, social status, and the like.

What distinguishes an investment in human capital from other investments is the degree of non-insurable and non-diversifiable risk associated with investments in PSE. Students are unsure when they begin their advanced education that their investment of money and time will pay off. Even with a college or university degree, graduates have no guarantees of success in the labour market. Explained another way, students face an uncertain rate of return on their investment in PSE. With traditional investments, investors can choose a variety of tactics to limit the amount of risk on their investments. Students, however, have fewer strategies at their disposal to reduce the amount of risk on their investments in human capital (Guillemette, 2006).

Engaging in high-risk investment opportunities requires quite often a higher rate of return than many individuals can expect to realize from pursuing PSE. If adults avoid investment opportunities or procrastinate in making a decision about investments with high upfront costs, we can infer that young adults with less knowledge and experience engaging in high-risk investments would require an even higher rate of return for their investment in post-secondary education (Dynarski, 2007).

Borrowing money to finance an investment of any kind is a financial concept known as leveraging. Leverage by its nature increases risk associated with the investment. Under the provisions of the current student loans programs available in Canada, risk is amplified because students must begin repaying their loans on a fixed



repayment schedule soon after graduation, regardless of their earnings. Since earnings are not guaranteed to increase as a result of PSE, particularly not in the short term, the risk that a student cannot make the fixed repayment is enlarged (Guillemette, 2006). Statistics provided on the graduating class of 2000 indicated that 34% of college graduates and 28% of university graduates reported difficulty in making their student loan repayments during the first two years following graduation (Junor and Usher, 2004).

For the individual borrower and the lender, the risk of defaulting is not addressed by the existing mortgage-type fixed repayment schedules. For risk-averse student borrowers, the availability of income-contingent loans would provide a degree of protection from the possibility of defaulting on their loans in cases where the return on their PSE after graduation was negative. In this type of scheme, the lender is also protected from the risk of loss since the borrower is only required to repay a manageable portion of his or her earnings. This ensures that the monthly repayment obligations are adaptable to students' income after graduation and the default rate is drastically reduced (Guillemette, 2006). In fact, students who wanted to ensure that their investment in PSE pays off could make use of an income-contingent loan as a form of insurance that would only be reimbursed if the student goes on to earn a high enough level of income and forgiven altogether if the student remains a very low life-time earner (Guillemette, 2006). This raises concerns that borrowers will use the scheme to their advantage by pursuing a degree that offers less employment opportunities or degrees that produce lower paying jobs. This is known in economic literature as the moral hazard, and income-contingent loan schemes are not immune to this type of gaming. With income-contingent loans, students can borrow large sums of financial aid to pay for PSE that may not result in increased earnings. For the individual borrower, this is not a concern, since the loan is repaid as a percentage of future incomes. If future incomes remain low, the individual is not required to repay his or her loan. This is a concern to the lender (the government) and taxpayers in general since they are essentially financing PSE with no guarantee that the loan will be repaid. This could provide the incentive for some individuals to pursue a PSE for leisure or with no intention of using the education to stimulate earnings. The potential for this type of moral hazard is an important consideration in the formulation of an income-contingent loan-financing scheme. The repayment conditions must be

designed to take into account the moral hazard potential, or otherwise the associated taxpayer subsidy as a result of unpaid debt may be unnecessarily high.

As I have described, risk aversion and the risk associated with defaulting on a student loan because earnings after graduation are too low reduce the demand for investments in PSE. Income-contingent loans would offer risk-averse individuals and the government an opportunity to mitigate some of the risks and therefore reduce the chance of making a bad investment.

### **2.5.1. Federal Debt Relief Programs**

In order to offer additional assistance to students in the post-schooling years, students can apply to have the interest subsidization period extended. “Revision of Terms” is an agreement that a graduate who is in repayment can arrange with the National Student Loans Service Centre (NSLSC) and the individual’s financial institution. A Revision of Terms will decrease the monthly repayment amount by extending the amortization period. It can also permit a graduate in repayment to shorten the length or the repayment once he or she is able to do so. An individual can choose to have their monthly payments temporarily extended for a set number of months or they can choose to have their monthly repayments permanently decreased. The amortization period can be extended to a maximum of 174 months (14.5 years), which is longer than the normal amortization period, which is 114 months (9.5 years) (HRSDC, 2011). There is no formal application to request a “Revision of Terms”; however, the borrower is required to contact the NSLSC and sign a revised Consolidated Loan Agreement with the federal government. The “Revision of Terms” extends the time a borrower has to repay the principal and interest on their loan, which naturally increases the total interest charges over the life of the loan. The access to these programs varies from province to province, but they are all intended to assist student borrowers who experience temporary periods of unemployment or periods of very low income avoid default.

“Canada Student Loan Rehabilitation” is a provision that helps students who have missed payments on their student loans for more than 270 days and whose loan is in collection. The program assists students bring the federal portion of their student loan out of collection and back into good standing. Once a borrower is in good standing they

are eligible for federal loans and grants as well as interest-free status on existing loans if the individual plans on returning to school. It also allows an individual to apply for the Repayment Assistance Plan, since borrowers who are in collection are ineligible to benefit from this program.

### **2.5.2. *The Repayment Assistance Plan***

In order to address the need for assistance in the repayment period, in 2008 the federal government negotiated with the provinces the “Repayment Assistance Plan” (RAP). This plan is available to borrowers who are having difficulty repaying their CSL by making it easier for them to manage their debt by paying back what they can reasonably afford. Under the RAP, borrowers make smaller payments toward their debt, and the payments are based on their gross family income and size. The maximum affordable payment will not exceed 20% of a borrower’s gross family income (HRSDC, 2011). Borrowers’ payments are applied to the loan principal first, with the federal government covering the rest. Borrowers whose income is extremely low as determined by the federal government may not have to make any payments until their income increases. Borrowers who qualify for the RAP will have a maximum repayment period of 15 years.

The RAP works in two phases. During the first phase, the federal government pays the interest that is accruing on the borrower’s debt that is not covered by the smaller repayment obligation. This phase may last up to 5 years, or 60 months during the 10-year period after a borrower leaves school (HRSDC, 2011).

If a borrower continues to require further assistance after 5 years on the RAP, or they have been in repayment for 10 years, the borrower may qualify for Phase 2 of the program. During Phase 2 of the RAP, the federal government will continue to pay the interest on the loan and it will begin to pay some of the principal of the loan that is not being repaid by the borrower’s smaller monthly payments. In Phase 2, the remaining balance is to be gradually paid off so that no student loan debt remains after 15 years (HRSDC, 2011).

The money the federal government is using to assist students enrolled in the

RAP is not recouped and must therefore be considered a cost to government. They are also losing the interest that would have accrued on the loans for borrowers that are in Phase 1 and 2 of the RAP. In 2010-2011, the government spent approximately \$65 million to assist 164,800 student borrowers enrolled in the RAP (OSFI Actuarial Report, 2010, pg. 34). This is one quarter of the total number of CSL borrowers (424,575). Nearly 90% of these borrowers (147,077) who benefited from RAP made no monthly payments while the federal government paid the interest on their loans. The remaining 17,723 borrowers received some support from the federal government in order to bring their monthly payments to an affordable level (HRSDC, 2011).

With one in four student borrowers receiving repayment assistance from the federal government, assistance in repayment is not only a necessity for many, it is also becoming very expensive for the federal government to sustain. The annual cost to sustain the RAP is approximately \$65-70 million per year (OSFI Actuarial Report, 2010, pg. 34). In 2010-2011, the total number of borrowers benefiting from Phase 2 of the RAP is 4,910, which is double the number who received this level of support in 2009-2010 (HRSDC, 2011). In addition to covering the interest payments for borrowers in Phase 2 of the RAP, the federal government is paying for a portion of their principal balance. Therefore, the cost to the federal government to assist students who are in repayment cannot be ignored, and alternative options should be considered.

The literature on the RAP and other assistance program offered by the federal and provincial governments offers mixed reviews. While some point to the shortcomings, others believe their existence means that Canada implicitly has an ICLR system. Although the program is not universally available and is restricted to those who are in periods of low income, it is a step towards an ICR scheme. The cost to government, however, is potentially very high. Furthermore, the administrative costs for the government to manage the program are substantial as is the time cost to the individual who has to re-apply every 6 months and provide proof of income to continue to receive repayment assistance.

### **3. Literature Review**

Over the last twenty years, an extensive literature on student loan programs and the use of income-contingent repayment mechanisms has emerged. A common theme within the literature is the risks associated with investments in education and ways for governments to design financial aid schemes that manage these risks. In addition, several studies have analyzed the effect that student debt can have on individuals after they leave school. This literature supports the need for a financial aid system that offers repayment obligations that reflect post-graduate income.

According to the literature, risks must be shared between students who benefit personally from PSE and the government, since the benefits of PSE are also felt by society as a whole. Furthermore, a person's socioeconomic background can affect whether they decide to invest in PSE, even if they can expect to benefit from it. Based on the literature, low-income students have personal discount rates that are much higher than students from middle and higher incomes (Usher, 2005). Therefore, financial aid programs should reflect the risk-averse nature of most individuals who are likely to apply for and benefit from these programs. This includes low upfront costs, a simplified application process, and some sharing of the risks of experiencing a low rate of return. According to Guillemette, "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" (Guillemette, 2006, pg. 12).

Other studies have examined the effects of debt on students in the early years after graduation. The most important for this study include Bosma (2007), Luong (2010), Clark (1999), and Finnie and Schwartz (1996). Using the data obtained through the National Graduates Survey, one study assesses the debt and repayment record for holders of college certificates and diplomas and bachelor's degrees (Clark, 1999). This study found that the amount a student has borrowed to pursue a PSE varies widely, leaving some graduates with different levels of pressure to find good jobs and begin

repaying their loans. Also relevant to my research is Clark's findings that the two most significant factors affecting loan repayment are the amount a student has borrowed and the level of income the graduate goes on to earn. This supports the argument that factoring a graduate's income level after graduation into the repayment obligations will have an effect on their ability to repay the loan.

Additional factors that impact whether recent graduates are more or less likely to default on their loan repayments are stability of employment, the field of study and the province from which the student borrowed the money. Difficulty repaying loans varies across provinces, since some have higher tuition fees, different repayment obligations and varying levels of debt assistance for recent graduates. Difficulty repaying student loans was also found to be correlated with the field of study and whether the individual chose to study in a specialized or a more general program. For example, a study using 1997 data from the National Graduates Survey reported that engineering graduates had less difficulty repaying their student loans than did fine and applied arts students (Clark, 1999). At issue is that earnings are not keeping pace with debt levels in the early years after graduations. These findings support the ICR idea of tying repayment obligations to an individual's future income, since income is correlated with field of study and eventual field of employment.

Building on Clark's findings, Chapman argues that if ICR loans are properly designed, from a government and economic point of view they can eliminate the prospect of default and therefore address the basic capital market failure (Chapman, 2005, pg. 30). Defaulting has negative consequences for the individual and for society as a whole. For an individual defaulting means damaged credit, which could reduce their ability to borrow in the future to buy a house, car, etc. Bosma reports that in 2004, defaulted student loans cost the government of Ontario \$96 million (Bosma, 2007, pg.16). By reducing the probability of default with an ICR scheme, the government could save millions of dollars that could be reinvested into the system.

One of the principal drawbacks of the existing fixed loan repayment system is the high interest rates charged to student borrowers (Bosma, 2007). As was explained earlier in the background, investments in human capital involve a higher amount of risk because not all of them will yield a positive return on principal. As a result, lenders, in

this case provincial and federal governments charge higher interest rates on student loans during the amortization period. In the present system, once a student borrower enters into the repayment period, they can choose a fixed-interest rate of prime plus 5% (roughly 8%) or a floating-interest rate which charges prime plus 2.5% (roughly 5.5% in 2013) (HRSDC, 2011). In order to make up for a high default rate and the precariousness of investments in human capital, both the fixed and floating interest rates are substantially higher than interest rates charged on loans that are not invested in human capital. These are all policy choices, which the government could amend depending on the default rate and the number of student borrowers having trouble repaying their loan.

This situation is central to my analysis since high default rates on student loans can be attributed to the onerous repayment obligations under the existing mortgage-type repayment system. A high interest rate causes many borrowers to fall arrears or default, thus necessitating in turn provisions like RAP and other forms of public relief. If repayment commitments were contingent upon a percentage of a student's income after graduation, rather than a percentage of the amount borrowed, fewer student loans will be defaulted. This reform would increase the rate of return on the investment in human capital and the lender (provincial and federal governments) would feel more confident lowering the interest rate imposed on student borrowers.

Chapman (2005), Schwartz (2006), Barr (2001, 2012) and Guillemette (2006) find that the three most vital features of an ICR system are 1) that repayment of the loan occurs only if, and only when, a student's income after graduation exceeds a pre-specified level; 2) the annual repayments are a set percentage of income above that level; and 3) evidently, the repayment period ends once the loan and any interest has been reimbursed. Guillemette echoes what Johnstone and others who have written on ICR assert, that the paramount feature of ICR is that the proportion of earnings that are paid to the government is fixed, but the repayment period is adjusted to the borrower's income. The literature also suggests that two very important design issues must be given careful consideration in the design of an ICR system. They are the income threshold below which no repayments are required and risk sharing (Guillemette, 2006, Alarie and Duff, 2005).

To conclude, there has been much interest in analyzing student debt and the issue of how best to address the problem of unmanageable repayment obligations. ICR is one way to address this issue. The objective in this study is to build on this literature with an in-depth analysis of key design features, specifically in the Canadian institutional context for student loans.



## **4. Methodology**

This study is intended primarily to examine the design aspects of an income-contingent repayment system for student loans and evaluate their efficacy in meeting the stated goals. With this in mind, I used a mixed methodology approach. In addition to a literature review on this policy problem, my methodology has two main components: key informant interviews and case comparisons. The literature review combines informal knowledge, academic research and published reports from government and non-governmental organizations on the current state of financial aid for post-secondary students in Canada. In particular, the literature review describes the gaps in policy with respect to risk management of post-graduation loan repayments in Canada. Within this lens the idea of an income-contingent loan repayment system is discussed as well as the key design features of this type of approach. The jurisdictional scan provides some examples where an ICR loan scheme is utilized and some design features of those systems. The interviews offer an assessment of the main design features of ICR schemes as well as the trade-offs associated with the adoption of ICR in Canada.

### **3.1. Jurisdictional Review**

In order to identify the key design features of ICR, I conducted a review of the existing ICR schemes in several countries. These case comparisons used publicly available government documents and the literature to determine how policymakers in other jurisdictions chose to evaluate the benefits and consequences of an ICR system for student loans. They were also used to assess the key design features of the system.

### **3.2. *The Key Informant Interviews***

To obtain more detailed information about the benefits and consequences as well as the main design features of an ICR loan program, interviews were carried out with key informants in government and academia. Furthermore, to gain an understanding of the effects that accompany ICR and to help assess the design features contained in

three policy alternatives, interviews were conducted with policy-makers, researchers and government officials. In total, I secured 7 interviews.

**List of interviewees:**

**Joseph Berger – Former** Director of Business Development and Communications for the Higher Education Strategy Associates

**Noel Baldwin –** Coordinator, Post-secondary education, Council of Ministers of Education, Canada

**Bruce Johnstone –** Distinguished Service Professor of Higher and Comparative Education Emeritus, Graduate School of Education, The State University of New York, University at Buffalo

**Bruce James Chapman –** Crawford School of Public Policy, Australian National University

**Nick Barr -** Distinguished Professor, Department of Economics, London School of Economics

**Saul Schwartz -** Professor, School of Public Policy & Administration, Carleton University

**Atiq Rahman –** Director, Operational Policy and Research, Canada Student Loans Program

***3.2.1. Interview Process***

The interviews provided information in addition to what was accessible from the literature and government documentation. The aim was to verify my analysis and gain some insight from professionals working within this area of public policy. Furthermore, they were helpful to assess the feasibility and validity of various design features for an ICR loan system.

Because of the varied nature of the location and time commitment of the participants, each was offered to meet face to face where possible, speak by telephone, or complete the interview questions by email. All participants were provided with a

consent form ahead of time that included a description of my research. In some cases, the interview schedule was provided ahead of time. In other cases, the meeting was informal and the questions were not provided ahead of time. Participants had the option to discontinue the interview at any point in the research process and were in control of whether their name or the name of their organization was used.

Through a semi-structured interview, participants had the opportunity to express their points of view with respect to an ICR loan scheme, the provisions associated with it and the applicability of such a system for student loans in Canada. For in-person and telephone interviews, two-way communication was encouraged to ensure that questions were fully answered and the interviewee had the time to explain their experiences and opinions in a thorough manner. In all cases, questions were tailored to the participant and the knowledge they were able to contribute to the subject area. The interviews were recorded and the notes were used to support or discount a particular ICR design feature or to guide the policy analysis.

#### ***3.4.2. Benefits and Limitation of this research***

Based on the material obtained through the literature review, case studies and key informant interviews, I used a framework of hypothesis testing, pre-established criteria and a definition of measurement in order to evaluate the various design features of ICR schemes. The outcome of this type of analysis creates the ideal design features for an ICR system in Canada.

A possible weakness of the methodology is that case studies are limited in scope and the various shapes and features of ICR are diverse depending on the jurisdiction. Another potential limitation of my study is that I was unable to reach a small number of potential informant interviewees and as a result, they were not included in my analysis. However, given these weaknesses, or potential weaknesses, I am confident that the data and information gathered is of adequate quality for undertaking my analysis.

## **5. Case Studies**

Globally, governments' experience with ICR loans is relatively limited, and in the few jurisdictions where ICRs are currently in place, the policy is fairly recent. As a result, data on the effects of these types of financing policies is for the most part unavailable. An additional research limitation is that there is only one example, the Higher Education Contribution Scheme (HECS) in Australia, for which considerable research has been conducted on the empirical and administrative issues (Chapman, 2005). Research is becoming more available from other jurisdictions with recent experience with ICRLs, such as New Zealand and the United Kingdom. However, both the research and the effect of ICLs on access to PSE is still relatively limited. Nonetheless, since the late 1980's several countries have contemplated and ultimately adopted ICR financing schemes for student borrowers and the following section will discuss the most important ones that pertain to this study.

### **5.1. Choice of Cases**

To limit the scope, I established some criteria for deciding which jurisdictions to include in this research. The case studies for this research have been selected because

- 1) the jurisdiction has a form of income-contingent repayment loan component within their student financial aid system;
- 2) the jurisdiction has similar institutional and legislative contexts as Canada; and
- 3) the jurisdiction had what is known in the literature as "the student-centred model" for determining who is responsible for financing post-secondary education; in this type of system the students themselves are responsible for a substantial portion of schooling related costs.

Case studies were also selected based on the ease of reviewing government documents and literature on ICR loan provisions for student loans. For this review, I identified four case studies that met the established criteria with unique ICR design

features that set them apart. The case studies considered are the following: the Higher Education Contribution Scheme (HECS) in Australia, the Inland Revenue Student Loan scheme in New Zealand, higher education financing scheme in the United Kingdom and the income-based repayment plan for the Direct Student Loan program in the United States.

The case studies were selected because of the unique design features that differentiate the types of ICR financing schemes. Australia is selected because it was the world's first national ICR financing scheme for higher education. Furthermore, it is an example that has evolved since 1997 after its original conception in 1989 to become a fairly generous financing scheme. New Zealand was selected because its ICR arrangements are considered to be less generous than the Australian example and has been around almost as long. The UK was included as a case since it is considered to be a very generous form of educational financing for the student and it is the latest country to adopt this type of scheme. Finally, the United States was chosen since a unique feature of its ICR system is that students have the option to repay their student loans as a percentage of their annual income after graduation or as a fixed amount corresponding to the size of their loan. It is important to note that all of the financing schemes discussed in this study are living policies, meaning that they are constantly changing and evolving over time.

I chose not to use Sweden as a case study because although it has a form of ICR financial aid system, it operates in what the literature calls "the Scandinavian model" of higher education. This model is one with very low or non-existent tuition fees and often includes living expenses for all students (Schwartz, 2006). Furthermore, in the Scandinavian countries, PSE institutions are fairly similar, which extends to funding of the institution and relative status. Finally, a relatively small proportion of the relevant age group is enrolled in PSE in these countries (Schwartz, 2006). Since these characteristics vary drastically from the "Anglo-American model" of higher education, which for the most part Canada abides by, I determined that comparing them in a case study analysis would not add value to this study.

Furthermore, I chose not to include South Africa, Mexico, Thailand and other developing countries where a version of ICR is in place. The literature states very clearly

that the types of ICR schemes that exist in developing countries are not comparable to ICR schemes in developed countries (Chapman, 2005). Specifically, these countries for the most part lack the administrative infrastructure in place to collect repayments in an efficient way.

## **5.2. Motivation for ICR**

Motivations for ICR schemes vary with the country, and these varying rationales affect the structuring of loan repayments.

In the US, the motivation for creating an ICR scheme was to allow graduates to pursue a career that reflected their choice. Research (the Georgetown and Catholic University survey) indicates that students said that after graduation they would have to choose a higher-paid job in the private sector because of burdensome loan repayment obligations (Chapman, 2005). This was particularly the case for law students on account of the vast difference in earnings between practising public service law and practicing with a private law firm. It was often thought that mere income contingency alone would steer some law students towards public service law (Johnstone, interview). “The effect of escalating costs and debt for law schools is that as students become lawyers they do so with the single-minded objective of milking the profession for all it is worth in order to be able to pay retrospectively for their legal education” (Schrag, 2001 as quoted in Chapman, 2005, pg. 38). In contrast, choice of a more socially productive career may be unable to support onerous loan repayment obligations.

In Australia, New Zealand and the UK, the motivation for ICR was to create an alternative to the regressive policy of having a no-charge higher education system for all, even for those who can afford to pay for it (Chapman, 2005). In other words, in order to cope with the growing demand for higher education and the governments’ reluctance (and/or inability) to pay for soaring costs, ICR was introduced as a way to transfer some of the PSE costs to the student. In this sense, ICRs are not unlike traditional fixed-schedule financing scheme. Both plans permit the government to continue to encourage PSE by financing the costs upfront and recoup those funds through monthly repayments after graduation. Other motivating factors for implementing an ICR for the governments

of these three countries was the importance of default protection in the repayment of student loans and the need for policies that permitted for universally available higher education to any student who wished to pursue it (Chapman, 2005).

### **5.3. The Higher Education Contribution Scheme (HECS) in Australia**

When HECS was introduced in 1989, it was also the first time since 1974 that Australian students were required to pay part of their PSE through tuition fees (Schwartz, 2006). Prior to that, the federal government paid the full cost of PSE. In order to ease the introduction of tuition fees and avoid massive reduction in PSE participation among all socio-economic levels in society, students could defer payment on tuition until after they left school and the federal government would pay the financial institution. This deferred tuition fee made PSE “free at the point of use” and the amount of each year’s repayment after graduation depended on taxable income of the former student (Schwartz, 2006). The repayments are paid automatically through the Australian Tax Office and other than the projected rate of inflation, no interest is charged on the loan during the repayment period. HECS is available universally to all students, but students could choose to pay for their tuition up front, and in return receive a discount (originally it was 15%, it has since risen to 25%). The designers of the policy intended for this discount rate to function as an implicit interest rate (Chapman, 2005). Given that the discount is 25%, those choosing to opt out of HECS and pay upfront will pay 33.33% more in nominal terms for tuition (Chapman, 2005, pg. 60). Those choosing to opt into HECS and defer payment and repay their schooling related debt after graduation receive interest rate subsidies equal to the real rate of interest for each year the debt remains unpaid.

Until a student starts earning a minimum threshold linked to aggregate earnings in Australia (average income of Australians), no repayments are required. Once the person begins to earn above the minimum threshold of A\$36,184/year, they are required to pay a percentage of their earnings. This percentage begins at 4% of taxable income to a maximum of 8% once an individual earns above the higher earning threshold of A\$67,200/year (Schwartz, 2006, pg. 42). Depending on the government in power, the

budgetary realities of the day and the desired policy intentions of the federal government, the minimum income threshold has evolved since HECS was introduced. In 1997 for example, the first repayment threshold was reduced quite substantially, which reduced the generosity of the repayment plan.

### **5.3.1. Evaluation of HECS**

Since HECS has been in existence for almost 25 years, longitudinal analysis is possible. As a result, some empirical studies have been conducted in order to measure the program's effects. The following account presents the most important findings as they relate to the purview of this study.

Using data from the Australian Bureau of Statistics, Chapman determined that the average repayment period for HECS loans was approximately 8 or 9 years for male graduates and 12 years for female graduates (Chapman, 2005, pg. 61). This does not vary much from the average repayment period for borrowers in Canada on a fixed-schedule repayment plan, where the average length of the repayment period is 10 years. Although a key objective of an ICR loan scheme is to facilitate both consumption smoothing and default reduction, facilitated by longer repayment periods, this finding should reduce anxiety among Canadian politicians and students who are concerned that an ICR financing scheme would produce longer repayment periods. The length of the repayment period will vary depending on an individual's earnings after they leave school. Therefore, ICLs offer borrowers who earn lower incomes after graduation the ability to repay their loan more with higher earnings in the high earning stages of the lifecycle.

Since Australian student borrowers are repaying their loans at relatively the same pace as Canadian student borrowers, ICLs do not appear to make the repayment burden more onerous on borrowers than the status quo. In fact, the borrower and the lender are made better off, since the borrower is relieved of his or her repayment obligation during unforeseen periods of low income or zero income. The government is also made better off since they will recoup more of the money it lent out.

It is not possible to evaluate the effect that HECS has had on the number of students who default on their student loan, since prior to the introduction of HECS, the



Australian government paid the full cost of PSE. Therefore, student loans were non-existent. That being said, since the creation of HECS, the annual amount of unpaid student debt is reported by the Australian government. Calculation of the default rate varies between Canada and Australia. In Canada the default rate represents a percentage of the total number of student borrowers who did not make a payment on their loan in 9 consecutive months. In Australia, by contrast, where it is impossible for an individual borrower to go into default due to the repayment parameters that define HECS, it is the percentage of total annual debt that remains unpaid. Regardless of these differences, foregone loan collections calculated by the Australian government makes it is possible to draw some comparisons between the default rates on Canadian student loans with those in Australia. Since the introduction of HECS, in nominal terms, approximately 15-20% of total annual debt remains unpaid (Chapman, 2010, pg. 248). Since some of the cost of foregone loans is desirable social spending to pay for the loans of low-earning graduates, this amount should be considered to be unimportant in financial terms (Chapman, 2010). The Canadian student borrower default rate by contrast has fluctuated over the last decade between a high of 28% in 2003 and the current 13.8% in 2011. In 2011, the balance of interest on outstanding student loans was worth \$323 million (OSFI Actuarial Report, 2010, pg. 32).

For countries considering the establishment an ICR loan scheme, a great deal depends on the status quo. Are students already responsible for a portion of PSE related costs? This could have an effect on borrowing patterns, borrowing habits and the political feasibility of implementing the new scheme. In Canada, since the starting point is that students already pay a significant portion for PSE, the culture of borrowing to attend university or college is engrained in Canadian society. Although a reform of the system to incorporate elements of income contingency in the repayment period is not the complete elimination of tuition fees promoted by student groups across the country, with the proper design features, the policy could be interpreted as a compromise. Other than the positive effect of making student loans more manageable to allow for consumption smoothing and drastically lowering the default rate, it is difficult to foresee how ICLs could result in any negative side effects for students or the government. This argument is reinforced by the data out of Australia, which indicates that contrary to popular belief among Canadian student groups, the average repayment period for ICL is

approximately the same (10 years) as it would be if the loan were a fixed-schedule student loan (Schwartz, 2006).

The decision to charge an interest rate equal to the rate of inflation means that relative to similar financing schemes in New Zealand, the UK and Hungary, the governmental cost of HECS is quite high. This could be avoided by charging the government's borrowing cost as the interest rate. Although HECS has been reformed on a couple of occasions since its conception, the zero nominal interest rate on loans has remained untouched. Even still, HECS has turned out to be very inexpensive in administrative terms. In 2001, \$A800 million HECS collected per year and it cost just 2 to 3% to administer (Chapman, 2005, pg. 69).

There is no evidence that the introduction of HECS has had a negative effect on enrollment levels or access to PSE. Furthermore, HECS has not significantly affected the socio-economic composition of the PSE student body (Chapman, 2005). Enrollment rates for students from the lowest, middle and top quartile have all increased since the introduction of HECS. Although the largest increase are among the middle and top quartiles, the proportion of students attending PSE from the lowest quartile has grown as well, albeit at a slightly slower pace (Chapman, 2005). According to the literature, HECS and other forms of ICR schemes around the world are not designed to be an instrument that a government can use to increase the participation of PSE. They are designed to provide graduates with the ability to consume more in the early years after graduation. Much more targeted instruments can be used by the government to increase access.

Since the introduction of HECS, despite the fact that many students in Australia have to incur debt to pursue PSE, the real benefit that HECS has delivered is improved consumption smoothing (Chapman, 2005). Since some graduates will experience significant variance of income while in repayment, it is critical that they be able to continue to consume in periods of unexpected low income.

The success of HECS paved the way for reforms in several countries, some of which will be discussed below.

## **5.4. The higher education financing scheme in the United Kingdom**

Reforming the funding of higher education in the UK began in 1997 following the Dearing Report, which recommended 93 ways the country should adapt its system (Alarie and Duff, 2005, pg. 569). The most important recommendations for the purposes of this study are the introduction of a means-tested tuition fee for all students and an income-contingent financing scheme to assist students who could not afford the new fees. Although the program first came into existence in 1998, the more recent changes in 2006 and 2012 make this financing scheme relevant to this study. In 2006, the plan required students to repay at a set 9% rate on incomes above £10,000 per year (Alarie and Duff, 2005, pg. 570). Outstanding balances incurred no real interest, although they increased in nominal terms at the projected rate of inflation. Under the “fees loan” students can receive a loan ranging up to the full cost of tuition and defer the payment until after graduation once they meet the minimum income threshold. All student loans are repaid based on the former students’ income, and the program is universally available. In 2012, the program evolved. Among the most significant changes, and one that Barr supports is a change in the interest rate. As of 2012, loans will incur a 2.2% real interest rate, which is broadly speaking the government’s cost of borrowing (Barr, 2012, pg. 497). Other features of the program include a £21,000/year minimum income threshold at which repayment begins, roughly average earnings in the UK. After 30 years in repayment, any outstanding balance of the loan is forgiven. However, for each year a borrower is repaying and earns more than the minimum threshold he or she is obligated to repay at a fixed rate of 9% of earnings above the threshold. Finally, repayments are collected through the income tax system.

### **5.4.1. *Evaluation of the higher education financing scheme in the UK***

Since the UK’s income-contingent financing scheme is still in its early years, empirical work to measure the effects of these changes has been limited. Barr and other researchers at the London School of Economics in preliminary work have found that the simultaneous introduction of tuition fees and the ICR scheme has not hindered participation rates. Interestingly, the results also indicate that tuition fees coupled with

an ICR scheme led to nearly no discernible impact on the socio-economic composition of the student body (Alarie and Duff, 2005). Furthermore, debt aversion has so far not impeded students from less affluent families from going into debt to pursue PSE.

Higher tuition fees for all PSE programs in the UK were an unintended consequence that arose in 2006 after the government introduced its ICR student loan scheme, and again in 2012 when the scheme was reformed. Under the new scheme, tuition fees are paid as a percentage of future earnings. Since students are not feeling the impact of these increased fees upfront when they enroll in PSE, they can be interpreted as a “disguised tuition fee” (Johnstone, interview). Although the increase in fees has not harmed enrollment in PSE institutions across the UK, graduates will require additional time to repay their loans.

Prior to the adoption of an ICR scheme in the UK, student borrowers were means tested before they were given a loan for their upfront tuition costs. This meant that those families who could not afford to pay as much for PSE were provided with a subsidy and the families who could afford the full cost of tuition were not. In 2006, after the introduction of the ICR program in the UK, tuition fees went from being fairly low, to fairly high by European standards. Prior to 2006, students were required to pay up to £1,000 a year for tuition. After the introduction of the ICR scheme in 2006, universities were permitted to increase tuition charges to £3,000 a year. The most recent reforms in 2012 saw the government allowing universities to charge students up to £9,000 a year for annual tuition costs (Barr, 2012, pg. 496). England now has a very expensive public university system compared to what it was (Johnstone, interview). Not all of the students will have to repay the full higher amount since some of them will remain low lifetime earners, but many students are going to have to pay much more for PSE than they used to before the change to an ICR program. It represents a shift from a system that is paid upfront by parents to a system in which tuition is deferred, and paid by students (Johnstone, interview).

## **5.5. The Income-based repayment plan for the Direct Student Loan Program in the United States**

In the United States, if a graduate's student loan debt is high relative to his or her income and family size, they may be eligible for an income-based repayment plan. The program is not automatic; students must apply for the program and the government will assess their eligibility. A student borrower can apply to the program with either a new loan or one already in process of repayment. However, if loans are currently in default, the borrower is not eligible for the program. Under the income-based repayment plan, monthly payments are less than the amount a borrower would be required to pay on a fixed-schedule 10-year repayment plan. This will inevitably result in a longer repayment period since 6.8% interest accumulates on the loan, even when the borrower is not making payments. Payments on the income-based repayment plan are based on the individual's Adjusted Gross Income (AGI – from their US federal tax return) and family size. The annual amount is 15% of the difference between a borrower's AGI and 150% of the Department of Health and Human Services Poverty Guideline for the borrower's family and state (Federal Student Aid, U.S. Department of Education, 2012).

Married couples must file a joint application with annual documentation to their loan servicer in order to remain in the program. If a borrower is on the income-based repayment plan and he or she works for the federal public service, their loan is eligible for forgiveness under the Public Service Loan Forgiveness Program. Finally, after 25 years, any remaining balance will be cancelled.

### **5.5.1. *Evaluation of the Income-based repayment plan in the U.S.A.***

Limited research has been conducted on the effects and effectiveness of the US income-based repayment plan. From my interview with Professor Bruce Johnstone, I was told that the program has not been a success. From his assessment, the program is relatively unknown among students and overly complicated. Furthermore, the criterion for eligibility is too strict. For these reasons, the program has had a very low level of participation. Currently, only 7 percent of student borrowers choose the ICR option (Usher, 2005, pg. 8). An obvious drawback is the relatively high interest rate. Another shortcoming of the program is the rule that loans already in default are not eligible for

income-based repayment assistance. On the positive side, students who inform themselves about the program and meet the eligibility requirements can choose a repayment plan that is sensitive to their income after graduation.

A bill in the US Congress at the time of writing aims to reform the various financial aid systems to increase efficiency and provide more assistance to student borrowers by offering ICR elements. Research produced in advance of this bill by the Congressional Research Service estimates that for the fiscal year 2013, 22.5 million loans totalling \$120.8 billion will be made to students and their parents through the Direct Loan Program (Smole, 2013, pg. 1).

## **5.6. The Inland Revenue Student Loan Scheme in New Zealand**

In 1990, New Zealand began to charge tuition for PSE. Prior to that, PSE was essentially free. Following Australia's lead, in 1992 New Zealand introduced an income-contingent financing scheme for student borrowers to coincide with the new cost of tuition (Alarie and Duff, 2005). In the same year the government deregulated tuition fees, which led to substantial fee increases. After significant political pressure, the government introduced a 'voluntary fee-stabilization' program in 2001, which was later replaced with a 'fee maxima' (Alarie and Duff, 2005, pg. 566). Under the new regulations a hard cap was placed on undergraduate tuition fees, but a university could increase their fees by 5% annually so long as they remained below the maxima set by the government (Alarie and Duff, 2005, 566).

New Zealand's student loan scheme provides funds to full-time students universally. There is no means test for eligibility, and students can receive funding for tuition, course-related costs and living expenses. Repayments are collected through the income tax system by the federal government, and as a result the administrative costs to run the program are 2 to 3% annually (Schwartz, 2006, pg. 24). In the original scheme, the loans began accruing a 7% interest rate, which was required for the government to recoup the base interest rate on the loan and allow for inflation (Alarie and Duff, 2005). Once again under significant political pressure, in 2000, a series of complicated interest

abatement measures were introduced. Among these changes include a 0% interest rate for students while they are in school and for borrowers who are in repayment but under the minimum threshold of NZ\$16,588 (roughly the poverty level in New Zealand). In 2006, following an election promise, student loans have become interest free. The fixed rate of repayment of marginal income beyond the threshold is 10% (Alarie and Duff, 2005, 567).

### **5.6.1. Evaluation of the Inland Revenue Student Loan Scheme in New Zealand**

Although the Inland Revenue Student Loan Scheme has been in existence almost as long as HECS in Australia, very little empirical work has been undertaken. Given the numerous politically driven changes throughout the years, the program is likely to change again in coming years. Thus borrowers may be subjected to unexpected changes in the repayment parameters throughout the lifetime of their loan. A study conducted on behalf of the New Zealand Ministry of Education found that between 1992 and 1999, Maori and Pasifika People increased their participation rates in New Zealand PSE by 24% and 28% respectively (Alarie and Duff, 2005, pg. 568). Another important finding is that although there is no maximum period for repaying a loan, the median time to full repayment is approximately 7 years (Schwartz, 2006, pg. 24). A final differentiating feature of the New Zealand scheme is unlike the UK, Australia, the US or Canada, student loans are dischargeable in the event of bankruptcy.

From 1992 to 1999 the New Zealand scheme charged market interest on student loans. However, political parties and general voters mounted significant political opposition to charging this rate, which eventually resulted in the interest rate being reduced to zero. Therefore, a lesson learned from New Zealand is to expect political opposition to any ICL scheme advocating a market interest charge on outstanding student loans.

Table 7 in the appendix summarizes the various design features included in the four types of ICR financing schemes discussed in this case study and how they are measured. It provides an evaluation framework in order to facilitate distinctions among the case studies. Table 3, below is a comparison of these cases.

**Table 3. Case Study Comparison**

<b>Design Feature/ Characteristics</b>	<b>Australia</b>	<b>New Zealand</b>	<b>UK</b>	<b>USA</b>
Discount for paying upfront	Yes, a discount of 25% is offered	No discount if offered	No discount is offered	No discount is offered
Initial income threshold for repayment	A\$36,184/year (roughly average income in Australia)	NZ\$16,588 (roughly the poverty level in NZ)	£21,000/year (roughly average income in the UK)	\$11,170/year (the federal poverty level in the USA)
Marginal repayment rate of income above the minimum income threshold	4%-8% of earnings	10% of earnings	9% of earnings	10%-18% of earnings
Progressive increase of income to be repaid	0.5% progressive increase	0% (the rate of repayment is fixed at 10%)	0% (the rate of repayment is fixed at 9%)	1%-3% progressive increase
Maximum number of years before the loan is forgiven	25 years	No maximum (until death)	30 years	25 years
Interest rate during repayment	0% real interest rate, indexed to the projected annual rate of inflation	0% real interest rate, indexed to the projected rate of inflation	2.2% real interest rate, this is broadly speaking the government's cost of borrowing	6.8%, the market rate of interest
Cap on tuition fees	Yes, depending on field of study	Hard cap for undergrad tuition and a 'fee maxima.'	The cap is approx.£ 9,000	None
Automatic repayments through the tax system	Yes	Yes	Yes	No
Means test or universally available	Universally available	Universally available	Universally available	Means tested
Choice of repayment plan	No	No	No	Yes
Annual revenue (Collections)	A\$1.2 billion	Data not available	Data not available	Data not available
Cost to administer the program	2-3% of annual revenue	2-3% of annual revenue	Data not available	Data not available



## **6. Analysis**

An important starting point for any government considering the use of an ICR financing policy for PSE is to identify the primary objectives. For example, is the government's primary objective to increase access to PSE, particularly among lower socio-economic members of society? Or is the primary goal to develop a way for the government to pay upfront for the costs of higher education for individuals who cannot afford it on their own and decrease the number of individuals who default on this loan so that the government can recover the full loan amount? This point is echoed by several of the key informant interview participants, in particular Bruce Johnstone. According to Johnstone, clarifying the primary objective of the policy will assist the government to determine which type of financing scheme to pursue—a loan with income contingency elements, a fixed-schedule type loan program or a hybrid of the two.

For the purposes of this study, we will assume that the government's primary objective is to develop a financing scheme that makes PSE free at the point of entry for individuals who require financial assistance and does not overburden former students during the repayment period to facilitate their ability to smooth consumption over their lifetimes. We will also assume that the government wants to develop a scheme that is efficient at reducing the number of students who default on student loans during repayment and recoups most of the funds that were loaned.

### **6.1. Design features of a successful ICR scheme**

In order for ICR to operate in an optimal way, a few basic conditions must be met. The private agency or government department charged with the responsibility to collect the repayment must have the ability to accurately assess a graduate's annual earnings and be able to recoup the debt in relation to an individual's income in a low-cost way. Furthermore, the parameters upon which the system depends, for example the minimum income threshold for repayments, must be appropriately chosen. If the

parameters are too generous or excessively penurious, this could lead to undesirable consequences for the borrower or the government or both.

The following is an analysis of the most vital design features for an ICR financing scheme. Following this initial analysis is a discussion of how this type of scheme would work in Canada, and which design features would make sense to include in order for the policy to function in an optimal way.

### **6.1.1. *Universal Access to the Program***

The government can decide if it wants to have an ICR financing scheme that is means-tested or one that is universally available to any student who wishes to pursue PSE. In a means-tested ICR scheme, individuals would be assessed based on their income after graduation and socio-economic status and only those students who meet the government's "needs" criteria have access to an ICR loan.

Whether an ICR scheme in Canada should be means-tested or universally accessible will depend on how much the government chooses to subsidize the program. The rate of subsidization is reflected in the amount of interest that accumulates on the loan. Furthermore, the generosity of the program depends on the minimum income threshold, a point that will be explained later in the analysis.

According to Barr, if the ICR scheme is designed properly, with a marginally subsidized interest rate that reflects the government's cost of borrowing, then the program is self-sustainable and should be made universally available without a means test. Furthermore, given the substantial administrative cost to apply means testing, a universally available ICR scheme in Canada would represent significant administrative savings for the government, an additional advantage of the policy (Alarie and Duff, 2005). The only reason the program would need to be limited to students most in need is if the program was heavily subsidized with an interest rate below the government's cost of borrowing and as a result very expensive. This leads me to the next important design feature, which is an appropriate interest rate.

### **6.1.2. The Interest Rate**

One of the ways the government can choose the level of subsidization of the financing scheme is by adjusting the interest rate on the loan. Another important aspect of government implicit subsidy to the program is the extent to which borrowers will be forgiven their outstanding loan balances after a specified period; this is a function of the income threshold for repayment, the repayment percentage for income above the threshold, the interest rate, and the maximum number of years of repayment. If the loans bear a low rate of interest, the scheme recovers less money and the subsidization for PSE is increased. If the interest rate is the government's cost of borrowing or higher, the scheme recovers more money and therefore implies less or no subsidization. For example, in Australia where student loans financed by the government have a zero rate of interest, the government is choosing a high degree of subsidization. The loan balances are charged only the rate of inflation.

An income contingent loan is not fully an expense to government like a grant or a subsidy; rather, it's a loan that must be repaid. The loan's value is the reasonably expected discounted present value, which depends on the interest rate. According to Johnstone, an appropriate interest rate for student loans lies between the market rate of interest and the government's borrowing cost, which normally exceeds the inflation rate. An ICR scheme with interest rates set in this manner will ensure that the government is not losing any money on the program, aside from what is lost from low-lifetime earners whose debt is forgiven after the repayment period has ended.

The government could design the policy as completely cost-neutral by adding a "cohort premium" of 1%-2% onto of the interest rate, which recovers the money that is forgiven to low-lifetime earners after the repayment period has ended. This was an added feature of the New Zealand ICR scheme until it was removed in 2000 and is the current practice in the Hungarian ICR scheme (Barr, 2012; Berlinger, 2009). With a "cohort premium" of 1%-2% the program is not subsidizing any given cohort of graduates, all the while protecting low-current earners by nature of the income-contingent repayments, and protecting low lifetime earners as well since their loans are forgiven after the repayment period has elapsed. Therefore, while the loan scheme has cash flow costs since the government is paying for student's tuition fees upfront, it has

very low present value costs unless it provides an implicit subsidy via an interest rate below the government's borrowing rate.

The literature and the findings from the key informant interviews reveal that the interest subsidy is an additional and unnecessary cost to government for three main reasons. First, the interest rate applies to all borrowers, for the entire sum of the loan and for the lifetime of that loan. Second, the interest subsidy is expensive considering that the duration of the loans are quite long. Third, students who may not require the loan might choose to borrow anyway, making a profit by investing the borrowed funds (Barr, 2012). For these reasons, a subsidized interest rate is a poorly targeted use of public funds. Choosing an interest rate that is below the government cost of borrowing will substantially increase the cost of the loan program, and this will inevitably limit the amount of loans the government can offer.

It is worth noting that the UK government in its 2012 financial assistance reforms raised the interest rates on student loans. Prior to 2012, student loans incurred a zero rate of interest, both while a student was in school and when they were in repayment. From 2012 onwards, the interest rate has increased to 2.2%, which is roughly the government's cost of borrowing (Barr, 2012, pg. 497). In fact, once a graduate earns above a certain income, the interest rate goes up to 3%, which is slightly more than the government's cost of borrowing. Although this means that the highest earning graduates in the scheme will pay more than the present value of their loan, this additional amount is designed to cover the losses incurred on student loans that are forgiven after the maximum loan term. Therefore it acts more or less as a social insurance element similar to the "cohort tax" included in the Hungarian financial aid system.

### **6.1.3. *ICR as an option for student borrowers***

As was explained in the case studies analysis, in the US students can choose to repay their loan as a percentage of their future income or on a fixed schedule with the monthly payments a percentage of their loan. This is a unique design feature of the American system, and it is one that deserves additional discussion. Giving the students a choice of how they wish to repay their loan assumes two things: that students are well informed about the market in which they are operating, and that they will make the

choice that is most favourable to them. While some students could be well informed and behave as rational economic decision-makers, many of them generally act passively (Schwartz, 2006). Allowing students to choose the type of repayment structure that best suits their needs may seem like a desirable move. However, since not all students are well informed about the types of repayment schemes that exist, nor can they forecast accurately which choice would serve them best given uncertainty about their future earnings path, a role remains for government. In particular, the policy should specify a default option to assist and protect passive students from making poor decisions. In the US system, the default option is a fixed-schedule repayment scheme, and as a result the income-contingent repayment plan has a very low take-up rate.

In Canada, providing students with a choice between a fixed-schedule repayment plan and an income-contingent plan in my assessment makes a great deal of sense. As other sections of this study have demonstrated, with income-contingent loans, the amortization period can vary, depending of course on the graduate's income. For high earning graduates who wish to pay off their loan as quickly as possible, a fixed schedule repayment period with fixed monthly payments might be the best option. For graduates with uncertainty about their earnings prospects, an ICR loan scheme with its insurance mechanisms (a minimum income threshold and a maximum period of repayment before forgiveness) might be the better choice. An ideal ICR scheme would give borrowers the option of repaying more quickly than the scheduled, geared to income monthly sums.

The key choice for student borrowers therefore is the length of the amortization period. According to Schwartz, economists do not have an issue with a potentially long amortization period because the life of the investment in human capital roughly matches the length of the amortization period (Schwartz, 2006). However, for borrowers who might view a longer amortization period as a longer "debt sentence," an ICR loan might be unattractive. This argument has been made by student groups across the country every time the idea of ICR loans is discussed at a national or provincial level (Canadian Federation of Students Research Series, 2005). If student borrowers were given the option to choose one or the other, its largest critics (student groups) might accept the program. This design feature would also appeal to politicians who are very much aware of the student opposition in Canada to income-contingent loans.

#### **6.1.4. *The minimum income threshold***

The minimum income threshold above which a student becomes responsible for repayment is an important design feature of any ICR scheme. This threshold is important for the government, since it along with the interest rate determines the level of subsidization on the loan. It is also critical for borrowers, since they have no certainty that their PSE investment will pay off in the short or the long term. Furthermore, if they experience a period of low income throughout the amortization period, or no income if the student decides to return to school, the minimum threshold will affect when they are not required to make monthly payments toward their loan.

Australia's original HECS threshold was linked to average earnings, but the changes in 1997 lowered the threshold to near the poverty line (Schwartz, 2006). As a result, more student borrowers were required to repay a portion of their loan, and the overall scheme became less generous. In the UK, recent amendments to the scheme raised the income threshold at which loan repayment starts from £15,000 to £21,000 without simultaneously increasing the fixed percentage of income above this increased minimum threshold that must be repaid, thus making the system more generous. In the US, in contrast, the minimum threshold is defined as the federal poverty level for the individual's family size (Schwartz, 2006).

An income threshold that is too high or too low can have adverse effects. Setting the threshold too high will increase the scheme's cost to government, because more graduates will not repay fully within the maximum length of the repayment period (Barr, 2012). An expensive scheme could mean that the government has less available funds that can be dispersed to potential student borrowers. If the income threshold is too low, then graduates with very low incomes are still required to repay, which will hinder consumption smoothing and increase the likelihood of default.

To most economists and policy experts who have designed ICLs for countries around the world, an ideal income threshold is the average earnings for the given country (Schwartz, 2006). The moral argument to support this choice is that a government should not require borrowers living in poverty to make repayments on their student loans. It is therefore deemed fair to provide borrowers with a grace period for repayments after graduation so that they are able to earn above the poverty line. If

average earnings, however, is deemed too high, the threshold could be set below average earnings but above the poverty line. This decision can be politicized as occurred in New Zealand, Australia and the UK, so the minimum threshold is likely to change over time.

### **6.1.5. *The length of the repayment period***

The maximum length of the repayment period is another design feature of great importance to an ICR policy. It is also another way the government can choose the level of subsidization on student loans. The maximum repayment period is a fixed number of years following the loan. At the end of the maximum repayment period, any unpaid balance is forgiven. In contrast, the amortization period is a period over which the loan can be expected to be repaid in full given specified assumptions about the individual's earnings trajectory relative to the amount borrowed, the interest rate, and the minimum income threshold of the ICL. Typically the maximum repayment period would be set longer than the amortization period, since most borrowers will be expected to repay their loan in full prior to the date at which any outstanding balance is forgiven.

Although most students will repay their loans fully and on schedule, there will always be some who experience temporary or extended lengths of time with little or no income. An ICR scheme should ideally reduce repayment burdens over this period and permit borrowers to make larger payments when they are earning higher incomes, typically achieved in their mid 40s to mid 50s. This will extend the repayment period so that individuals are repaying based upon lifetime earnings. It is important for the government to protect low lifetime earning borrowers from perpetual debt and a well-designed loan system will forgive the remaining balance after a set period of time (Barr, 2012). In Australia, the period is 25 years, and in the UK it was recently extended to 30 years. According to Barr, "the resulting losses are well-targeted social spending and a deliberate feature of the system" (Barr, 2012, pg. 485). Indeed, the key advantage of an ICR scheme is that former students should bear the cost of repayment only when they can afford them (Barr, 2012; Alarie and Duff, 2005). Setting an appropriate maximum length of time is a political decision that will concern politicians and student groups alike. If the maximum amount of time is too short the program is seen as a generous scheme for borrowers and an expensive scheme for government. But if the maximum length of

the repayment is too long, the scheme is less appealing to students who will view it as a longer “debt sentence.”

The scheme should allow for borrowers at any point in the repayment period to increase their monthly payments in order to pay off their balance sooner than required. If the interest rate were properly chosen for the ICR scheme, permitting borrowers to make extra payments at any time to reduce their outstanding loan balance would be neutral for government finances. It would also reduce the so-called “debt sentence.”

Inherent in ICR are some policy issues not present in a fixed-schedule loan. Both the length of the repayment period and the minimum threshold when repayments begin create perverse incentives to minimize income (Alarie and Duff, 2005). This is known in economic theory as moral hazard. The moral hazard problem in an ICR type of financing scheme is that student borrowers may choose to remain in low-income positions knowing that they will not have to repay their student loan. Therefore, they choose to survive off of their spouse’s income to avoid repayment or choose to take jobs paid in cash that is not declared. These policy problems are not totally insoluble, but they have important ramifications for the success and viability of an ICR loan program. Specifically, moral hazard is a concern to the lender (the government) and taxpayers in general since they are essentially financing PSE with no guarantee that the loan will be repaid. This could provide the incentive for some individuals to pursue a PSE for leisure or with no intention of using the education to stimulate earnings. Another way a borrower would avoid repayment is by taking some time away from the labour market after graduation to travel and/or work overseas. In Australia, approximately 10% of 2006 graduates with deferred HECS debts, that is, graduates who are earning below the minimum income threshold had worked or travelled abroad within 3½ years after graduation (Chapman, 2013, pg. 5). Although these issues are considered in the literature as minor problems for the success of an ICR program, it is imperative that the design features reduce the potential for this type of moral hazard (Chapman, 2005; 2013; Berlinger, 2009). If these issues are not dealt with in the repayment provisions and other design features, it is possible that the associated taxpayer subsidy as a result of unpaid debt are unnecessarily high. One way to circumvent these issues is to collect repayments through the tax system and to consider combined household income towards the minimum income threshold. Another possible solution is to set strict



regulations designed to minimize losses for taxpayers from graduates going overseas. For example, Barr (2001) suggests that the government convert ICLs into mortgage-like, fixed-schedule loans for borrowers who go overseas after graduation. This is the current practice in the English and New Zealand schemes. Borrowers who travel overseas from these countries are therefore required to repay their loans on the basis of time rather than income (Chapman, 2013). A less regulatory approach would be to oblige borrowers who intend on going overseas to provide the government with contact details for a designated individual in Canada.

#### **6.1.6. *Marginal repayment rate of income above the minimum income threshold***

Anecdotal and empirical evidence reveals that a nontrivial proportion of former students feel overburdened by student loan repayment obligations (Schwartz, 2006). Although many former students will repay their loans within a manageable period, a substantial minority of students need to devote high percentages of their income to PSE related debt or even go into default on their loans.

As was explained in the background, the problem with the current fixed-schedule repayment system is that repayments are determined by the size of the loan. Therefore, students with very large loans will have very large monthly payments, regardless of their earnings (Schwartz, 2006). ICR by contrast ensures that monthly payments are a percentage of a graduate's income exceeding the minimum threshold. A key choice therefore for the scheme's design is the determination of the rate of repayment—the percent of income that is repaid for income above the minimum threshold. This amount can increase progressively with higher earnings above the threshold as in Australia (3-6%) and the United States (10%-18%) or it can be a flat rate and remain constant at a given percent as in the UK (9%) and New Zealand (10%).

The reasoning behind a progressive rate is that it reflects the insurance aspect of ICLs. Imposing lower repayment obligations on recent graduates with lower incomes and higher repayment obligations as earnings increase over time influence the pattern and total period of repayment (Alarie and Duff, 2005). This will increase the efficiency of

the program since it will further protect borrowers against default and therefore permit the government to recoup the maximum amount of the loans.

Non-education debt that most graduates will incur at some point during the repayment period—such as car payments and/or a mortgage payment—is an important consideration for the government when setting the rate of repayment of marginal income (Schwartz, 2006). This is important because it is assumed that the government does not want former students to refrain from buying a house or a car as a result of their student loans. Evidence from surveys in the United States shows that in fact, student loans constitute a relatively small share of an individual's total debt burden (Schwartz and Baum, 2006). Therefore, setting an appropriate rate, whether it is a variable progressive rate or a flat percentage rate, is crucial to a well-designed ICR scheme. This will permit for an optimal level of consumption smoothing.

Using data derived from the National Student Loan Survey in the United States, Schwartz and Baum conducted an empirical analysis aimed at establishing different debt benchmarks for student borrowers in varied circumstances in 2006. Their findings offer both a pragmatic and logical perspective to determine what a manageable fixed rate or a variable progressive rate of repayment of marginal income in an ICL scheme should be. They found that below the poverty line, as determined by an individual's status and the number of children in their family, the fixed rate of repayment should be 0%. Once a former student begins to earn above the poverty line, they should be required to pay 5% of taxable income. This percentage should increase progressively with income to a maximum of 18% of total income above the threshold (Schwartz and Baum, 2006).

Any government wishing to reform its student loan program to an ICR system should determine the fixed or variable rate of repayment of marginal income using data obtained through national statistics. Reported data in these national surveys provide a glimpse into the income realities that graduates are facing after they leave school. In Canada this would require available data obtained from the National Graduates Survey to determine borrowing patterns among students as well as the average incomes after graduation. This information will lead to an informed flat rate or variable progressive rate of repayment of marginal income that is neither too low nor too onerous relative to the typical incomes of graduates.

### **6.1.7. Repayments collected through the tax system**

What is often perceived as a benefit of the ICR structure is that the monthly repayment obligations are collected through the tax system or deducted by employers as a percentage of income once the student is employed. This type of repayment method is currently in place in Australia, the U.K. and in New Zealand. This has the advantage of reducing the default rate since repayments are deducted automatically once a student earns above the minimum threshold. This type of repayment system is efficient, and it is also a way for government to ensure full collection of repayments without risk of default.

Given that Canada already has a well-functioning tax collection agency at both the federal and provincial/territorial level, the practical advantages of using that system to collect ICR repayments would be large (Alarie and Duff, 2005). Relying upon the well-established legal and administrative processes that already exist for collecting general income tax, the government would save a significant amount of administrative costs that it spends to manage the CSLCS and in contracts with outside collection agencies. In Australia and New Zealand, administrative costs are only 2-3% of the amounts collected (Chapman, 2005; Alarie and Duff, 2005). Furthermore, this method would become more difficult for student borrowers to avoid or evade collection, particularly for employees who are subject to tax withholding at source.

The information required for employers and the upfront costs to develop an efficient way for the government to collect repayments through the tax system are important considerations. Obtaining up-to-date information about an individual's income is an additional challenge. It is possible that a borrower's income changes over the course of the year without the government knowing about it. Since income is only assessed once a year, adjustments in repayment obligations to reflect a borrower's current income will be difficult. There are also jurisdictional hitches that may need to be resolved. If ICR repayments were to be collected by the Canada Revenue Agency through the income-tax system, the concept of income for this purpose would have to follow the federal guidelines (Alarie and Duff, 2005). Furthermore, under the *Constitution Act, 1867*, provinces do not have the authority to collect repayments from individuals residing in other provinces. Therefore, provisions would have to be enacted so that the federal government could oversee repayments in order to ensure that

payments could be collected from individuals who are residents in other provinces (Alarie and Duff, 2005). Due to the tax collection agreements between the federal and provincial governments, extensive negotiations would be needed to initiate an ICR scheme with centralized collection of repayments. Privacy concerns about sharing individual's income information between governments would also need to be fleshed out, as would privacy concerns relating to the employer's knowledge of an employee's ICL status.

Aside from these jurisdictional complexities, there is, a risk that collection through the tax system could have ill effects on the individual borrower. Specifically, the loan becomes a deferred obligation that is tied to future income, and therefore students can borrow without "seeing the money go through their hands" (Johnstone, interview). For the years a student is below the minimum income threshold and is not obligated to make payments towards their loan the student does not feel the real financial obligation of that loan. It is possible that students do not treat their loan seriously and even forget about it when they are not making payments towards it. Whether this type of repayment method is beneficial to the individual borrower is a matter of debate. However, from the government's perspective, there is no question that this type of repayment method is a significant advantage if the appropriate infrastructure can be established.

## **6.2. Income-contingent loans for student borrowers in Canada**

Considering the significant constitutional complexities surrounding PSE funding and given the joint engagement by both levels of government, any reforms to Canada's student financial aid system would require extensive negotiations between the provinces and the federal government. Since any ICR would require funding and cooperation from both levels of government, it would best serve all jurisdictions to contribute to the development of an ICR financial aid system in Canada. It would be ill advised to have vastly different design features across the country. High levels of mobility within Canada suggest that a framework be established at a national level. Within a national framework, provinces could determine which design features should be more or less subsidized. For example, if Newfoundland and Labrador wanted to create a very

generous scheme they could choose a zero nominal interest rate or set a very high minimum income threshold when repayments begin.

Provinces and Territories will be given a choice if they decide to enter into the ICR scheme with the federal government. In addition, within a national framework agreed upon by all provinces, each province that wishes to be a part of the system should have discretion over key policy parameters of the ICR scheme. These discretionary choices should include the interest rate, the income threshold for repayments, the rate of repayment on marginal income, and the maximum length of the amortization period. The only design features that would not make sense to vary among provinces in my assessment is whether an ICR scheme is means-tested or universal and deciding whether students can choose to opt into an ICR scheme. Since these features could have a perverse effect on students choosing to pursue PSE in one part of the country or another and influence which part of the country they move to after graduation, it would be recommended that they stay uniform across the board. Furthermore, all provinces and territories would have to agree and permit the federal government to collect repayments through the federal tax system.

The literature and the key informant interviewees do not all agree that provinces should be able to have a significant say in the design features. Many believe that the role of the provinces in the repayment scheme should be minimal (Johnstone; Schwartz, interviews). Their view is that if provinces want to have a say in PSE policy, they could subsidize more of a student's tuition or offer more grants, possibly on a selective or means-tested basis. According to this side of the debate, in order to limit the amount of complexity, and avoid a patchwork of student repayment plans across the country; there should be one set of rules across the board. Although a single national financing scheme across the board with ICR elements might be attractive, it is unrealistic in a country like Canada with its varying economic, social, and political conditions. Providing provinces and territories with an opportunity to determine some of the design features would permit the program to accurately reflect the diverging economic and employment opportunities that exist across the country.

What will follow is an analysis of three policy options containing the various design features that should be included in an ICR scheme for Canada. Furthermore, the

trade-offs of each will be discussed as they relate to the stated goals of default rate reduction, consumption smoothing, costs and political feasibility.

## **7. Policy Options**

### **7.1. Common features among all policy options**

The research and analysis suggest that in order to achieve the government's primary objectives, the financing scheme must contain an element of income contingency for repayments. As a result, each of the policy alternatives proposed here incorporates repayment provisions that are sensitive to income and contain the essential elements of a well-designed ICR scheme delineated in the analysis. Those elements include a minimum income threshold, a maximum length to the repayment period and a fixed rate or a variable rate of repayment that is progressive with income above the minimum income threshold.

Since Canada already has a well-established tax collection agency at both the federal and provincial level, each of the policy alternatives proposes that repayments be recovered through the tax system. This will significantly reduce the administrative costs to manage the program, and it would ensure repayments are occurring at the rate they are supposed to, which virtually eliminates defaults.

Establishing a system of student support that makes student loans available on an income-contingent repayment basis can be seen as a move towards a market-based system of financing PSE (Schwartz, 2006). If the government wanted to continue in this direction, it would allow student borrowers to choose between an ICR scheme and a fixed-schedule repayment scheme. Although this feature could be added onto each of the policy alternatives, it would reduce the level of efficiency and increase administrative costs since the government would need to maintain the existing collection bodies. For this reason it was left out of the policy alternatives, although it could be added to each of them if the government sees value in giving student borrowers a choice of repayment methods. An additional common feature among the policy options is the ability for

borrowers at any point in the repayment period to increase their monthly payments in order to pay off their balance sooner than required.

The policy options provide each government with the option to create an ICR scheme that is generously subsidized but means-tested or universal with either minimal or moderate level of implicit subsidy. A first step for each government, therefore, is to determine the level of subsidization for the scheme. The options produce different ways of designing an ICL scheme for student borrowers. None of the proposed options is assumed to entail greater draw on public finances. At first glance, the universal options may appear to imply additional costs to the government due to the number eligible borrowers than would the means-tested option; however, varying design features under each proposed scheme take this into account.

## **7.2. Description of policy options**

***Option 1:** A universal, moderately subsidized income-contingent financing scheme*

***Option 2:** A universal minimally subsidized income-contingent financing scheme*

***Option 3:** A means-tested, generously subsidized income-contingent financing scheme*

The following section of the study will describe the policy options. These alternatives will be evaluated on how they meet the stated goals in the subsequent section of this chapter.

### **7.2.1. Option 1: A universal, moderately subsidized income-contingent financing scheme**

A universal, moderately subsidized income-contingent financing scheme would reform the current financial aid system so that all prospective student borrowers would be both eligible for and required to use the ICR loan structure. Moreover, all students would qualify for a loan of requisite size, regardless of their income after graduation and socio-economic status. Moderate generosity of the program can be primarily reflected in the interest rate charged, although the degree of subsidization is also apparent in the rate of forgiven loan balances that the scheme would yield. This universal, moderately



subsidized income contingent repayment scheme would most closely resemble Australia's HECS.

This moderately subsidized scheme would charge an interest rate that reflects the government's borrowing cost (roughly 2.2% above the rate of inflation). This is considered moderately generous since over time the only net cost to the government would be operational/administrative costs plus the amounts forgiven at the end of the maximum repayment period for a minority of borrowers. This option would not suggest adding a "cohort premium" onto the interest rate to allow for the program to account for the cost of forgiving loans.

The minimum income threshold would be closely linked to average income within the province where the individual resides. This will ensure that borrowers with very low incomes would not be required to make monthly repayments. The remainder of student borrowers will be required to repay a portion of their loan. Therefore, the overall scheme is moderately generous.

Similarly, this modestly subsidized option would be reflected in a reasonable amortization period. This option would suggest a repayment period of 25 years, which is considered a reasonable length of time because the return to PSE for most individuals will stretch over the entire earning life, which typically would be 40 years or longer. A 25-year amortization period will ensure that a vast majority of borrowers will repay their loan in full. As a result, the number of borrowers whose remaining balance is forgiven will be fairly low. Since the introduction of HECS, in nominal terms, approximately 15-20% of total annual debt remains unpaid (Chapman, 2010, pg. 248). If the Australian experience remains consistent in Canada, this amount should be considered to be unimportant in financial terms.

The rate of repayment of marginal income in this option would be a modest variable rate that is progressive with income above the minimum threshold. Once a borrower attains the required threshold, they would be required to repay in the neighbourhood of 5%-8% of marginal income. This rate is slightly higher than the Australian rate, which is a progressive rate of 3%-6%, and slightly lower than the American rate, which is a progressive rate of 10%-18%.

### **7.2.2. Option 2: A universal, minimally subsidized income-contingent financing scheme**

A universal, minimally subsidized income-contingent financing scheme would reform the current financial aid system so that it incorporated the following elements.

The program would be universally available so that all prospective student borrowers would be both eligible for and required to use the ICR loan structure. Moreover, all students would qualify for a loan of requisite size, regardless of their income after graduation and socio-economic status. The interest rate charged and the rate of forgiven loans balances are the defining features of this minimally subsidized scheme.

The interest rate would be minimally subsidized; it would be a rate slightly higher than the government's cost of borrowing but not as high as the private market interest rate. Therefore, this option would suggest that the loans accumulate a plus prime rate. It would also charge a "cohort premium" of 1%-2% onto the interest rate to cover the cost of forgiving loans and keep the program cost-neutral.

The minimum income threshold would be set near the poverty level so that more student borrowers will be required to repay a portion of their loan in each year. Therefore, the overall scheme becomes less subsidized. Similarly, this less generous option would be reflected in a long amortization period. This option would suggest an amortization period of 30+ years. A long amortization period implies that the number of borrowers whose remaining balance is forgiven will be quite low.

The rate of repayment of marginal income in this option would be a fairly high, flat rate of income above the minimum threshold. Once a borrower meets the required threshold, they would be required to repay in the neighbourhood of 10%-12% of marginal income. This would resemble the New Zealand and the UK schemes that charge a set rate of 10% and 9% respectively. Even though a borrower may go on to earn a very high income, they would only be required to pay a maximum of 10%-12% of earnings. The rate of repayment, however, does not necessarily need to be a flat rate. Alternatively, the rate of repayment of marginal income could be a variable rate that is progressive with income above the minimum threshold. In order to remain minimally

subsidized, however, the rate would need to start fairly high, in the neighbourhood of 6%-8% and progress to 10-12% of marginal income.

### **7.2.3. *Option 3: A means-tested, generously subsidized income-contingent financing scheme***

A means-tested, generously subsidized ICR financing scheme would reform the current financial aid system so that it incorporated the following elements. Because the scheme is generously subsidized, the program would be means-tested. This would require individuals to apply upon entry to PSE and be assessed based on their level of “need”. Eligibility would be based upon an applicant’s family income to ensure that the scheme was targeting young people from lower-income families who are in greater need of assistance. In addition to family resources, the literature also finds that the need for repayment assistance in the amortization period is correlated with the field of study and whether the individual chose to study in a specialized or a more general program. As a result, eligibility should also include an applicant’s intended field of study to ensure that the program is well targeted social spending and subsidized loans are going to those borrowers in greatest need of repayment assistance. Only those students who met the “needs” criteria would have access to repayment parameters that are sensitive to income. Earlier I observed that with the proper level of subsidization the scheme can (and should be) universal. Given that this option proposes a generously subsidized scheme, the program would be feasible only if it were means-tested with a limited number of student borrowers eligible.

One of the design features of this generously subsidized scheme would be zero nominal interest charged on loan balances but with the balances increasing with the inflation rate. This scheme would not add a “cohort premium” onto the interest rate to allow for the program to account for the cost of forgiving loans.

Another generous design feature of this option is a high minimum income threshold before repayments begin. This would increase the number of borrowers who would be relieved from repaying a portion of their loan. The minimum income threshold would be tied to average income (or slightly higher) within the province where the individual resides. Similarly, reducing the length of the amortization period would relieve

more borrowers whose earnings over that period was insufficient to discharge their full loan. For example, a short repayment period, such as 15 to 20 years, would relieve more borrowers from full repayment (in contrast to the 25 and 30 year periods chosen in some other countries' ICR schemes). The rate of repayment of marginal income in this generously subsidized scheme would be low and progressive. Once a borrower meets the required threshold, they would be required to pay in the neighbourhood of 2%-3% and up to a maximum of 6% for higher earnings.

Restricting the scheme to a portion of borrowers provides justification for the generous design features contained within this option. With fewer borrowers benefitting from an ICR scheme, subsidized loans are being made available only to students who are in most need of repayment assistance, and therefore, most at risk of going into default. With a means-tested scheme, the number of classification and specification errors is reduced and so is the overall cost of the program. A potential drawback of this type of scheme is that it could disqualify the most vulnerable and produce lower take-up rates.

**Table 4. Summary of the Policy Options**

<b>Design Feature:</b>	<b>Option 1:</b> <i>Universal, Moderately Subsidized ICL</i>	<b>Option 2:</b> <i>Universal, Minimally Subsidized ICL</i>	<b>Option 3:</b> <i>Means-tested, Generously Subsidized ICL</i>
<b>Universality</b>	Universal	Universal	Means-tested
<b>Interest Rate</b>	2.2% above inflation (Gov't cost of borrowing)	Higher than 2.2% but not as high as market value + "cohort tax" of 1-2%	Zero nominal rate, balances increase with the inflation rate
<b>Minimum Income Threshold</b>	Average income (individual/province)	Poverty level	Average income, or slightly higher (individual/province)
<b>Repayment Period</b>	25 years	30 + years	15-20 years
<b>Rate of Repayment</b>	Varied rate, start at 5%, increase to 8% of marginal income	Fixed rate, 10-12% of marginal income	Varied rate, start at 2-3%, increase to 6% of marginal income

## **8. Framework for Analysis**

This section sets out a systematic framework for analyzing the design features listed in the case study analysis. The framework reflects the study's goals and objectives, and it draws upon a relevant set of evaluation criteria and measures.

### **8.1. Goals and Objectives**

The goal of this study is to evaluate important design features of an ICR loan scheme that would reduce the financial burden placed on PSE graduates in their post-schooling years. More immediately, this study seeks to present ways that the current student loan system can be amended in order to include repayment provisions that minimize risk for the borrower and government with the goal of eliminating the default rate on student loans. The proposed types of reforms should, by reducing the default and forgiveness rates, allow for a significantly lower rate of interest charged on student loans, which in turn makes the extended amortization period more manageable for individual borrowers.

The alternatives explored here would facilitate consumption smoothing by borrowers in the amortization period and establish an optimal level of income smoothing. Consumption smoothing is deemed an important objective of the policy since it permits borrowers to dip into lifetime earnings when annual incomes are typically higher. In other words, income smoothing requires a long amortization period since its purpose is to alleviate the monthly repayment burden on borrowers earning less, which tends to be in the early years after graduation. Consumption smoothing therefore addresses the different after-debt incomes faced by recent graduates, and it ensures that monthly repayment provisions are feasible for individual borrowers given their current earnings. This is also intended to benefit graduates whose lifetime income stream has a high variance. A study in Australia found that borrowers enrolled in HECS would repay a

maximum of 6% of income when earnings are high, and zero when income is below the minimum threshold. In contrast, borrowers under the current fixed-schedule repayment scheme in Canada are subject to repayment obligations that can range up to 25% of income in periods of low income (Chapman, 2005). Therefore, ICR schemes such as the one in place in Australia can deliver important levels of consumption smoothing.

With a view of meeting these goals, the criteria and measures outlined below are used to evaluate the aforementioned design options.

## **8.2. 5.1 Criteria and measures**

Four criteria are used to evaluate the potential for each design feature, and concrete measures are associated with each criterion. The efficiency criterion for this analysis will be subdivided into two components: “Default Rate Reduction” and “Consumption Smoothing.” The other two criteria are “Costs” and “Political Feasibility.”

### **8.2.1. *Default Rate Reduction***

The default rate reduction criterion is included in order to measure by how much the policy alternative and its design features enhance the current financial aid system in Canada by applying repayment provisions that reduce the number of borrowers who default on their student loans.

From the point of view of individual borrowers, repayment provisions that offer protection from default if they experience periods of low or no income is seen as a positive feature. This type of scheme will ensure that a borrower’s credit rating is not negatively impacted if their lifetime income stream has a high variance and they are at times unable to make a payment towards their loan. Furthermore, the universality of this option provides certainty to all student borrowers and reduces the risk that their investment in PSE will be negative.

From the point of view of the lender (the government), the universality of this option will lead to more student loans being forgiven in whole or in part at the end of the fixed repayment period. Since ICR loans are available to all student borrowers, the

number will be higher than it would be if eligibility were restricted in some way, for example if the scheme were means-tested. The trade-off that emerges is that while a low default rate is desirable for individual borrowers and the government alike, it is somewhat less desirable for the government, since more loans will be forgiven. Still, these resulting losses are well-targeted social spending and a deliberate feature of the policy. Furthermore, the expectation that it will recoup a significant portion of the loans as demonstrated by a reduction in the default rate would give the government enough confidence to charge a lower interest rate than it currently does on student loans. Both the fixed and floating interest rates charged in the current scheme are quite high when compared to interest rates on loans that are not provided by CSL. The higher interest rate is, among other factors, a result of the current rate of default on student loans. Therefore, by lowering the default rate the government can charge a lower interest rate. The proposed types of reforms should, by reducing the default and forgiveness rates, allow for a significantly lower rate of interest charged on student loans. This in turns will make the amortization period more manageable for individual borrowers and reduce the true cost of the loan for most borrowers.

### **8.2.2. Consumption Smoothing**

The consumption smoothing criterion is included in order to measure how much the policy alternative and its design features offer affordable repayment provisions that are sensitive to an individual's income, in order to facilitate the individual borrower in consumption smoothing between the years following graduation and the rest of their working years.

Consumption smoothing is an important consideration to this analysis since income is a proxy for consumption. Graduates typically begin earning lower than average incomes after they leave school and increase their earnings as they gain experience. By offering loans that must be repaid contingent upon income, borrowers can avoid repaying their loan until they are earning higher incomes. Extending the repayment period so that borrowers are not paying in periods of low or no income allows the flow of repayments to be more manageable. This means that the loan is being repaid more based upon lifetime earnings, which permits for consumption smoothing.

ICLs are therefore a way for the government to leverage public resources to assist beneficiaries to consume in a smoother, less constrained pattern following graduation.

### **8.2.3. Costs**

The costs criterion is included in order to measure how much the policy alternative and its design features will reduce the government's total cost of offering financial assistance. In addition, this criterion will measure the degree of subsidization of each policy alternative as well as the rate of forgiven loan balances to assess how much it will cost the taxpayer.

### **8.2.4. Political Feasibility**

In the 1990s the federal government of Canada tried to implement a form of ICR; however, student unions and other stakeholders were strongly opposed (Schwartz, interview). The main stakeholders are: The Canadian Federation of Students and The Canadian Alliance of Student Associations. This criterion is included to measure the likely political feasibility of each policy alternative. Furthermore, this criterion will assess the degree of political will on the part of the government to change the current financial aid repayment system. It was suggested by several key informant interview participants that this criterion be included in the analysis.

The options will be scrutinized by the established criteria and ranked "high," "medium" or "low". If the policy receives a "high" it implies that the policy option meets the criterion. If the policy receives a "medium" it implies that the policy option somewhat meets the criterion. Finally, if the policy receives a "low" it implies that the policy option does not meet the criterion. In this analysis, the policy options were carefully designed so that each option either met or somewhat met the criteria. As a result, based on the chosen criteria none of the policy options received a score of "low".



**Table 5. Criteria and Measures Evaluation Framework**

<b>Criteria:</b>	<b>Definition:</b>	<b>Measurement:</b>	<b>Score:</b>
<i>Default Rate Reduction</i>	Repayment provisions that reduce the number of borrowers who default on their student loans.	How much do the design features allow for repayment provisions that will eliminate the number of students who default on their student loans?	High=3 Medium=2 Low=1
<i>Consumption Smoothing</i>	Providing affordable repayment provisions that are sensitive to an individual's income in order to ensure that borrowers are able to draw upon lifetime earnings.	How well does the design feature offer affordable repayment provisions that facilitate the individual borrower in consumption smoothing between the years following graduation and the rest of their working years?	High=3 Medium=2 Low=1
<i>Costs</i>	The degree of subsidization of each policy alternative as well as the rate of forgiven loan balances.	By how much does the design feature reduce the total cost of offering financial assistance to the government?	High=3 Medium=2 Low=1
<i>Political Feasibility</i>	Ensuring that the policy option is politically feasible and receives political and stakeholder acceptance.	How politically feasible are the design features?	High=3 Medium=2 Low=1

### 8.3. Evaluation of the Policy Options

#### 8.3.1. *Option 1: A universal, moderately subsidized income-contingent financing scheme*

**Default Rate Reduction:** Since the program in this option is universal and the repayment parameters included in it are income-contingent, the number of students who default on their student loans would be very low. From the point of view of individual borrowers, this is a positive feature of the policy option since they are protected from default if they experience periods of low or no income. This will not affect their individual credit rating or prevent them from obtaining more financial liquidity. Furthermore, the universality of this option provides certainty to all student borrowers and reduces the risk that their investment in PSE will be negative. From the point of view of the lender (the government), since this option will drastically reduce the default rate, it will also reduce the amount of government resources required for the program, which is why this option receives a “high” for this criterion.

**Consumption Smoothing:** Because the repayment parameters included in this option are sensitive to an individual's income, in most cases, the repayment period is prolonged with reduced monthly obligations. This provides for consumption smoothing while in repayment, particularly in the early years after graduation and in periods of low income. It also means that individuals are repaying more of their student loans based upon lifetime earnings ensuring that their after-debt incomes are feasible throughout the amortization period. Therefore, the option receives a "high" for this criterion.

**Costs:** Due to the moderate design features of this option, it is assumed that the scheme would not entail greater draw on public finances, despite the universality of the program. Since the scheme is moderately subsidized, there is no reason the government would need to restrict the amount of borrowers who are eligible. As a result, this option would cost very little to administer. This option would likely produce a default rate that is very low or nonexistent and so the program will save substantial amounts of money by recovering most of the money it dispensed in loans. Furthermore, since the length of the amortization period is 25 years, the number of borrowers whose remaining balance is forgiven will be fairly low, but not as low as it would be with a lengthier amortization period. As a result, this option receives a "medium" for the cost criterion.

**Political feasibility:** This option is a relatively inexpensive way for the government to assist student borrowers in repayment. A universal ICR scheme with a modest implicit subsidy is well-targeted social spending on the relevant indicator of individual need, which is lifetime earnings. It would therefore not be a difficult option for the government to sell to the general public, except for those members of the public who believe that the dispersion of moderately generous subsidies to those student borrowers not necessarily needing them is not a good use of tax revenues. The moderate design features, however, would likely receive support from student groups, even though they are advocating for the elimination of tuition fees. It is important to give student groups some weight on this matter since they are the main stakeholders. They also have the ability to mobilize their large base of supporters to oppose the option publicly, which could be detrimental to the government's reputation and credibility. Since this option is likely to be attractive to most it receives a "high" for political feasibility.

### **8.3.2. Option 2: A universal, minimally subsidized income-contingent financing scheme**

**Default Rate Reduction:** Since this option is a minimally subsidized, universal scheme, it will drastically reduce the rate of default on student loans and the government will recoup a large portion of the funds it lends out. Furthermore, the repayment provisions will ensure that borrowers are protected from default in periods of low or no income, reducing the risk that their investment in PSE will be negative. As a result, this option receives a score of “high” for this criterion.

**Consumption Smoothing:** Because the repayment parameters included in this option are sensitive to an individual’s income, borrowers will be repaying more of their loan based on lifetime earnings, which will prolong the repayment period to facilitate consumption smoothing. Because this option suggests a minimum income threshold set near the poverty level, consumption smoothing will be limited since most borrowers will earn above the poverty level, even in the first couple years after graduation when earnings are typically lower. That being said, the option still provides consumption smoothing to the extent that repayments are still reduced in the earlier years post-graduation but escalate more than proportionately in later, higher-earning years. Furthermore, the fairly high fixed-rate of repayment of marginal income would mean that more of a borrower’s income would be devoted to loan repayment obligations. As a result of the minimally subsidized design features of this option, it receives a “medium” for the consumption-smoothing criterion.

**Costs:** Despite the universality of this option, the design features are minimally subsidized making it the least expensive for the government to operate. With an interest rate that charges slightly more than the government’s cost of borrowing and a “cohort tax” of 1%-2%, this option recovers the value of the money it lends out. Furthermore, adding the cohort tax onto the interest rate allows for this option to cover the cost of forgiving loans after the lengthy amortization period. Although some low-income lifetime earners will have their loans forgiven after the amortization period has expired, the number of borrowers who will benefit from this feature will be very low since this option suggests a 30+plus year amortization period. As a result, this option will reduce the

amount of resources spent on outstanding loans balances, and receives a score of “high” for costs.

**Political feasibility:** This option is the least expensive, and therefore it would be the easiest option for the government to sell to the public. A universal ICR scheme with a minor implicit subsidy is well-targeted social spending on the relevant indicator of individual need, which is lifetime earnings. That being said, this option will likely receive opposition from student groups and some politicians who believe the repayment parameters are too onerous. For individual borrowers the most controversial elements contained in this option are charging an interest rate that is slightly more than the government’s cost of borrowing, the additional “cohort tax” added onto the interest rate charged and the length of time borrowers are held in repayment. From the point of view of the general public, the most provocative feature of this option is the low income threshold when repayments would begin. For these reasons, the option receives a “medium” for political feasibility.

### **8.3.3. *Option 3: A means-tested, generously subsidized income-contingent financing scheme***

**Default Rate Reduction:** The repayment parameters included in this option are income-contingent, but only for those borrowers who meet the need and are eligible for the ICR scheme. As a result, the default rate per participant will not be reduced as much as it would if the scheme were universal. However, since there will be far fewer participants eligible for the scheme it is unclear whether the aggregate number of defaults will be higher than under a universal scheme. For these reasons, the option receives a score of “medium” for this criterion.

**Consumption Smoothing:** Due to the means-tested feature of this option, consumption smoothing will occur for those borrowers who qualify for the ICR scheme. For eligible borrowers, the generously subsidized features of this option reflected in the low interest rate, a high income threshold before repayments begin and a low, progressive rate of repayment over a shorter amortization period (15-20 years) will reduce the overall burden of the loan. Rather than increased monthly payments during a shorter amortization period, this option would ensure that monthly repayment obligations

are contingent upon a borrower's earnings, thus ensuring they remain feasible for the individual. Ultimately, the rate of forgiveness at the end of the amortization period is intended to be much higher. However, since the option is not universal, not all student borrowers would be repaying their loan sensitive to income. As a result, some of them will be paying back large portions of their monthly income, which could be difficult to do in periods of low or no income. As a result, this option receives a score of "medium" for the consumption-smoothing criterion.

**Costs:** The means-tested nature this policy option would cost more to administer than a universal program since administrative staff will be required to verify applications. The means-tested design feature also implies that there is still a probability that some of those borrowers on a fixed-schedule will go into default. As a result, the government will recover most, but not all of the money it lent out. Furthermore, a shorter repayment period (15-20 years) implies that more borrowers will have a portion of their loans forgiven. Therefore, in addition to the other generously subsidized features of this option, it is a very expensive variant since the amount of resources that are spent on outstanding loan balances are augmented. Still, because the scheme is means-tested infers that the program is affordable since the government is subsidizing only borrowers most in need of repayment assistance, which makes it a very targeted use of taxpayer resources. Since the proposed eligibility for this option is based not only upon an applicant's family income prior to PSE enrollment but also upon the field of study the individual chooses to enroll in, it is likely to be a good predictor of their lifetime earning prospects after graduation. This provides confidence to the government that the scheme is targeting borrowers who are in most need of repayment assistance.

If ICLs are available only to those applicants who qualify based on their family income prior to PSE enrollment and field of study, a legitimate concern is that the system can create an adverse selection problem. Ultimately, low-income earners and borrowers pursuing PSE in field of study that offers lower expected incomes will be over-represented in the program and therefore the scheme becomes more risky for the lender than it would be if the scheme were universal. Since the lender in this case is the government, it may choose to amend some of the design features of the policy so that the scheme becomes less risky. It could choose to spend more on the scheme thus assuming a greater amount of the risk, or it can share the risk by charging a higher

interest rate, extending the amortization period, etc. This may deter prospective students in fields where earnings are typically higher (for example medicine, engineering, law, etc.) from applying to the scheme, since they could obtain a cheaper loan from a private institution. This will ultimately reduce the amount of borrowers in the program and increase the risk for the lender. In summary, restricting the number of eligible borrowers who qualify for the scheme can control costs, but it can also increase the risk by creating an adverse selection problem if the scheme is over-represented by low-income earners and borrowers pursuing PSE in a field of study that offers lower expected incomes. For this reason along with the aforementioned fact that some government resources will be spent on defaulted loans and paying for the remaining balances of low lifetime earners at the end of the repayment period, it receives a score of “medium” for costs.

**Political feasibility:** The cost of this option can be contained since the government can restrict the number of ICR borrowers by adjusting the eligibility requirements. Therefore the government should be able to sell the program to the public with relative ease. Although some politicians and student groups will oppose the means-test feature, the option captures the essential elements of a properly designed ICR scheme. Furthermore, this option is well-targeted social spending since eligibility is based not only upon family incomes in the period prior to PSE enrollment but also on the field of study a student pursues. The literature strongly suggests that this is a relevant indicator of individual repayment assistance need. As a result, the generous design features that eligible borrowers will obtain should appease the critics of the policy, including those student groups advocating for the elimination of tuition fees. For these reasons, the option receives a “medium” score for political feasibility.

### 8.3.4. Evaluation Matrix

**Table 6. Evaluation Matrix**

<b>Criteria:</b>	<b>Default Rate Reduction</b>	<b>Consumption Smoothing</b>	<b>Costs</b>	<b>Political Feasibility</b>	<b>Final Score</b>
<b>Option 1:</b> <i>Universal, moderately subsidized ICL</i>	High (3)	High (3)	Medium (2)	High (3)	<i>Total:</i> 11
<b>Option 2:</b> <i>Universal, minimally subsidized ICL</i>	High (3)	Medium (2)	High (3)	Medium (2)	<i>Total:</i> 10
<b>Option 3:</b> <i>Means-tested, generously subsidized ICL</i>	Medium (2)	Medium (2)	Medium (2)	Medium (2)	<i>Total:</i> 8

Legend: High= the policy option meets the criterion, receives a score of 3. Medium= the policy option somewhat meets the criterion, receives a score of 2.

## 9. Recommendation

Based on my evaluation of the policy alternatives, I recommend that a carefully designed, universal, moderately subsidized ICR scheme be implemented to replace the current fixed schedule repayment provisions (Option 1). This option meets the stated goals of sharply reducing the number of student borrowers who default on their loans, and it will have a positive effect on post-graduate behaviour by extending the repayment period to offer better consumption smoothing. Furthermore, although the universal, minimally subsidized ICR variant (Option 2) will cost the least, the recommended option (1) if designed carefully should not entail greater draw on public finances. Compared to the status quo, a universal, moderately subsidized ICR scheme where repayments are collected through the tax system offers substantial cost saving for the government. Furthermore, this option is the most efficient at reducing the default rate and providing optimal conditions for consumption smoothing. Finally, this option would receive the most support from politicians, relevant stakeholders and the general public.

Incorporating income-contingent repayment provisions with a moderate level of subsidization into the Canadian financial aid system is an effective way to offer financial assistance to young people who wish to pursue a PSE but lack the necessary funds. According to Milton Friedman, the original architect of this scheme, ICLs provide the government with an instrument that combines consumption smoothing with insurance to ensure that students are borrowing a sufficient amount. My analysis shows that the universal, moderately subsidized ICR scheme would accomplish these goals more effectively than the other two options. Although the universal, minimally subsidized ICR version would achieve these same goals, the frugal design features contained within it are not necessary given Canada's economy. The means-tested, generously subsidized ICR scheme (Option 3) was not recommended in part because it would assist only some of the borrowers in need. This option should be considered only if the design features of the scheme are overly generous. Although this option attempts to provide well-targeted social spending by limiting the amount of borrowers who will benefit from the program, it



could also lead to problems of adverse selection. Furthermore, it is likely to receive less support from stakeholders and politicians alike.

## 10. Conclusion

The current financial aid system in Canada, in particular its fixed schedule repayment obligations, are causing 13.8% of borrowers to default on their student loans (HRSDC, 2011). Furthermore, one in four student borrowers are enrolled in the federal government's Repayment Assistance Plan, a program designed to assist borrowers who are having difficulty repaying their loan. Considering that PSE tuition fees are rising faster than inflation, the number of student borrowers in Canada in need of assistance in repaying their loan is not likely to decrease. This suggests an opportunity for policy action.

In order to assist students so that PSE is free at the point of entry and allow for consumption smoothing during the repayment period, several countries have adopted a form of income-contingent lending for student borrowers. This type of financing scheme safeguards graduates from default in periods of low income and requires borrowers to bear the costs of PSE when they can afford them.

This study examines ways in which the existing financial aid system in Canada can be enhanced by introducing an income-contingent loan repayment scheme in order to reduce the financial hardship facing recent graduates. The research in the study provides justification for policy intervention and proposes relevant policy alternatives. Based on the evaluation of the policy alternatives, the study recommends that a carefully designed, universal, moderately subsidized ICR scheme be implemented to replace the current fixed schedule repayment provisions.

This policy would need to be negotiated in consultation with the provinces and territories in order to respect the jurisdictional division of higher education funding in Canada and to establish a national framework for the country. Within this national framework, the provinces and territories would have a say in the design features so that the program accurately reflects the diverging economic and employment opportunities

that exist across the country. The income tax system would be used to collect repayment from the income-contingent loans.

In closing, a reform of the student financial aid program by allowing student loans to be repaid in ways that reflect each borrower's income would decrease the financial burden placed on students who pursue PSE in the post-schooling years, which would facilitate consumption smoothing. This reform would make it impossible for student borrowers to default on their loans and therefore would ensure that the government is recouping the full amount of money it lends to students. However, borrowers who had not repaid their loans in full by the end of an extended period on account of low lifetime earnings would be excused from any further repayment obligations. Delivering loan relief in this manner based on a long period of post-graduation earnings experience by the borrower is both fairer and better targeted than the types of loan relief embodied in current student loan programs.

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## **Appendix.**

### **Additional Background information**

#### **The Existing Financial Aid System in Canada**

The nature of financial aid programs depends on several factors, the most important being the view of what parties are responsible for funding post-secondary education: the students themselves, parents, governments or a combination. This section of the appendix will briefly explain the existing Canadian financial aid system and what types of assistance programs are currently in place to assist student borrowers who are unable to make their monthly payments.

The Canadian system is of the type known in the literature as the “student-centred model.” Other major countries using this type of system where the responsibility of schooling related costs is the responsibility of the student themselves include Australia, New Zealand, the United Kingdom, Japan and the United States (Finnie, Usher and Vossensteyn, 2004). As mentioned earlier in this background section, provincial governments in Canada fund a large portion of PSE expenses; however, students are required to pay the difference between the total cost of their education and the portion that is funded by the province. Depending on the province, this amount can be as high as \$7,513 for an average undergraduate student in Ontario for the academic year 2011-2012 or as low as \$2,861 in Newfoundland and Labrador (Macdonald and Shaker, 2012, pg. 38).

The existing financial aid system includes the Canada Student Loans Program as well as a multitude of federal and provincial grant and scholarship programs. Since 2001, the federal and provincial governments issue loans directly to students while private collection agencies are employed to manage the repayment process (Finnie, Usher and Vossensteyn, 2004). Under the auspices of the federal government, the Canada Student Loans Program Directorate within the Department of Human Resources and Skills Development contribute 60% of the cost of all student loans. The provincial governments pay the remaining 40%. Quebec, the Northwest Territories and Nunavut are not a part of the Canada Student Loans Program, but the federal government provides them with money for student loans through alternative programs.

Student loans are given based on two main criteria—need and income. The latter refers to the student’s income when applying for a loan as well as their parent’s income if the student is considered to be “dependent”. A dependent student according to CSL is one who is 22 years of age or younger. Although the formulas for assessing need vary among provinces, the basic formula is cost minus resources. This amount is always met with loans (Finnie, Usher and Vossensteyn, 2004). Education costs typically include tuition fees, mandatory auxiliary fees, books, housing costs, travel costs and other basic living costs. Resources are an assumed parental contribution or spousal contribution, calculated as a percentage of household income and the student’s contribution obtained from summer employment, part-time employment while a student is in school and previous savings. Finally, an adjustment is made if a student receives a scholarship.

A student is considered “independent” if the student is married or has been married, if they have a child, if they have worked on a full-time basis in the labour force for two years or more or if they have been out of secondary school for more than four years (in Ontario it’s five years) (Finnie, Usher and Vossensteyn, 2004). Furthermore, if a student who is under the age of 22 wishes to be considered independent of their parents, they can appeal their status to CSL and with sufficient proof that they are truly independent of their parents, can receive independent status. As a result, approximately 60% of CSL borrowers are considered independent, which includes students at the undergraduate and graduate levels (Finnie, Usher and Vossensteyn, 2004).

## **Interest on Student loans**

The following section presents background information on the interest incurred on student loans. Under the existing financial aid program, the government pays the interest on student loans while a student is enrolled in a PSE program on a fulltime basis. In other words, the government subsidizes interest while a student is in school. Once a student has completed their program of study or if at any point the student is no longer enrolled on a fulltime basis, from that point onward interest begins to accumulate on the loan (Bosma, 2007).

Interest is calculated as a fixed or floating rate depending on the student's choice of repayment. Fixed interest rates are locked in at the current prime interest rate plus 5 percentage points. Floating interest rates are calculated on the varying rate of prime plus 2.5%. Depending on the province, these options are available for the federal portion of the loan (roughly 60% of the total loan). Interest on the remaining, provincial portion of the loan is calculated differently for each province. In Ontario for example it is calculated at prime interest rate plus 1 percentage points. Although varying interest rates will affect how much a student will be required to pay towards their loan each month after graduation, it remains fairly consistent. This provides some level of stability and predictability and permits students to begin long term financial planning (Bosma, 2007).

## **Amortization Period**

Once a student has completed their PSE studies, they are given a grace period of 6 months following graduation before they are required to begin making monthly payments on their student loan (Finnie, Usher and Vossensteyn, 2004). In most provinces as we will see in more detail later, a student will become eligible for a grant only if the student's debt attains a certain amount.

Students negotiate their repayment obligations with the Canada Student Loan Service Centre. Monthly payments are currently contingent upon the size of the loan, the interest rate and the amortization period, which is on average 10 years (Bosma, 2007, pg. 8). This relatively short period of time implies that monthly repayments are fairly high compared to what former students are earning and is another factor affecting the repayment burden in early years following graduation. This is known in the literature as a "mortgage-style repayment system" where an individual's monthly income after graduation is not included in the repayment formula. The amortization period can be lengthened or shortened which will either increase or decrease the size of the individual's monthly payment obligation. I will outline the parameters for lengthening or shortening the amortization period later in the background when I describe the details of the federal debt assistance programs.

## **Existing Provincial Debt Relief Programs**

Some provinces have decided to assist students by reducing tuition fees and providing financial aid to reduce upfront PSE costs while others have developed post-schooling financial assistance policies which aim to assist students repay their student loans. These include debt relief policies; debt forgiveness policies; tax credits and in some cases zero interest on student loans. This section will outline the various approaches provincial governments have taken to assist students with increasing student debt levels.

In Newfoundland and Labrador the provincial portion of student loans collect zero interest. It also has a debt forgiveness policy in which students can apply to have the provincial portion of their student loans forgiven. In Prince Edward Island the provincial portion of student loans is also interest free. New Brunswick has a policy entitled the "New Brunswick Timely Completion Benefit" that provides a 'debt cap' of \$26,000 if students complete their education in the required timeframe (Macdonald and Shaker, 2012, pg. 32). Nova Scotia also has a maximum amount that a student can go into debt although their 'debt cap' is slightly higher at \$28,560 (Macdonald and Shaker, 2012, pg. 32). Quebec offers less after-the-fact assistance since it has traditionally paid

for a larger portion of a student's upfront costs making Quebec's tuition fees among the lowest in the country. Ontario as of late has also decided to provide more upfront assistance to students. It has developed a 30% tuition rebate program where students who apply for financial assistance and who meet the necessary requirements can receive a 30% rebate of their tuition fees. It also provides a 'debt cap' of \$29,200 or \$7,300/year (Macdonald and Shaker, 2012, pg. 32). Manitoba has a bursary program that students can apply for and the funds are directly applied to the student's debt. The number of students who qualify and the amount they receive that goes towards their student debt varies from year to year. Saskatchewan has a similar approach where limited bursaries are applied directly to a student's debt. Saskatchewan also offers provincial tax relief through the "Graduate Retention Program" for graduates who decide to remain in the province after completing their degree. In Alberta students who complete their program can apply to receive a "Completion Grant," which ranges from \$1,000 to \$2,000 (Macdonald and Shaker, 2012, pg. 32). If the graduate goes on to work in an occupation in Alberta listed by the provincial government they can also apply for a "Retention Grant" worth \$2,000. Finally, in British Columbia the provincial government recently announced a "Repayment Assistance Program" which is a two phased policy where in phase one the province pays a portion of the interest on the loan and in phase two the province pays a portion on the principal of the loan (Macdonald and Shaker, 2012, pg. 32).

Critics warn that the provincial policies aimed at assisting students with their increasing PSE costs can change at any time and many of them are unpredictable. Since costs are prohibitive for many young people who wish to pursue PSE, the financial aid programs need to be accessible, understandable and affordable, both while a student is in school and after they have graduated. These concerns could be mitigated if repayment obligations increased and decreased in relation to an individual's income after graduation. In addition to these provincial programs, there are a slew of federal debt assistance programs.

### **Critique of the Repayment Assistance Plan**

Among the drawbacks of the RAP is that borrowers must apply to this program and enrollment is not a guarantee. The application requires borrowers who wish to benefit from the RAP to answer a series of questions relating to an individual's family status, income, their study end date, other outstanding loans they may have with the government, the interest rate on those loans and whether or not their spouse has any outstanding loans. Furthermore, the program is relatively unknown and so awareness of the RAP before a student misses several payments and goes into default is a concern.

This leads me to my next critique of the RAP. If a borrower is already in default, they are ineligible to apply. Moreover, borrowers who miss a payment while in the program are automatically restricted from receiving any additional repayment assistance. They are also ineligible for any additional loans or grants until they have made up for the missed payment and have brought their account back up-to-date (HRSDC, 2011). Furthermore, it is the responsibility of the borrower to re-apply for this plan every 6 months with no guarantee that they will remain in the program and continue to receive repayment assistance. They must also notify the NSLSC of any additional income they receive throughout the year, or risk being restricted from the RAP and any other repayment assistance programs offered by the government.

A final shortcoming of the RAP that is relevant to this study is that the maximum affordable payment under the RAP will not exceed 20% of a borrower's gross family income. Depending on the circumstance, this can be a fairly high amount for an individual to repay on a monthly basis considering that it is gross family income and not net income. This is significantly more than what an ICR scheme would require student borrowers to repay. In Australia for example, depending on an individual's annual income, the maximum required payment ranges from 3- 6% of gross annual income.

The literature on the RAP and other assistance program offered by the federal and provincial governments offers mixed reviews. While some point to the shortcomings, others believe their existence means that Canada has by default an ICLR system in Canada. Although the program is not universally available and is restricted to those who are in periods of low income, it is a step towards an ICR scheme. The cost to government, however, is potentially very high. Furthermore, the administrative costs for the government to manage the program are substantial as is the time cost to the individual who has to re-apply every 6 months and provide proof of income to continue to receive repayment assistance.

Alongside the RAP and other repayment assistance programs exist a multitude of grant and debt forgiveness initiatives, which several provincial governments apply in varying amounts. The Ontario Student Opportunity Grant (OSOG) initiated by the Government of Ontario for example forgives a percentage of the Ontario portion of a student's loan which effectively lowers student overall debt levels upon graduation. Students do not apply for the OSOG; it is automatically dispensed to a student who borrows in excess of \$7,000 for a two-term school year (Bosma, 2007, pg. 10). These debt forgiveness measures absolve approximately one tenth of Canada's student debt through remission (Bosma, 2007).

### **The Case for Income-contingent Loans**

Milton Freedman first invented the idea of income contingent loans in 1955. Much like a mortgage does for homeowners, income contingent loans for higher education are a device that enables consumption smoothing for students. This being said, when homeowners buy a house, the house acts, as physical security therefore there is no risk to the seller, because if the buyer cannot make his or her monthly payments, the seller can resell the house. There is also no risk for the buyer, since if they fall into a low-income period, they can get out of their mortgage and sell the house to pay off the debt. The contrast with borrowing for financing investments in human capital is that there is no physical collateral therefore it is risky both for the borrower and the lender. Milton Freedman's key point was because it is risky for the borrower, because there is no collateral, in a pure market system people will borrow an inefficiently small amount. At a micro level, without ICR, there is a missing market because the banks offer large, low-cost unsecured loans. Under the assumption that one of the roles of government is to complete markets, one of the ways it can complete this market is by offering ICL for student's wishing to pursue a PSE. Furthermore, if the government wants to have efficient consumption smoothing, it requires an instrument that combines consumption smoothing with insurance. A well-designed system of income-contingent loans provides insurance against an individual's low current earnings with an income-contingent formula and insurance against low lifetime earnings by limiting the repayment period to a maximum amount of years after which the remaining balance is forgiven.

All student loan programs are designed in some fashion to recover money that government can use to subsidize PSE so that the cost of PSE is free at the point of entry. ICLs can therefore be viewed as deferred tuition fees. The reason for the tuition fees is to recover the money a government is spending on PSE. There are very real private benefits for an individual who obtains a PSE and those who can afford to pay for tuition costs should be required to do so. Economists are almost unanimously agree that it is also more equitable to charge those who can afford to pay for PSE related costs as oppose to a no charge system which is considered to be regressive. There is also an efficiency rationale since there is a need for the revenue. The competing needs for taxpayers dollars means that PSE is often not at the top of most governments' list for additional tax revenues. This is also due to the escalating costs of PSE at a plus inflation rate, both per student and for the system as a whole. This is further propelled by the increasing amount of enrollment in PSE institutions in most developed countries. In summary, in addition to the equity and efficiency arguments for charging a fee for PSE, there is a desperate need for money and the alternative, to have a no-charge PSE system tends to be accessible and benefit for the most part those individuals who are considered to be well off. Therefore, it

becomes extremely inequitable and inefficient, since the government is spending money to pay for those who can already afford to pay for PSE and therefore has less to pay for those who cannot afford PSE related costs, either through a loan or grant system.

Student loans, income-contingent or otherwise, provide students with the financial liquidity so that they can pay for the costs of PSE. A well-designed income-contingent loan scheme not only provides for financial liquidity, it is also a device that the government can use to ensure students continue to consume while they are in school as well as in the early years after they graduate. Furthermore, it permits for the very low lifetime earners to access PSE and continue to consumer without being in perpetual debt after they leave school.

To be clear however, income-contingency does not mean that the loan is any cheaper; it simply prolongs the repayment period and makes it more manageable based on an individual's income. This is the real advantage of income contingency. It will be cheaper for some students who go on to be low lifetime earners, but the only thing it is for all students is managing the repayment stream if the government assumes that manageability is overwhelmingly or exclusively a function of measured income as oppose to family expense obligations. It is also quite possible that in the early years after graduation an individual earns less income, however they can more easily manage to repay their loan at a substantial rate because they also have less family expense obligations when they leave school. Therefore, the income-contingency as a predictor of manageability might not always be accurate. However, in most cases, income is likely to be a good predictor of manageability, a point echoed by Johnstone in the interview.

### **Additional benefits of an ICR financing scheme for student borrowers**

An additional benefit of an ICR financing scheme for student borrowers is that the policy allows graduates to achieve their maximum potential by affecting their post-graduate behaviour. In order to assess to what degree the policy alternative and the design features included within it affect student borrowers in the early years after graduation, I have included a criterion to measure development. This criterion is described below.

### **Description of the Development criterion**

The development criterion will evaluate which policy alternative and the design features within it allow graduates to achieve their maximum potential. In particular, this criterion will measure by how much the design feature will affect post-graduate behaviour regarding the choice of employment. Research in the United States has demonstrated that students who graduate with large debts as a result of the increasing cost of PSE will choose careers that pay the highest annual salary, regardless of their interests or desired type of employment. For example, law students will choose to work for large multinational law firms that pay more than public service law positions that pay less. Although some of them would prefer a career in the public service, or another socially productive career, they are required to take a job in a big law firm in order to make their monthly loan repayments. The development criterion will evaluate which design features allow graduates to achieve their full potential and reduce the possibility choosing an undesirable career as a result of their student loan.

### **Analysis of the Development criterion**

In addition to eliminating the risk of default, a priority for the government should be to create a financial aid system that does not result in levels of debt that unduly constrain the life choices facing graduates (Schwartz, 2006). With an ICR in place, students would not have to weigh the amount of student loans they owe as a result of their investment in education in their career choice. Therefore it scores high for the development criterion. ICR can be a policy tool for the government to entice the best-educated students who are carrying student loans to work for the public service even though it means a lower income.

In the USA (and to some degree in the province of British Columbia, Canada) realizing that the most educated students in debt were choosing to work for the private sector where earning higher salaries allows recent graduates to afford making their monthly loan repayments, the government needed to provide an incentive to students to consider the public service. This persuaded the US Federal government as well as the provincial government of British Columbia to forgive parts of students' loans if the student decides to pursue a career in the public service.

However, with ICR, the government would not need to forgive student loans for those who want to work for the public service. If repayment obligations were geared to income rather than the total amount, the repayment obligations are manageable and graduates would not feel the pressure to choose a career in the private sector, which permits them to finance their student loan and maintain a comfortable living standard. This way, the government would save money in the long run from not having to forgive a student's loan if they choose to work in the public service.

An income-contingent lending scheme provides the government with additional policy levers to encourage some students to work in parts of the country they would not otherwise choose to work in, or in lower paid professions that would otherwise provide earnings that are unsubstantial when student loan repayment obligations are factored in. Johnstone believes that this is particularly the case for law students, which I explained was the motivation for the USA to adopt ICR as an option for students to repay their loans after graduation. This change permits students who wish to pursue lower paid jobs, for example public service jobs or careers in the non-for-profit sector to do so without going into default. In this context, this type of lending is like a refinancing of the loan for the years a graduate is earning less, which are particularly the early years after graduation.

## **Evaluation of Policy Options as it pertains to the Development Criterion**

### *Option 1:*

Development: The repayment parameters included in this option are geared to income and require a very low progressive fixed rate of repayment, as well as a very high minimum income threshold. As a result, graduate behaviour will be affected in a way that permits them to achieve their full potential and choose a desirable career. It will also permit them to choose a career that pays less but may be socially productive. Furthermore, since this option suggests a universal program, anyone who wishes to pursue a PSE will receive a loan to pursue it. This option therefore, receives a "high" for the development criterion.

### *Option 2:*

Development: The means-tested design feature implies that not all borrowers will be eligible for the repayment parameters included in an ICR scheme. As a result, some borrowers will have large repayment obligations similar to what the current fixed-schedule scheme produces. This would impede the behaviour of those graduates who were not eligible for an ICL and could reduce their career choices. Furthermore, since this option has a very low minimum threshold, a plus prime interest rate and a lengthy repayment period, more borrowers will meet the repayment threshold with very low incomes and be obligated to repay a portion of their loan, plus interest. This could negatively affect their post-graduate behaviour and hinder them from choosing a socially productive career (or another low paying career that they desire). This option therefore, receives a "low" for the development criterion.

### *Option 3:*

Development: The repayment parameters included in this option are geared to income and require a moderate progressive fixed rate of repayment, as well as a moderate minimal income threshold. As a result, graduate behaviour will be affected in a way that permits them to achieve their full potential and choose a desirable career. It will also permit them to choose a career that pays less but may be socially productive. Furthermore, since this option suggests a universal

program, anyone who wishes to pursue a PSE will receive a loan to pursue it. This option therefore, receives a “high” for the development criterion.

## **Efficiency**

In this analysis, efficiency is measured by how much the alternative and the design features included within it eliminate the number of students who default on their student loans, and provide insurance against unforeseen changes in income. Therefore, in order to evaluate the efficiency criterion, the government must be aware of the factors that influence default and assess by how much the alternative policy option will reduce the default rate.

The default rate can fluctuate since it is influenced to some degree by the unemployment rate. It is also influenced by the level of income a graduate will earn after school, which of course depends on their choice of employment. Finally, the default rate is influenced by the repayment obligations set out in the student loan-financing scheme. Depending on these factors and how well the economy is performing on the whole can influence the amount of jobs that are available to graduates after they finish their studies and how much they will go on to earn. For example, the United States at the moment is in a deep recession, which is affecting the ability for middle and higher income individuals to obtain employment and stay employed (Johnstone, interview). For these individuals who are student borrowers, the performance of the economy will affect how many of them cannot meet their minimum loan repayment obligations and go into default on their student loans.

ICLs are by their very nature an efficient way for the government to recoup the maximum amount of money that was lent out so that students can pursue a PSE. Student loan repayments, fixed as a percentage of individual graduate incomes means that when a borrower is earning an inferior level of income, they would not be required to repay. Since the repayment structure is geared to an individual's income rather than the amount they borrowed, the repayment obligation does not overburden the graduate.

## **Administrative Costs and the Unsecured liability of Income-contingent loans**

Much of the literature and indeed many of the findings from jurisdictions with ICLs reveals that this type of financing scheme has very low administrative costs. Furthermore, although the government will inevitably lose some of the money it appropriated to student loans by forgiving the loans of very low lifetime earners, it is recouping an extremely efficient amount by eliminating the possibility for default. These are all important cost saving measures that accompany this kind of financing scheme. However, they come with a price. The price in the case of ICLs is the unsecured liability of the loans.

A student loan is worth what someone is willing to pay for it. If the government is guaranteeing the loans, than usually the government can sell those loans. If the loans are guaranteed and depending on the interest rate, investors will buy them. Therefore the loans become assets, which the government can sell or hold onto. They should not be considered expenses. What should however be expensed is the stream of subsidies on the loans reflected by a low interest rate.

The problem with income contingency is that the government is building up loans or assets that have no particular market value. It is difficult, if not impossible to sell a loan to an investor if they are income contingent. If the loans are fixed schedule, with a government guarantee, than a bank will buy them. Therefore, it becomes problematic for a government to account for income contingent loans. The result is that the government is spending money on these loans and although they are recuperating those funds over time, they are going into deficit since the loans cannot be sold to a bank. This does not matter terribly for some countries, such a Canada since the government is in deficit anyhow (Johnstone, interview). However, all that money that the universities are getting via the ICR, that is, the deferred tuition fee, is deficit money on the



government counterbalanced with the assets of those loans. The assets however have an unknown value and therefore the ICR loans don't really have a market. This is the unsecure nature of ICR loans. This could be a problem if the government has huge competing needs for funding.

To conclude, so long as the government charges a minimally subsidized interest rate and holds the students in the repayment period for long enough to recoup the most amount possible from the student, then the program should be financially sustainable (Johnstone, interview).

**Table A1. Case Study Evaluation Framework**

<b>Design Feature/Characteristics of the policy</b>	<b>Measurement</b>
Discount for paying upfront	Is there a discount for paying upfront as opposed to incurring debt and repaying through ICR scheme? If so, what is the discount rate?
Initial income threshold for repayment	What is the minimum amount of income when a student must begin to repay?
% of income to be repaid	What is the % of income to be repaid?
Progressive increase of income to be repaid	By how much does the % of income to be repaid progressively increase in relation to income?
Maximum number of years before the loan is forgiven	What is the maximum number of years a student must make payments before the remaining balance is forgiven?
Interest rate during repayment	What is the interest rate during repayment?
Cap on tuition fees	Is there a maximum amount that universities can charge for tuition regulated by the government?
Automatic repayments through the tax system	How are the repayments collected? Are the repayments automatically collected through the tax system or is repayment the student's responsibility?
Means test or universally available	Is there a means test to determine which students can apply for an ICR loan or is the program available to all student borrowers?
Choice of repayment plan	Does the student have the choice between a fixed-schedule repayment plan and an ICR plan?
Annual revenue (Collections)	What is the annual amount of revenue that the ICR plan brings in?

### **Additional evaluation of the case studies**

#### *Evaluation of the higher education financing scheme in the UK*

Another important externality with the change from an upfront, means tested tuition fee in the UK to a deferred tuition fee with presumably the same anticipated net discounted present value from all of the students, is that the losers of the policy are the lower income earning families and students who never had to pay the means tested tuition fees under the previous financing scheme. The overwhelming winners of the policy are those high and middle-income parents who

are no longer responsible for paying tuition upfront since it is being deferred to a percentage of their children's future income.

Johnstone remains astounded that the government was able to implement an ICR scheme in the U.K. since it means significantly higher costs for PSE to individuals over a longer repayment period to time. He believes that this is likely a cultural phenomenon. In Canada and the United States, governments assume that parents will contribute towards their children's education and therefore students are not considered to be financially independent from their parents. However, in parts of the world where this is not the case, such as the Nordic countries of Sweden and Denmark where PSE is free to the student and paid for by taxpayers through their taxes, students are considered financially independent agents of their parents. This according to Johnstone is a cultural thing that is valued by the young adults. He believes that students in the U.K. agreed with the introduction of the ICR financial scheme in 2006 since they wanted to be financially independent of their parents. They wanted to buy independence and that independence was worth the loan that they are now responsible for repaying for the cost of higher education. Johnstone maintains that this is a cultural phenomenon that mystifies students in the USA and Canada.

Disguised as a deferred tuition fee to be repaid as a percentage of income means that universities can get away with charging more for PSE and students do not feel the increased price like they would have if they had to go to a bank or a government financial aid office and apply for a loan as they used to. What they do feel however, is the financial independence.

## **Additional information regarding the Methodology of this study**

### *Literature Review*

In this study I collect and review available peer-reviewed scholarly literature on student loan schemes in Canada and the financing of PSE across the country and in other jurisdictions. I also reviewed the trade-offs associated with income-contingent loan programs as a way for the government to manage risk with investments in human capital and to encourage PSE enrollment. Finally, I reviewed several studies concerned with the important design features of ICR. I used books and articles from the Simon Fraser University library and library databases. In some cases, where academic sources were not available, I reviewed websites and published reports of relevant organizations, including student organizations, non-governmental associations, think tanks and the Canadian federal and provincial governments.

### *Media Scan*

To provide more data for the case studies and to complement the understanding of ICR, I conducted a search of media sources using the Simon Fraser University library database and Google Archive using keywords associated with student loan programs, income-contingent loans and the name of the jurisdiction. I reviewed articles discussing the outcome of the ICR system and the reaction to the policy change; its perceived effects on student debt levels and consumption smoothing and any possible flaws in the ICR system.