



Office of the Superintendent of  
Financial Institutions Canada

Bureau du surintendant des  
institutions financières Canada

Office of the Chief Actuary

Bureau de l'actuaire en chef



# ACTUARIAL REPORT

on the  
**CANADA  
STUDENT  
LOANS  
PROGRAM**

as at 31 July 2008

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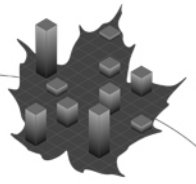
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5 June 2009

The Honourable Diane Finley, P.C., M.P.  
Minister of Human Resources and Skills Development Canada  
Gatineau, Canada

Dear Minister:

In accordance with section 19.1 of the *Canada Student Financial Assistance Act*, which provides that a report shall be prepared on financial assistance provided under this Act, I am pleased to submit the Actuarial Report on the Canada Student Loans Program, prepared as at 31 July 2008.

Yours sincerely,

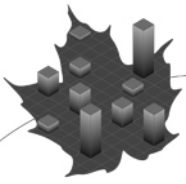
Jean-Claude Ménard, F.S.A., F.C.I.A.  
Chief Actuary





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## I. Executive Summary

Effective 1 August 2000, the Government redesigned the delivery of the Canada Student Loans Program (CSLP) from one delivered by chartered banks to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given the mandate to conduct an actuarial review to provide a precise assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

### A. Purpose of the Report

The *Budget Implementation Act, 2009* (Bill C-10, which received Royal Assent on 12 March 2009) amends the *Canada Student Financial Assistance Act* by adding the section 19.1, which provides that the Chief Actuary of the Office of the Superintendent of Financial Institutions shall prepare a report on the financial assistance provided under this act. Consequently, this is the first statutory actuarial report on the CSLP established under the *Canada Student Loans Act* and the *Canada Student Financial Assistance Act*. It presents the results of an actuarial review of the CSLP as at 31 July 2008 and includes projections of future costs of the Program through loan year 2032-33. An actuarial review of the CSLP provides an evaluation of the Program's overall financial costs and increases the level of information provided to the Minister of Human Resources and Skills Development Canada, Parliament and the public.

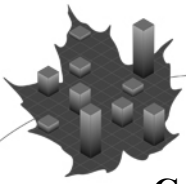
In accordance with accepted actuarial practice, the main purpose of this actuarial report is to show estimates of:

- projections of the number of students in the CSLP and amount of new loans issued;
- projections of the portfolio of loans in-study, loans in repayment and Program cost elements by type of financial arrangement or regime. Also included are projections of the provisions and allowances under the Direct Loan Regime in effect since August 2000; and
- projections of the net cost of the Direct Loan Regime as well as the remaining net cost for the pre-2000 regimes.

### B. Scope of the Report

This valuation report is based on the Program provisions as described in Appendix 1. After a short discussion of the best-estimate assumptions in section A of the Main Report, section B presents projections of new loans issued, the number of students eligible to receive a loan and the average amount of new loans issued. Section C includes projections of the portfolio by type of regime. Section D contains projections for the operation of this Program, such as revenues and expenses for all three regimes. These are followed by a conclusion of the actuarial review and the actuarial opinion regarding this review.

The various appendices provide supplemental information on Program provisions, a description of data, assumptions and methods employed and the sensitivity tests conducted.

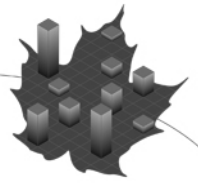


### C. Main Findings

The following summarizes the main findings of this actuarial report. The results are presented on a loan year basis from 1 August to 31 July.

- The current economic situation mainly affects enrolment, loan uptake and default amount projected in 2009-10:
  - The number of students enrolled full-time in a post-secondary institution is projected to increase by 50,000, while the number of students receiving a CSLP loan is projected to increase by 23,000, representing an increase of \$154 million in new loans issued.
  - The amount of impaired loans is projected to increase by about \$54 million, from a total of \$304 million in 2008-09 to \$358 million in 2009-10.
- The percentage of students at the loan limit decreased from 50% in 2004-05 to 34% in 2005-06 due to an increase in the loan limit from \$165 to \$210. However, the proportion which is currently 37% is projected to grow and reach 78% in 2032-33. In approximately nine years, the situation will recur where approximately half of all CSLP students will be at the loan limit.
- The Direct Loan portfolio increases from \$10.3 billion as at 31 July 2008 to \$19.1 billion by the end of the projection period. The amount of Direct loans which were in default on 31 July 2008 is \$1.2 billion.
- According to the projections, the \$15 billion limit on the aggregate amount of outstanding loans in section 13 of the CSFAA is expected to be reached in loan year 2014-15.
- The total net cost (expenses less revenues) of the Government's involvement in the CSLP is expected to grow from \$720 million in 2007-08 to \$1.3 billion in 2032-33. This represents an average annual increase in the cost to the Government of 2.5%.
- Assumptions for future default and recovery rates remain unchanged from the previous report at 20% and 29%, respectively. Therefore, the net default rate remains at 14.2% and the provision rate for bad debt – principal remains at 14.8%. In order to take into account the impact of the current economic situation on loans in repayment, the assumption for the default rate is increased to 23% and 21% in loan years 2009-10 and 2010-11, respectively, while recoveries are reduced by 0.6% and 0.3% in the same loan years.
- The provision rates for bad debt – interest are modified from the previous report to take into account the current experience regarding the application of the limitation period and the resulting transfer of loans into “non-recoverable” status.
- The provision rate for debt reduction in repayment is increased from 0.7% in the previous report to 1.0%.
- As a sensitivity test, the limit of \$210 is indexed annually to inflation. The results of the test are included in Appendix 4 and are summarized below:
  - an additional \$36 million (1.6% increase) of new loans is issued in 2010-11 due to the indexation of the limit and an additional \$1.3 billion (45% increase) in 2032-33; and
  - the portfolio reaches \$25.5 billion instead of the expected \$19.1 billion in loan year 2032-33 and the total net cost for the Government's involvement in the CSLP increases by \$356 million (26% increase) in loan year 2032-33.





## II. Main Report

The Canada Student Loans Program has been in effect since 1964 and provides Canadians with financial assistance to pursue a post-secondary education. Historically, two successive acts were established to permit the Minister to provide loans to eligible students under the Program. The *Canada Student Loans Act* (CSLA) applies to loan years preceding August 1995. The *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995.

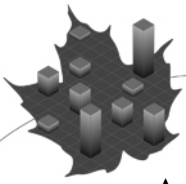
On 1 August 2000, the Government redesigned the delivery of the Program to disburse loans directly to students. The Office of the Chief Actuary was given the mandate to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

Section A of the report provides a discussion of assumptions that reflect our best judgement; these assumptions are referred to in this report as the “best-estimate” assumptions. They are determined by putting more emphasis on elements affecting the growth of new loans issued.

The projection of loans issued to eligible students for each loan year is presented in section B. This includes a projection of the student population (ages 18 to 34) in order to determine the future number of students enrolled in post-secondary education and eligible to qualify for a loan under the CSLP. A long-term demographic and economic context of the aging of the population and anticipated labour shortage serve as a basis for the examination of key factors that affect eligibility. Such factors include the evolution of the projected student population, the participation of youth in the labour force and the enrolment rate in post-secondary education.

The projection of the portfolio of loans for each regime (Guaranteed, Risk-Shared and Direct) is provided in section C and the forecast of the net cost of the CSLP is presented in section D. For the Government, there are higher public debt charges following the implementation of the new Direct Loan arrangement. The costs related to Direct loans include the interest subsidy on in-study loans, interest relief, provisions for debt reduction and bad debt (principal and interest), Canada Study Grants, Canada Access Grants, alternative payments, loan forgiveness, recovery costs and administration expenses. The costs are reduced by an estimate of net interest revenues coming from student interest payments, interest relief payments and interest accrued during the grace period and on impaired loans.

The actuarial estimates in this report are based on the current provisions of the Program as described in Appendix 1. The other appendices contain more detailed descriptions of the assumptions, methodology and sensitivity tests and results for changes in assumptions including the loan ceiling, interest rates and net default rates.



### **A. Best-estimate Assumptions**

Several economic and demographic assumptions are needed to determine future long-term costs of the CSLP. The projections included in this report cover a period of 25 years and the assumptions are determined by putting as much emphasis on historical trends as on short-term experience. These assumptions reflect our best judgement and are referred to as “best-estimate” assumptions. Some of the assumptions are based on the most recent actuarial report on the Canada Pension Plan (CPP), adjusted to reflect loan year periods and current economic and demographic experience.

The assumptions were chosen to form a coherent whole, taking into account certain interrelationships among them. The following sections present the assumptions used as well as their future evolution.

#### **1. Demographic Assumptions**

The demographic projections start with the Canadian and Québec populations on 1 July 2006, to which future fertility, mortality and migration assumptions are applied. The population of Canada is adjusted to exclude the non-participating province of Québec and territories of the Northwest Territories and Nunavut. The CPP population projections are essential in determining the future number of students enrolled in and pursuing a post-secondary education.

#### **2. Economic Assumptions**

The main economic assumptions related to the CSLP are the evolution of the labour force, inflation, tuition fees, wage increases, as well as the cost of borrowing for both students and the Government.

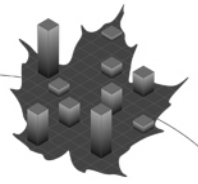
##### **a) Evolution of the Labour Force**

The “baby-boom” generation has and continues to exert a major influence on various aspects of society. It represents the large cohort born between the mid-1940s and the mid-1960s. This generation has exerted the strongest single influence on Canadian demographics over the last several decades. The aging of this generation will have significant influences over the next 25 years, such as slowing down the natural population growth and changing the composition of the labour force.

The entry of the “baby-boom” generation into the labour market created an abundance of workers, thus increasing the unemployment rate and influencing the transition from school to work over the last 20 years. In the 1990s, the poor labour market conditions meant that youths aged 15-24 were less likely to find work and thus, more likely to be in school than youths of previous decades.

During the last decade, poor labour market conditions have caused the school-to-work transition period to increase. Until recently, it was difficult for a great number of youths to find work. One of the key elements underlying the best-estimate economic assumptions relates to the expected labour shortage. This shortage will result from the aging of the population, the retirement of the “baby-boom” generation and the impact of these on the labour force growth and distribution.

However, the recent economic downturn, as evidenced by the increasing unemployment rate and contraction of the economy will have an impact on the labour market in the short-term. During the two most recent recessions (1981-82 and 1990-92), the youth unemployment rate (ages 15-24) increased by more than 50%. In addition, youth labour force participation mostly decreased, while some female participation actually increased during the early 1980’s as females continued to increase their presence in the labour force.



In the 23<sup>rd</sup> CPP Actuarial Report, a sensitivity test called the Economic Half-Cycle was performed with the purpose of replicating the labour force impact experienced in the 1981-82 economic downturn. Private sector forecasters are projecting that the Canadian unemployment rate will reach 8.5% in 2009 and 9.0% in 2010 which is higher than the 6.3% underlying the CPP labour force projections. However, these projections are also less severe than the Economic Half-Cycle sensitivity test. The average unemployment forecast corresponds to 60% of the Economic Half-Cycle sensitivity measured in the 23<sup>rd</sup> CPP Actuarial Report.

Thus, the CSLP best-estimate scenario reduces youth labour force participation rates in loan years 2009-10 and 2010-11 by 60% of the change experienced by males during the 1981-82 recession. Female participation rates are reduced by the same percentage as male participation rates since females are now a larger part of the labour force and would not experience an increase in participation now as they did in the 1981-82 recession. The participation rates are gradually increased beginning in 2011-12 before returning to their CPP best-estimate level in 2016-17.

Starting in 2011, a decline in the labour force growth rate for the entire population will create more working opportunities for those aged 18-34 and should reduce the school-to-work transition period for this group. The proportion of individuals aged 18 to 34 participating in the labour force is set to increase from 78.6% in loan year 2010-11 to 82.3% in 2032-33. This implies that youths will join the labour market sooner, thus reducing the proportion of the population inclined to remain within the educational system. However, labour force growth is somewhat mitigated until 2016-17 due to the economic downturn and its subsequent recovery.

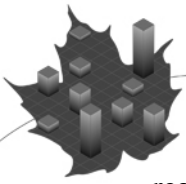
#### b) Inflation, Tuition Fees and Wage Increases

The desire of the Bank of Canada and the Federal Government to keep inflation between 1% and 3% suggests that the rate of inflation will remain low in the coming years. Due to the current economic downturn, the Consumer Price Index decreased between August 2008 and January 2009. Hence, the annual inflation rate, which was on average about 2.3% in loan year 2007-08, is assumed to be 1.2% for loan year 2008-09, before increasing to 1.3% in 2009-10 and 2.0% in 2010-11. The rate is then held constant for the following two years. Starting in 2013-14, the rate is uniformly increased to its ultimate level of 2.4% in 2016-17. This rate of inflation is maintained for the remainder of the projection period.

Student expenses are used in the need assessment process to determine the maximum loan amount that can be issued. These expenses include food, shelter, transportation and clothing, all of which tend to vary with consumer prices. As a result, the future anticipated rate of inflation is used to project these expenses.

Tuition fees are treated separately from other expenses since their evolution is, in part, a result of government policies. Based on stated intentions in provincial budgets and actual tuition increases as reported in news releases, the tuition increase is estimated to be 3.0% in loan year 2008-09, 3.3% in loan year 2009-10, and 3.4% in loan years 2010-11 and 2011-12. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Similar budgetary pressures are expected in the future due to the aging of the population. Thus, tuition fees are indexed at the rate of inflation plus 3.0% for the long-term, in accordance with past experience.

Future student resources, including student earnings and parental contributions, are influenced by the increase of average annual earnings. The increase in average earnings is related to changes in the manpower supply in the labour force. Therefore, an increase in productivity and a decline in the labour force growth rate, especially after 2011-12, are assumed to force a relatively higher



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as at 31 July 2008

real wage growth. The real growth in average earnings is projected to increase gradually from 0.5% in 2008-09, reaching 1.3% by 2015-16. It is maintained at that level for the rest of the projection period.

### c) Cost of Borrowing

Since August 2000, students are indebted to the Government of Canada and, as a result, the Government bears the interest risk associated with the cost of borrowing for the entire duration of the loans. In general, the loan's duration is a combination of three periods. First, a student is in school and receives an interest subsidy for an average of three years. Next, the student enters a grace period of six months during which interest accrues but no payment is required. Finally, the student enters a period of repayment for a maximum of nine and a half years. The historical 10-year Government of Canada bond yield, net of inflation, is used as a benchmark to calculate the real cost of borrowing for the Government. In recent months, federal bond yields have been decreasing and this trend is expected to continue in the near future. Thus, the real cost of borrowing is estimated to be 2.0% in loan year 2008-09 and is lowered in 2009-10, to 1.6%. It is anticipated that the rate will recover thereafter and gradually increase to an ultimate rate of 2.5% by loan year 2016-17. The Government cost of borrowing is the sum of the real government cost of borrowing and the rate of inflation as summarized in Table 1.

**Table 1 Borrowing Costs**

<b>Loan Year</b>	<b>Inflation (%)</b>	<b>Real Government Cost of Borrowing (%)</b>	<b>Government Cost of Borrowing (%)</b>	<b>Prime Rate (%)</b>	<b>Student Cost of Borrowing (%)</b>
	(1)	(2)	(1) + (2)	(3)	(3) + 250 pts
2008-09	1.2	2.0	3.2	3.2	5.7
2009-10	1.3	1.6	2.9	3.0	5.5
2010-11	2.0	1.8	3.8	3.9	6.4
2011-12	2.0	2.0	4.0	4.1	6.6
2012-13	2.0	2.1	4.1	4.2	6.7
2013-14	2.1	2.2	4.3	4.4	6.9
2014-15	2.2	2.3	4.5	4.6	7.1
2015-16	2.3	2.4	4.7	4.9	7.4
2016-17+	2.4	2.5	4.9	5.2	7.7

The prime rate for loan year 2008-09 is set at 3.2% which is an average of the higher rate at the beginning of the loan year combined with the recent substantial cuts to the rate. In loan year 2009-10, the average prime rate is expected to decrease even further, to 3.0%, since the rate is currently quite low and large increases in the next year are unlikely given the current economic downturn. Beginning in loan year 2010-11, the prime rate is expected to begin a gradual increase reaching an ultimate rate of 5.2% in loan year 2016-17. The student cost of borrowing, used to calculate interest revenue and the cost of interest relief, is the sum of the prime rate and a spread of 250 basis points. Given the recent cuts in the prime rate, the student cost of borrowing has decreased substantially since the last report, from 8.1% in loan year 2007-08 to 5.7% in loan year 2008-09. The student cost of borrowing can be found in the last column of Table 1.



### 3. Provision Assumptions

As of August 2000, the CSLP is directly delivered and financed by the Government. Three provisions are established to cover future costs: bad debt – principal, bad debt – interest and debt reduction in repayment (DRR).

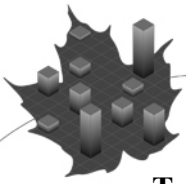
The provision for bad debt – principal is based on a prospective approach that uses a snapshot of the portfolio at a particular point in time to determine the amount of the allowance at that time. The calculation of the allowance is separated into three components in accordance with the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or impaired (according to the number of years since default). The value of the allowance is projected into the future using assumed default and recovery rates. For each loan category, based on the length of time that the loan has been in that status, the appropriate rate and distribution are applied to determine the value of the allowance.

The provision rate for bad debt – principal is applied to the net loans issued, which are obtained by reducing loans issued by prepayments, Canada Access Grants and loans forgiven while in-study and during the grace period. This provision rate is 14.8%. The level of the total allowance is determined at the end of the loan year. The annual expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The allowance for bad debt – interest is based on the account's recoverable status and its age since impairment or default. The interest accrued on impaired loans is considered a revenue until the loan reaches the "non-recoverable" status. To lessen the effect of changing this revenue to a loss, an allowance is created based on the outstanding interest at the end of each year. The percentage of the allowance changes according to the number of years since impairment. The annual expense for bad debt – interest is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The provision rates for bad debt-interest are modified from the previous report based on new experience. The new projected rates take into account that a large portion of interest is transferred to the "non-recoverable" status starting in the sixth year following impairment because there is a limitation period (statute of limitations). The set of provision rates used to determine the allowance as at 31 July 2009 is shown in Table 2. These rates are also used to determine the allowance as at 31 March 2009 for the purpose of the Public Accounts.

The DRR provision rate increases from 0.7% in the previous report to 1.0% to reflect recent DRR experience. As with the other provision rates, it is applied to net loans issued.



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**Table 2 Provision and Allowance Assumptions**

Type of Provision	Assumptions	
		(%)
<b>On net loans issued</b>		
Bad debt – principal		<b>14.8</b>
<i>An experience adjustment to the allowance will be made each year.</i>		
Debt reduction in repayment		<u>1.0</u>
<b>Total</b>		<b>15.8</b>
<b>On outstanding recoverable interest</b>	<b>Year Since Impairment</b>	<b>(%)</b>
Allowance for bad debt – interest	1 <sup>st</sup>	27.8
	2 <sup>nd</sup>	37.8
	3 <sup>rd</sup>	48.3
	4 <sup>th</sup>	58.3
	5 <sup>th</sup>	68.6
	6 <sup>th</sup>	60.1
	7 <sup>th</sup>	60.2
	8 <sup>th</sup>	60.3

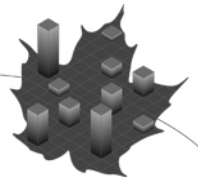
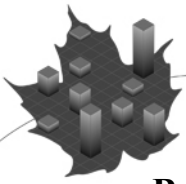


Table 3 contains a summary of the best-estimate assumptions described previously.

**Table 3 Best-estimate Assumptions**

1. Total fertility rate for Canada	1.6 per woman
2. Mortality	2000-02 Life Tables for Canada with future improvements
3. Net migration rate	0.50% of the population to 2015 and 0.54% in 2020+
4. Youth participation rate (participating provinces/territory, ages 18-34)	79.4% (2008-09) ⋮ 82.3% (2032-33)
5. Real wage differential	0.5% (2008-09) 0.7% (2009-10) ⋮ 1.3% (2015-16+)
6. Inflation	1.2% (2008-09) 1.3% (2009-10) ⋮ 2.4% (2016-17+)
7. Tuition fee increases	3.0% (2008-09) 3.3% (2009-10) 3.4% (2010-11) 3.4% (2011-12) ⋮ CPI + 3.0% (2016-17+)
8. Government cost of borrowing	3.2% (2008-09) ⋮ 4.9% (2016-17+)
9. Student borrowing cost	5.7% (2008-09) ⋮ 7.7% (2016-17+)
10. Bad debt provision – principal	14.8% (2008-09+)
11. Allowance for bad debt – interest	27.8% (Interest on loans in default for less than a year) ⋮ 60.1% (Interest on loans in default for 5 to 6 years) ⋮ 100.0% (Interest on loans in default for 14 to 15 years)
12. DRR provision	1.0% (2008-09+)



### **B. Projection of Total Loans Issued**

The purpose of this section is to discuss the projection of the amount of total loans issued by the CSLP. First, the full-time enrolment in post-secondary institutions is projected. Next, the future number of students participating in the CSLP is determined using a projection of the distribution of assessed need for CSLP students. Finally, the previous elements are combined to project the amount of total loans issued.

#### **1. Projection of Full-time Post-secondary Enrolment**

The projection of full-time students in post-secondary institutions must be determined first, since the demand for the CSLP is linked to the number of students enrolled in post-secondary institutions. Demographics and post-secondary enrolment will have the largest impact on the progression of full-time students attending post-secondary institutions.

##### **a) Demographic Projections**

The population of Canada less Québec and the territories of the Northwest Territories and Nunavut in the age range 18-34 is used to project the number of students enrolled in post-secondary institutions. The projection of this population is a fairly good approximation since it originates from individuals born between 1974 and 2013, most of whom are already included in the population.

In the first eight years of the projection, children of the “baby-boom” generation, called the “echo” generation, are expected to contribute to the increase in the population for ages 18-34. The “baby-boom” generation is more numerous and, consequently, had more children than the previous generation, notwithstanding a lower fertility rate. The population aged 18-34 is expected to increase from 5,882,000 in 2007-08 to 6,180,000 by 2015-16. In the last seventeen years of the projection, the population aged 18-34 decreases to 5,943,000. Overall, as Table 4 shows, an increase of 61,000 is expected in the population aged 18-34 over the 25-year projection period.

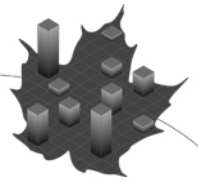
##### **b) Post-secondary Enrolment**

The number of students enrolled full-time in post-secondary institutions is closely linked to the evolution of the population aged 18-34 that is not participating in the labour force. Those individuals who are not participating in the labour force may be more inclined to pursue a post-secondary education. Thus, post-secondary enrolment is assumed to evolve in conjunction with the population not participating in the labour force.

There are two significant factors that will influence the number of individuals in the labour force and thus, post-secondary enrolment. The first factor is the current economic downturn. As discussed earlier, the increase in the Canadian unemployment rate will decrease labour force participation rates. This is especially true among those just out of post-secondary programs as they are starting their careers and have less experience and seniority than their co-workers. The decrease in participation rates in 2009-10 and 2010-11, followed by a six-year recovery to the CPP best-estimate rates, will result in a smaller labour force during that time. It is expected that a large proportion of those newly unemployed or unable to enter the labour market will choose to pursue a post-secondary education. Compared to the last report, post-secondary enrolment is slightly higher during that period.

The second factor influencing the labour force is the aging and subsequent retirement of the “baby-boomers”. This, along with a shortage of replacement workers caused by the low fertility rate, is expected to create strong pressure on the labour market. The generations following the

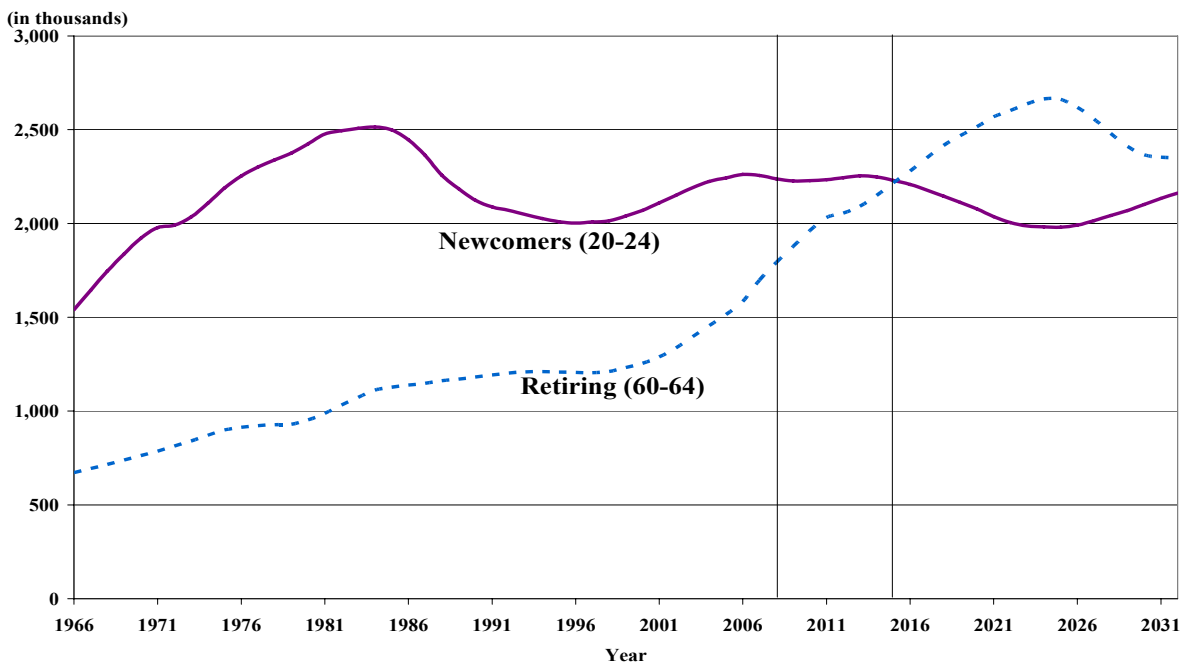




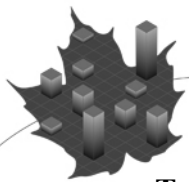
“baby-boom” are smaller and thus have fewer labour force entrants to replace the retiring “baby-boomers”. This will cause a labour shortage which will increase as more of the “baby-boomers” retire.

As shown in Chart 1, the number of persons retiring or in the age range 60-64 has been very low historically compared to the number of newcomers entering the labour force. This situation is expected to change radically over the next 7 to 25 years, creating an imbalance in the labour market. More specifically, in 2015, the number of persons retiring is expected to catch up with the number of newcomers, reaching 2,227,000 persons. By 2025, the number of persons retiring (2,661,000) will surpass the number of newcomers (1,980,000) by 34%. The labour market will have to adapt since it is accustomed to having at least two newcomers for each person retiring; this ratio will decrease significantly to less than one newcomer for each person retiring. As a result, the participation rates of the population aged 18-34 in the labour force are assumed to increase once the economy has recovered and the school-to-work transition period will be reduced due to favourable labour market conditions and the increased availability of work.

**Chart 1 Evolution of Persons Retiring (60-64) and Newcomers (20-24)**



In Table 4, the population not participating in the labour force is projected to increase from 1,209,000 to 1,293,000 during the first three years of the projection, which is an increase of 84,000. This is due to an increase in unemployment and the corresponding decrease in labour force participation rates. Over the last twenty-two years of the projection, the population not participating in the labour force decreases by 242,000 to reach 1,051,000 in loan year 2032-33. This large decrease is caused by the anticipated labour shortage and the assumption that over the last twenty-two years of the projection period, the labour force participation rates of the population 18-34 will increase due to economic recovery, favourable labour market conditions and increased availability of work. As participation in the labour force increases, the population not participating in the labour force will, in turn, decrease.



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**Table 4 Population and Post-secondary Enrolment**

Loan Year	Population of Canada Less Québec, Nunavut, and NWT (18-34) (Thousands)	Not Participating In Labour Force (18-34) (Thousands)	Students Enrolled Full-time (Thousands)	Increase (Thousands)	Growth Rate (%)
2007-2008	5,882	1,209	1,001	-	-
2008-2009	5,937	1,226	1,009	8.5	0.9
2009-2010	5,993	1,288	1,059	50.1	5.0
2010-2011	6,038	1,293	1,056	-3.0	-0.3
2011-2012	6,077	1,281	1,040	-15.8	-1.5
2012-2013	6,113	1,271	1,027	-13.2	-1.3
2013-2014	6,150	1,268	1,022	-5.7	-0.6
2014-2015	6,176	1,263	1,014	-7.9	-0.8
2015-2016	6,180	1,244	991	-22.2	-2.2
2016-2017	6,172	1,222	968	-23.6	-2.4
2017-2018	6,155	1,207	954	-14.3	-1.5
2018-2019	6,130	1,193	942	-11.9	-1.2
2019-2020	6,093	1,170	921	-20.9	-2.2
2020-2021	6,049	1,141	892	-28.5	-3.1
2021-2022	6,011	1,121	873	-18.8	-2.1
2022-2023	5,986	1,110	865	-8.6	-1.0
2023-2024	5,967	1,097	853	-11.5	-1.3
2024-2025	5,941	1,079	839	-14.1	-1.7
2025-2026	5,911	1,062	827	-11.7	-1.4
2026-2027	5,893	1,053	824	-3.8	-0.5
2027-2028	5,884	1,049	825	1.4	0.2
2028-2029	5,886	1,046	828	3.1	0.4
2029-2030	5,894	1,043	832	3.7	0.4
2030-2031	5,903	1,039	834	2.3	0.3
2031-2032	5,916	1,044	843	9.3	1.1
2032-2033	5,943	1,051	853	10.0	1.2

The evolution of the inactive population, those aged 18-34 not participating in the labour force, is a good indicator of the evolution of the population in post-secondary institutions. Enrolment in post-secondary institutions, as well as CSLP participation, varies between age groups. The age distribution of the CSLP shows that approximately 75% of students in the CSLP are in the age range 18-24. The CSLP age distribution was used to separate historical enrolment data into age ranges. A post-secondary participation factor was calculated as the ratio of the historical post-secondary enrolment to the inactive population for each age range. This post-secondary participation factor was then applied to the future inactive population in order to determine the future enrolment in post-secondary institutions.

In Table 4, the population aged 18-34 enrolled full-time in a post-secondary institution is projected to increase by 58,000 (1,001,000 to 1,059,000) during the first two years of the projection period due to the economic downturn. Over the remaining projection period, the number of students enrolled full-time decreases rapidly as a result of the decrease in the population aged 18-34 that is not participating in the labour force. The population aged 18-34 enrolled full-time is approximately 80% of the population not participating in the labour force each year in the projection period. Thus, the significant decrease in the population not participating in the labour force, which was discussed above, causes a decrease in the population enrolled in a post-secondary institution.



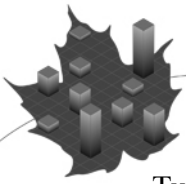
## 2. Number of Students in the Canada Student Loans Program

To project the number of students in the CSLP, it is necessary to determine the future distribution of student need, as well as the average student need. Not everyone enrolled in a post-secondary institution is eligible to participate in the CSLP. The need assessment process determines whether students are eligible for a loan, and if so, the amount they are eligible to receive. A student's need is defined as the excess of expenses over resources, if positive. The expenses assessed include tuition fees, books, shelter, food and transportation. The resources assessed include student earnings, assets and parental contributions. Future distributions of student need are projected using the CSLP need assessment data provided by the Human Resources and Skills Development Canada (HRSDC). For this report, the need assessment data file for loan year 2004-05, which is the last reliable file available, has been used. Although helpful, a more recent data file would be beneficial and improve the projections.

**Table 5 Average Student Need**

Loan Year	Resources (\$)	Tuition (\$)	Other Expenses (\$)	Total Expenses (\$)	Average Student Need (\$)	Average Student Need Increase (\$)
	(1)	(2)	(3)	(2) + (3)	(2) + (3) - (1)	
2007-2008	4,300	5,800	9,500	15,300	10,900	-
2008-2009	4,500	6,000	9,700	15,700	11,200	300
2009-2010	4,400	6,200	9,800	16,000	11,600	400
2010-2011	4,500	6,400	9,900	16,300	11,800	200
2011-2012	4,700	6,600	10,100	16,700	12,000	200
2012-2013	4,900	6,900	10,300	17,200	12,300	300
2013-2014	5,100	7,200	10,500	17,600	12,600	300
2014-2015	5,200	7,500	10,700	18,200	13,000	400
2015-2016	5,400	7,900	10,900	18,800	13,400	400
2016-2017	5,600	8,300	11,200	19,400	13,800	400
2017-2018	5,800	8,700	11,400	20,200	14,300	500
2018-2019	6,000	9,200	11,700	20,900	14,900	600
2019-2020	6,300	9,700	11,900	21,700	15,400	500
2020-2021	6,500	10,200	12,200	22,500	16,000	600
2021-2022	6,700	10,800	12,500	23,300	16,600	600
2022-2023	7,000	11,400	12,800	24,200	17,200	600
2023-2024	7,200	12,000	13,100	25,100	17,800	600
2024-2025	7,500	12,600	13,400	26,000	18,500	700
2025-2026	7,800	13,300	13,700	27,000	19,200	700
2026-2027	8,100	14,000	14,000	28,000	20,000	800
2027-2028	8,400	14,800	14,300	29,100	20,800	800
2028-2029	8,700	15,600	14,700	30,300	21,600	800
2029-2030	9,000	16,400	15,000	31,400	22,400	800
2030-2031	9,300	17,300	15,400	32,700	23,400	1,000
2031-2032	9,700	18,300	15,700	34,000	24,300	900
2032-2033	10,000	19,200	16,100	35,300	25,300	1,000

Table 5 summarizes the three main elements of student need, as well as the average student need. Average student need is increasing because expenses are rising faster than resources. In fact, it is expected that job losses caused by the current economic downturn will reduce student resources in loan years 2009-10 and 2010-11 and increase student need even further. The reduction in student resources is gradually phased out over the following two loan years and resources are expected to return to their best-estimate level in loan year 2013-14.



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Tuition fees are the primary source of increases in student need and are ultimately indexed at 3.0% above inflation. However, tuition has been, on average, 3.1% above inflation over the last ten years and 4.7% above inflation over the last fifteen years. Other expenses, which include books, shelter, food and transportation, are indexed at the rate of inflation. Resources are increased at a slower pace than tuition and are ultimately indexed at 1.3% above inflation. Table 5 shows average tuition fees rising from \$6,000 in 2008-09 to \$19,200 in 2032-33. In fact, tuition fees rise from 133% of a student's available resources in 2008-09 to 192% in 2032-33.

**Chart 2 CSLP Student Projected Need Curve**

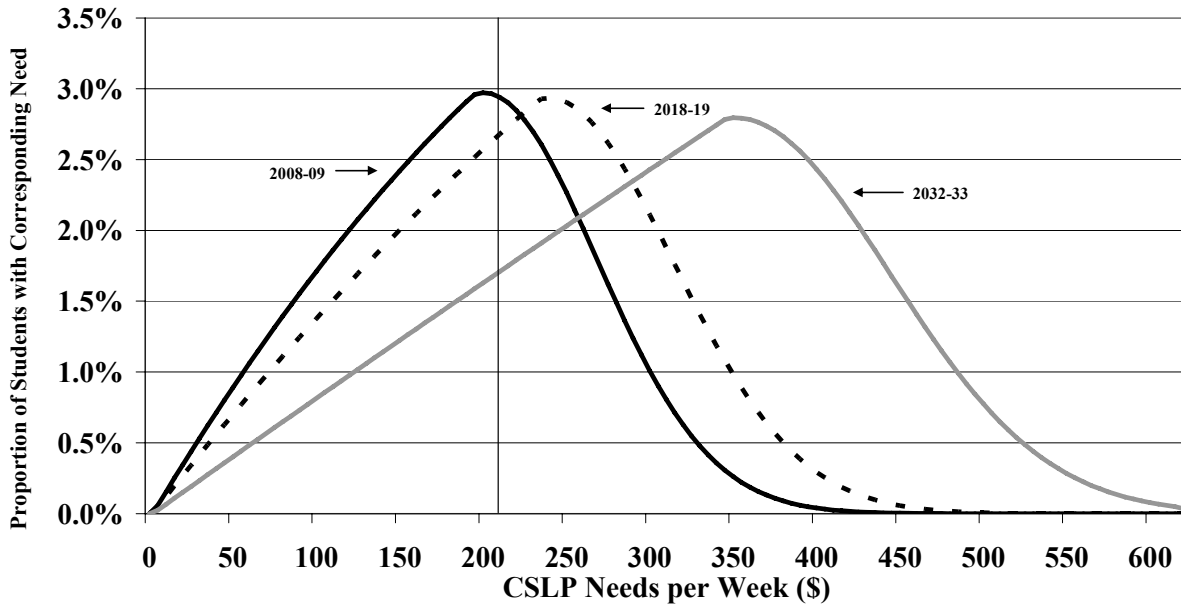


Chart 2 is a projection of the CSLP student need curves for three years during the twenty-five year projection period. The area under each successive need curve grows from year to year and represents the increased participation in the CSLP. The CSLP loan uptake rate is defined as the proportion of students enrolled full-time in a post-secondary institution who take a loan in the CSLP. The vertical line at \$210 in Chart 2 represents the current loan limit. Any borrower whose need falls to the right of this line will receive a loan equal to the limit. Those whose need does not exceed the loan limit are eligible to receive a loan amount equal to their entire need. The effect that the constant loan limit has on new loans issued is apparent since the area under the curves and to the right of the vertical line is increasing through time.

During the projection period, the modified normal curves become flatter as students move further to the right of the curve due to increased need. Need will increase if expenses are increasing faster than resources, as is assumed. The need assessment data show that students with high need have a very low level of resources. Thus students to the right of the peak of the need curve have few resources and will see a large increase in their need. Those to the left of a peak will experience an increase in need less than the average since any increase in need should be partially offset by an increase in resources. It is anticipated that as student need increases, newly eligible participants will enter to the left of the peak. New participants will enter the CSLP because their previously negative need became positive or their need increased enough that it became worthwhile to take the loan. It is expected that as need increases, participants will move towards the right of the peak.



Table 6 shows the evolution of loan recipients over the 25-year projection period. An increase in the loan uptake rate is expected as tuition fees and other expenses grow at a faster rate than resources. This is the main cause of the increase in loans issued over the 25-year period.

The product of the number of students enrolled full-time and the CSLP loan uptake rate, resulting from each successive need curve, gives the number of students in the CSLP. Table 6 shows that the loan uptake rate is expected to increase from 35% in 2007-08 to 51% in 2032-33, adding 82,000 students to the Program. Thus, the number of students in the Program is projected to increase from 354,000 in 2007-08 to 436,000 in 2032-33.

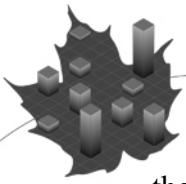
**Table 6 Loan Recipients**

Loan Year	Students Enrolled Full-Time (thousands)	Loan Uptake Rate (%)	Students in CSLP (thousands)	Annual Increase in CSLP Students (thousands)	Annual Increase in CSLP Students (%)
	(1)	(2)	(1) x (2)		
2007-2008	1,001	35.4	354	-	0.0
2008-2009	1,009	36.0	363	9	2.6
2009-2010	1,059	36.5	386	23	6.4
2010-2011	1,056	36.6	387	0	0.1
2011-2012	1,040	36.7	382	-5	-1.2
2012-2013	1,027	36.9	379	-3	-0.8
2013-2014	1,022	37.6	384	5	1.2
2014-2015	1,014	38.1	386	2	0.5
2015-2016	991	38.7	383	-2	-0.6
2016-2017	968	39.2	380	-4	-1.0
2017-2018	954	39.9	380	0	0.1
2018-2019	942	40.4	381	1	0.2
2019-2020	921	41.1	379	-2	-0.5
2020-2021	892	41.7	372	-7	-1.7
2021-2022	873	42.4	370	-2	-0.5
2022-2023	865	43.0	372	1	0.4
2023-2024	853	43.7	373	1	0.4
2024-2025	839	44.3	372	-1	-0.3
2025-2026	827	45.1	373	1	0.3
2026-2027	824	45.6	376	3	0.8
2027-2028	825	46.4	383	7	1.8
2028-2029	828	47.0	389	6	1.6
2029-2030	832	48.0	399	10	2.6
2030-2031	834	49.1	409	10	2.5
2031-2032	843	50.1	422	13	3.2
2032-2033	853	51.1	436	14	3.4

### 3. New Loans Issued

This section focuses on the determination of the amount of new loans issued in each loan year. The two factors primarily responsible for the evolution of new loans issued are student need and the percentage of students reaching the loan limit.

Firstly, an increasing student need will put growing pressure on new loans issued as more students become eligible for, and take, a loan, while those who were previously eligible become eligible for a larger loan. Table 7 shows that the average student need increases from \$10,949 in 2007-08 to \$25,290 in 2032-33. Although the increasing student need causes more students to become eligible to receive a loan, loans to newly eligible individuals are smaller in size and,



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therefore, slow the growth of the average loan size. This indirectly contributes to moderating the average loan growth over the 25-year period.

Secondly, a constant loan limit will restrict the growth of new loans issued. In loan year 2005-06, the loan limit was increased to \$210 per week, but is assumed to remain constant thereafter. This initially resulted in a large decrease of the percentage of students at the limit since fewer students were eligible for a loan of that size. However, over time, as student need increases and the loan limit remains constant, the percentage of students at the loan limit will continue to grow.

In fact, Table 7 shows that the percentage of students at the loan limit is projected to increase from 36.6% in 2007-08 to 78.0% in 2032-33. These students are not eligible for a further increase in loan size despite increasing cost pressures. In approximately nine years, just over half of all CSLP students are projected to reach the loan limit, which was the situation when the decision was made to increase the loan limit to \$210 per week. This situation is graphically depicted in Chart 2 which shows that over the projection period, an increasing proportion of students have needs that equal or exceed the loan limit.

**Table 7 Increase in New Loans Issued**

Loan Year	Average Student Need (%)	Increase (%)	% of Students at Limit	New Loans Issued (\$ million)	Increase (%)	Students in CSLP (Thousands)	Increase (%)	Average Loan Size (\$)	Increase (%)
	(1)		(2)	(3)		(4)		(3) / (4)	
2007-2008	10,949	0.0	36.6	2,000	-	354	-	5,648	-
2008-2009	11,199	2.3	37.8	2,044	2.2	363	2.6	5,628	-0.3
2009-2010	11,596	3.5	39.8	2,198	7.5	386	6.4	5,688	1.1
2010-2011	11,810	1.8	40.7	2,209	0.5	387	0.1	5,713	0.4
2011-2012	12,037	1.9	41.5	2,193	-0.7	382	-1.2	5,737	0.4
2012-2013	12,294	2.1	42.8	2,189	-0.2	379	-0.8	5,774	0.6
2013-2014	12,582	2.3	44.6	2,233	2.0	384	1.2	5,819	0.8
2014-2015	12,956	3.0	46.5	2,264	1.4	386	0.5	5,870	0.9
2015-2016	13,375	3.2	48.1	2,265	0.1	383	-0.6	5,911	0.7
2016-2017	13,844	3.5	50.2	2,264	0.0	380	-1.0	5,966	0.9
2017-2018	14,341	3.6	52.0	2,285	0.9	380	0.1	6,012	0.8
2018-2019	14,860	3.6	54.2	2,312	1.2	381	0.2	6,071	1.0
2019-2020	15,402	3.7	56.2	2,319	0.3	379	-0.5	6,120	0.8
2020-2021	15,970	3.7	58.1	2,298	-0.9	372	-1.7	6,171	0.8
2021-2022	16,564	3.7	59.8	2,301	0.1	370	-0.5	6,214	0.7
2022-2023	17,186	3.8	61.8	2,330	1.3	372	0.4	6,267	0.9
2023-2024	17,837	3.8	63.6	2,354	1.0	373	0.4	6,310	0.7
2024-2025	18,519	3.8	65.4	2,363	0.4	372	-0.3	6,357	0.7
2025-2026	19,233	3.9	67.1	2,386	0.9	373	0.3	6,400	0.7
2026-2027	19,981	3.9	68.9	2,423	1.6	376	0.8	6,445	0.7
2027-2028	20,765	3.9	70.3	2,481	2.4	383	1.8	6,482	0.6
2028-2029	21,586	4.0	72.1	2,539	2.3	389	1.6	6,527	0.7
2029-2030	22,447	4.0	73.6	2,620	3.2	399	2.6	6,564	0.6
2030-2031	23,350	4.0	75.1	2,701	3.1	409	2.5	6,602	0.6
2031-2032	24,297	4.1	76.6	2,803	3.7	422	3.2	6,637	0.5
2032-2033	25,290	4.1	78.0	2,912	3.9	436	3.4	6,672	0.5



Table 7 shows the annual increase in new loans issued over the 25-year projection period. Overall, the total new loans issued increase from \$2,000 million in 2007-08 to \$2,912 million in 2032-33, resulting in an average annual increase of 1.5%. This average annual increase can be attributed to two factors: a 0.85% average annual increase in the number of students in the CSLP and a 0.65% average annual increase in the average loan size. The average loan size is calculated as the ratio of new loans issued to the number of students in the CSLP. The growth rate of the average loan size is moderated due to the constant loan limit.

New loans issued are driven by an increased number of students becoming eligible for a loan as a result of accelerated student need. The average loan size is not greatly affected since the loan limit is capped over the 25-year period. Any significant increase in the limit would have a major impact on the long-term growth rate of new loans issued.

A sensitivity test demonstrating the effect of annually indexing the limit to the rate of inflation is included in Appendix 4. This scenario demonstrates that the growth rate of new loans issued is significantly higher when the loan limit is increased to better reflect increasing student need.

## C. Portfolio Projections

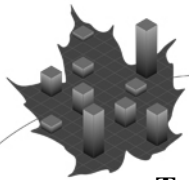
This section presents projections of the portfolio for all three regimes. The amounts for loans in-study represent loans issued to students still in the post-secondary educational system. Interest on loans in-study is fully subsidized by the Government for full-time students in the CSLP. The loans in repayment consist of loans consolidated by students with financial institutions (or the Government) which are still outstanding.

### 1. Guaranteed and Risk-Shared Portfolios

The Guaranteed and Risk-Shared regimes apply to loans issued before August 2000. Some loans in these regimes are still outstanding since there are still students under these regimes attending post-secondary institutions or repaying their loans. Table 8 presents the projections of the loans, separately for the Guaranteed and Risk-Shared regimes, as well as the projection of Risk-Shared impaired loans bought back by the Government (principal only). The projection of Risk-Shared impaired loans is necessary to determine when the limit on the aggregate amount of outstanding loans, imposed by the *Canada Student Financial Assistance Act* (CSFAA), will be reached.

Table 8 shows that the Guaranteed Regime is gradually being phased out over the next twelve years, while loans in the Risk-Shared Regime will take an extra eight years before being completely phased out.

As at July 2008, the total impaired loans coming from the Guaranteed and Risk-Shared regimes that are owned by the Government amount to approximately \$767 million (principal and interest) and are subject to possible future recoveries. The Guaranteed impaired loans are not included in the projection of the Guaranteed portfolio in Table 8. The Government sets up a separate allowance in the Public Accounts for those loan guarantees. This provision calculation is not included in this report.



**Table 8 Guaranteed and Risk-Shared Regimes Portfolios**

As at July 31	Guaranteed			Risk-Shared			
	Loans In-study (with financial institutions)	Loans in Repayment (\$ million)	Total	Loans In-study (with financial institutions)	Loans in Repayment (\$ million)	Impaired Loans (bought back by the Government)	Total
2008	11	106	117	118	2,183	174	2,475
2009	5	71	76	69	1,658	145	1,872
2010	-	49	49	42	1,181	117	1,340
2011	-	31	31	28	806	95	928
2012	-	20	20	17	536	78	631
2013	-	12	12	8	367	65	439
2014	-	8	8	3	249	55	307
2015	-	5	5	-	165	44	210
2016	-	4	4	-	111	34	145
2017	-	2	2	-	74	25	99
2018	-	1	1	-	47	18	65
2019	-	1	1	-	29	12	41
2020	-	-	-	-	17	7	25
2021	-	-	-	-	10	5	15
2022	-	-	-	-	6	3	9
2023	-	-	-	-	3	2	5
2024	-	-	-	-	2	1	3
2025	-	-	-	-	1	-	2
2026	-	-	-	-	1	-	1
2027	-	-	-	-	1	-	1
2028	-	-	-	-	-	-	-

**2. Direct Loan Portfolio and Allowances**

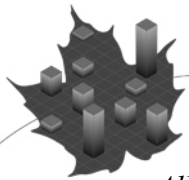
Under the Direct Loan Regime, according to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be accounted for as a Program expense since the loans are provided by the Government instead of by financial institutions. The purpose of this provision is to cover all future net costs and risk of loss associated with loans. As a result, the provision avoids overstatement of Program revenues by immediately recognizing the risk of loss.

The projection of the Direct Loan portfolio includes the balance of outstanding loans, the projection of impaired loans for which students have stopped making payments, allowances for bad debt (principal and interest separately) to cover the risk of future default, net of recoveries, from loans disbursed and the allowance for DRR to cover the future cost of students benefiting from this program disposition.

The projection of the Direct Loan portfolio is shown in Table 9. The projections use the consolidation, default and recovery distributions discussed in Appendix 3. The distributions of defaults and recoveries for the Direct Loan Regime have been updated in this report based on Direct Loans experience. The future gross default and recovery rates remain unchanged at 20.0% and 29.0%, respectively. Overall, the corresponding net default rate remains unchanged at 14.2% for the future. However, in the short-term, the gross default rate and recovery rate are temporarily adjusted to take the recent economic situation into account. Thus, for loan years 2009-10 and 2010-11, the gross default rate is increased to 23% and 21%, respectively and recoveries are reduced by 0.6% and 0.3%, respectively.







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*Allowance for Bad Debt – Principal:* Table 10 provides the details of the calculations for the projection of the impaired loans portfolio and the allowance for bad debt – principal under the Direct Loan Regime.

**Table 10 Impaired Loans and Allowance for Bad Debt – Principal**

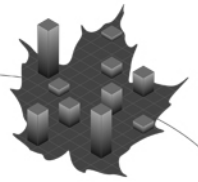
Loan Year	Impaired Loans Portfolio					Allowance for Bad Debt – Principal			
	Balance 1 August	Impaired Loans	Collected Loans	Write- offs	Balance 31 July	Allowance 1 August	Write- offs	Allowance 31 July	Yearly Expense
	(\$ million)					(\$ million)			
	(1)	(2)	(3)	(4)	(1+2) - (3+4)	(1)	(2)	(3)	(3) - (1 - 2)
2007-2008	1,003*	287	92	-	1,198	1,662	-	1,897	235
2008-2009	1,198	304	87	-	1,414	1,897	-	2,186	289
2009-2010	1,414	358	91	102	1,579	2,186	102	2,380	297
2010-2011	1,579	342	95	71	1,755	2,380	71	2,599	290
2011-2012	1,755	353	98	91	1,918	2,599	91	2,812	304
2012-2013	1,918	367	101	115	2,069	2,812	115	2,985	287
2013-2014	2,069	377	105	136	2,205	2,985	136	3,140	292
2014-2015	2,205	384	110	161	2,318	3,140	161	3,275	297
2015-2016	2,318	391	113	180	2,416	3,275	180	3,389	294
2016-2017	2,416	398	107	200	2,507	3,389	200	3,482	294
2017-2018	2,507	404	108	216	2,588	3,482	216	3,563	297
2018-2019	2,588	407	107	229	2,659	3,563	229	3,634	300
2019-2020	2,659	411	109	241	2,719	3,634	241	3,694	301
2020-2021	2,719	414	111	251	2,771	3,694	251	3,741	298
2021-2022	2,771	417	113	259	2,815	3,741	259	3,780	298
2022-2023	2,815	418	115	266	2,852	3,780	266	3,816	302
2023-2024	2,852	419	116	272	2,882	3,816	272	3,850	306
2024-2025	2,882	421	117	277	2,908	3,850	277	3,879	307
2025-2026	2,908	423	120	281	2,930	3,879	281	3,908	310
2026-2027	2,930	426	121	285	2,949	3,908	285	3,938	315
2027-2028	2,949	429	122	288	2,969	3,938	288	3,971	321
2028-2029	2,969	433	123	291	2,988	3,971	291	4,006	326
2029-2030	2,988	439	124	293	3,011	4,006	293	4,047	334
2030-2031	3,011	447	125	295	3,039	4,047	295	4,092	339
2031-2032	3,039	456	126	296	3,072	4,092	296	4,141	346
2032-2033	3,072	467	128	298	3,113	4,141	298	4,194	350

\* The balance of the impaired loans portfolio as at 1 August 2007 differs from the previous report since impaired loans are net of loans recalled and rehabilitated.

In order to determine the amount of the allowance at a particular point in time, a prospective methodology is used from a snapshot of the portfolio at that time. This approach determines the value of the allowance based on the status of loans. This method considers the past experience of prior cohorts and permits faster recognition of new trends for current and new cohorts of loans.

The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or impaired (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be set aside to cover future write-offs.

First, an allowance on the balance of loans in-study is determined using a provision rate of 14.8% which corresponds to a net default rate of 14.2% and an additional upward adjustment of 0.6% for interest accrued during the grace period. An upward adjustment is required because the



provision rate is applied to loans issued rather than loans consolidated. The difference between loans at consolidation and loans at issuance is the interest accrued during the grace period which is capitalised into loans at consolidation.

The 14.8% provision rate is applied to the balance of loans in-study, which is calculated at the end of each loan year as:

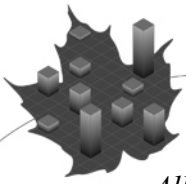
- the balance of loans in-study at the end of the previous year;
- plus loans issued during the year;
- less the sum of loans while in-study and during the six month grace period before consolidation that were prepaid, reduced by Canada Access Grants and loans forgiven; and
- less the value of loans consolidated during the year.

Second, an allowance on the balance of loans in repayment is determined using a rate corresponding to the proportion of projected defaulted loans that will not be recovered. Finally, an allowance is determined on the balance of defaulted loans that will not be recovered. The level of the total allowance is determined at the end of the year. The expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the previous year's allowance net of write-offs that have occurred during the year.

Future default and recovery rates remain unchanged from the previous report, at 20% and 29%, respectively, and remain constant in each loan year. However, to take into consideration the current economic situation, the gross default rate is increased to 23% and 21% for loan years 2009-10 and 2010-11, respectively and recoveries are reduced by 0.6% and 0.3% for the same loan years. The assumption used for write-offs is modified from the last report and consists of a 15-year distribution starting in the sixth year following impairment. Compared to the distribution in the last report, more write-offs occur in the first year of the distribution to take into account the limitation period and the transfer of defaulted loans to the non-recoverable status. The first significant amount of write-offs is planned for loan year 2009-10. In Table 10, the amount of write-offs projected in loan year 2009-10 includes write-offs that were anticipated for previous loan years but did not occur.

For loan year 2007-08, the yearly expense of \$235 million corresponds to the difference between the new allowance of \$1,897 million and the total allowance at the end of loan year 2006-07 which was established to be \$1,662 million in the previous report.

In the Public Accounts, Human Resources and Skills Development Canada should show an allowance as at 31 March 2009 corresponding to the allowance of \$1,897 million as at 31 July 2008, increased by 14.8% of the monthly net loans issued, reduced by write-offs, for the months from August 2008 to March 2009.



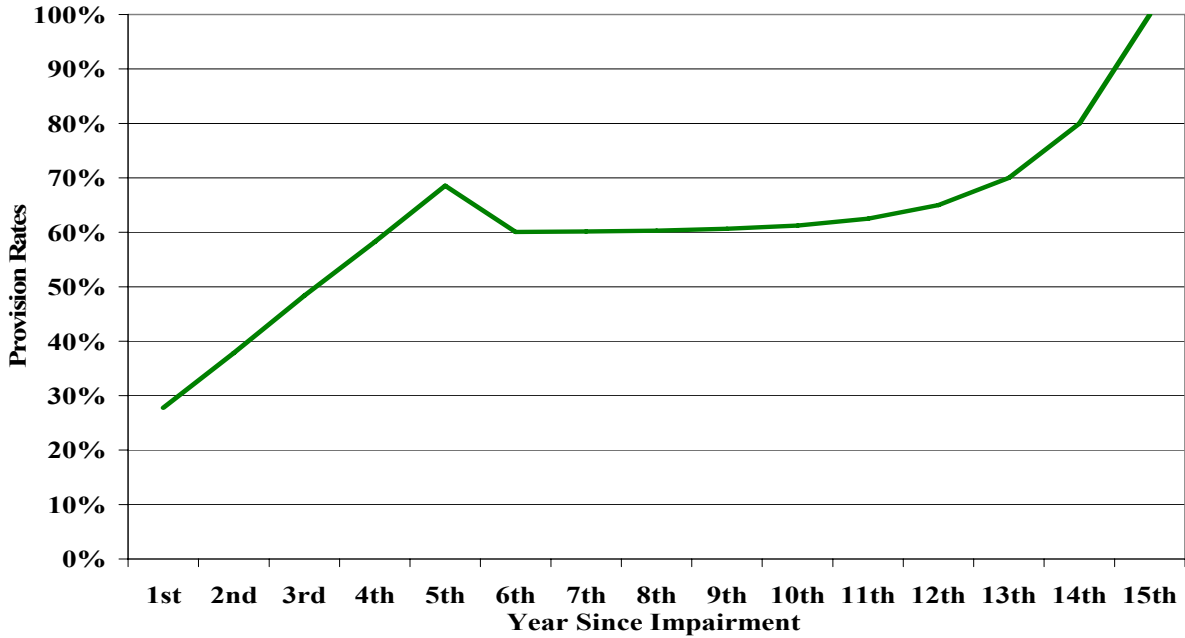
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*Allowance for Bad Debt – Interest:* In accordance with the collection practice, interest accrues on impaired loans until the loans reach a “non-recoverable” status. A provision is set to cover the risk that such accrued interest will never be recovered. The provision methodology is the same as in the previous report. However, provision rates are modified to take into account that more defaulted loans have been transferred to a “non-recoverable” status and reached the limitation period. Chart 3 represents the set of provision rates according to the year since impairment. The methodology and provision rates are provided in Appendix 3.

**Chart 3 Provision Rates for Allowance for Bad Debt – Interest**



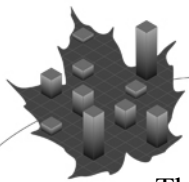


**Table 11 Allowance for Bad Debt – Interest**

<b>Loan Year</b>	<b>Allowance 1 August</b>	<b>Write-Offs</b>	<b>Allowance 31 July</b>	<b>Yearly Expense</b>
	(\$ million)	(\$ million)	(\$ million)	(\$ million)
	(1)	(2)	(3)	(3) - (1 - 2)
2007-2008	71	-	120	49
2008-2009	120	-	155	35
2009-2010	155	37	157	39
2010-2011	157	27	180	50
2011-2012	180	34	203	57
2012-2013	203	41	225	63
2013-2014	225	47	247	69
2014-2015	247	52	269	75
2015-2016	269	57	292	80
2016-2017	292	62	316	86
2017-2018	316	68	337	88
2018-2019	337	73	354	90
2019-2020	354	78	368	92
2020-2021	368	82	380	94
2021-2022	380	85	390	95
2022-2023	390	88	398	97
2023-2024	398	91	405	98
2024-2025	405	93	410	98
2025-2026	410	95	415	99
2026-2027	415	96	419	100
2027-2028	419	97	422	100
2028-2029	422	98	425	101
2029-2030	425	99	428	102
2030-2031	428	100	431	103
2031-2032	431	100	434	104
2032-2033	434	101	438	105

The allowance for bad debt – interest on recoverable accounts is determined using the outstanding interest and a variable provision rate for each year since impairment. The provision rate is set at 27.8% for defaulted interest in the first year of impairment and increases for the following four years. There is a step down in the sixth year, based on the experience of defaulted loans transferred to the “non-recoverable” status, followed by an increase each year thereafter. Under this methodology, the increasing provision rate reflects the fact that the difficulty of recovering defaults increases as the time since impairment increases. The allowance on non-recoverable accounts is 100% and the interest on these accounts is written off over a 15-year period, starting in the sixth year after the impairment occurs. The annual expense is equal to the difference between the allowance at the end of a given year and the allowance of the previous year net of write-offs that have occurred during the year. In the Public Accounts, Human Resources and Skills Development Canada is using this methodology to calculate the allowance and annual expense as at 31 March of each year. The allowance as at 31 March 2009 is determined using the provision rates shown in Table 2 and is around \$154 million.

The allowance at the beginning of loan year 2007-08 was calculated to be \$71 million in the previous report. The allowance at the end of loan year 2007-08 is \$120 million considering the experience of the loan year and using the new provision rate. The resulting expense for loan year 2007-08 is \$49 million (\$120 - \$71 million). Write-offs of interest are postponed until loan year 2009-10 which is the first year a significant amount of write-offs is expected.



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The allowance for bad-debt – interest is much lower than in the previous report throughout the projection period since more loans are transferred to the “non-recoverable” status and no interest is accrued on those “non-recoverable” loans.

*Allowance for Debt Reduction in Repayment:* Table 12 provides the details of the calculation for the projection of the allowance for debt reduction in repayment (DRR) under the Direct Loan Regime.

**Table 12 Allowance for Debt Reduction in Repayment**

Loan Year	Allowance 1 August	DRR Expenses	Allowance 31 July	Yearly Expense
	(\$ million)	(\$ million)	(\$ million)	(\$ million)
	(1)	(2)	(3)	(3) - (1-2)
2007-2008	72	9	114	51
2008-2009	114	11	122	18
2009-2010	122	15	127	19
2010-2011	127	16	130	19
2011-2012	130	18	131	19
2012-2013	131	19	132	19
2013-2014	132	19	132	19
2014-2015	132	20	132	20
2015-2016	132	21	130	20
2016-2017	130	22	128	20
2017-2018	128	23	126	20
2018-2019	126	23	123	20
2019-2020	123	23	120	20
2020-2021	120	23	117	20
2021-2022	117	23	113	20
2022-2023	113	24	110	20
2023-2024	110	24	107	20
2024-2025	107	24	103	21
2025-2026	103	24	101	21
2026-2027	101	24	98	21
2027-2028	98	24	96	22
2028-2029	96	24	95	22
2029-2030	95	24	94	23
2030-2031	94	24	94	24
2031-2032	94	24	95	25
2032-2033	95	24	97	26

The provision rate for DRR is increased from 0.7% to 1.0%. Although a new DRR data file was not provided for loan year 2007-08, the total DRR expense amount for the loan year is higher than expected. Moreover, the interest relief utilization is increasing and assumptions regarding the exhaustion of interest relief, which is the basis of DRR eligibility, are refined for this report using the interest relief data file. Only three years of DRR experience for Direct Loan borrowers is available.

As for the allowance for bad debt – principal, the provision rate of 1.0% is applied to net loans issued. The allowance at the beginning of loan year 2007-08 was calculated to be \$72 million in the previous report. The allowance at the end of loan year 2007-08 is \$114 million using the new provision rate. The annual expense is equal to the difference between the allowance at the end of a year and the allowance of the previous year net of DRR that have occurred during the year. For loan year 2007-08, the annual expense corresponds to \$51 million which includes a retroactive adjustment to take into account the increased provision rate on net loans issued since loan year 2000-01. In the Public Accounts, Human Resources and Skills Development Canada



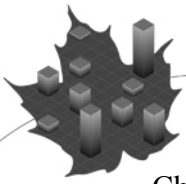
should show an allowance as at 31 March 2009 corresponding to the allowance of \$114 million as at 31 July 2008, increased by 1.0% of the monthly net loans issued minus DRR expenses for the months from August 2008 to March 2009.

For comparison purposes, Table 13 shows the Direct Loan portfolio in 2008 constant dollars. Starting in loan year 2016-17, the portfolio decreases since the assumed inflation rate is higher than the annual growth of the portfolio in Table 9.

**Table 13 Direct Loan Portfolio and Allowances (in millions of 2008 constant dollars)<sup>1</sup>**

As at 31 July	Loans In-study	Loans in Repayment	Impaired Loans	Total	Allowance for		
					Bad Debt Principal	Bad Debt Interest	DRR
2008	4,459	4,633	1,198	10,290	1,897	120	114
2009	4,656	5,046	1,398	11,100	2,160	153	120
2010	4,922	5,379	1,541	11,841	2,322	153	124
2011	4,984	5,746	1,679	12,409	2,486	172	124
2012	4,972	6,020	1,798	12,791	2,637	190	123
2013	4,919	6,220	1,902	13,041	2,743	207	121
2014	4,884	6,354	1,985	13,222	2,827	222	119
2015	4,845	6,437	2,042	13,325	2,885	237	116
2016	4,777	6,492	2,081	13,350	2,918	252	112
2017	4,686	6,518	2,108	13,312	2,928	266	108
2018	4,604	6,495	2,125	13,224	2,926	277	103
2019	4,533	6,449	2,132	13,114	2,914	284	98
2020	4,455	6,382	2,130	12,966	2,893	288	94
2021	4,352	6,296	2,119	12,767	2,861	291	89
2022	4,253	6,192	2,103	12,548	2,823	291	84
2023	4,175	6,080	2,080	12,335	2,784	290	80
2024	4,107	5,966	2,053	12,126	2,742	288	76
2025	4,035	5,855	2,023	11,913	2,699	285	72
2026	3,969	5,746	1,990	11,704	2,655	282	68
2027	3,916	5,640	1,957	11,513	2,612	278	65
2028	3,884	5,543	1,923	11,350	2,572	273	62
2029	3,864	5,459	1,891	11,214	2,534	269	60
2030	3,864	5,387	1,860	11,112	2,500	264	58
2031	3,874	5,333	1,833	11,040	2,469	260	57
2032	3,901	5,294	1,810	11,004	2,440	256	56
2033	3,940	5,273	1,791	11,004	2,413	252	56

<sup>1</sup> For a given year, the value in 2008 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2008.



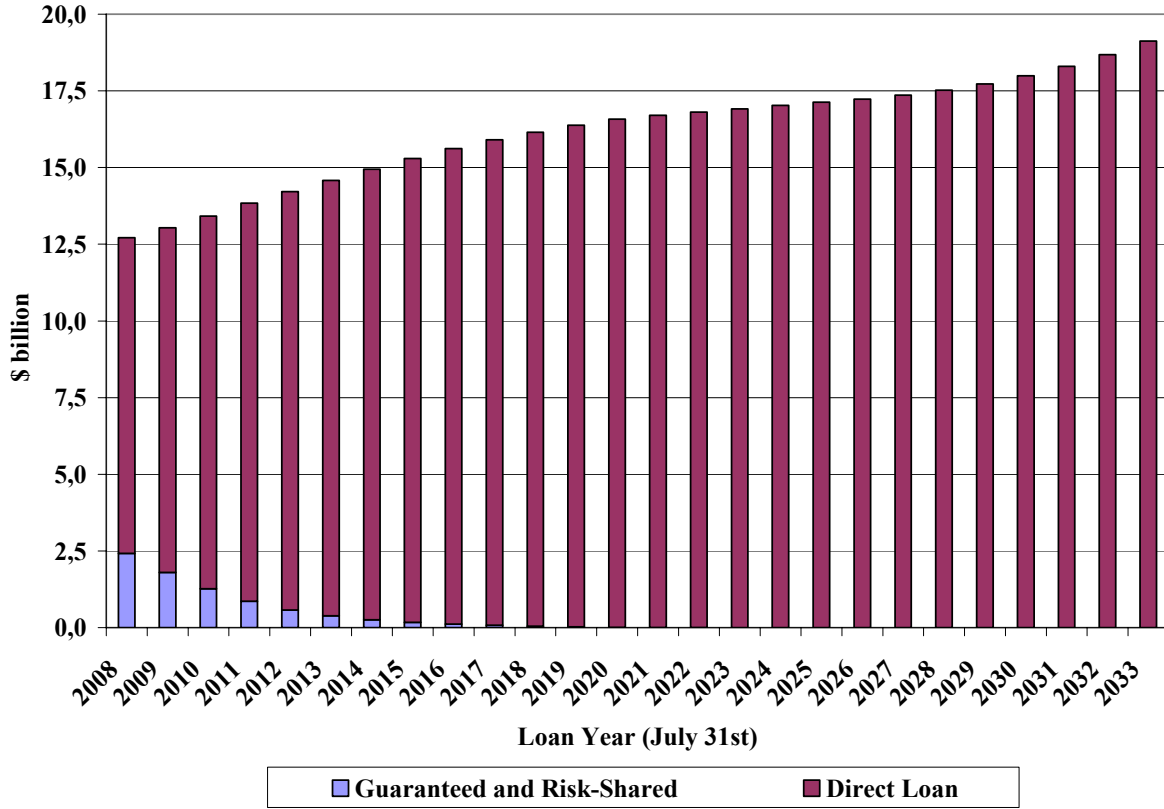
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Chart 4 shows a projection of the loan portfolio split between the Direct Loan, Guaranteed and Risk-Shared regimes. Guaranteed and Risk-Shared loans are phased-out over time.

**Chart 4 Projection of the Loan Portfolios**







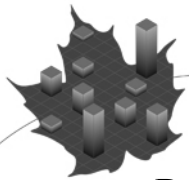
### 3. Limit on Aggregate Amount of Outstanding Loans

The CSFAA imposes a limit on the aggregate amount of outstanding loans in the CSLP. The current limit, in section 13 of the CSFAA, is set at \$15 billion and was increased from the previous \$5 billion ceiling through an amendment to the CSFAA in 2000. The CSFAA applies to the Risk-Shared and Direct Loan regimes. The aggregate amount of outstanding loans is the principal portion of all loans disbursed and not yet repaid which consists of the total principal amounts of loans in-study, loans in repayment and impaired loans. Table 14 presents the projections of the aggregate amount of outstanding Risk-Shared and Direct loans in the CSLP.

As at 31 July 2008, the aggregate amount of outstanding Risk-Shared and Direct Loans is \$12.8 billion. This projection shows that the \$15 billion limit would be reached during loan year 2014-15. However, fluctuations throughout the year may cause the aggregate amount of loans to exceed the limit prior to loan year 2014-15.

**Table 14 Aggregate Amount of Outstanding Risk-Shared and Direct Loans**

As at July 31	Total of Risk-Shared Loans	Total of Direct Loans	Total
	(\$ million)	(\$ million)	(\$ million)
2008	2,475	10,290	12,765
2009	1,872	11,233	13,105
2010	1,340	12,139	13,479
2011	928	12,976	13,904
2012	631	13,642	14,273
2013	439	14,188	14,627
2014	307	14,687	14,994
2015	210	15,126	15,336
2016	145	15,503	15,648
2017	99	15,830	15,929
2018	65	16,103	16,168
2019	41	16,352	16,393
2020	25	16,556	16,581
2021	15	16,693	16,709
2022	9	16,800	16,810
2023	5	16,911	16,916
2024	3	17,024	17,027
2025	2	17,126	17,128
2026	1	17,230	17,231
2027	1	17,355	17,356
2028	-	17,521	17,521
2029	-	17,725	17,725
2030	-	17,986	17,986
2031	-	18,298	18,298
2032	-	18,677	18,677
2033	-	19,125	19,125



## D. Projection of the Net Cost of the Program

### 1. Student Related Expenses

The most important expense of the CSLP is the cost of supporting students during their study and repayment periods. This expense includes the interest subsidy, the expenses for interest relief and the provisions or expenses for DRR under the different regimes. The Canada Study Grants and Canada Access Grants support students directly rather than assisting them in the form of loans.

**Table 15 Student Related Expenses**

Loan Year	Direct Loan			Risk-Shared and Guaranteed			Canada Study and Access Grants	Total
	Interest Subsidy	Interest Relief	Provision for DRR	Interest Subsidy	Interest Relief	DRR		
	(\$million)			(\$ million)			(\$ million)	(\$ million)
2007-2008	188.2	80.6	50.9	8.3	14.9	14.3	161.8	519.0
2008-2009	165.0	70.6	18.1	4.0	7.3	11.0	165.4	441.2
2009-2010	160.5	72.9	19.5	2.2	5.0	7.3	172.1	439.4
2010-2011	219.1	87.6	19.4	1.9	4.0	4.8	173.7	510.3
2011-2012	235.1	93.7	19.1	1.2	2.7	3.2	174.9	530.0
2012-2013	243.6	98.6	19.0	0.6	1.8	2.2	176.7	542.5
2013-2014	258.8	104.2	19.5	0.2	1.2	2.0	180.3	566.0
2014-2015	274.6	109.3	19.7	-	0.8	1.2	183.5	589.1
2015-2016	289.5	115.8	19.7	-	0.5	0.6	185.7	611.7
2016-2017	303.4	122.0	19.7	-	0.2	0.4	188.1	633.8
2017-2018	305.2	122.8	19.8	-	0.1	0.3	191.4	639.6
2018-2019	307.6	123.4	20.1	-	-	0.2	195.0	646.3
2019-2020	309.6	123.8	20.1	-	-	0.1	197.9	651.6
2020-2021	310.0	124.1	19.9	-	-	-	199.9	654.0
2021-2022	310.2	124.2	19.9	-	-	-	202.8	657.2
2022-2023	311.6	124.0	20.2	-	-	-	206.7	662.6
2023-2024	313.8	123.9	20.5	-	-	-	210.5	668.7
2024-2025	315.8	123.9	20.5	-	-	-	213.8	674.0
2025-2026	318.0	123.9	20.7	-	-	-	217.7	680.3
2026-2027	321.1	124.0	21.1	-	-	-	222.2	688.4
2027-2028	325.9	124.3	21.6	-	-	-	227.6	699.4
2028-2029	331.8	124.9	22.1	-	-	-	233.0	711.9
2029-2030	339.5	125.9	22.9	-	-	-	239.3	727.6
2030-2031	348.4	127.4	23.6	-	-	-	245.7	745.1
2031-2032	359.0	129.3	24.6	-	-	-	252.9	765.8
2032-2033	371.1	131.8	25.5	-	-	-	260.5	789.0

The projected interest subsidy is lower than in the previous report since the expected government cost of borrowing is lower for loan year 2008-09 and subsequent loan years. The interest relief payment is higher than expected for loan year 2007-08. Also, it is expected that the current economic situation will have an impact on interest relief utilization in loan years 2008-09 to 2010-11 as borrowers will be more likely to experience difficulty in making their monthly loan payments and may apply for assistance in the form of interest relief. However, since the student cost of borrowing is lower than expected, the interest relief payments are lower than in the last report for loan years 2008-09 and 2009-10 and slightly higher for loan year 2010-11.



## 2. Program Risk Expenses

Another expense for the Government is the risk involved in disbursing loans to students. Specifically, the risk of loan default and the risk of loans being forgiven upon a student's death or disability are included in this section.

**Table 16 Risks to the Government**

Loan Year	Direct Loan		Risk-Shared		Guaranteed	Loans Forgiven	Total
	Provision for Bad Debt		Risk	Put-Backs & Refunds to FIs	Claims for Impaired Loans		
	Principal	Interest	Premium				
	(\$ million)		(\$ million)		(\$ million)	(\$million)	(\$ million)
2007-2008	234.9	48.9	2.7	4.2	7.6	10.5	308.7
2008-2009	288.9	35.0	2.4	3.9	5.7	14.1	350.0
2009-2010	296.6	38.7	1.4	2.9	4.6	14.9	359.1
2010-2011	290.3	50.1	0.7	2.1	3.7	15.6	362.5
2011-2012	304.1	56.8	0.6	1.7	1.8	16.6	381.7
2012-2013	287.2	62.7	0.4	1.5	0.9	17.5	370.2
2013-2014	291.7	68.7	0.3	1.2	0.4	18.3	380.6
2014-2015	296.5	74.6	0.1	1.0	0.2	19.0	391.4
2015-2016	293.8	80.3	-	0.8	0.1	19.5	394.6
2016-2017	293.8	86.2	-	0.6	0.1	20.1	400.7
2017-2018	296.6	88.4	-	0.4	-	20.6	406.1
2018-2019	300.4	90.5	-	0.3	-	21.0	412.1
2019-2020	301.0	92.4	-	0.2	-	21.3	414.9
2020-2021	297.7	94.0	-	0.1	-	21.6	413.4
2021-2022	298.2	95.4	-	0.1	-	21.8	415.4
2022-2023	302.4	96.6	-	-	-	21.9	421.0
2023-2024	305.8	97.6	-	-	-	22.1	425.5
2024-2025	306.8	98.5	-	-	-	22.2	427.5
2025-2026	309.8	99.3	-	-	-	22.3	431.4
2026-2027	315.0	99.9	-	-	-	22.4	437.3
2027-2028	321.0	100.5	-	-	-	22.5	444.0
2028-2029	325.9	101.1	-	-	-	22.7	449.6
2029-2030	333.6	101.7	-	-	-	22.9	458.2
2030-2031	339.4	102.5	-	-	-	23.1	465.1
2031-2032	345.5	103.5	-	-	-	23.5	472.6
2032-2033	350.5	104.8	-	-	-	23.9	479.1

Under the Direct Loan Regime, the provisions for bad debt (principal and interest) represent the cost of the risk to the Government of being involved directly in the disbursement of loans to students.

Under the Risk-Shared Regime, the risk premium represents the amount paid to lending institutions by the Government based on the value of loans consolidated for repayment in a year. Also included are put-back fees and refunds to financial institutions for loans bought back by the Government.

Put-back fees exist only in the Risk-Shared arrangement as a way to transfer some of the risk back to the Government. According to the agreement, the Government is only obligated to buy back loans impaired for at least 12 months, up to a maximum of 3% of the total loans in repayment with the financial institution each year. Financial institutions decide whether to sell impaired loans, and if so, which ones to sell. The Government pays a put-back fee of five cents on the dollar for these loans.



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The entire amount of recoveries on student loans bought back in the Risk-Shared Regime is considered revenue in Table 18. According to the agreement, amounts recovered from income tax refunds are shared with the financial institutions. The participating financial institutions receive a refund of 75% of the amount recovered from income tax refunds in excess of the put-back fees.

For the Guaranteed Regime, impaired loans are included in claims paid as a statutory expense since the Government bears the entire risk of impaired loans under this Regime. In the Public Accounts, Guaranteed loans are classified as assets for which provisions for loan guarantees and loans in default are set up.

Loans forgiven correspond to loans that are forgiven (principal only) following the death or permanent disability of a borrower during the period of study, repayment, or even after the loan has been transferred to default status.



### 3. Other Expenses

Alternative payments are made directly to Québec, the Northwest Territories and Nunavut, which do not participate in the CSLP. The participating provinces and territory are paid a fee to finance the administration of the CSLP.

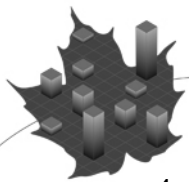
The administration expenses include the fees paid to provinces, the recovery costs of impaired loans for the three regimes and general administration, which are the expenses incurred by the departments involved and fees paid to service providers. Recovery costs are nil starting in 2009-10, since private collection activities are going to be eliminated by June 2009. Canada Revenue Agency (CRA) will be responsible for all collection activities on impaired loans.

**Table 17 Summary of Expenses**

Loan Year	Student Related Expenses	Risks to the Government	Alternative Payments*	Administration			Total Expenses
				Fees Paid to Provinces	Recovery Cost	General	
	(\$ million)	(\$ million)	(\$ million)		(\$ million)		(\$ million)
2007-2008	519.0	308.7	115.8	13.8	13.0	142.5	1,112.8
2008-2009	441.2	350.0	126.1	14.0	12.1	141.9	1,085.4
2009-2010	439.4	359.1	135.4	14.3	-	140.4	1,088.7
2010-2011	510.3	362.5	145.1	14.7	-	142.9	1,175.7
2011-2012	530.0	381.7	160.2	15.2	-	147.2	1,234.2
2012-2013	542.5	370.2	167.6	15.6	-	151.7	1,247.7
2013-2014	566.0	380.6	173.7	16.2	-	156.7	1,293.1
2014-2015	589.1	391.4	180.2	16.7	-	162.2	1,339.6
2015-2016	611.7	394.6	185.6	17.3	-	168.1	1,377.3
2016-2017	633.8	400.7	188.3	18.0	-	174.3	1,415.1
2017-2018	639.6	406.1	191.6	18.6	-	180.8	1,436.7
2018-2019	646.3	412.1	189.5	19.3	-	187.6	1,454.7
2019-2020	651.6	414.9	188.0	20.1	-	194.6	1,469.1
2020-2021	654.0	413.4	186.9	20.8	-	201.9	1,476.9
2021-2022	657.2	415.4	187.0	21.6	-	209.4	1,490.6
2022-2023	662.6	421.0	187.2	22.4	-	217.2	1,510.3
2023-2024	668.7	425.5	187.9	23.2	-	225.3	1,530.6
2024-2025	674.0	427.5	190.3	24.1	-	233.7	1,549.6
2025-2026	680.3	431.4	194.8	25.0	-	242.4	1,573.9
2026-2027	688.4	437.3	199.8	25.9	-	251.5	1,603.0
2027-2028	699.4	444.0	204.8	26.9	-	260.9	1,635.9
2028-2029	711.9	449.6	209.2	27.9	-	270.6	1,669.1
2029-2030	727.6	458.2	214.0	28.9	-	280.7	1,709.5
2030-2031	745.1	465.1	219.5	30.0	-	291.2	1,750.9
2031-2032	765.8	472.6	225.2	31.1	-	302.0	1,796.7
2032-2033	789.0	479.1	230.5	32.3	-	313.3	1,844.3

\* The calculation of alternative payments is based on expenses and revenues for a given loan year and the payment is accounted for in the following loan year.

As shown in Table 17, total expenses associated with the Program increase from \$1.1 billion in 2007-08 to \$1.8 billion in 2032-33. On average, total expenses increase at a rate of 2.0% per year from 2007-08 to 2032-33.



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### 4. Total Revenue

In Table 18, the revenue for the Direct Loan Regime comes from the interest earned from student loans in repayment, which include interest accrued during the six-month grace period following the study end date, interest accrued on impaired loans and interest relief. This interest earned is net of interest on loans forgiven. The revenue is reduced by the Government's cost of borrowing to obtain the net interest revenue. The interest on impaired Direct Loans is accrued until the status of the loans becomes "non-recoverable". The interest recovered on Direct Loans is already considered in the above interest earned calculation and is not shown separately.

Under the Guaranteed and Risk-Shared regimes, there is no interest earned by the Government since students in good-standing pay interest directly to the financial institutions. The only source of revenue from these regimes comes from the recoveries of principal and interest from impaired loans owned by the Government.

On average, total revenue increases at a rate of 1.0% per year from 2007-08 to 2032-33.

**Table 18 Total Revenue**

Loan Year	Direct Loan			Risk-Shared	Guaranteed	Total Revenue
	Student Interest Earned	Borrowing Cost	Net Interest Revenue	Principal and Interest from Recovery	Principal and Interest from Recovery	
	(\$ million)		(\$ million)	(\$ million)	(\$ million)	(\$ million)
2007-2008	539.2	-205.5	333.7	13.6	45.7	393.0
2008-2009	421.0	-186.1	234.9	11.3	36.5	282.7
2009-2010	441.7	-186.3	255.4	9.2	26.4	291.1
2010-2011	560.0	-266.0	294.0	7.3	16.8	318.1
2011-2012	617.8	-301.2	316.5	6.2	10.9	333.6
2012-2013	662.1	-327.2	334.9	5.3	7.4	347.5
2013-2014	711.3	-359.7	351.6	4.4	5.1	361.1
2014-2015	758.3	-390.6	367.7	3.6	3.5	374.9
2015-2016	814.2	-421.4	392.8	2.9	2.5	398.2
2016-2017	869.6	-452.0	417.6	2.2	1.8	421.6
2017-2018	887.7	-462.4	425.3	1.6	1.2	428.1
2018-2019	902.9	-471.0	431.8	1.2	0.9	433.9
2019-2020	916.0	-478.0	438.0	0.8	0.6	439.4
2020-2021	926.6	-483.7	442.9	0.5	0.4	443.8
2021-2022	934.4	-488.1	446.2	0.3	0.3	446.8
2022-2023	940.4	-491.5	448.9	0.2	0.2	449.2
2023-2024	945.9	-494.3	451.6	0.1	0.1	451.8
2024-2025	951.4	-497.0	454.4	0.1	-	454.5
2025-2026	956.6	-499.4	457.2	-	-	457.2
2026-2027	961.9	-502.0	459.9	-	-	459.9
2027-2028	968.0	-504.9	463.1	-	-	463.1
2028-2029	976.0	-508.6	467.4	-	-	467.5
2029-2030	986.2	-513.2	472.9	-	-	472.9
2030-2031	999.2	-519.2	479.9	-	-	479.9
2031-2032	1,015.0	-526.7	488.3	-	-	488.3
2032-2033	1,034.5	-536.0	498.4	-	-	498.4



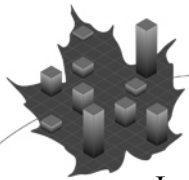
## 5. Net Cost of the Program

Table 19 shows, in current dollars, total expenses, revenue and the net cost of the Program for the 25-year projection period, while Table 20 shows the same, but in 2008 constant dollars. The expenses and revenue shown correspond to values presented earlier in this report.

**Table 19 Net Annual Cost of the Program**

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	(\$ million)		(\$ million)	(\$ million)	(\$ million)
2007-2008	1,112.8	393.0	719.8	721.8	-2.0
2008-2009	1,085.4	282.7	802.8	812.1	-9.4
2009-2010	1,088.7	291.1	797.6	808.8	-11.2
2010-2011	1,175.7	318.1	857.6	863.7	-6.1
2011-2012	1,234.2	333.6	900.7	906.1	-5.4
2012-2013	1,247.7	347.5	900.2	905.1	-5.0
2013-2014	1,293.1	361.1	932.1	936.1	-4.1
2014-2015	1,339.6	374.9	964.7	968.3	-3.6
2015-2016	1,377.3	398.2	979.1	982.4	-3.4
2016-2017	1,415.1	421.6	993.5	996.1	-2.6
2017-2018	1,436.7	428.1	1,008.6	1,010.6	-2.0
2018-2019	1,454.7	433.9	1,020.8	1,022.4	-1.6
2019-2020	1,469.1	439.4	1,029.7	1,030.8	-1.1
2020-2021	1,476.9	443.8	1,033.1	1,033.9	-0.8
2021-2022	1,490.6	446.8	1,043.7	1,044.3	-0.5
2022-2023	1,510.3	449.2	1,061.1	1,061.4	-0.3
2023-2024	1,530.6	451.8	1,078.8	1,078.9	-0.2
2024-2025	1,549.6	454.5	1,095.1	1,095.2	-0.1
2025-2026	1,573.9	457.2	1,116.7	1,116.8	-
2026-2027	1,603.0	459.9	1,143.1	1,143.1	-
2027-2028	1,635.9	463.1	1,172.8	1,172.8	-
2028-2029	1,669.1	467.5	1,201.7	1,201.7	-
2029-2030	1,709.5	472.9	1,236.5	1,236.5	-
2030-2031	1,750.9	479.9	1,271.0	1,271.0	-
2031-2032	1,796.7	488.3	1,308.4	1,308.4	-
2032-2033	1,844.3	498.4	1,345.8	1,345.8	-

As shown in Table 19, the initial net annual cost for the Direct Loan Regime is \$722 million for loan year 2007-08 and reaches \$1.3 billion in loan year 2032-33. This represents an annual average increase of 2.5% for the entire projection period.



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In 2008 constant dollars (Table 20), the cost of the Direct Loan Regime increases by an average of 0.4% a year, from \$722 million in loan year 2007-08 to \$793 million in 2032-33.

**Table 20 Net Annual Cost of the Program (in millions of 2008 constant dollars)<sup>1</sup>**

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	(\$ million)		(\$ million)	(\$ million)	(\$ million)
2007-2008	1,112.8	393.0	719.8	721.8	-2.0
2008-2009	1,072.6	279.3	793.3	802.5	-9.2
2009-2010	1,062.0	283.9	778.0	789.0	-11.0
2010-2011	1,124.3	304.2	820.1	826.0	-5.9
2011-2012	1,157.2	312.7	844.5	849.6	-5.1
2012-2013	1,146.9	319.4	827.4	832.0	-4.6
2013-2014	1,164.2	325.1	839.1	842.8	-3.7
2014-2015	1,180.0	330.2	849.8	853.0	-3.2
2015-2016	1,213.3	350.8	862.5	865.4	-3.0
2016-2017	1,218.5	363.0	855.5	857.8	-2.3
2017-2018	1,208.2	360.0	848.2	849.8	-1.6
2018-2019	1,194.6	356.3	838.3	839.6	-1.3
2019-2020	1,178.2	352.4	825.8	826.7	-0.9
2020-2021	1,156.7	347.6	809.1	809.7	-0.6
2021-2022	1,140.0	341.7	798.3	798.7	-0.4
2022-2023	1,128.1	335.5	792.5	792.8	-0.2
2023-2024	1,116.4	329.5	786.8	787.0	-0.1
2024-2025	1,103.8	323.7	780.0	780.1	-
2025-2026	1,094.8	318.0	776.8	776.8	-
2026-2027	1,088.9	312.4	776.5	776.5	-
2027-2028	1,085.2	307.2	778.0	778.0	-
2028-2029	1,081.3	302.8	778.5	778.5	-
2029-2030	1,081.5	299.2	782.3	782.3	-
2030-2031	1,081.7	296.5	785.2	785.2	-
2031-2032	1,084.0	294.6	789.4	789.4	-
2032-2033	1,086.6	293.7	793.0	793.0	-

<sup>1</sup> For a given year, the value in 2008 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2008.





### III. Conclusion

The Canada Student Loans Program promotes accessibility to post-secondary education for those with demonstrated financial need by providing loans and grants, thereby encouraging successful and timely completion of post-secondary education. In accordance with the section 19.1 of the *Canada Student Financial Assistance Act*, the Office of the Chief Actuary conducts an actuarial review on financial assistance provided under this Act.

The current economic situation is expected to have an impact on enrolment and loan uptake, particularly in loan year 2009-10. Specifically, the number of students enrolled full-time in a post-secondary institution is projected to increase by 50,000, from 1,009,000 in 2008-09 to 1,059,000 in 2009-10, while the number of students receiving a CSLP loan is expected to increase by 23,000, from 363,000 to 386,000. The loan uptake of students in post-secondary institutions is projected to increase from 35% to 51% over the projection period. Such an increase in participation in the Program is mainly a result of rising student need. This need is affected by the evolution of tuition fees and other expenses, which increase at a faster rate than resources.

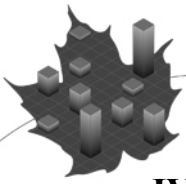
The current economic situation is also reflected in the short-term results regarding loans issued and impaired loans:

- The projected amount of new loans issued grows by \$154 million, from \$2.0 billion in 2008-09 to \$2.2 billion in 2009-10. The amount of new loans issued increases throughout the projection period and reaches \$2.9 billion in 2032-33.
- The projected impaired loans grow by \$54 million, from \$304 million in 2008-09 to \$358 million in 2009-10. Moreover, total projected recoveries are decreased and interest relief utilization is adjusted upward.

The Direct Loan portfolio increases from \$10.3 billion in 2007-08 to \$19.1 billion by 2032-33. According to the projections, the \$15 billion limit on the aggregate amount of Direct and Risk-Shared outstanding loans is expected to be reached in loan year 2014-15.

The total net cost of the Government's involvement in the CSLP, which is the difference between expenses and revenue, is expected to grow from \$0.7 billion to \$1.3 billion over the projection period. This represents an average annual increase in the cost to the Government of 2.5%.

The provision rate for bad debt – principal, applied to net loans issued, remains unchanged from the previous report at 14.8%. The provision rates for bad debt – interest, applied to the balance of recoverable interest according to the year since impairment, are modified to reflect the experience of transfers of defaulted loans to the “non-recoverable” status. The provision rate for debt reduction in repayment is increased from 0.7% in the previous report to 1.0% to take into account DRR experience in loan year 2007-08 and the expected increase in interest relief and DRR utilization.



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#### IV. Actuarial Opinion

In compliance with the standards of practice of the Canadian Institute of Actuaries, we are hereby giving the opinion that,

- the data on which this report is based are sufficient and reliable;
- the demographic and economic assumptions used are, in aggregate, appropriate; and
- the valuation conforms with the requirements of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

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Michel Millette, F.S.A., F.C.I.A.  
Senior Actuary

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Jean-Claude Ménard, F.S.A., F.C.I.A.  
Chief Actuary

Ottawa, Canada  
5 June 2009



## V. APPENDICES

### Appendix 1 – Summary of Program Provisions

The Canada Student Loans Program (CSLP) came into force on 28 July 1964 to provide Canadians equal opportunity to study beyond the secondary level and to encourage successful and timely completion of post-secondary education. The Government became involved in order to assist students because post-secondary education is costly. The CSLP is meant to supplement resources available to students from their own earnings, their families and other student awards.

Historically, two successive acts were established to assist qualifying students. The *Canada Student Loans Act* (CSLA) was established, applying to loan years preceding August 1995 and the *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995. Both acts permit the Minister of Human Resources and Skills Development Canada to provide loans to eligible students under the CSLP.

#### 1. Eligibility Criteria

A student must be a Canadian citizen, within the meaning of the *Immigration Act* and must demonstrate the need for financial assistance to become eligible to receive a loan. A student must also fulfill a series of criteria (scholastic standard and financial) to be considered for a loan. Upon application each year to their province of residence, loans are available to full-time students regardless of age and, since 1983, to part-time students.

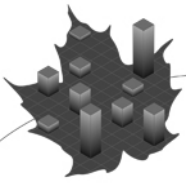
#### 2. Partnerships

Since inception in 1964, the Minister has delegated powers, under both appropriate acts, to the participating provinces/territory to administer the CSLP. The participating provinces have their own student financial assistance programs that complement the CSLP. On behalf of the Government of Canada, the provinces and territory determine whether the students require financial assistance and their eligibility for the CSLP. Provincial/territorial authorities calculate the costs and determine the need of the student based on the difference between costs and available resources. For each school year, the CSLP covers 60% of the assessed need up to a maximum of \$210 per week. The participating provinces complement the CSLP by providing the remaining 40% of assessed need up to the province's weekly loan limit. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Service Centre (NSLSC) was established 1 March 2001 to assist students with questions related to the CSLP. Once students qualify for a loan, they obtain their loans from the Government of Canada. The service provider receives and processes all the applicable loan documentation; i.e., from the disbursement to the consolidation and repayments of the loans. It also keeps the students informed of all available options to assist in repaying the loan.

The type of financial arrangement has varied through time and legislation. The following describes these different arrangements and who bears the risk associated with default.

- **Guaranteed Loan Regime:** Student loans provided by lenders (financial institutions) prior to August 1995, under the *Canada Student Loans Act*, are fully guaranteed by the Government to the lenders. The Government reimburses the lenders for the outstanding principal, accrued interest and costs in the event of default or death of the borrower. Therefore, the Government bears all the risk involved with Guaranteed loans.
- **Risk-Shared Loan Regime:** For the period from August 1995 to July 2000, student loans continued to be disbursed, serviced and collected by financial institutions; however, the



loans were no longer fully guaranteed by the Government. Instead, the *Canada Student Financial Assistance Act* permitted the Government to pay financial institutions a risk premium of five per cent of the value of loans that consolidated each loan year. Under this financial arrangement, the Government is not at risk except for the payment of the risk premium. Also, financial institutions can decide to sell a certain amount of impaired loans and the Government has to pay a put-back fee of five cents on the dollar for these loans. A part of the recoveries is shared with financial institutions.

- **Direct Loan Regime:** A new direct loan arrangement came into force, effective 1 August 2000, following the restructuring of the delivery of the Program and amendments made to the *Canada Student Financial Assistance Act* and Regulations. The Government issues loans directly to the student and, again, bears all the risk involved.

### 3. Loan Benefit

#### a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the period that the student is studying full-time. The benefit is available to full-time students only and takes the form of an in-study interest subsidy. During this period, the Government pays interest (Government cost of borrowing) on the loan and no payment on the principal is required.

Part-time students are provided assistance in the form of a line of credit. Unlike full-time students, they must make interest payments while in school. If a student's income is below a certain level while in school, the student may qualify for interest relief.

#### b) Loan Consolidation

At graduation, or if the student does not return to school, all of the student's loans are consolidated or added together during the six-month grace period. During this period, interest accrues on the loan(s) but no payment is required; the student must negotiate an agreement to set out the repayment terms. Once consolidation occurs, the student is considered a borrower in repayment. Since July 1995, the interest rate used to calculate the monthly payment is equal to the prime rate plus 250 basis points for the majority of students.

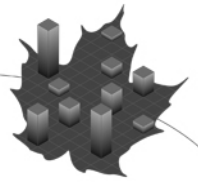
For loans issued prior to August 1993, no interest accrued during the grace period because the Government continued to pay interest on the loans during this period in the same manner as for the in-study period. For loans issued after July 1993, the student is liable for interest that accrues on loans during this grace period.

Each year, once students return to school, they must provide the financial institutions or the NSLSC with proof of enrolment for each study period in which they are enrolled, even if they are not applying for a new loan. This prevents automatic consolidation from occurring while the student is still in school and permits the student not to pay interest on their loan.

#### c) Repayment Assistance

The CSLP has measures in place to help students repay their loans - interest relief, extended interest relief and debt reduction in repayment (DRR).

In 1983, the Government introduced a maximum of 18 months of interest relief to assist students experiencing financial difficulty in repaying their loan. The Government assumes responsibility for making interest payments on the outstanding loan and no principal payments are required. In 1997, a measure extended the maximum interest relief that could be obtained from 18 to 30 months. At first, the interest relief had to be taken within the first five years after the completion



of studies; then, in 1998, the five-year limit was removed, entitling anyone to receive interest relief at any time during the repayment period.

The Government also introduced a new extended interest relief measure for students who remain in financial difficulty after exhausting 30 months of interest relief. First, the repayment period is extended from 10 to 15 years to provide the student lower monthly payments. Second, if the student is still in financial difficulty, the interest relief period may be extended further to completely cover the first five years after leaving school. As much as 24 additional months may be awarded if the student is still within the first five-year period after leaving school, bringing the number of interest relief months up to a maximum of 54 months.

In determining eligibility for interest relief, a borrower’s monthly family income must fall below an established income threshold in relation to the required monthly payment on the loan. In 2005, the Government increased the income thresholds by 5 per cent.

In 1998, the Government introduced the DRR measure to help students who remain in financial difficulty after all possible interest relief is exhausted. Initially, a 50% loan reduction in principal up to \$10,000 was introduced. In 2003, the 50% loan reduction cap was removed, leaving the loan reduction up to \$10,000 in place. Two new loan reductions up to \$5,000 each were introduced for borrowers still experiencing financial hardship in repayment. In 2005, the second reduction was increased to \$10,000 and the third reduction to \$6,000. To determine whether the previous reduction has resulted in a manageable debt level, twelve months must elapse between each reduction. The table below briefly describes this assistance since its introduction.

**Table 21 Debt Reduction in Repayment**

Year	Maximum Reduction per 12-month Period*			Total Maximum Reduction
2005	1 <sup>st</sup> - \$10,000	2 <sup>nd</sup> - \$10,000	3 <sup>rd</sup> - \$6,000	\$26,000
2003	1 <sup>st</sup> - \$10,000	2 <sup>nd</sup> - \$5,000	3 <sup>rd</sup> - \$5,000	\$20,000
1998	50% of loan principal			\$10,000

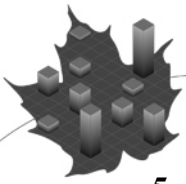
\* Borrowers still experiencing financial hardship may be eligible for another reduction in 12 months.

d) Loan Forgiveness

The Minister has the authority, upon application and qualification, to forgive the loan in the event of a borrower’s permanent disability or death while in school or during the repayment period.

**4. Canada Study Grants**

Canada Study Grants were introduced as non-repayable grants administered since 1995 by the participating provinces on the Government’s behalf. These grants are taxable and they assist students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies and students with dependants.



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#### 5. Canada Access Grants

Canada Access Grants have existed since loan year 2005-06 and include:

- the Canada Access Grant for students from low-income families. This grant is available to qualifying students whose family income falls within the range of entitlement to the National Child Benefit supplement (generally, those are families with incomes under \$35,000). The grant covers half of tuition, up to the lesser of \$3,000 or the student's assessed federal need for their first year of post-secondary education. It reduces the amount of federal student debt that would otherwise be incurred.
- the Canada Access Grant for students with permanent disabilities. This grant covers the lesser of \$2,000 or the student's assessed federal need.

#### 6. Federal Budget 2008

Budget 2008 announced the launch of a new consolidated Canada Student Grant Program which will take effect in the fall of 2009 and coincide with the wind-down of the Canada Millennium Scholarship Foundation. The program will provide defined monthly grants of \$250 for eligible low-income students and \$100 for eligible middle-income students.

Budget 2008 also proposed new investments to streamline and modernize the Canada Student Loans Program. These investments will be introduced over the four year period beginning in 2009-10 and include the expansion of online services, more equitable support for part-time and married students and enhanced flexibility for those experiencing difficulty in debt repayment, including borrowers with disabilities.

These announcements are not taken into consideration in the projections included in this actuarial report.



## Appendix 2 – Data

The input data required with respect to Direct loans were extracted from data files provided by Human Resources and Skills Development Canada (HRSDC).

### 1. Direct Loans Issued

Table 22 presents the data extracted from an HRSDC file on the number of students and amount of Direct loans issued for loan years 2000-01 to 2007-08 compared with HRSDC publicized data. The data regarding loans issued were found to be complete.

**Table 22 Direct Loans Issued and Number of Students**

Loan Year	Amount of Loans Issued		Number of Students	
	HRSDC File (\$ million)	HRSDC Publication (\$ million)	HRSDC File	HRSDC Publication
2000-01	1,573	1,570	343,746	346,568
2001-02	1,507	1,512	328,653	331,541
2002-03	1,545	1,549	328,989	331,763
2003-04	1,643	1,648	340,200	342,982
2004-05	1,629	1,633	337,247	339,828
2005-06	1,938	1,939	343,634	345,765
2006-07	1,935	1,931	344,422	345,124
2007-08	2,006	2,015	352,208	354,144

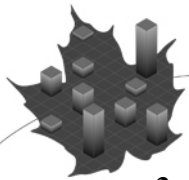
According to the Monthly Financial Information Schedule (MFIS), total amount of loans issued in 2007-08 was \$2,000 million, which is slightly lower than the value calculated using the data file. The MFIS value is used as the starting point for projections in this report.

### 2. Direct Loans Consolidated

Table 23 presents the number and amount of consolidated Direct loans extracted from HRSDC data files. The amounts are compared with data from the MFIS. The consolidation date is not available in the data file. It is approximated from the last post-secondary end date. Therefore, the consolidation amounts may be overestimated, especially in more recent loan years, since some students that are still in school are assumed to have consolidated their loan.

**Table 23 Direct Loans Consolidated**

Loan Year	Amount of Loans Consolidated (Including Six-month Interest in the Grace Period)	
	HRSDC File (\$ million)	MFIS (\$ million)
2000-01	31.3	62.2
2001-02	697.5	772.2
2002-03	1,028.6	988.8
2003-04	1,227.2	1,151.3
2004-05	1,428.8	1,296.7
2005-06	1,552.3	1,346.4
2006-07	1,817.7	1,519.3
2007-08	2,152.6	1,619.3



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### 3. Defaults and Recoveries for Direct Loans

Table 24 shows the data on defaults and recoveries (principal only) for Direct loans extracted from HRSDC data files. Default amounts are reduced by loans recalled and rehabilitated. The data regarding defaults and recoveries were found to be complete.

**Table 24 Defaults and Recoveries for Direct Loans**

Loan Year	Defaults (\$ million)	Recoveries (\$ million)
2000-01	5.3	0.3
2001-02	4.9	0.7
2002-03	226.2	23.8
2003-04	250.4	48.8
2004-05	343.2	83.0
2005-06	255.5	85.6
2006-07	243.1	83.7
2007-08	287.4	91.8

### 4. Interest Relief

Table 25 compares amounts of interest relief payments for Direct Loans, obtained from HRSDC and the interest relief expense extracted from the HRSDC data files. The interest relief file does not contain interest relief payment information; it has to be estimated using an estimated interest rate, the outstanding principal amounts and interest relief start and end dates.

**Table 25 Interest Relief Payment Data for Direct Loans**

Loan Year	Estimated from HRSDC Files (\$ million)	MFIS (\$ million)
2000-01	0	0
2001-02	3.9	3.1
2002-03	14.5	13.8
2003-04	25.1	21.7
2004-05	35.5	32.8
2005-06	49.7	50.6
2006-07	67.0	68.7
2007-08	79.5	80.8

### 5. Debt Reduction in Repayment

Table 26 shows payment amounts of DRR, as per MFIS reports. Loan year 2005-06 was the first year that a Direct loan borrower was eligible to apply for DRR; however, no reliable DRR experience data have been available to date.

**Table 26 Debt Reduction in Repayment for Direct Loans**

Loan Year	Estimated from HRSDC Files (\$ million)	MFIS (\$ million)
2005-06	0.2	1.1
2006-07	N/A	5.4
2007-08	N/A	8.7





## Appendix 3 – Assumptions and Methodology

### 1. Growth of Total Loans Issued

The growth of total loans issued is related to the number of students participating in the CSLP, the evolution of need of those CSLP students and the loan limit. The evolution of the number of CSLP students and their need is discussed below.

#### a) Evolution of Number of CSLP Students

##### i) Demographic Evolution

The demographic evolution involves changes in the composition of the future population aged 18-34 for Canada, excluding the non-participating province of Québec and the territories of the Northwest Territories and Nunavut. Future fertility, mortality and migration assumptions are applied to this population. The fertility, mortality and migration assumptions are based on those used in the most recent actuarial reports of the Canada Pension Plan and Old Age Security.

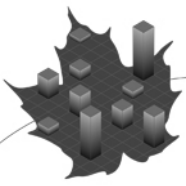
##### ii) Post-secondary Enrolment

The evolution of post-secondary enrolment shows a long-term decrease in post-secondary enrolment primarily caused by the labour shortage forecasted in Canada after the year 2015. It is anticipated that this labour shortage will be caused by the significant aging of the Canadian population and will considerably raise labour force participation rates in the age range 18-34. A higher expected labour force participation rate in the future implies that a smaller percentage of potential students will choose to attend a post-secondary institution on a full-time basis. The labour force non-participation rates associated with post-secondary enrolment are shown for years 2007-08, 2016-17 and 2032-33 in Table 27 below.

**Table 27 Labour Force Non-participation Rates by CSLP Age Band**

Age Band	Not in Labour Force		Change - Not in Labour Force (2) / (1) -1	Not in Labour Force 2032-33 (3)	Change - Not in Labour Force (3) / (1) -1
	2007-08 (1)	2016-17 (2)			
	%	%	%	%	%
18-19	33.7	35.1	4.2	31.7	-5.9
20-24	23.9	23.0	-4.0	20.4	-14.6
25-29	16.7	16.0	-3.8	13.6	-18.2
30-34	15.9	15.6	-1.9	13.7	-14.0
18-34	20.6	19.8	-3.7	17.7	-14.0

Table 27 shows a decrease in the inactive population, with an expected cumulative decrease of 3.7% over the next nine years and a larger decrease of 14.0% by 2032-33. The labour shortage will cause the expected decrease in the population not participating in the labour force from 2016-17 to 2032-33. The decrease is mainly concentrated in the older age ranges (25-34) since these individuals are more likely to choose being employed over attending school for a long period of time, given that suitable work is available to them. The younger age group is more likely than the older age group to attend college or university regardless of the situation in the labour force.



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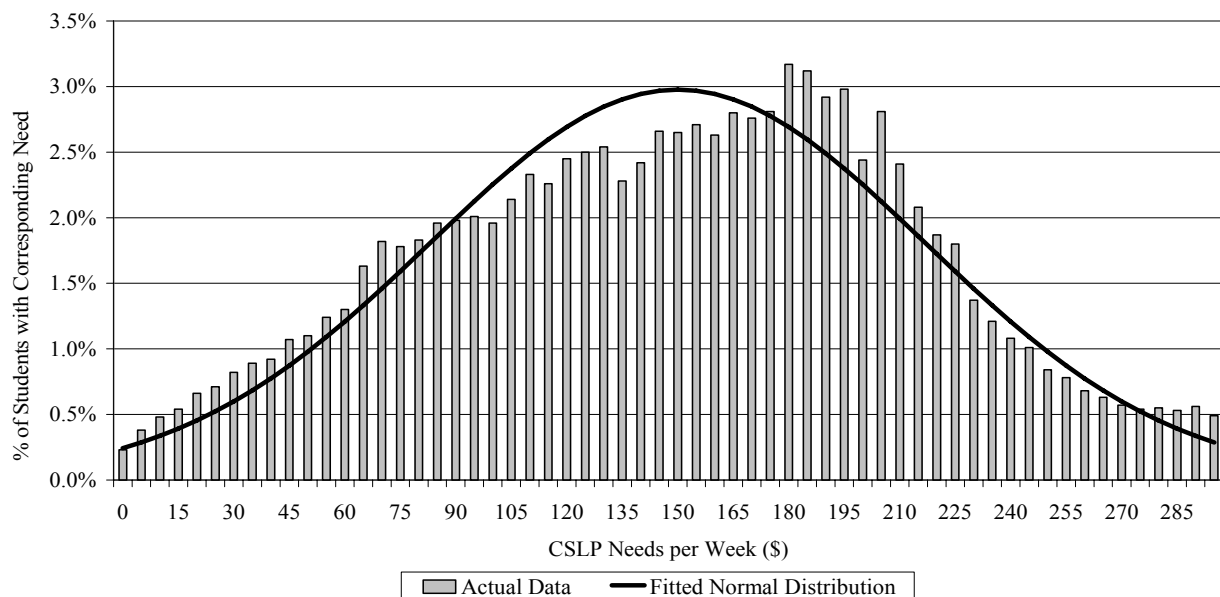
#### iii) Participation in the CSLP

HRSDC has provided CSLP need assessment data for previous loan years, up to and including 2004-05. The CSLP need per week was determined using the following calculation:

$$\text{CSLP need per week} = (\text{assessed need} / \text{number of assessed weeks}) \times 60\%.$$

The CSLP weekly need represents 60% of the assessed weekly need because the CSLP provides 60% of the total loan, while the participating province or territory of residence provides the remaining 40%. A histogram of the CSLP weekly need was created and very closely resembles a normal distribution. Chart 5 below shows the normal distribution fitted to the actual CSLP student weekly need data.

**Chart 5 Actual Need and Fitted Normal Distribution 2004-05**



The normal distribution provides a good fit, but was adjusted slightly in order to provide a better fit to the historical data. First, at \$0 of need, there will be no loans issued and no loans will be issued for negative need. A second-degree polynomial replaced the normal distribution to the left of the peak to ensure the distribution complied with this logic. Second, the proportion of students at or above the loan limit is known for this historical data, so the entire curve was shifted slightly to the right to reflect the proper proportion. The new distribution created by making these small adjustments will be referred to as a modified normal distribution.

For each year in the projection period, the average need increase from the prior year was calculated using the projections for tuition fees, other expenses and resources. Students with low need may experience a small increase in their need since they have resources to offset the expense increase. Students with high need will experience a larger need increase because they do not have sufficient resources to offset an increase in expenses.

The projected average need increases are used to determine new parameters for the modified normal distribution in each of the projection years. Analysis of six years of need assessment data showed that the mean of the need curves increased at a slower rate than the projected average student need. Thus, the mean of the CSLP student need curve is assumed to be the



average of the prior year plus two-thirds of the projected average student need increase. After the new parameters are determined, the CSLP student need curves are projected for the 25-year period.

Since a shift in each modified normal distribution represents the increase in the proportion of students in the CSLP, an assumption was made regarding the growth of the curves. The intersection of subsequent curves is assumed to occur at the need corresponding to the average need of the prior year plus one-half of the projected average need increase during the current year. Having the intersection of curves occur slightly to the right of the average need makes sense because as need increases from year to year, students will move further to the right of the need curve. Using this assumption, each curve was adjusted, resulting in the area under successive curves exceeding 100%. The increased area under the curve represents an increase in participation in the CSLP. Beginning with the base need curve for 2007-08, the area under the curve is 100% and the loan uptake rate is 35.4%. The area under the need curve for 2008-09 is 101.7% due to an increase in the proportion of students in the CSLP. Thus, the loan uptake rate for 2008-09 is 36.0% (35.4% x 1.017). The product of the number of students enrolled full-time and the loan uptake rate equals the number of students in the CSLP.

b) Evolution of CSLP Student Need

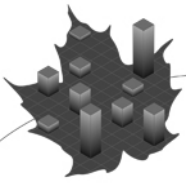
As discussed in the Main Report, student need is defined as the excess of tuition and other expenses over student resources. These elements were also checked for consistency with the average values contained in the need assessment files. Table 5 of the Main Report shows the evolution of student need throughout the projection period.

i) Tuition

Tuition fees are, in part, determined by government policies. Thus, they are determined using provincial budgets stating the government’s intentions, along with recent and historical experience for projecting short and long-term increases in tuition fees. The short-term increase of tuition is shown in Table 28.

**Table 28 Short-term Increase of Tuition Expenses**

Province	Weight	Budget/Experience	Results			
			2008-09	2009-10	2010-11	2011-12
Newfoundland	2.3	tuition freeze	0.0	0.0	0.0	0.0
Prince Edward Island	0.9	1.4% increase, 2.0% thereafter	1.4	2.0	2.0	2.0
Nova Scotia	6.0	1.8% decrease, freeze thereafter	-1.8	0.0	0.0	0.0
New Brunswick	4.3	tuition freeze	0.0	0.0	0.0	0.0
Ontario	56.5	4.8% increase, 5.0% thereafter	4.8	5.0	5.0	5.0
Manitoba	2.2	0.1% increase, freeze thereafter	0.1	0.0	0.0	0.0
Saskatchewan	3.0	0.8% increase, freeze thereafter	0.8	0.0	0.0	0.0
Alberta	9.2	5.7% increase, 2.8% thereafter	5.7	2.8	2.8	2.8
British Columbia	15.8	1.1% decrease, indexed to inflation thereafter	-1.1	1.3	2.0	2.0
Weighted Average			3.0	3.3	3.4	3.4



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The long-term estimate of tuition is based on past increases in tuition relative to increases in the CPI. Over the last 30 years, tuition increases have been, on average, close to CPI plus 3.0%. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Since similar budgetary pressures are expected in the future due to the aging of the population, the 3.4% tuition increase for 2011-12 is graded to reach the CPI increase plus 3% by 2016-17.

The starting point for the 2007-08 tuition fees is calculated from a Statistics Canada Education Division survey on tuition fees, tabulated on a provincial basis. The average tuition was weighted by the total amount of loans issued in each participating province. This analysis resulted in an estimate of \$5,821 for average tuition fees in 2007-08.

#### ii) Other Expenses

Other expenses are considered to be any student expense other than tuition fees. These expenses include books, shelter, food, clothing and transportation and are assessed by the participating provinces and territory.

Expenses are separated into two categories: books and living costs. The need assessment data file for the loan year 2004-05 is the latest reliable file available for this report. Several past need assessment files were analyzed and used to update the assumptions on student living arrangements and the percentage of maximum allowable expenses incurred by living situation. Table 29 uses these assumptions to calculate the annual living cost per student.

**Table 29 Monthly Living Costs 2007-08**

Living Arrangement	Weight in %	Maximum Monthly Living Costs (\$)					Avg % Spent	Annual Living Costs (\$)
		Shelter	Food <sup>(1)</sup>	Trans- portation	Miscel- laneous <sup>(2)</sup>	Total		
Single, living away from home	67.0	460	215	65	231	970	61.0	7,103
Single Parent	8.0	739	215	65	231	1,250	95.0	14,246
Married Student & Spouse	8.5	919	394	130	436	1,878	72.0	16,227
Single, living at home	16.5	0	173	65	180	417	64.0	3,203
<b>Weighted Average</b>		<b>445</b>	<b>223</b>	<b>70</b>	<b>240</b>	<b>979</b>		<b>7,806</b>

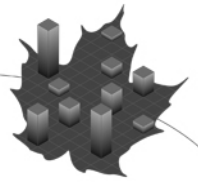
<sup>(1)</sup> Purchased from stores.

<sup>(2)</sup> Personal and health care, clothing, household cleaning, communications.

Books and supplies are assumed to be roughly equal to 20% of tuition, which is \$5,821 for 2007-08. The assumption of 20% is consistent with the ratio of books and supplies to tuition in the six years of need assessment data. The total expense attributable to books and supplies is \$1,164 (20% x \$5,821). In addition, effective 1 August 2005, the eligible expenses under books and supplies were extended to include an annual allowance of up to \$500 for computers and computer-related costs. It is anticipated that all students will claim this computer allowance. Thus the total expense attributable to books and supplies is increased by \$500 for a total of \$1,664. The total amount of the CSLP student expenses (excluding tuition), indexed to future increases in the CPI, amounts to \$9,470 (\$7,806 + \$1,664) for loan year 2007-08.

#### iii) Student Resources

Student resources include student earnings, parental contributions and other resources. Increased resources ultimately serve to reduce the maximum loan available to students through need analysis. Student need is developed in Table 5 of the Main Report.

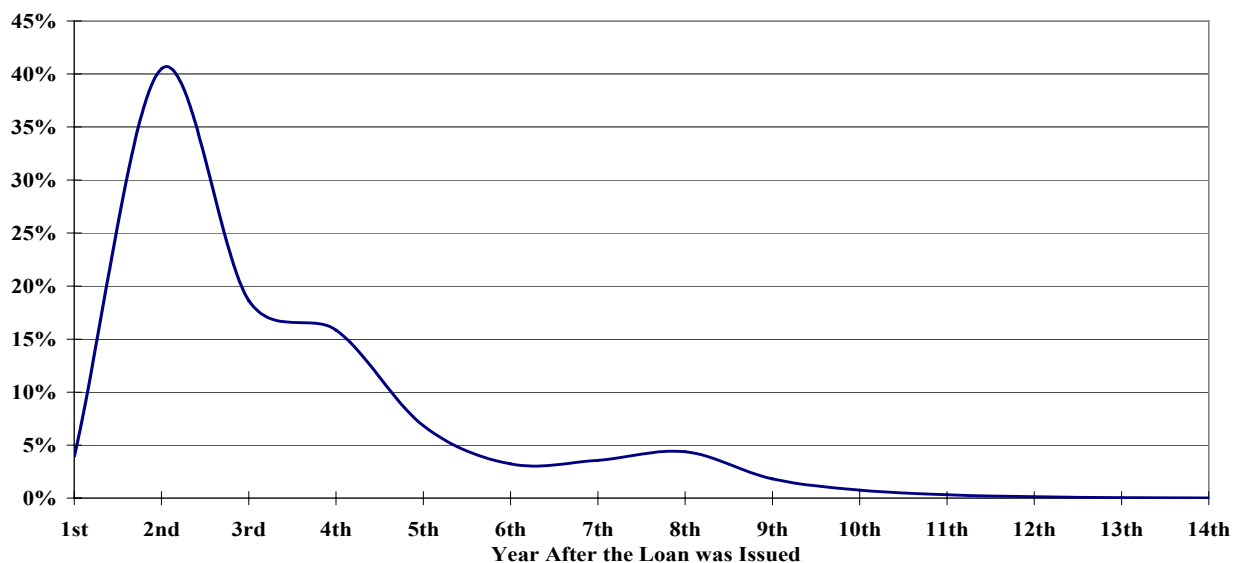


The starting point for average resources in 2007-08 is calculated as a residual value. Since the average loan size approximately equals average expenses minus average resources, then average resources are roughly equal to average expenses minus average loan size with an adjustment for unmet need. This results in an estimate of \$4,343 for a student's average resources in 2007-08. The expected average resources are reduced for loan year 2009-10 and 2010-11 due to the current economic situation. The reduction in student resources is gradually phased out over the following two loan years.

## 2. Consolidation

Under the Direct Loan Regime, loans are assumed to consolidate according to the distribution of consolidation by year shown in Chart 6, over a period of fourteen years after a loan is issued. This distribution is built using the first eight years of data for Direct Loan consolidations. A constant decreasing rate is applied for the years that follow.

**Chart 6 Distribution of Consolidation**

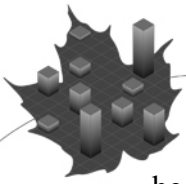


## 3. Interest Relief

Table 30 shows the base utilization rates of interest relief for the Direct Loan Regime for loan year 2008-09 and onwards. These rates are based on the interest relief experience of Direct loans and include an upward adjustment to take into account the recent trend in interest relief. These rates incorporate the average time spent on interest relief in a loan year.

It is anticipated that the current economic situation will have an impact on interest relief utilization in the short-term. To reflect this, the anticipated job losses of borrowers in repayment were projected using a proportion of the employment rate decrease experienced in the 1981-82 economic downturn. Based on the actual distribution of newly impaired loans and loans newly on interest relief in loan year 2007-08, the borrowers who are projected to experience hardship in repaying their loan are split into those who will default and those who will apply and be eligible for interest relief. The result is that interest relief payments increase by 1.6%, 3.8% and 1.0% for loan years 2008-09, 2009-10 and 2010-11, respectively.

Since the loan limit is frozen in the future, it is anticipated that interest relief uptake will decrease as the average earnings of borrowers increase over time. In order to reflect this anticipated decrease in uptake, the interest relief utilization rates are adjusted by a decreasing factor



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beginning in 2011-12. Compared to the results if the utilization rates were unchanged, this will result in a decrease in the amount of interest relief issued, fewer borrowers exhausting interest relief and subsequently, fewer borrowers becoming eligible for the DRR program.

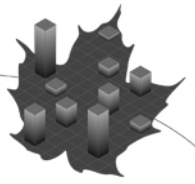
**Table 30 Utilization Rates for Interest Relief for the Direct Loan Regime**

Years Since Consolidation	First Year in IR	Second Year in IR	Third Year in IR	Fourth Year in IR	Fifth Year in IR	Sixth Year in IR	Seventh Year in IR
0 – 1	20.36%	18.44%	11.65%	9.33%	7.06%	3.50%	2.34%
1 – 2	2.30%	1.59%	0.94%	0.66%	0.37%	0.36%	
2 – 3	0.73%	0.52%	0.28%	0.11%	0.08%		
3 – 4	0.35%	0.24%	0.11%	0.04%			
4 – 5	0.17%	0.12%	0.04%	0.01%			
5 – 6	0.09%	0.07%	0.02%				
6 – 7	0.04%	0.02%	0.01%				
7 – 8	0.01%	0.01%					

### 4. Debt Reduction in Repayment

Debt reduction in repayment (DRR) is taken once all possible interest relief is exhausted by the borrower. This is a relatively new program and there is limited experience from it. Moreover, DRR has been enhanced over time and now consists of three reductions: \$10,000, \$10,000 and \$6,000.

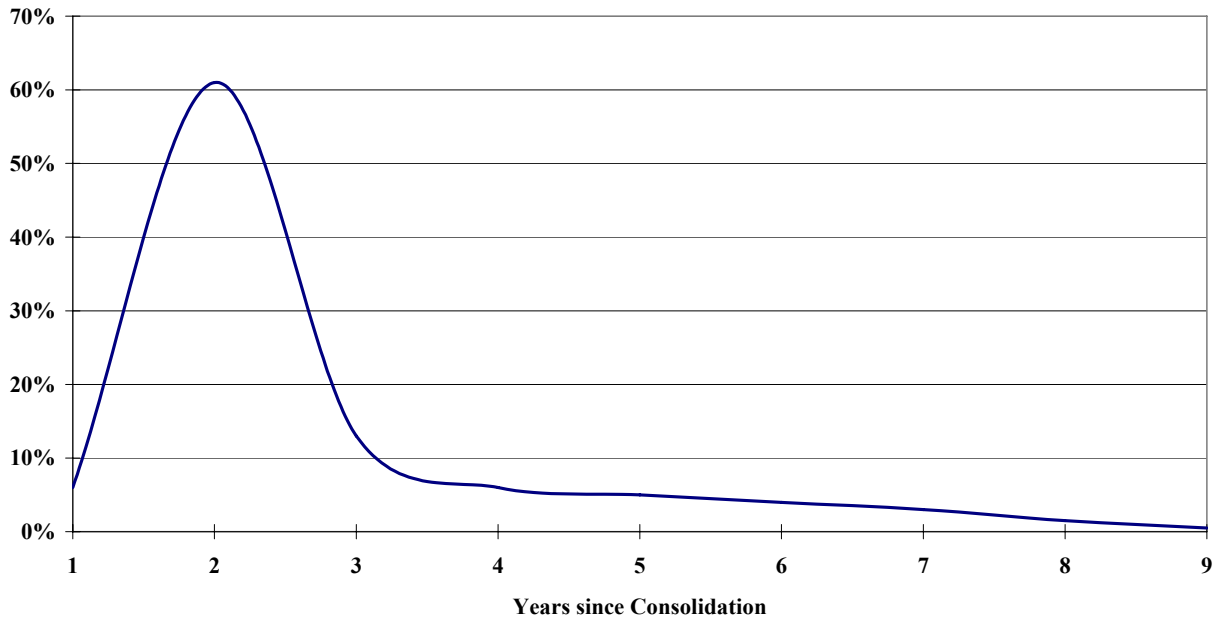
The assumption for interest relief exhaustion has been refined compared to the last report using the interest relief experience of Direct loans. As a result, the proportion of loans going on DRR after exhausting IR has been increased to 80%. The assumptions regarding the proportion of loans remaining on DRR for the second and third reductions and the average amount of debt relief have not been updated from the last report because a new DRR data file was not provided. Thus, the assumption for the proportion of loans going on DRR, after exhausting interest relief, are 80%, 7% and 3%, respectively, for each of the three DRR reductions. The proportions corresponding to the average amount of debt relief remain at 50%, 8% and 2%, respectively, for the three reductions.



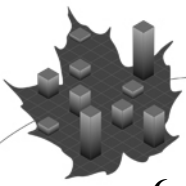
**5. Default Rate**

The default distribution has been updated from the last report and is now based on Direct loans experience. The average distribution is shown in Chart 7. According to this distribution, approximately 80% of defaulted loans occurred in the first three years following consolidation.

**Chart 7 Default Distribution**



The assumption for the future default rate is unchanged at 20.0%. However, to reflect the impact of current economic situation on impaired loans, the gross default rate is increased to 23.0% and 21.0% for default loan years 2009-10 and 2010-11, respectively. These increases are based on the anticipated job losses among borrowers in repayment and are determined using a proportion of the employment rate decrease experienced in the 1981-82 economic downturn which is applied to borrowers in repayment as at 31 July 2008.



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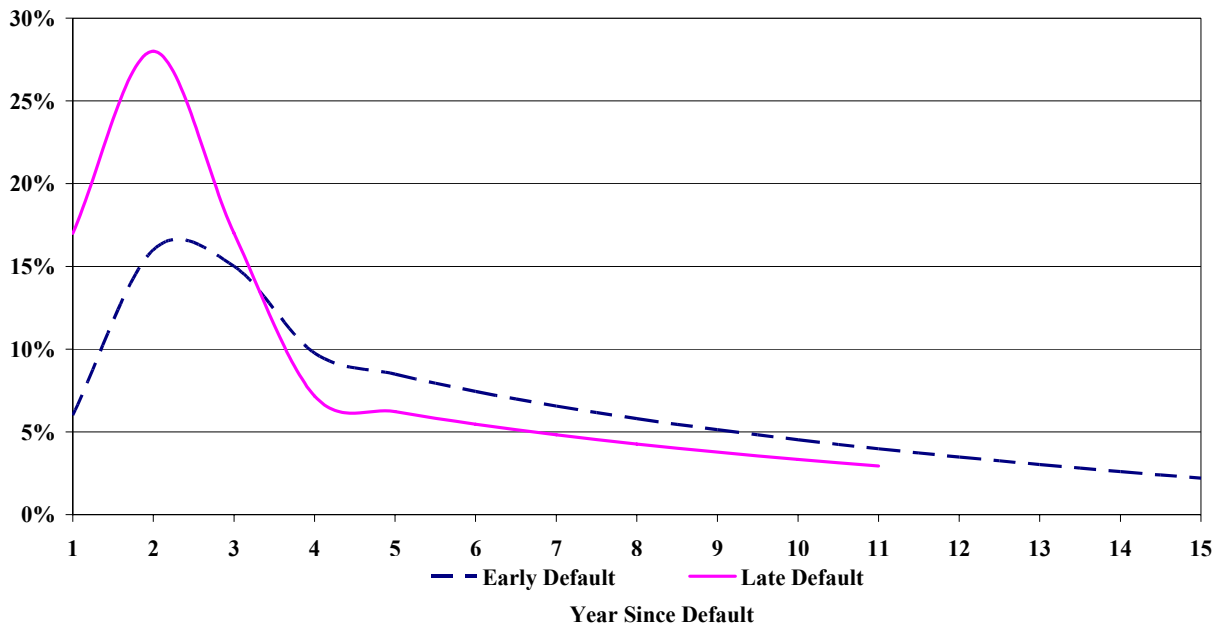
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### 6. Recovery Rate

The recovery distribution has been updated from the last report and is now based on Direct loans' experience. Separate distribution curves were obtained for the first four years of default occurrence since consolidation; a fifth curve is used as the ultimate distribution to extrapolate data in future years (Chart 8).

**Chart 8 Recovery Distributions Depending on Date of Default**



In the Actuarial Report as at 31 July 2007, the assumed default rate for Direct loans was 20.0% for loan year 2007-08 and thereafter. The assumed recovery rate was set at 29% for loan year default cohorts 2007-08 and subsequent default cohorts. This recovery rate, along with the new recovery distributions, matches the actual recoveries for loan year 2006-07 and 2007-08 for the two most recent default cohorts. It is anticipated that the current economic situation will have a modest effect on recoveries in the short-term, which is reflected by a decrease in recoveries of around 0.6% in loan year 2009-10 and 0.3% in 2010-11.



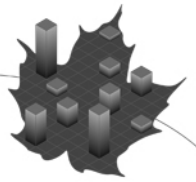
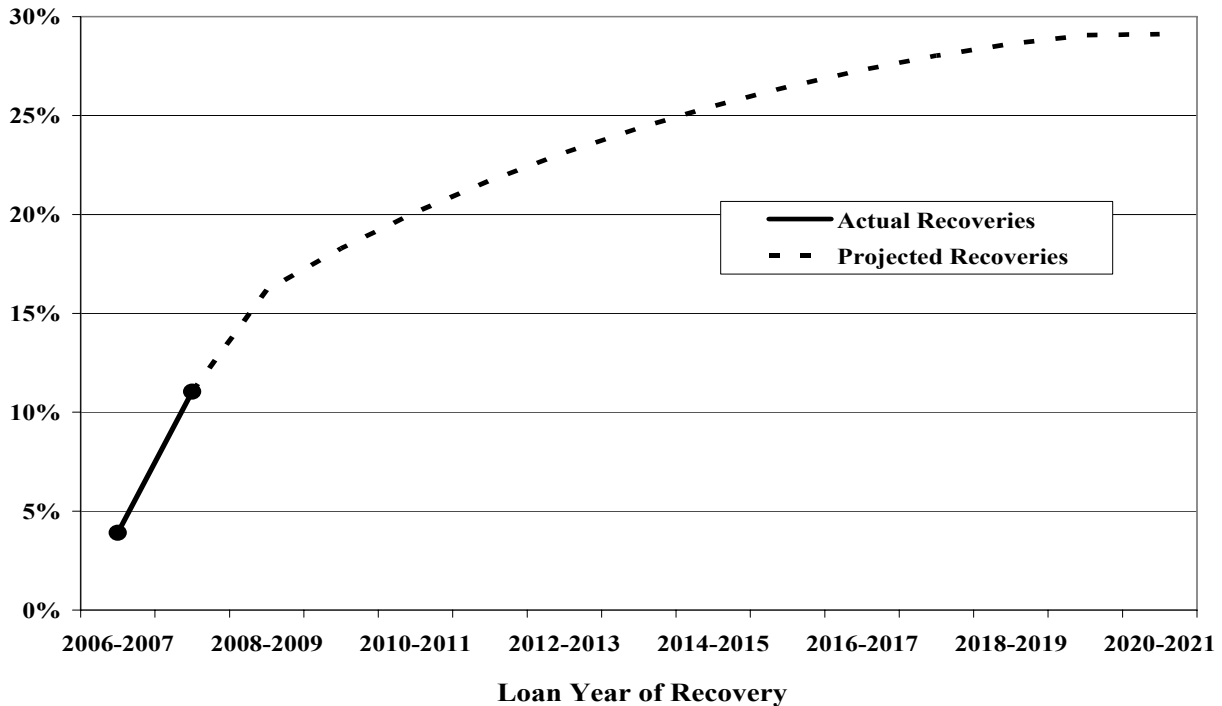


Chart 9 shows the projected cumulative proportion of recoveries for default cohort 2006-07 using the default amount in loan year 2006-07, the recovery distributions shown in Chart 8 and the assumed recovery rate of 29%. The first two points of the curve represent the actual proportion of recoveries in loan years 2006-07 and 2007-08 on loans that became impaired in the loan year 2006-07.

**Chart 9 Projected Cumulative Proportions of Recoveries for 2006-07 Default Cohort**



The resulting future net default rate is unchanged at 14.2%. It corresponds to: gross default rate x (1 – recovery rate) = 20% x (1 – 29%).

**7. Bad Debt Provision – Principal**

According to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be determined using the best-estimate available in light of past experience, current conditions and future expectations. As described previously, the net default rate is set at 14.2% and an upward adjustment of 0.6% for interest accrued during the grace period is applied.

**Table 31 Provision Rate – Bad Debt – Principal**

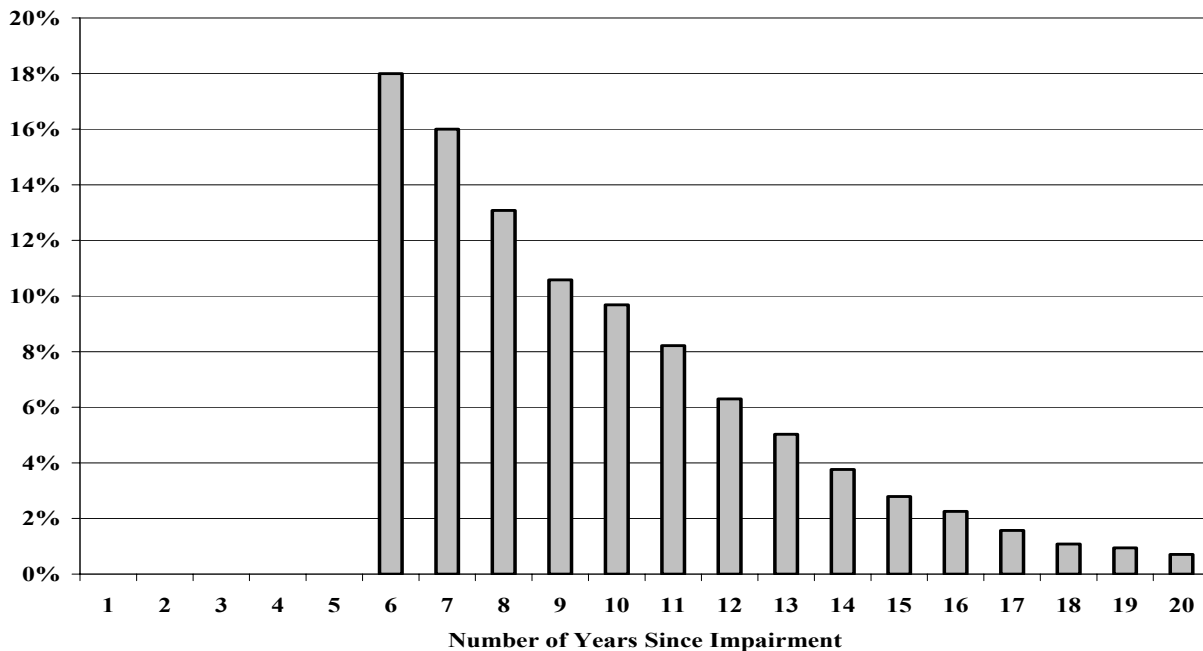
Net Default Rate	14.2%
Adjustment: Interest accrued on loans during grace period	+0.6%
<b>Bad Debt Provision – Principal: Applied to net loans issued</b>	<b>14.8%</b>

From an accounting perspective, the provision rate for bad debt – principal is applied to the net loans issued. Net loans issued are obtained by reducing loans issued by prepayments, Canada Access Grants and loans forgiven while in-study and during the six month grace period. The level of the total allowance is determined at the end of the loan year.



The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or impaired (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be put aside to pay future write-offs. The assumption used for write-offs is a 15-year distribution, starting in the sixth year following impairment. Note that the first write-offs of the Direct Loan Regime have been postponed until loan year 2009-10 since no significant write-offs are planned until then. The write-off distribution is presented in Chart 10.

**Chart 10 Write-off Distribution**

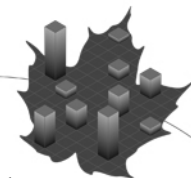


**8. Bad Debt Provision – Interest**

The methodology for the calculation of the provision for bad debt – interest takes into account the number of years since impairment. Interest on impaired loans is accrued until the loan reaches the “non-recoverable” status. A loan reaches this status when the collectibility of either principal or interest is not reasonably assured. For the purpose of the projections, a loan is transferred to “non-recoverable” status according to a 15-year distribution and is then written off according to a write-off distribution, which is based on the write-off distribution used for the principal portion, but with higher rates for the first years and lower rates for the last years of the distribution.

Since the interest on impaired loans is accounted for as revenue, an allowance is established to cover the risk that such accrued interest will never be recovered. The methodology involves the calculation of:

- the accrued interest in each year on impaired loans at the student cost of borrowing rates,
- the projected outstanding interest at the end of each year, using non-recoverable and recovery rates, based on direct loans experience and applied to outstanding interest at the beginning of the year,



- the projected allowance at the end of each year by adding, per year since impairment, the product of recoverable outstanding interest accounts and the corresponding provision rate; then 100% of outstanding non-recoverable accounts is added.

The expense for a year is equal to the difference between the total allowance (on recoverable and non-recoverable accounts) at the end of the year and the allowance of the previous year net of write-offs that have occurred during the year.

A set of provision rates varying according to the number of years since impairment was established. The rates are shown in Table 32 and are modified from the last report to take into account that a large portion of impaired loans are transferred to “non-recoverable” status in the sixth year following impairment mainly due to the limitation period.

**Table 32 Provision Rates for Bad Debt – Interest**

Year Since Impairment	Provision Rates (%)
1 <sup>st</sup>	27.8
2 <sup>nd</sup>	37.8
3 <sup>rd</sup>	48.3
4 <sup>th</sup>	58.3
5 <sup>th</sup>	68.6
6 <sup>th</sup>	60.1
7 <sup>th</sup>	60.2
8 <sup>th</sup>	60.3
9 <sup>th</sup>	60.6
10 <sup>th</sup>	61.3
11 <sup>th</sup>	62.5
12 <sup>th</sup>	65.0
13 <sup>th</sup>	70.0
14 <sup>th</sup>	80.0
15 <sup>th</sup>	100.0

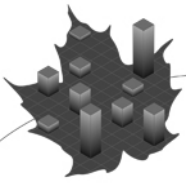
## 9. Other Assumptions

### a) Prepayments and Accelerated Payments for Direct Loans

Principal payments received from students were analysed using the Designation Monthly data files for loan years 2004-05 to 2007-08. The analysis revealed that some payments are received while the student is in school or during the grace period (prepayments) and some payments are received in excess of the scheduled payments during the repayment period (accelerated payments).

#### i) Prepayments

Prepayments correspond to payments applied to principal during the period of study and during the six-month grace period after the period of study end date. The amount of prepayments for loan year 2007-08 is approximately \$236 million. The proportion of prepayments received during the period of study represents around 25% of total prepayments. Since the major proportion of prepayments (75%) is made during the six-month grace period, the assumption is established in relation to the consolidation amount. The assumption is set at approximately 15% of consolidations for loan year 2007-08 and thereafter.



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### ii) Accelerated Payments

Accelerated payments correspond to payments received during the repayment period that exceed the scheduled payment based on a 114-month (9.5 years) repayment period. The assumption used is a distribution of accelerated payment rates that vary according to the number of years since consolidation and is based on information from the Designation Monthly data files. The distribution is presented in Table 33 and represents the proportion by which the scheduled payments are increased.

**Table 33 Accelerated Payment Rates**

<b>Years Since Consolidation</b>	<b>Rate</b>
Same year as consolidation	162%
1-2	84%
2-3	52%
3-4	49%
4-5	39%
5-6	20%
6-7	10%
7-8 and after	5%

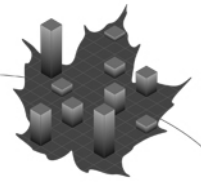
An HRSDC Guideline on amortization periods for consolidating loans was implemented in loan year 2005-06. It provides direction on the maximum period over which consolidating loans are to be amortized, taking into consideration the outstanding loan amount. Since experience available under this new practice is not sufficient, the normal principal payments received from students are still calculated based on a standard 114-month repayment period. However, the assumption for accelerated payments considers this Guideline implicitly.

Since the current economic situation will likely have an impact on accelerated payments, the total accelerated payments anticipated for loan years 2009-10 and 2010-11 are reduced by 10% and 5%, respectively.

### b) Alternative Payments

Alternative payments are projected by multiplying the net cost of the Program by the ratio of the population aged 18-24 residing in the non-participating province and territories to the population aged 18-24 residing in the participating provinces and territory.

For the calculation of alternative payments, the expenses are: interest subsidies, interest relief expenses for Risk-Shared and Guaranteed regimes, loans forgiven, recovery costs, service providers' costs, Canada Study Grants, Canada Access Grants, claims, risk premiums, put-backs, refunds to financial institutions, Direct Loans' borrowing costs for loans in repayment or on interest relief (i.e. in good-standing) and default amounts for the Direct Loan Regime. The revenues are: student interest payments and principal and interest from recoveries. The cost of alternative payments is \$116 million for loan year 2007-08 based on expenses and revenue of loan year 2006-07 and \$126 million for loan year 2008-09 based on expenses and revenue of loan year 2007-08.



c) Administration Costs

HRSDC provided estimates of the administration costs to support the CSLP for four fiscal years. The costs have been converted to a loan year basis and the extrapolation of future years was done using wage increases. Administration costs include expenses for service providers and are shown below in Table 34.

**Table 34 Administration Costs**

Loan Year	Administration Costs
	(\$ million)
2007-08	142.5
2008-09	141.9
2009-10	140.4
2010-11	142.9
2011+	Increase with wages

d) Administration Fees Paid to Provinces

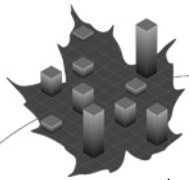
For loan year 2007-08, the administration fees paid to the participating provinces and territory was \$13.8 million. The increase in wages is used to project this expense.

e) Canada Study Grants and Canada Access Grants

For loan year 2007-08, the actual cost of the Canada Study Grants was \$89.3 million, while the actual cost of Canada Access Grants was \$72.5 million for a total of \$161.8 million. For future years, the cost of Canada Study Grants is projected to increase with inflation, while the cost of Canada Access Grants is projected to increase with total loans disbursed.

f) Loans Forgiven

In the long term, rates of loans forgiven correspond to 0.02% of loans in-study and 0.25% of loans in repayment, including loans forgiven after being transferred to default status.



## Appendix 4 – Sensitivity Tests

### A. Economic Stress Test

The basis of the economic stress test is the 23<sup>rd</sup> CPP Actuarial Report sensitivity test, called the Economic Half-Cycle. This test was performed with the purpose of replicating the labour force impact experienced in the 1981-82 economic downturn. The best-estimate scenario presented in the CSLP report corresponds to 60% of the impact projected by the Economic Half-Cycle. The economic stress test assumes the full impact of the Economic Half-Cycle sensitivity test on the affected CSLP components. The economic stress test is founded on the elements described in the following paragraphs.

First, youth labour force participation rates are reduced in loan years 2009-10 and 2010-11 by the changes experienced by males during the 1981-82 recession. The participation rates are gradually increased beginning in 2011-12 before returning to their CPP best-estimate level in 2016-17. The decrease in the labour force participation rates results in an increase in full-time post-secondary enrolment and ultimately, an increase in CSLP students.

Second, expected average student resources are reduced for loan years 2009-10 and 2010-11, based on the decrease in the July youth employment rate during the 1981-82 recession. The reduction in student resources is gradually phased out over the following two loan years and student resources return to the projected best-estimate in loan year 2013-14. By reducing student resources, assessed needs will increase, as will average loan size. The reduction in student resources will further increase the number of students in the Program, as well as increase new loans issued for loan years 2009-10 to 2015-16.

Third, the recent economic downturn will likely have an impact on impaired loans and loans on interest relief. It is anticipated that some of the borrowers will experience hardship in making their monthly student loan payments and may either default or apply for assistance in the form of interest relief. The increase in impaired loans and loans on interest relief is based on the employment rate decrease experienced during the 1981-82 recession. The interest relief increase is anticipated to occur in loan years 2008-09 to 2010-11 and the default increase is anticipated to occur in loan years 2009-10 and 2010-11 since a loan is considered impaired only when it is returned to government, which is usually after 270 days without a payment. Finally, it is also assumed that recoveries of impaired loans will slightly decrease and accelerated payments will be moderated.

Table 35 shows the impact of the economic stress test.

**Table 35 Impact of the Economic Stress Test**

Loan Year	Students in CSLP			Loans Issued			Total Expenses			Net Cost		
	Thousands	Increase over Best-estimate (Thousands)	(%)	(\$ million)	Increase over Best-estimate (\$ million)	(%)	(\$ million)	Increase over Best-estimate (\$ million)	(%)	(\$ million)	Increase over Best-estimate (\$ million)	(%)
2007-08	354	-	-	2,000	-	-	1,121	8	0.7	728	8	1.2
2008-09	363	-	-	2,044	-	-	1,101	16	1.4	818	15	1.9
2009-10	397	11	2.8	2,266	68	3.1	1,112	24	2.2	819	22	2.7
2010-11	398	11	2.8	2,277	68	3.1	1,205	29	2.5	883	26	3.0
2011-12	391	9	2.4	2,251	58	2.6	1,256	22	1.8	918	17	1.9
2012-13	386	7	1.8	2,229	40	1.8	1,264	16	1.3	911	11	1.2
2013-14	389	5	1.3	2,265	32	1.4	1,309	16	1.2	942	10	1.1
2014-15	389	3	0.8	2,285	21	0.9	1,354	14	1.1	973	8	0.8
2015-16	385	2	0.5	2,276	11	0.5	1,389	11	0.8	984	5	0.5
2016-17	380	-	-	2,264	-	-	1,423	8	0.5	995	1	0.1



## B. Individual Sensitivity Tests

An actuarial examination of the CSLP involves the projection of its income and expenditures over a long period of time. The information presented in section A of the Main Report has been derived using “best-estimate” assumptions regarding demographic and economic trends. Sensitivity tests are performed using assumptions for which changes within a reasonable range have the most significant impact on the long-term financial results.

Both the length of the projection period and the number of assumptions required ensure that actual future experience will not develop precisely in accordance with the best-estimate assumptions. Sensitivity tests have been performed, consisting of projections of CSLP financial results using alternative assumptions.

For each sensitivity test, key assumptions were changed individually, with the other assumptions being maintained at their best-estimate levels. Two tests were performed with respect to each of the assumptions tested, except for the loan limit and student interest rate spread where only one test was performed. The alternative assumptions selected are intended to represent the limits of potential long-term experience. However, it is possible that actual experience could lie outside these limits.

Each of these tests was then categorized as either a “low-cost” scenario or “high-cost” scenario. In the “low-cost” scenarios, the alternative assumptions have the effect of reducing the annual cost of the Program. Conversely, in the “high-cost” scenarios, the assumptions would increase the Program cost.

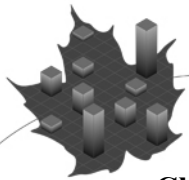
Table 36 below summarizes the alternative assumptions that were used in the sensitivity tests and is followed by a brief discussion of each assumption.

**Table 36 Long-term Sensitivity Test Assumptions**

Assumption	Low-cost	Best-estimate	High-cost
1. Loan Limit	--	\$210	Indexed to inflation for 2009-10 and thereafter
2. Real Wage Increases	0.8%	1.3%	1.8%
3. Inflation	1.4%	2.4%	3.4%
4. Labour Force Participation Rates – 2032-33 Canada less Québec, Northwest Territories and Nunavut (ages 18-34)	89.2%	82.3%	79.4%
5. Tuition Cost	CPI	CPI + 3.0%	CPI + 6.0%
6. Rate of Borrowing:			
Government cost of borrowing	2.9%	4.9%	6.9%
Student cost of borrowing	5.7%	7.7%	9.7%
7. Interest Relief Utilization	70%	100%	130%
8. Net Defaults	8.0%	14.2%	17.7%
9. Student Interest Rate Spread	--	250 bps	100 bps

### 1. Loan Limit

This scenario assumes that the loan limit of \$210 per week and thereafter is indexed annually to inflation, thereby showing the effect of many small increases to the limit. Contrary to the best-estimate scenario, the proportion of students at the loan limit will decrease in this scenario. However, the amount of total loans issued will increase gradually from 0.7% over total loans issued under the frozen limit in 2009-10 to 45% at the end of the projection period.



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**Chart 11 New Loans Issued**

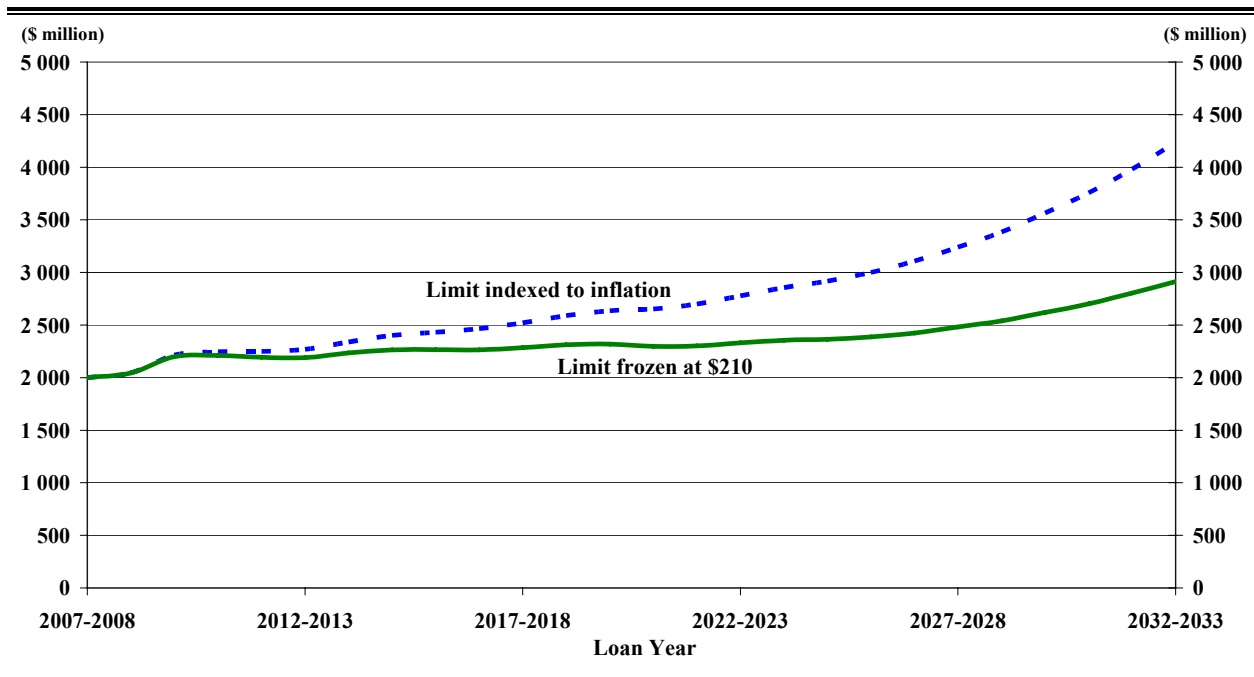


Chart 11 and Table 37 show the impact of gradually increasing the limit on loans issued compared to keeping the limit frozen at \$210 per week.

**Table 37 Impact of Loan Limit on Loans Issued**

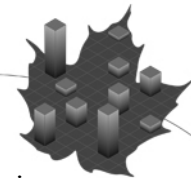
Loan Year	No Change to Loan Limit			Indexed to Inflation Starting in 2009-10				
	Limit	% of Students at the Limit	Loans Issued Total	Limit	% of Students at the Limit	Loans Issued		
						Total	Increase over Frozen	(%)
(\$)		(\$ millions)	(\$)		(\$ millions)	(\$ millions)	(%)	
2007-2008	210	36.6%	2,000	210	36.6%	2,000	-	-
2008-2009	210	37.8%	2,044	210	37.8%	2,044	-	-
2009-2010	210	39.8%	2,198	213	38.3%	2,213	15	1%
2010-2011	210	40.7%	2,209	217	37.2%	2,245	36	2%
2015-2016	210	48.1%	2,265	241	33.6%	2,431	166	7%
2020-2021	210	58.1%	2,298	271	32.7%	2,652	354	15%
2025-2026	210	67.1%	2,386	305	32.7%	2,999	613	26%
2032-2033	210	78.0%	2,912	360	35.6%	4,234	1,322	45%

## 2. Wage Increases

Wage increases affect the CSLP by increasing the resources of a student determined in the need assessment process. This, in turn, reduces the need of a student, which can reduce a student's loan availability. However, administration expenses will also increase since these are linked to salary increases.

The real-wage differential is assumed to increase uniformly from its initial to ultimate level. An ultimate real-wage differential of 1.3% has been assumed in years 2016-17 and thereafter for the best-estimate projections. Combined with the best-estimate inflation assumption of 2.4%, it results in an ultimate assumed nominal annual increase in wages of 3.7%.





For the low-cost scenario, the assumed real-wage differential is reduced by 0.5%. This results in an ultimate level of 0.8% in 2016-17.

For the high-cost scenario, the assumed real-wage differential is increased by 0.5%. This results in an ultimate level of 1.8% in 2016-17. This sensitivity test has little impact on the net cost of the Program. For an increase of 0.5% in wages, the portfolio decreases but the administration cost increases.

### **3. Inflation**

An ultimate annual rate of inflation of 2.4% has been assumed for the best-estimate projections. The rate of inflation is assumed to be 1.2% for loan year 2008-09, before increasing to 1.3% in 2009-10, and 2.0% in 2010-11. The rate is then held constant for the following two years. The inflation rate is then assumed to increase uniformly and reach its ultimate level of 2.4% in 2016-17. The inflation rate affects the growth of a student's expenses, the growth of Program expenditures and, indirectly, the resources. It also indirectly affects the Government's cost of borrowing, as well as the repayment rate charged to the student.

For the low-cost scenario, the annual rate of inflation is assumed to decrease by 1.0%. This reduces the long-term rate of inflation to 1.4% in 2016-17. This level of inflation is comparable to that of the 1960s and 1990s.

For the high-cost scenario, the annual rate of inflation is assumed to increase by 1.0%. This increases the long-term rate of inflation to 3.4% in 2016-17. This level of inflation is comparable to long-term historical averages.

### **4. Labour Force Participation Rates**

Labour force participation rates are used to determine the population enrolled full-time in post-secondary institutions. A higher participation rate means that fewer people will be available to attend post-secondary institutions, therefore decreasing enrolment. Similarly, a lower participation rate increases enrolment. In 2009-10, it is assumed that the overall labour force participation rate will decrease due to the current economic situation. For 2016-17 to 2032-33, it is assumed that participation rates will increase overall to 82.3% to compensate for the labour shortage.

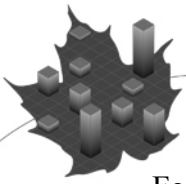
For the low-cost scenario, participation rates are assumed to reach their highest historical level of 89.9% by 2032-33. In this scenario, a higher increase in the participation rates is used compared to the base scenario because the labour shortage is more pronounced.

For the high-cost scenario, participation rates are assumed to reach only 79.4% by 2032-33. In this scenario, a lower increase in the participation rates is used compared to the base scenario because the labour shortage is not as severe.

### **5. Tuition Cost**

The long-term estimate of tuition increases is based on past tuition increases relative to the CPI. Over the last 32 years, yearly tuition increases have, on average, corresponded to increases in the CPI plus approximately 3.0%. Since budgetary pressures are anticipated in the future, given the aging of the population, CPI plus 3.0% was used as the ultimate growth rate.

For the low-cost scenario, the ultimate tuition increase is expected to correspond only to increases in the CPI. This result is more in line with increases of other goods and services. This also means that the Government's funding for education will be more in line with inflation.



For the high-cost scenario, the ultimate tuition increase is expected to correspond to increases in the CPI plus 6.0%. The anticipated budgetary pressures due to the aging of the population could reduce funding in key areas such as post-secondary education.

### **6. Rate of Borrowing**

The rate of borrowing has an impact on the cost of the interest subsidy for students in school, the cost of providing interest relief to students in need, and the Government cost of borrowing. This assumption also affects the student rate of borrowing. The rate of borrowing has historically been very volatile. As a result, greater emphasis should be placed on assessing the sensitivity of this assumption. The low-cost scenario reduces the rate by 2.0% and the high-cost scenario increases it by 2.0%. Each of these scenarios is plausible based on the volatility of past experience.

### **7. Interest Relief Utilization**

In 1998, the interest relief program was extended from a maximum of 30 months to a maximum of 54 months. Since then, the utilization rate of interest relief has evolved. In the future, the utilization of interest relief could vary according to the economic situation and students' awareness regarding the existence of this repayment assistance. The low-cost scenario reduces the utilization rate of interest relief by 30% while the high-cost scenario increases it by 30%.

### **8. Net Defaults**

The net default rate of student loans is a major component of the Government's cost of being involved in the Program. The future net default rate on loans consolidated is 14.2%, which corresponds to a gross default rate of 20.0% and a recovery rate of 29.0%. This rate is closely linked with the employment environment for new graduates since that environment affects the ability of students to repay their loans.

In the low-cost scenario, the future recovery rate is increased back up to 60%, which corresponds to the recovery rate for past cohorts, while the gross default rate remains unchanged at 20.0%. This results in a net default rate of 8.0% and a provision rate of 8.6%. If the recovery rate is maintained at 60%, despite a lower gross default rate, it would indicate that the Program is being run very efficiently.

In the high-cost scenario, the future gross default rate is set at 35.4% which corresponds to the default rate for past cohorts, while the future recovery rate is set at 50%. This results in a net default rate of 17.7% and a provision rate of 18.3%. This scenario assumes that the gross default rate will return to a level higher than the most recent experience with a slightly lower recovery rate than in the past. Both of these tests only affect the provision rate for bad debt – principal, the provision rates for bad debt – interest are unchanged.

### **9. Student Interest Rate Spread**

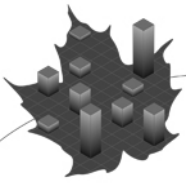
This scenario assumes that the student interest rate spread of 250 basis points is reduced to 100 bps beginning in loan year 2009-10. Overall, this scenario results in a small reduction in the portfolio size at the end of the projection period, but a large increase in the net cost of the Program. By decreasing the student interest rate spread, total revenues decrease significantly due to the reduction in student interest earned. There is a small decrease in total expenses, but not enough to offset the revenue loss. Thus, the net effect is a 13.9% increase in the net cost of the Program at the end of the projection period.



Table 38 below summarizes the results of each of the sensitivity tests.

**Table 38 Sensitivity Tests Results for Loan Year 2032-33**

Assumptions	Scenario	Loans Issued	Increase	Average Growth Rate	Portfolio July	Increase	Net Cost	Increase
		(\$ million)	(%)	(%)	(\$ million)	(%)	(\$ million)	(%)
<u>Base Scenario</u>	Best-estimate	2,912	-	1.5	19,125	-	1,346	-
<u>Sensitivity tests</u>								
1 - Index the limit to inflation	High-cost	4,234	45.4	3.0	25,513	33.4	1,702	26.5
2 - Wage differential -0.5%	Low-cost	2,987	2.6	1.6	19,506	2.0	1,327	-1.4
2 - Wage differential +0.5%	High-cost	2,823	-3.1	1.4	18,750	-2.0	1,361	1.1
3 - Inflation -1%	Low-cost	2,622	-10.0	1.1	17,572	-8.1	1,068	-20.7
3 - Inflation +1%	High-cost	3,307	13.6	2.0	21,435	12.1	1,683	25.1
4 - High labour force participation	Low-cost	1,990	-31.7	0.0	14,130	-26.1	1,098	-18.4
4 - Low labour force participation	High-cost	3,351	15.1	2.1	21,549	12.7	1,466	8.9
5 - Tuition:	Low-cost	2,074	-28.8	0.1	14,920	-22.0	1,120	-16.8
5 - Tuition: CPI + 6%	High-cost	4,029	38.4	2.8	24,353	27.3	1,649	22.5
6 - Interest rate -2%	Low-cost	2,912	-	1.5	18,599	-2.7	1,149	-14.7
6 - Interest rate +2%	High-cost	2,912	-	1.5	19,621	2.6	1,546	14.8
7 - Interest relief utilization 70%	Low-cost	2,912	-	1.5	18,657	-2.4	1,316	-2.2
7 - Interest relief utilization 130%	High-cost	2,912	-	1.5	19,573	2.3	1,376	2.2
8 - Net default rate 8.0%	Low-cost	2,912	-	1.5	18,445	-3.6	1,155	-14.2
8 - Net default rate 17.7%	High-cost	2,912	-	1.5	19,220	0.5	1,478	9.8
9 - Student Interest Rate Spread +100 bps	High-cost	2,912	-	1.5	18,732	-2.1	1,533	13.9



## **Appendix 5 – Acknowledgements**

We would like to thank the staff of the Canada Student Loans Directorate of Human Resources and Skills Development Canada that provided the relevant data used in this report. Without their useful assistance, we would not have been able to produce this report.

The following people assisted in the preparation of this report:

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