Actuarial Report

on the

Canada Student Loans Program

as at 31 July 2001

Office of the Superintendent of Financial Institutions
Office of the Chief Actuary

Bureau du surintendant des institutions financières
Bureau de l'actuaire en chef

Canada

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22 February 2002

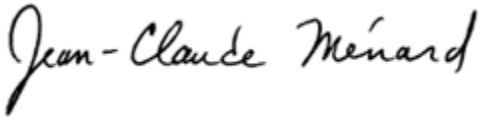
The Honourable Jane Stewart, P.C., M.P.
Minister of Human Resources Development
Hull, Canada

The Honourable Paul Martin, P.C., M.P.
Minister of Finance
Ottawa, Canada

Dear Ministers:

Pursuant to a request from the Assistant Deputy Minister, Human Resources Development Canada, I am pleased to submit the first actuarial report as at 31 July 2001 on the Canada Student Loans Program established under the *Canada Student Financial Assistance Act* and the *Canada Student Loans Act*.

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) and moved the Program 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 a 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 those costs, a portfolio projection, and a discussion of all the assumptions underlying the results of the review.

A - Purpose of the Report

This is the first 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 2001 and includes projections of future costs of the Program through the loan year 2025-26. An actuarial review of the CSLP is planned annually to provide an evaluation of the Program's overall financial costs and to increase the level of information to the Minister of Human Resources Development, the Minister of Finance, Parliament and the public.

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

- number of students in the CSLP and new loans issued;
- projections on 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 allowances under the new regime in effect since August 2000; and
- projections on the net cost of the new regime as well as the remaining net cost for pre-2000 programs.

B - Scope of the Report

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

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

C - Main Findings

The results in this report present an overview of the Government's cost in being involved in the new Direct Loan Regime of the CSLP. The following summarizes the main findings of the report.

- The number of students receiving a CSLP loan in a year is expected to increase from 346,000 to 441,000 over the projection period. This represents an increase in the participation of the students in the CSLP from 43% to 55%.

- The total growth rate of new loans issued averages 1.9% a year during the projection period. It is composed of an annual average increase of 1.0% in the number of students eligible in the CSLP and a 0.9% increase in the average loan size caused by keeping the weekly loan limit constant.

- The total amount of new loans issued increases from $1,562 million last year to $2,495 million at the end of the projection period.

- The portfolio of student loans increases from $9.4 billion to $17.0 billion in 2025. In constant dollars, the portfolio is projected to decrease slightly during the same period from $9.4 billion to $8.8 billion. Moreover, by 2017, the entire portfolio will comprise loans issued in the Direct Loan Regime.

- The total net cost, which is defined as the difference between the expenses and the revenues, of the Government's involvement in the CSLP is expected to grow from $0.96 billion to $1.41 billion in 2025. This represents an annual increase in costs to the Government of 1.5%. The real cost of the Government's involvement in constant dollars is expected to decrease from $0.96 billion to $0.73 billion. This represents an annual decrease of 1.1%, mainly caused by the loan limit remaining fixed over the 25-year period.

- In the projections, the percentage of students eligible that are at the loan limit increases from 43% to 77% in 2025. This demonstrates that an increase in the loan limit would have a significant impact on the long-term cost of the Program.

- An annual indexation of the weekly loan limit to the Consumer Price Index is included in Appendix 4 as a sensitivity test. In that scenario:

  - an additional $1.8 billion (74% increase) of new loans is issued in loan year 2025-26;

  - the portfolio of student loans reaches, for the same loan year, $26.4 billion instead of the expected $17.0 billion (an additional $9.4 billion); and

  - the total net cost for the Government's involvement in the CSLP increases by $570 million (40% increase) in the loan year 2025-26.

II- Main Report

The Canada Student Loans Program (CSLP) 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* was established applying to loan years preceding August 1995. More recently, the *Canada Student Financial Assistance Act* replaced the previous act for loan years after July 1995.

On 1 August 2000, the Government redesigned the delivery of its Program to disburse the 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 first section of the report provides a discussion on assumptions that reflects 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 and loan repayment assistance.

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 essential to determine the future number of students enrolled in post-secondary education and the eligibility to qualify for a loan under the CSLP. A long-term demographic and economic context of aging of the population and anticipated labour shortage serve as a base for the examination of key elements that affect eligibility, such as the evolution of the projected student population, youth participation in the labour force, enrolment rate in post-secondary education and the elimination of Grade 13 in Ontario.

This actuarial report provides a projection of the portfolio by class of loans for each regime in section C and a forecast of the net cost of the CSLP in section D. For the Government, there are higher public debt charges following the implementation of the new Direct Loan Regime. The costs related to this program include the interest subsidy on in-study loans, the cost of defaults on loans in repayment, the cost of interest relief, debt reduction measures and administrative expenses. The cost is reduced by an estimation of the interest revenues coming from recoveries on defaulted loans and from repayments for loans disbursed after 1 August 2000.

The actuarial estimates in this report are based on the current provisions of the Program as described in Appendix 1. The other appendices contain a detailed description of the assumptions, the methodology and the sensitivity tests of the results on elements such as changes in the loan ceiling, growth rate of new loans, net default rates and interest 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 as the "best-estimate" assumptions. Some of the assumptions are the same as those used by the Office of the Chief Actuary for the actuarial report on the Canada Pension Plan (CPP).

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 population on 1 July 2000, to which are applied future fertility, mortality and migration assumptions. The relevant population is Canada minus Québec, Northwest Territories and Nunavut. The CPP population projections are essential to determining the future number of students enrolled 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 and wage increases, as well as the cost of borrowing for both the 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. The "baby-boom" generation represents a 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 has influenced the school-to-work transition over the last 20 years. In the 1990s, youths aged 15 to 24 were more likely to be in school than were youths of previous decades, and because of poor labour market conditions they were less likely to find work.

During the last decade, poor labour market conditions have caused the school-to-work transition period to increase. At present, it is still 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 comes 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.

Starting in 2010, a lower labour force growth will create more working opportunities for the youths and should reduce the school-to-work transition period. The proportion of individuals aged 18-34 participating in the labour force is set to increase from 77.6% in 2000 to 80.0% in 2025. Therefore, youths will join the labour market sooner, thus reducing the proportion of the population inclined to remain within the educational system.

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 be weak in the coming years. Hence, the annual inflation rate is assumed at 2.8% in 2001 and 2.0% for years 2002 to 2005. From 2006, the rate is then uniformly increased to its ultimate level of 3.0% in 2015.

Student expenses are used in needs assessment to determine the maximum amount of loan 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 policy. An initial estimate for tuition growth is 1.8% in 2001 and is set at 2.7% for 2002 to 2005 inclusive, based on stated intentions in respective provincial budgets. 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 with the aging of population, tuition fees are indexed to the rate of inflation plus 3.0% for the long-term, in accordance with past experience.

Future student resources, including wages and parental contributions are influenced by the rate of increase of average annual earnings and increases in productivity. The rate of earnings increase is also related to changes in the manpower supply in the labour force. An increase in productivity and a reduced supply of labour, especially after 2010, are assumed to force a relatively higher real wage growth. In 2001, the real increase in average earnings is estimated to be -0.5%. Thereafter, the real growth in average earnings increases gradually, reaching 1.1% by 2015.

c) Cost of Borrowing

Since August 2000, the student is indebted to the Government and, as a result, the Government bears the interest risk associated with the cost of borrowing for the whole duration of the loans. The loan's duration is a combination of two periods. First, the student is in school for an average of three years (interest subsidy) and second, in repayment for another 10 years. The historic 10-year Government of Canada bond yield net of inflation is used as a benchmark to calculate the real borrowing cost for the Government. This rate is set at 3.0% over the long-term and is graded from its current value of 2.45%. The Government's cost consists of the real cost of borrowing and the rate of inflation as summarized in Table 1.

Table 1: Borrowing Costs

Loan Year	Inflation (%)	Real Government Cost of Borrowing (%)	Government Cost of Borrowing (%)	Real Prime Rate (%)	Student Cost of Borrowing (%)
	(1)	(2)	(1) + (2)	(3)	(3) + (1) + 250 pts
2000 - 2001	2.80	2.45	5.25	2.45	7.75
2001 - 2002	2.00	2.80	4.80	2.80	7.30
2002 - 2003	2.00	2.85	4.85	2.85	7.35
2003 - 2004	2.00	2.90	4.90	2.90	7.40
2004 - 2005	2.00	2.95	4.95	2.95	7.45
2005 - 2006	2.10	3.00	5.10	3.00	7.60
2006 - 2007	2.20	3.00	5.20	3.05	7.75
2007 - 2008	2.30	3.00	5.30	3.10	7.90
2008 - 2009	2.40	3.00	5.40	3.15	8.05
2009 - 2010	2.50	3.00	5.50	3.20	8.20
2010 - 2011	2.60	3.00	5.60	3.25	8.35
2011 - 2012	2.70	3.00	5.70	3.30	8.50
2012 - 2013	2.80	3.00	5.80	3.35	8.65
2013 - 2014	2.90	3.00	5.90	3.35	8.75
2014 - 2015+	3.00	3.00	6.00	3.35	8.85

The historical prime rate is used as the benchmark to calculate the interest charged to students during repayment. The real prime rate is currently 2.45% and is set to revert to its long-term average of 3.35%. The total student cost of borrowing, used to calculate the interest revenues and the cost of interest relief, is determined by adding to the real prime rate the inflation rate and 250 basis points. The student cost of borrowing is presented in the last column of Table 1.

3. Provision Assumptions

The CSLP is, since August 2000, a Program directly delivered and financed by the Government. Three separate provisions have been established. For that reason, specific assumptions are made concerning the provisioning rate charged to loans newly issued covering future losses. Specifically, these assumptions are provisions charged to income related to future bad debts, debt reduction in repayment and interest relief.

The provision for bad debt has been established at 11.3% for loans issued in 2000-01 and the Debt Reduction in Repayment (DRR) Provision was set at 0.7%. It is assumed that these two provisioning rates will remain constant in the future.

Table 2: Provision Assumptions

Type of Provision	Provisioning Rate of CSLP 2000-2001	Assumptions		
		2001-2002	…	2013-2014
	(%)	(%)		(%)
Bad Debt	11.3	11.3		11.3
Debt Reduction in Repayment	0.7	0.7		0.7
Subtotal	**12.0**	**12.0**		**12.0**
Interest Relief	2.6 (revised to 5.0%)	5.0		5.9
Provisioning Rate	**14.6**	**17.0**	**…**	**17.9**

Based on updated experience on the interest relief benefit being used by students experiencing financial difficulty and the evolution of future interest rates, the provisioning rate for interest relief is revised to 5.0% for the loan year 2000-01. The provision for interest relief is set at 5.0% for 2001-02, increasing to 5.9% by 2013, using our best-estimate assumption of rising future interest rates and the recent decline in interest rates. As a result, a one-time charge of 2.4% (5.0% - 2.6%) is reflected to income immediately (2001-02) to recover the insufficient interest relief provision charged in 2000-01.

The number of students using interest relief benefit is projected to remain relatively stable in the future. On the one hand, the potential enhanced future economic environment will put downward pressure to reduce the need for interest relief benefits. On the other hand, better communication to students will increase awareness of the existence of the interest relief benefit, which should counterbalance the impact of a better economic environment.

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

Table 3: Best-estimate Assumptions

1. Total fertility rate for Canada	1.64 per woman
2. Mortality	1990-92 Life Tables for Canada with future improvements
3. Net migration rate	0.50% of the population graded to 0.52% in 2020+
4. Youth participation rate (Canada)	Aged 18-34: 77.6% (2001) Aged 18-34: 80.0% (2025)
5. Real wage differential	-0.50% (2001) 0.00% (2002) 0.55% (2003) ⋮ 1.1% (2015+)
6. Inflation	2.8% (2001) 2.0% (2002-2005) ⋮ 3.0% (2015+)
7. Tuition fee increases	1.8% (2001) 2.7% (2002-2005) CPI +3.0% (2010+)
8. Government cost of borrowing	5.25% (2001) 6.00% (2015+)
9. Student borrowing cost	7.75% (2001) 8.85% (2015+)
10. Bad Debt Provision	11.3% (2001+)
11. DRR Provision	0.7% (2001+)
12. Interest Relief Provision	5.0% (2001) - One-time charge of 2.4% for past adjustment of 2000 provision reflected in 2001-2002 income ⋮ 5.9% (2013+) - Increase caused by rising future interest rates

B - Projections of New Loans Issued

The projected aging of the population combined with the retirement of the "baby-boom" generation over the next decades will create significant social and economic changes. The evolution of the working-age population, especially the active population, will be quite different from what has historically been observed. The projected scenario establishes the student population that will be used throughout this report. This projection of post-secondary students is used thereafter to estimate the number of CSLP recipients.

1. Projection of Post-secondary Enrolment

The projection of the number of students in post-secondary institutions must first be determined, since the number of students is linked to the potential demand for the CSLP. The enrolment of students in post-secondary education is expected to show a slight decrease over the next 25 years, primarily because of the anticipated labour shortage. Demographics, post-secondary enrolment and the phasing out of Grade 13 in Ontario will each have an impact on the progression of students attending post-secondary schools.

a) Demographic Projections

The population in the age range 18-34 is used to project the number of students enrolled in post-secondary institutions. An age distribution of students in the CSLP is applied to this population to derive the future enrolment in post-secondary education. The evolution of this population is practically known since it originates from individuals born between 1965 and today.

In the first 15 years of the projection, children of the "baby-boom" generation, called the "echo", are expected to contribute to increase the population in the age range 18-34. The "baby-boom" generation is more numerous and, consequently, had more children than the previous generation, notwithstanding a lower fertility rate. In the last 10 years of the projections, the population aged 18-34 decreases. The "baby-bust" generation that followed the "baby-boom" had fewer children because it is a much smaller cohort of individuals with the same low fertility profile. Overall, as Table 4 shows, a slight increase over the 25-year period in the population aged 18-34 is expected.

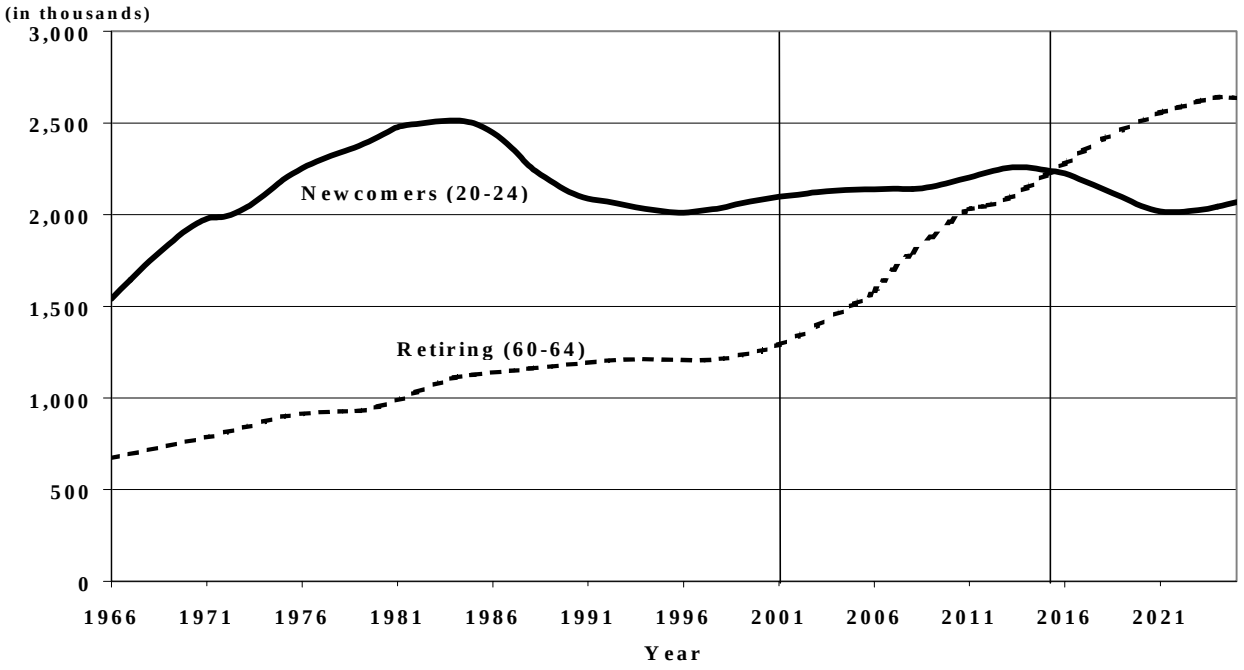
Table 4: Population and Post-secondary Enrolment of Participating Provinces

Loan Year	Population of Canada Less Québec (18 – 34) (Thousands)	Not in Labour Force (18 – 34) (Thousands)	Students Enrolled (Thousands)	Increase (Thousands)	Growth Rate (%)
2000 - 2001	5,603	1,257	810	–	–
2001 - 2002	5,606	1,260	815	4.3	0.53
2002 - 2003	5,630	1,275	826	10.9	1.34
2003 - 2004	5,661	1,292	905	79.0	9.57
2004 - 2005	5,690	1,297	926	21.0	2.32
2005 - 2006	5,711	1,298	903	-23.1	-2.49
2006 - 2007	5,729	1,298	882	-20.1	-2.22
2007 - 2008	5,769	1,305	871	-11.2	-1.27
2008 - 2009	5,823	1,317	866	-5.3	-0.60
2009 - 2010	5,877	1,327	867	0.8	0.10
2010 - 2011	5,922	1,332	870	3.6	0.42
2011 - 2012	5,960	1,328	872	2.0	0.23
2012 - 2013	5,996	1,324	874	1.2	0.14
2013 - 2014	6,032	1,321	873	-0.2	-0.03
2014 - 2015	6,062	1,316	872	-1.8	-0.21
2015 - 2016	6,066	1,299	867	-5.1	-0.58
2016 - 2017	6,065	1,280	858	-8.7	-1.01
2017 - 2018	6,061	1,264	847	-11.1	-1.29
2018 - 2019	6,049	1,248	835	-12.1	-1.43
2019 - 2020	6,047	1,239	823	-11.8	-1.41
2020 - 2021	6,043	1,230	813	-9.6	-1.16
2021 - 2022	6,039	1,222	806	-7.0	-0.87
2022 - 2023	6,039	1,217	801	-5.2	-0.64
2023 - 2024	6,042	1,212	798	-3.1	-0.39
2024 - 2025	6,037	1,207	796	-1.5	-0.19
2025 - 2026	6,023	1,202	795	-0.9	-0.12

b) Post-secondary Enrolment

The number of students enrolled in post-secondary institutions is closely linked to the evolution of the population aged 18-34 not participating in the labour force. The massive amount of retirements from the "baby-boom" generation, combined with fewer replacement entrants in the labour force, will be creating a pressure on the labour market that has never been seen before. In the past, there were always many more newcomers (aged 20-24) joining the job market than persons of retirement age (60-64). During the last two decades, there was a double-digit unemployment rate caused not only by the recessions but also by a very strong labour supply. Chart 1 shows the evolution of the number of persons retiring to the number of newcomers from 1966.

Chart 1: Evolution of Persons Retiring (60-64) to Newcomers (20-24)



The number of persons retiring or in the age range 60-64 has always been very low (representing less than 50%) in the past compared to the newcomers. This situation is expected to change radically over the next 15 to 25 years, creating an imbalance in the labour market. More specifically, in the next 15 years, the number of persons retiring is expected to catch-up with the number of newcomers, reaching 2,230,000 persons. By 2024, the number of persons retiring (2,640,000) will surpass by 29% the number of newcomers (2,040,000). The labour market will have to adapt because it is accustomed to having at least two newcomers for each person retiring; this ratio is going to be reversed.

As a result, the participation rates in the labour force are assumed to increase and the school-to-work transition period is reduced because of favourable labour market conditions and increased availability of work.

In Table 4, the population not participating in the labour force is projected to increase from 1,257,000 to 1,332,000 during the next 10 years only because of the natural demographic evolution. Thereafter, because of the labour shortage, it decreases during the following 15 years by 130,000 to reach 1,202,000 at the end of the projection period. The number of students enrolled in post-secondary institutions follows a similar pattern as the population not participating in the labour force and shows a decrease by the end of the projection period.

c) Double Cohort

Ontario's provincial government will have phased out Grade 13 by 2003. The Ministry of Training, Colleges and Universities of Ontario estimated that 78,000 additional students will be enrolled at colleges and universities. The increase is spread over two years because of space limitations and the new curriculum: 80% in the first year and 20% in the second.

Table 4 shows an increase of 79,000 students enrolled in 2003-04 for all participating provinces. This increase consists of 62,000 additional students as a result of the elimination of Grade 13 in Ontario (80% of 78,000) and the remaining 17,000 students come from the natural demographic growth in the number of students enrolled in the other participating provinces.

The resulting growth rate in students enrolled in post-secondary education is higher in 2003 and 2004. It becomes negative thereafter as the enlarged cohort graduates and leaves the CSLP. The effect will be phased out over the long term when both classes graduate completely.

Overall, during the projection period, the number of students enrolled in post-secondary education increases from 810,000 in 2000 to 874,000 in 2012 followed by a decrease to 795,000 students by 2025.

2. Number of Students in Canada Student Loans Program

The needs assessment process determines the proportion of students eligible for a loan. A student's need is defined as the excess of expenses relative to resources if positive. The resources assessed include salary, assets and parental contributions. The expenses calculated include transportation, tuition fees, books, shelter and food.

The student need is increasing on average because expenses are rising faster than resources. There are two reasons for this increase. First, tuition fees are ultimately indexed at 3.0% above the inflation while salaries are increased at a slower pace; i.e., indexed at 1.1% above inflation. In effect, Table 5 shows

average tuition fees rising from $4,100 in 2000 to $13,700 in 2025. As a percentage of the resources, tuition fees rise from a level of 64% to reach 91% in 2025. Tuition fee increases are the primary source of rising student needs.

Table 5: Average Student Needs

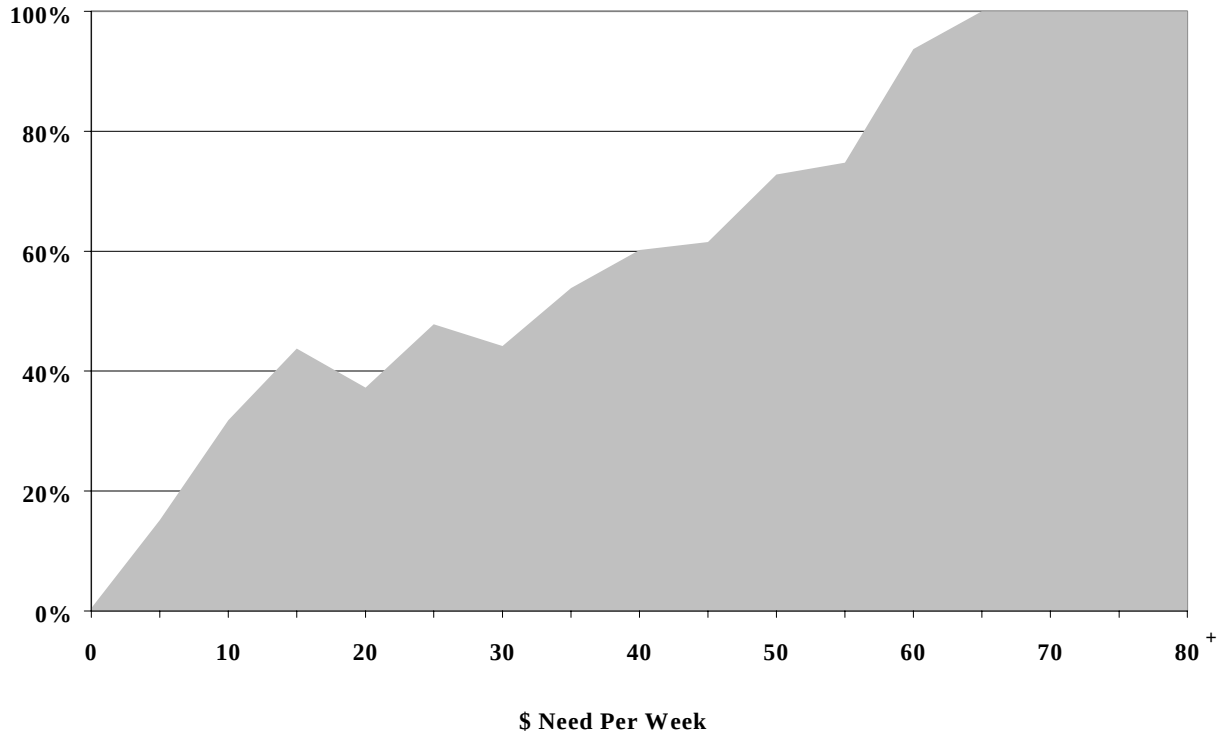
Loan Year	Resources ($)	Tuition ($)	Other Expenses ($)	Total Expenses ($)	Average Student Needs ($)
	(1)	(2)	(3)	(2) + (3)	(2) + (3) – (1)
2000 - 2001	6,400	4,100	11,100	15,200	8,800
2001 - 2002	6,500	4,200	11,400	15,600	9,100
2002 - 2003	6,700	4,300	11,700	16,000	9,300
2003 - 2004	6,800	4,400	11,900	16,300	9,500
2004 - 2005	7,000	4,500	12,100	16,600	9,600
2005 - 2006	7,200	4,700	12,400	17,100	9,900
2006 - 2007	7,400	4,800	12,700	17,500	10,100
2007 - 2008	7,600	5,000	12,900	17,900	10,300
2008 - 2009	7,800	5,200	13,200	18,400	10,600
2009 - 2010	8,100	5,500	13,500	19,000	10,900
2010 - 2011	8,400	5,800	13,900	19,700	11,300
2011 - 2012	8,700	6,100	14,200	20,300	11,600
2012 - 2013	9,000	6,400	14,600	21,000	12,000
2013 - 2014	9,400	6,800	15,000	21,800	12,400
2014 - 2015	9,700	7,200	15,500	22,700	13,000
2015 - 2016	10,100	7,600	15,900	23,500	13,400
2016 - 2017	10,600	8,100	16,400	24,500	13,900
2017 - 2018	11,000	8,600	16,900	25,500	14,500
2018 - 2019	11,400	9,100	17,400	26,500	15,100
2019 - 2020	11,900	9,600	17,900	27,500	15,600
2020 - 2021	12,400	10,200	18,500	28,700	16,300
2021 - 2022	12,900	10,800	19,000	29,800	16,900
2022 - 2023	13,400	11,500	19,600	31,100	17,700
2023 - 2024	14,000	12,200	20,200	32,400	18,400
2024 - 2025	14,600	12,900	20,800	33,700	19,100
2025 - 2026	15,100	13,700	21,400	35,100	20,000

Second, the average expenses per eligible student are initially much greater than the resources. The average expenses are $15,200 per year compared to the average resources of only $6,400 in 2000. The resources account for approximately 40% of the total expenses during the 25-year projection period. By applying the same percentage increase to both, the total expenses account for a greater increase in dollars when compared to resources.

Another element that must be taken into consideration is the loan size. Some eligible students with a small need tend not to take their loan but would eventually participate in the Program if their need increased significantly. The average student need increases by 127% over the next 25 years (Table 5). This will increase the participation of students who are eligible for a small loan but are not taking it.

The percentage of eligible students taking their loan is shown in Chart 2 according to the assessed student need per week. At an assessed need of $60 and over a week, almost all the students take their loan. However, when the need assessed is between $0 - $5 per week, the chart shows that students do not take their loans because they are too insignificant.

Chart 2: Percentage of Students Taking Their Loan



The expected increase in the eligibility rate of the CSLP, from 51.6% to 58.9%, is caused by a faster increase in tuition fees and other expenses compared to average student resources.

Table 6: Loan Recipients

Loan Year	Students Enrolled (Thousands)	Students Eligible (Thousands)	Eligibility Rate (%)	Students in CSLP (Thousands)	Annual Increase in CSLP Students (Thousands)	Participation Rate (%)
	(1)	(2)	(2) / (1)	(3)	(4)	(3) / (1)
2000 - 2001	810	418	51.6	346	–	42.6
2001 - 2002	815	421	51.7	350	4	42.9
2002 - 2003	826	428	51.8	357	7	43.2
2003 - 2004	905	469	51.9	393	36	43.4
2004 - 2005	926	481	52.0	404	11	43.7
2005 - 2006	903	470	52.1	396	-8	43.9
2006 - 2007	882	460	52.2	390	-6	44.2
2007 - 2008	871	456	52.3	387	-2	44.5
2008 - 2009	866	454	52.4	388	1	44.8
2009 - 2010	867	456	52.6	392	4	45.2
2010 - 2011	870	460	52.8	397	5	45.7
2011 - 2012	872	463	53.0	402	5	46.1
2012 - 2013	874	465	53.3	407	5	46.6
2013 - 2014	873	468	53.5	412	4	47.1
2014 - 2015	872	469	53.8	416	4	47.7
2015 - 2016	867	469	54.2	418	3	48.3
2016 - 2017	858	468	54.5	419	1	48.9
2017 - 2018	847	465	54.9	419	0	49.5
2018 - 2019	835	461	55.3	419	-1	50.2
2019 - 2020	823	458	55.7	418	0	50.8
2020 - 2021	813	457	56.2	419	1	51.5
2021 - 2022	806	457	56.7	421	2	52.3
2022 - 2023	801	458	57.2	425	3	53.0
2023 - 2024	798	461	57.7	429	5	53.8
2024 - 2025	796	464	58.3	435	6	54.6
2025 - 2026	795	469	58.9	441	6	55.4

Table 6 shows that 51.6% of students are eligible for a student loan in 2000 but only 42.6% take the loan. The 9.0% gap between these two rates represents students who do not take loans of a small size. This gap narrows to 3.5% by 2025, since the average student need has increased and, as a result, there are fewer students with a small need and more students participating in the Program.

The Ontario Government's plan to phase out Grade 13 by 2003 is part of the increase of participation in the CSLP. The number of students participating in the CSLP increases by 38,000 in loan year 2003-04. This increase is comparable to the last two years' experience that shows, on average, 34,000 students received a loan under the CSLP for the first time in Ontario.

Overall, the participation rate of students in the CSLP will increase from 42.6% to 55.4% adding 95,000 students in the Program. This is the main cause of the increase in loans issued over the 25-year period.

3. New Loans Issued

This section focuses on the average loan size increases of all new loans issued in a certain year. The following two factors combined are responsible for dictating the evolution of the average loan size.

First, an increased student need will put a growing pressure on the average loan size. Table 7 shows that the average student needs increase from $8,800 in 2000 to $20,000 in 2025. As explained in the previous section, the increasing student need is also causing many students to become eligible to receive a loan. However, these new loans are smaller in size and slow the growth of the average loan size. This indirectly contributes to moderating the average loan growth over the 25-year period since an estimated 95,000 more students will participate in the Program.

Second, a greater percentage of students will attain the loan limit, given that the loan limit is set at $165 per week for the 25-year period. In Table 7, the percentage of students at the limit increases from 42.6% to 77.4%, implying that these students will not have an increase in loan size despite increased cost pressures. The $165 limit slows the growth of the loan, as students who are already at the loan limit cannot increase the size of their loan any further.

Table 7: Average Amount of New Loans

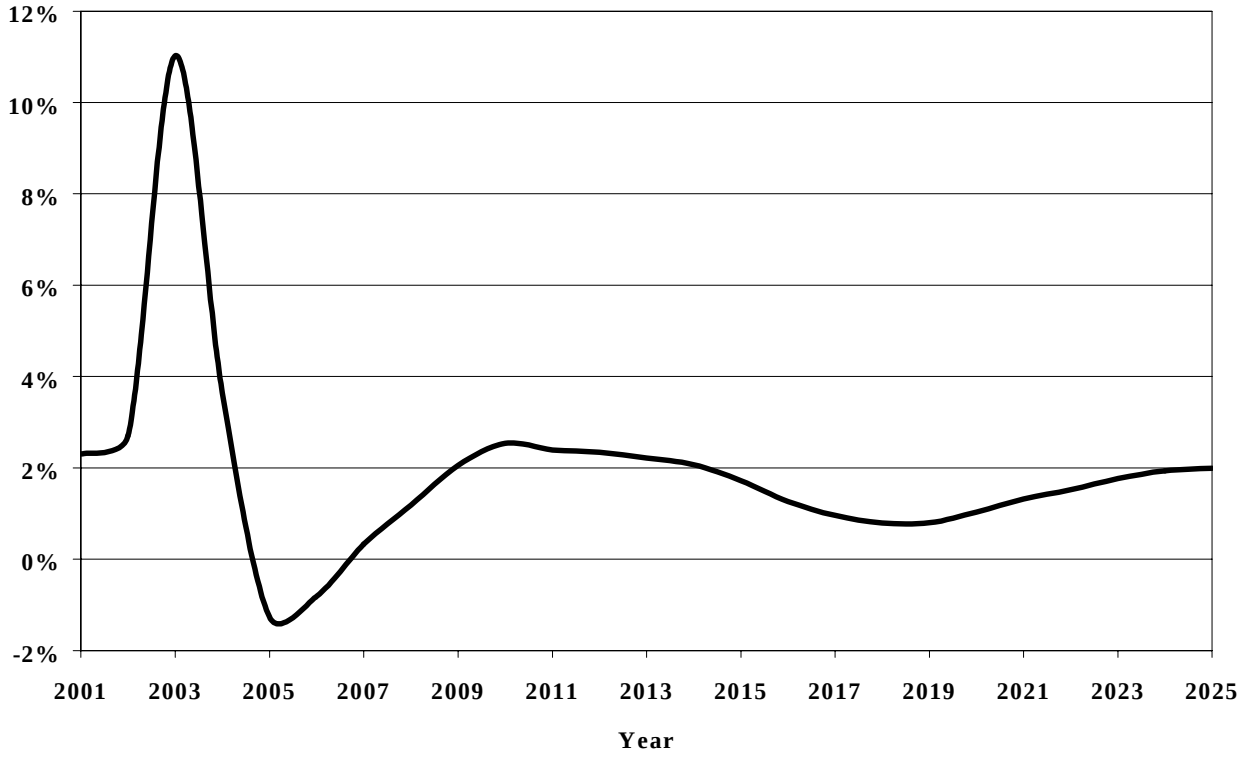
Loan Year	Average Student Needs ($)	Increase (%)	% at Loan Limit	CSLP Weekly $ Limit	Average Loan Size ($)	Increase (%)
2000 - 2001	8,800	–	42.6	165	4,520	–
2001 - 2002	9,100	2.7	43.9	165	4,567	1.0
2002 - 2003	9,300	2.3	45.0	165	4,600	0.7
2003 - 2004	9,500	1.9	45.9	165	4,636	0.8
2004 - 2005	9,600	1.9	46.9	165	4,671	0.8
2005 - 2006	9,900	1.8	47.7	165	4,706	0.7
2006 - 2007	10,100	2.1	48.8	165	4,745	0.8
2007 - 2008	10,300	2.4	49.9	165	4,789	0.9
2008 - 2009	10,600	2.7	51.2	165	4,837	1.0
2009 - 2010	10,900	3.0	52.6	165	4,888	1.1
2010 - 2011	11,300	3.3	54.1	165	4,943	1.1
2011 - 2012	11,600	3.4	55.7	165	4,999	1.1
2012 - 2013	12,000	3.5	57.3	165	5,055	1.1
2013 - 2014	12,400	3.6	58.9	165	5,111	1.1
2014 - 2015	13,000	3.7	60.6	165	5,167	1.1
2015 - 2016	13,400	3.8	62.3	165	5,222	1.1
2016 - 2017	13,900	3.9	63.9	165	5,275	1.0
2017 - 2018	14,500	3.9	65.5	165	5,327	1.0
2018 - 2019	15,100	3.9	67.2	165	5,377	0.9
2019 - 2020	15,600	4.0	68.7	165	5,425	0.9
2020 - 2021	16,300	4.0	70.3	165	5,470	0.8
2021 - 2022	16,900	4.0	71.8	165	5,513	0.8
2022 - 2023	17,700	4.1	73.3	165	5,554	0.7
2023 - 2024	18,400	4.1	74.7	165	5,593	0.7
2024 - 2025	19,100	4.1	76.1	165	5,629	0.6
2025 - 2026	20,000	4.2	77.4	165	5,662	0.6

Table 8: Increase in New Loans Issued

Loan Year	Students in CSLP (Thousands) (1)	Increase (%)	Average Loan Size ($) (2)	Increase (%)	Total Loans Issued ($ million) (1) x (2)	Increase (%)	% of Students at Limit
2000 - 2001	346	–	4,520	–	1,562	–	42.6
2001 - 2002	350	1.3	4,567	1.0	1,598	2.3	43.9
2002 - 2003	357	2.0	4,600	0.7	1,641	2.7	45.0
2003 - 2004	393	10.2	4,636	0.8	1,822	11.0	45.9
2004 - 2005	404	2.9	4,671	0.8	1,889	3.6	46.9
2005 - 2006	396	-2.0	4,706	0.7	1,865	-1.3	47.7
2006 - 2007	390	-1.6	4,745	0.8	1,849	-0.8	48.8
2007 - 2008	387	-0.6	4,789	0.9	1,856	0.3	49.9
2008 - 2009	388	0.2	4,837	1.0	1,878	1.2	51.2
2009 - 2010	392	1.0	4,888	1.1	1,916	2.1	52.6
2010 - 2011	397	1.4	4,943	1.1	1,965	2.5	54.1
2011 - 2012	402	1.3	4,999	1.1	2,012	2.4	55.7
2012 - 2013	407	1.2	5,055	1.1	2,059	2.3	57.3
2013 - 2014	412	1.1	5,111	1.1	2,104	2.2	58.9
2014 - 2015	416	1.0	5,167	1.1	2,148	2.1	60.6
2015 - 2016	418	0.6	5,222	1.1	2,185	1.7	62.3
2016 - 2017	419	0.2	5,275	1.0	2,212	1.3	63.9
2017 - 2018	419	0.0	5,327	1.0	2,234	1.0	65.5
2018 - 2019	419	-0.1	5,377	0.9	2,251	0.8	67.2
2019 - 2020	418	-0.1	5,425	0.9	2,269	0.8	68.7
2020 - 2021	419	0.2	5,470	0.8	2,293	1.0	70.3
2021 - 2022	421	0.5	5,513	0.8	2,323	1.3	71.8
2022 - 2023	425	0.8	5,554	0.7	2,358	1.5	73.3
2023 - 2024	429	1.1	5,593	0.7	2,400	1.8	74.7
2024 - 2025	435	1.3	5,629	0.6	2,447	1.9	76.1
2025 - 2026	441	1.4	5,662	0.6	2,495	2.0	77.4

The product of the number of students in the CSLP with the average loan size gives the total amount of loans issued. The increase in the number of students in the CSLP is shown in Table 8 with the increase in average loan size. The combination of these two elements gives the increase in new loans issued. For example, in the loan year 2010-11 the growth rate of students in the CSLP is 1.4% while the growth of the average loan size is 1.1%. The growth of total loans issued in 2010-11 is 2.5%, the sum of the two elements.

Chart 3: Growth Rate of New Loans Issued



The growth in the number of new loans will be, on average, 1.0% a year mainly because of an increase in the proportion of students who are eligible (51.6% to 58.9% as shown in Table 6). The average size of the loan increases only at 0.9% a year because of the weekly loan limit kept constant over the 25-year period. In Chart 3, the elimination of Grade 13 in Ontario raises the growth rate to 11.0% in 2003-04 but has no impact on the long-term growth rate. In total, the growth rate averages 1.9% per year using the above assumptions. The total new loans issued will reach $2,495 million at the end of the projection period resulting from an increase in participation, the evolution of loan size and the percentage of students at the limit using the cap of $165 per week.

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

A scenario demonstrating the indexing of the loan limit to the CPI is included in the Appendix 4 in the sensitivity testing. This scenario demonstrates that the growth rate of loans issued is significantly higher given that the loan limit increases with the evolving student need.

C - Portfolio Projections

This section presents a projection 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. The interest on these loans is fully subsidized by the Program. The loans in repayment is the balance of all loans taken by the students, consolidated with the financial institutions (or the Government) and being repaid. Impaired loans are not included in the loans in repayment.

The Guaranteed and the Risk-Shared Regimes contain loans issued before August 2000. Some loans in those regimes are still outstanding since students are either in school or have not finished repaying their loan.

The projection of the portfolio for loans issued under the Guaranteed and the Risk-Shared Regimes are shown in Table 9. Such projections use the consolidation, default and recovery distribution, discussed in Appendix 3, with an assumed gross default rate of 22.0% combined with a recovery rate of 50.5%. The Guaranteed Regime portfolio is gradually being phased out in the next 10 years while loans in the Risk-Shared Regime will take an extra 6 years before being completely phased out.

Table 9: Guaranteed and Risk-Shared Regimes ($ million)

	Guaranteed			Risk-Shared		
As at July 31	Loans In-study	Loans in Repayment	Total	Loans In-study	Loans in Repayment	Total
2001	178	821	999	2,262	4,536	6,798
2002	47	647	694	1,587	4,546	6,133
2003	–	457	457	1,049	4,356	5,405
2004	–	284	284	629	4,008	4,636
2005		168	168	350	3,484	3,834
2006	–	93	93	166	2,838	3,004
2007	–	46	46	56	2,185	2,241
2008	–	19	19	–	1,576	1,576
2009	–	6	6	–	1,032	1,032
2010	–	1	1	–	634	634
2011	–	–	–	–	400	400
2012	–	–	–	–	236	236
2013	–	–	–	–	127	127
2014	–	–	–	–	61	61
2015	–	–	–	–	24	24
2016	–	–	–	–	6	6
2017	–	–	–	–	–	–

Under the Direct Loan Regime, according to the accounting regulation section 3050 of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision on loans issued needs to be set up as a program expense because the loans are provided by the Government instead of by the banks. The purpose of this provision is to cover all of the net future costs and risk of loss associated with the loans. As a result, the provision avoids overstatement of program revenues by recognizing the future loss of loans issued.

The projection of the Direct Loan portfolio includes the balance of outstanding loans, the projection of impaired loans, which are loans where the student stops making payments, an allowance for bad debt, representing an amount put aside to cover future risk of default net of recoveries from loans disbursed, and an allowance for interest relief and debt reduction in repayment, which are the amounts put aside to cover future cost of a student benefiting from these provisions.

The initial portfolio (Table 10) comes from the new loans issued in the loan year 2000-01 ($1,562 million). The portfolio increases rapidly to reach $10 billion within the next six years. By the end of the loan year 2025-26, the portfolio will reach $17 billion. All calculations assumed a constant loan limit of $165 per week and any increase in this limit would make the size of the loan portfolio even higher.

Table 10: Direct Loan Portfolio and Allowances ($ million)

As at July 31	Loans In-study	Loans in Repayment	Total*	Impaired Loans Portfolio*	Allowance for Bad Debt	Allowance for Interest Relief	Allowance for Debt Reduction in Repayment
2001	1,562	–	1,562	–	177	41	11
2002	2,656	471	3,127	31	326	148	22
2003	3,378	1,262	4,640	110	433	205	34
2004	4,001	2,211	6,212	238	510	257	46
2005	4,430	3,278	7,707	414	548	299	60
2006	4,641	4,377	9,018	628	544	329	73
2007	4,717	5,421	10,138	872	510	348	82
2008	4,747	6,338	11,085	1,132	459	362	89
2009	4,782	7,092	11,874	1,401	402	374	94
2010	4,838	7,680	12,518	1,671	349	386	98
2011	4,921	8,096	13,016	1,937	304	397	101
2012	5,022	8,398	13,420	2,195	270	409	103
2013	5,137	8,628	13,765	2,439	245	421	106
2014	5,253	8,824	14,077	2,662	228	433	108
2015	5,369	9,006	14,375	2,858	218	445	111
2016	5,476	9,191	14,667	3,026	213	454	114
2017	5,569	9,381	14,950	3,168	210	463	117
2018	5,646	9,574	15,220	3,287	206	470	119
2019	5,708	9,761	15,470	3,387	202	477	122
2020	5,763	9,937	15,699	3,474	196	482	124
2021	5,818	10,097	15,915	3,549	191	488	127
2022	5,881	10,242	16,124	3,618	188	493	129
2023	5,956	10,377	16,333	3,682	186	500	131
2024	6,044	10,507	16,551	3,742	186	507	133
2025	6,146	10,638	16,783	3,801	189	515	136
2026	6,258	10,776	17,034	3,859	193	524	138

* The aggregate amount of outstanding student loans (including impaired loans) is established not to exceed $15 billion under section 13 of the *Canada Student Financial Assistance Act*.

Table 11 provides the details for the calculations of the impaired loans' portfolio as well as the allowance for bad debt.

Table 11: Detailed Calculations – Impaired Loans and Allowance for Bad Debt ($ million)

	Impaired Loans Portfolio					Allowance for Bad Debt				
Loan Year	Balance August 1	New Impaired Loans	Collected Loans	Write Off	Balance July 31	Allowance August 1	New Provision*	New Impaired Loans	Collected Loans	Allowance July 31
	(1)	(2)	(3)	(4)	(1 + 2) – (3 + 4)	(1)	(2)	(3)	(4)	(1 + 2) – (3 + 4)
2000 - 2001	–	–	–	–	–	–	177	–	–	177
2001 - 2002	–	31	–	–	31	177	181	31	–	326
2002 - 2003	31	83	4	–	110	326	185	83	-4	433
2003 - 2004	110	141	12	–	238	433	206	141	-12	510
2004 - 2005	238	200	25	–	414	510	213	200	-25	548
2005 - 2006	414	257	42	–	628	548	211	257	-42	544
2006 - 2007	628	305	62	–	872	544	209	305	-62	510
2007 - 2008	872	344	83	–	1,132	510	210	344	-83	459
2008 - 2009	1,132	374	105	–	1,401	459	212	374	-105	402
2009 - 2010	1,401	395	125	–	1,671	402	217	395	-125	349
2010 - 2011	1,671	409	143	–	1,937	349	222	409	-143	304
2011 - 2012	1,937	421	159	4	2,195	304	227	421	-159	270
2012 - 2013	2,195	430	172	14	2,439	270	233	430	-172	245
2013 - 2014	2,439	439	184	32	2,662	245	238	439	-184	228
2014 - 2015	2,662	448	195	56	2,858	228	243	448	-195	218
2015 - 2016	2,858	457	205	84	3,026	218	247	457	-205	213
2016 - 2017	3,026	466	213	112	3,168	213	250	466	-213	210
2017 - 2018	3,168	476	220	137	3,287	210	252	476	-220	206
2018 - 2019	3,287	484	226	158	3,387	206	254	484	-226	202
2019 - 2020	3,387	492	231	175	3,474	202	256	492	-231	196
2020 - 2021	3,474	500	236	188	3,549	196	259	500	-236	191
2021 - 2022	3,549	506	240	198	3,618	191	263	506	-240	188
2022 - 2023	3,618	512	244	205	3,682	188	266	512	-244	186
2023 - 2024	3,682	518	247	210	3,742	186	271	518	-247	186
2024 - 2025	3,742	525	251	215	3,801	186	276	525	-251	189
2025 - 2026	3,801	532	255	219	3,859	189	282	532	-255	193

* The provision on new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

The evolution of impaired loans portfolio is shown relative to the allowance for bad debt. It evolves rapidly over the next 12 years and thereafter stabilizes at approximately 22% of the loan portfolio performing normally. This percentage is relatively high since impaired loans remain on the Government's books at least 10 years. Thereafter, these impaired loans will be written off at the rate of 25% for the next four years.

The allowance for bad debt is growing during the first six years because of the rapid portfolio increase at the beginning. Compared to the portfolio performing normally, the allowance for bad debt starts at the provision level of 11.3% and decreases with time to stabilize at 1.2% in 2020.

As in the previous table, Table 12 provides the details for the calculations of the allowances for interest relief and debt reduction in repayment (DRR).

Table 12: Detailed Calculations – Allowances for Interest Relief and DRR ($ million)

	Allowance for Interest Relief				Allowance for Debt Reduction in Repayment			
Loan Year	Allowance August 1	New Provision*	Interest Relief Payment	Allowance July 31	Allowance August 1	New Provision*	DRR Payment	Allowance July 31
	(1)	(2)	(3)	(1) + (2) – (3)	(1)	(2)	(3)	(1) + (2) – (3)
2000 - 2001	–	41	–	41	–	11	–	11
2001 - 2002	41	118	11	148	11	11	–	22
2002 - 2003	148	82	25	205	22	11	–	34
2003 - 2004	205	93	41	257	34	13	–	46
2004 - 2005	257	98	56	299	46	13	–	60
2005 - 2006	299	99	69	329	60	13	–	73
2006 - 2007	329	100	80	348	73	13	3	82
2007 - 2008	348	102	88	362	82	13	6	89
2008 - 2009	362	105	94	374	89	13	8	94
2009 - 2010	374	109	98	386	94	13	10	98
2010 - 2011	386	112	101	397	98	14	11	101
2011 - 2012	397	117	104	409	101	14	12	103
2012 - 2013	409	119	108	421	103	14	12	106
2013 - 2014	421	124	112	433	106	15	12	108
2014 - 2015	433	127	115	445	108	15	12	111
2015 - 2016	445	129	119	454	111	15	12	114
2016 - 2017	454	131	122	463	114	15	13	117
2017 - 2018	463	132	124	470	117	16	13	119
2018 - 2019	470	133	126	477	119	16	13	122
2019 - 2020	477	134	128	482	122	16	13	124
2020 - 2021	482	135	130	488	124	16	14	127
2021 - 2022	488	137	131	493	127	16	14	129
2022 - 2023	493	139	133	500	129	17	14	131
2023 - 2024	500	142	134	507	131	17	15	133
2024 - 2025	507	144	136	515	133	17	15	136
2025 - 2026	515	147	138	524	136	17	15	138

* The provision on new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

The allowance for interest relief is steadily growing during the projection period. Compared to the portfolio performing normally, the allowance for interest relief stabilizes to 3.1% at the end of the projection period.

The allowance for DRR is steadily growing during the projection period. The allowance for DRR remains stable during the projection period at 0.8% of the portfolio performing normally.

For purposes of comparison, Table 13 shows the Direct Loan portfolio in 2001 constant dollars. Starting in loan year 2013-14, the portfolio is decreasing because the inflation rate assumed is higher than the resulting growth rate.

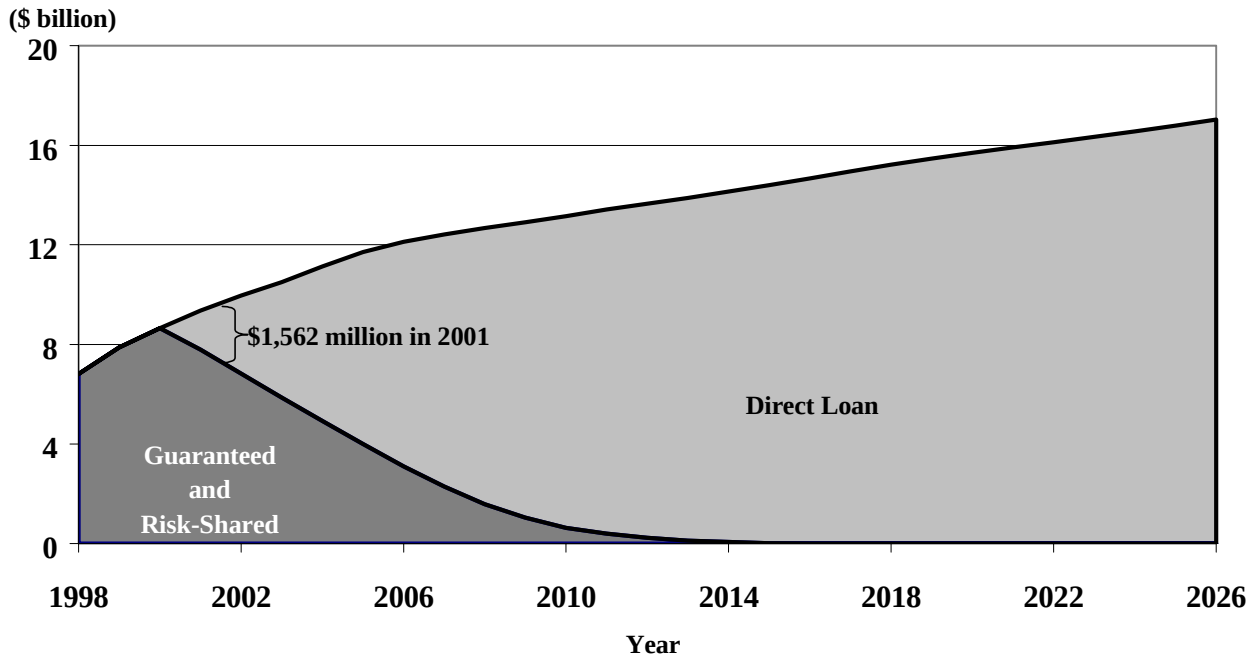
Table 13: Direct Loan Portfolio and Allowances (in millions of 2001 constant dollars) [1]

As at July 31	Loans In-study	Loans in Repayment	Total	Impaired Loans	Allowance for Bad Debt	Allowance for Interest Relief	Allowance for Debt Reduction in Repayment
2001	1,562	–	1,562	–	177	41	11
2002	2,603	462	3,065	30	320	145	22
2003	3,246	1,213	4,460	105	416	197	32
2004	3,770	2,083	5,854	224	481	242	44
2005	4,092	3,028	7,121	382	506	276	55
2006	4,199	3,960	8,160	569	492	297	66
2007	4,176	4,800	8,976	772	451	308	73
2008	4,109	5,485	9,594	980	397	314	77
2009	4,042	5,994	10,036	1,184	340	316	80
2010	3,989	6,332	10,322	1,378	288	318	81
2011	3,955	6,506	10,461	1,557	245	319	81
2012	3,930	6,572	10,501	1,718	211	320	81
2013	3,910	6,568	10,478	1,857	186	320	80
2014	3,886	6,528	10,414	1,969	169	321	80
2015	3,856	6,468	10,324	2,053	157	319	80
2016	3,819	6,409	10,227	2,110	149	317	79
2017	3,770	6,351	10,121	2,145	142	313	79
2018	3,711	6,293	10,004	2,160	135	309	78
2019	3,643	6,229	9,872	2,162	129	304	78
2020	3,570	6,156	9,726	2,152	122	299	77
2021	3,500	6,073	9,573	2,135	115	293	76
2022	3,435	5,981	9,416	2,113	110	288	75
2023	3,377	5,884	9,260	2,087	105	283	74
2024	3,327	5,784	9,110	2,060	102	279	73
2025	3,284	5,685	8,969	2,031	101	275	72
2026	3,247	5,591	8,838	2,002	100	272	72

[1] For a given year, the value in 2001 constant dollars is equal to the corresponding dollars divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year by the cumulative index of CPI for 2001.

The projection of the portfolio of loans performing normally is shown in Chart 4. Guaranteed and Risk-Shared loans are phased out over time. The difference between the two curves corresponds to loans in the current Direct Loan Regime.

Chart 4: Projection of the Loans Portfolio



All the assumptions used to derive these numbers are presented in Appendix 3.

D - Projections on the Net Cost of the Program

1. Student Related Expenses

One of the components of expenses of the CSLP is the expense related to supporting students during their study and repayment period. This expense includes the interest subsidy, the provisions for interest relief and debt reduction in repayment (DRR) under the different regimes. The expense for Canada Study Grants is shown separately because it supports students directly rather than assisting them in a form of loans.

Table 14: Student Related Expenses ($ million)

	Direct Loan			Risk-Shared and Guaranteed				
Loan Year	Interest Subsidy	Provision* for Interest Relief	Provision* for DRR	Interest Subsidy	Interest Relief	DRR	Canada Study Grants	Total
2000 - 2001	75.3	40.6	10.9	111.6	107.5	2.6	81.1	429.5
2001 - 2002	127.1	118.3	11.2	76.1	64.7	6.2	120.2	523.8
2002 - 2003	138.3	82.1	11.5	42.4	45.4	8.1	122.6	450.4
2003 - 2004	165.2	92.9	12.8	25.4	33.0	9.4	125.1	463.7
2004 - 2005	184.4	98.2	13.2	14.0	20.4	11.1	127.6	468.9
2005 - 2006	194.8	98.8	13.1	6.4	15.1	11.2	130.2	469.5
2006 - 2007	204.1	99.9	12.9	2.0	10.3	4.8	132.9	467.0
2007 - 2008	222.4	102.1	13.0	–	6.6	3.6	135.8	483.4
2008 - 2009	228.3	105.1	13.1	–	3.3	2.8	138.9	491.6
2009 - 2010	235.3	109.2	13.4	–	1.4	1.8	142.3	503.5
2010 - 2011	243.8	112.0	13.8	–	0.5	1.2	145.8	517.1
2011 - 2012	253.4	116.7	14.1	–	0.1	0.7	149.6	534.6
2012 - 2013	263.7	119.4	14.4	–	–	0.4	153.7	551.6
2013 - 2014	274.4	124.2	14.7	–	–	–	158.0	571.3
2014 - 2015	285.3	126.7	15.0	–	–	–	162.5	589.6
2015 - 2016	295.9	128.9	15.3	–	–	–	167.4	607.5
2016 - 2017	300.9	130.5	15.5	–	–	–	172.4	619.4
2017 - 2018	305.0	131.8	15.6	–	–	–	177.6	630.0
2018 - 2019	308.4	132.8	15.8	–	–	–	182.9	639.9
2019 - 2020	311.3	133.9	15.9	–	–	–	188.4	649.5
2020 - 2021	314.3	135.3	16.1	–	–	–	194.1	659.7
2021 - 2022	317.7	137.1	16.3	–	–	–	199.9	670.9
2022 - 2023	321.7	139.1	16.5	–	–	–	205.9	683.3
2023 - 2024	326.5	141.6	16.8	–	–	–	212.1	697.0
2024 - 2025	332.0	144.3	17.1	–	–	–	218.4	711.9
2025 - 2026	338.1	147.2	17.5	–	–	–	225.0	727.8

* The provision on new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

2. Program Risk Expenses

Another category of expenses for the Government is related to the risks involved in disbursing loans to students. Specifically, the risk of loan default and the risk of loans being forgiven on death or disability of a student are included in this section. As well, the risk of loan recovery on the Put-Back loans in the Risk-Shared Regime is included.

Table 15: Risks to the Government ($ million)

	Direct Loan	Risk-Shared			Guaranteed			
Loan Year	Provision* for Bad Debt	Risk Premium	Put-Back	Recovery on Put-Back	Claims	Recovery	Loan Forgiven	Total
2000 - 2001	176.5	84.0	2.6	-6.9	78.0	-58.1	9.5	285.6
2001 - 2002	180.6	35.4	3.4	-11.5	56.5	-54.5	10.1	220.0
2002 - 2003	185.5	28.0	3.4	-16.9	37.1	-49.5	10.7	198.2
2003 - 2004	205.9	21.7	3.3	-21.5	23.4	-43.6	11.3	200.5
2004 - 2005	213.4	14.4	3.0	-25.0	14.4	-37.6	11.9	194.5
2005 - 2006	210.7	9.5	2.6	-27.2	8.5	-30.6	12.3	185.8
2006 - 2007	209.0	5.7	2.1	-27.6	4.5	-24.3	12.6	182.1
2007 - 2008	209.7	2.9	1.6	-26.3	2.1	-18.8	12.9	184.0
2008 - 2009	212.2	–	1.2	-24.1	0.7	-14.0	13.1	189.0
2009 - 2010	216.5	–	0.8	-21.4	0.1	-9.7	13.4	199.6
2010 - 2011	222.0	–	0.5	-18.5	–	-6.8	13.6	210.8
2011 - 2012	227.3	–	0.3	-15.6	–	-4.6	13.9	221.3
2012 - 2013	232.6	–	0.2	-12.7	–	-2.8	14.1	231.4
2013 - 2014	237.8	–	0.1	-9.9	–	-1.6	14.3	240.7
2014 - 2015	242.7	–	–	-7.5	–	-0.7	14.6	249.1
2015 - 2016	246.9	–	–	-5.3	–	-0.3	14.9	256.2
2016 - 2017	250.0	–	–	-3.3	–	-0.1	15.2	261.8
2017 - 2018	252.4	–	–	-2.2	–	–	15.4	265.6
2018 - 2019	254.4	–	–	-1.4	–	–	15.7	268.7
2019 - 2020	256.4	–	–	-0.8	–	–	15.9	271.6
2020 - 2021	259.1	–	–	-0.5	–	–	16.2	274.8
2021 - 2022	262.5	–	–	-0.2	–	–	16.4	278.6
2022 - 2023	266.5	–	–	-0.1	–	–	16.6	283.0
2023 - 2024	271.2	–	–	–	–	–	16.8	288.0
2024 - 2025	276.5	–	–	–	–	–	17.0	293.5
2025 - 2026	282.0	–	–	–	–	–	17.3	299.2

* The provision on new loans issued accrues on a loan year basis (Public Accounts provision accrues on a fiscal year basis).

The Guaranteed Regime includes claims paid for defaulted loans and associated recoveries on these loans, since the Government bears the entire risk of loan default. The Risk-Shared Regime includes the risk premium paid to lending institutions based on the value of loans consolidated for repayment in a year. Also included are Put-Back fees for loans bought back from lenders and associated recoveries made on these loans.

Put-Backs are loans bought back by the Government from financial institutions. They exist only in the Risk-Shared Regime as a way to transfer some of the risk back to the Government. The Government is obliged only to buy back loans impaired for at least 12 months, up to a maximum of 3% of the total loans in repayment each year. The Government pays five cents on the dollar for these loans.

Under the Direct Loan Regime, the provision for bad debt represents the cost of the risks for the Government of being involved directly in the disbursement of loans to students.

3. Administration

The administration of the CSLP also bears expenses such as the recovery costs of loans and general administration expenses incurred by HRDC. These expenses include salaries of HRDC staff and fees paid to service providers for the administration of loans in the Direct Loan Regime.

Table 16: Administrative Expenses ($ million)

Loan Year	Direct Loan Recovery Cost	Risk-Shared Recovery Cost	Guaranteed Recovery Cost	Administration	Total
2000 - 2001	–	1.3	15.5	129.7 *	146.5
2001 - 2002	0.1	2.2	15.4	120.4	138.1
2002 - 2003	0.8	3.3	15.1	150.0	169.2
2003 - 2004	2.2	4.4	14.6	166.0	187.2
2004 - 2005	4.6	5.2	14.1	170.3	194.2
2005 - 2006	7.8	5.9	11.7	174.9	200.2
2006 - 2007	11.7	6.2	8.7	179.8	206.4
2007 - 2008	16.0	6.2	6.7	185.1	214.0
2008 - 2009	20.4	5.9	5.2	190.9	222.4
2009 - 2010	24.6	5.6	3.9	197.2	231.3
2010 - 2011	28.7	5.1	2.8	204.2	240.8
2011 - 2012	32.4	4.7	1.8	211.6	250.5
2012 - 2013	35.9	4.0	1.1	219.6	260.6
2013 - 2014	39.1	3.3	0.7	228.2	271.3
2014 - 2015	42.2	2.6	0.3	237.3	282.5
2015 - 2016	45.3	1.9	0.1	247.1	294.4
2016 - 2017	47.6	1.2	–	257.3	306.2
2017 - 2018	49.7	0.8	–	268.0	318.4
2018 - 2019	51.6	0.5	–	279.0	331.1
2019 - 2020	53.2	0.3	–	290.6	344.1
2020 - 2021	54.7	0.2	–	302.6	357.4
2021 - 2022	56.0	0.1	–	315.1	371.2
2022 - 2023	57.3	–	–	328.1	385.4
2023 - 2024	58.5	–	–	341.7	400.2
2024 - 2025	59.7	–	–	355.8	415.5
2025 - 2026	60.8	–	–	370.5	431.3

* Includes transition costs.

4. Other Expenses

Some expenses cannot be divided among regimes. Alternative payments are made directly to Québec, Northwest Territories and Nunavut, which do not participate in the CSLP. The other participating provinces are paid a fee to finance the administration of the CSLP.

Table 17: Summary of Expenses ($ million)

Loan Year	Student Related Expenses	Risks to the Government	Administrative Alternative Payment	Administrative Fees to Province	Administrative Administration Expenses	Total Expenses
2000 - 2001	429.5	285.6	138.9	8.7	146.5	1,009.2
2001 - 2002	523.8	220.0	258.6	8.9	138.1	1,149.4
2002 - 2003	450.4	198.2	254.0	9.1	169.2	1,080.9
2003 - 2004	463.7	200.5	228.9	9.3	187.2	1,089.5
2004 - 2005	468.9	194.5	234.7	9.6	194.2	1,101.9
2005 - 2006	469.5	185.8	230.1	9.8	200.2	1,095.5
2006 - 2007	467.0	182.1	222.4	10.1	206.4	1,087.9
2007 - 2008	483.4	184.0	216.1	10.4	214.0	1,108.0
2008 - 2009	491.6	189.0	219.2	10.7	222.4	1,132.9
2009 - 2010	503.5	199.6	223.7	11.1	231.3	1,169.2
2010 - 2011	517.1	210.8	232.4	11.5	240.8	1,212.6
2011 - 2012	534.6	221.3	242.5	11.9	250.5	1,260.9
2012 - 2013	551.6	231.4	253.5	12.3	260.6	1,309.4
2013 - 2014	571.3	240.7	263.9	12.8	271.3	1,359.9
2014 - 2015	589.6	249.1	274.1	13.3	282.5	1,408.7
2015 - 2016	607.5	256.2	283.3	13.9	294.4	1,455.4
2016 - 2017	619.4	261.8	291.2	14.4	306.2	1,492.9
2017 - 2018	630.0	265.6	293.8	15.0	318.4	1,522.9
2018 - 2019	639.9	268.7	294.9	15.6	331.1	1,550.3
2019 - 2020	649.5	271.6	296.5	16.3	344.1	1,577.9
2020 - 2021	659.7	274.8	297.4	17.0	357.4	1,606.3
2021 - 2022	670.9	278.6	299.3	17.7	371.2	1,637.7
2022 - 2023	683.3	283.0	301.4	18.4	385.4	1,671.5
2023 - 2024	697.0	288.0	303.9	19.2	400.2	1,708.1
2024 - 2025	711.9	293.5	308.6	20.0	415.5	1,749.4
2025 - 2026	727.8	299.2	315.1	20.8	431.3	1,794.2

As is evident in the table, total Government expenses associated with the Program increase from $1.0 billion in 2000-01 and reach $1.8 billion in 2025. On average, total expenses increase at a rate of 2.3% per year from 2000 to 2025.

5. Total Revenues

Revenues for the Guaranteed and the Risk-Shared Regimes come from the interest accumulated on loans recovered. The Direct Loan Regime contains a net interest revenue collected from the students repaying their loan. It consists of the interest rate charged to the student minus the Government's cost of borrowing. Since students were paying interest directly to the financial institutions, this revenue was non-existent in past regimes. On average, revenues increase at a rate of 9.0% per year from 2000 to 2025.

Table 18: Total Revenues ($ million)

	Direct Loan			Direct Loan	Risk-Shared	Guaranteed	
Loan Year	Student Interest Payment	Borrowing Cost during Repayment	Net Interest Revenue	Interest from Recovery	Interest from Recovery	Interest from Recovery	Total Revenues
2000 - 2001	–	–	–	–	1.6	43.1	44.8
2001 - 2002	36.7	-27.9	8.9	–	3.0	46.3	58.3
2002 - 2003	93.1	-74.3	18.9	0.7	5.0	49.2	73.7
2003 - 2004	164.5	-121.5	43.0	2.3	7.1	51.7	104.2
2004 - 2005	246.1	-175.7	70.4	5.0	9.3	54.3	139.0
2005 - 2006	331.8	-232.9	98.9	9.2	11.3	45.6	165.0
2006 - 2007	420.5	-289.4	131.2	14.7	13.0	32.3	191.1
2007 - 2008	503.2	-344.1	159.1	21.2	14.1	25.1	219.5
2008 - 2009	576.7	-396.7	180.0	28.4	14.7	20.2	243.2
2009 - 2010	640.0	-442.3	197.7	36.2	15.1	15.5	264.4
2010 - 2011	692.3	-480.5	211.7	44.5	15.2	11.3	282.7
2011 - 2012	734.8	-512.7	222.0	53.2	15.1	7.1	297.5
2012 - 2013	771.1	-541.7	229.5	62.2	13.3	4.5	309.5
2013 - 2014	804.0	-568.2	235.8	71.5	11.5	2.9	321.7
2014 - 2015	830.9	-593.5	237.4	81.2	9.8	1.4	329.8
2015 - 2016	857.6	-618.4	239.2	91.3	7.2	0.5	338.2
2016 - 2017	875.3	-641.7	233.6	98.4	4.4	0.1	336.6
2017 - 2018	893.1	-662.7	230.4	105.2	2.8	–	338.5
2018 - 2019	910.5	-681.7	228.8	111.6	1.8	–	342.1
2019 - 2020	926.9	-698.7	228.2	117.1	1.1	–	346.4
2020 - 2021	942.0	-713.4	228.6	122.0	0.6	–	351.3
2021 - 2022	955.9	-726.2	229.8	126.6	0.3	–	356.6
2022 - 2023	968.8	-737.4	231.5	130.8	0.1	–	362.4
2023 - 2024	981.2	-747.5	233.8	134.9	–	–	368.7
2024 - 2025	993.7	-757.2	236.5	138.9	–	–	375.4
2025 - 2026	1,006.7	-767.1	239.6	142.6	–	–	382.2

6. Net Cost of the Program

The following two tables show in current dollars and in 2001 constant dollars, total revenues, expenses and the net cost of the Program for the 25-year period. The revenues and expenses shown correspond to the data presented earlier in this report.

The initial net annual cost for the Program is $965 million for the loan year 2000-01. Starting in 2002 and during the next five years, net costs are projected to decline by 18.6% because of the phasing out of the previous loan regimes. For the remainder of the projection period, the net cost of the Program grows, reaching $1,412 million for the loan year 2025-26. This represents an annual average increase of 1.5% for the entire projection period.

Table 19: Net Annual Cost of the Program ($ million)

Loan Year	Total Expenses	Total Revenue	All Regimes Net Cost of the Program	Net Cost of the Program	
				Direct Loan	Risk-Shared and Guaranteed
2000 - 2001	1,009.2	44.8	964.5	671.2	293.3
2001 - 2002	1,149.4	58.3	1,091.2	946.5	144.6
2002 - 2003	1,080.9	73.7	1,007.2	944.8	62.3
2003 - 2004	1,089.5	104.2	985.4	974.2	11.1
2004 - 2005	1,101.9	139.0	963.0	992.5	-29.5
2005 - 2006	1,095.5	165.0	930.5	974.3	-43.9
2006 - 2007	1,087.9	191.1	896.8	949.6	-52.8
2007 - 2008	1,108.0	219.5	888.5	943.2	-54.7
2008 - 2009	1,132.9	243.2	889.7	943.7	-53.9
2009 - 2010	1,169.2	264.4	904.7	952.8	-48.1
2010 - 2011	1,212.6	282.7	929.9	971.5	-41.6
2011 - 2012	1,260.9	297.5	963.4	998.2	-34.7
2012 - 2013	1,309.4	309.5	999.8	1,027.6	-27.7
2013 - 2014	1,359.9	321.7	1,038.2	1,060.1	-21.9
2014 - 2015	1,408.7	329.8	1,078.9	1,095.3	-16.4
2015 - 2016	1,455.4	338.2	1,117.2	1,128.4	-11.2
2016 - 2017	1,492.9	336.6	1,156.3	1,163.1	-6.7
2017 - 2018	1,522.9	338.5	1,184.5	1,188.7	-4.3
2018 - 2019	1,550.3	342.1	1,208.2	1,210.9	-2.7
2019 - 2020	1,577.9	346.4	1,231.5	1,233.1	-1.6
2020 - 2021	1,606.3	351.3	1,255.0	1,255.9	-0.9
2021 - 2022	1,637.7	356.6	1,281.1	1,281.5	-0.5
2022 - 2023	1,671.5	362.4	1,309.1	1,309.3	-0.2
2023 - 2024	1,708.1	368.7	1,339.4	1,339.5	-0.1
2024 - 2025	1,749.4	375.4	1,374.1	1,374.1	–
2025 - 2026	1,794.2	382.2	1,412.0	1,412.0	–

In constant dollars the cost of the Program declines by an average of 1.1% a year, from $965 million for the loan year 2000-01 to $733 million for 2025-26.

Table 20: Net Annual Cost of the Program (in millions of 2001 constant dollars)

Loan Year	Total Expenses	Total Revenue	All Regimes Net Cost of the Program	Net Cost of the Program	
				Direct Loan	Risk-Shared and Guaranteed
2000 - 2001	1,009.2	44.8	964.5	671.2	293.3
2001 - 2002	1,126.9	57.1	1,069.8	928.0	141.8
2002 - 2003	1,038.9	70.8	968.1	908.2	59.9
2003 - 2004	1,026.7	98.2	928.5	918.0	10.5
2004 - 2005	1,018.0	128.4	889.6	916.9	-27.3
2005 - 2006	991.2	149.3	841.9	881.6	-39.7
2006 - 2007	963.1	169.2	794.0	840.7	-46.7
2007 - 2008	958.9	189.9	769.0	816.3	-47.3
2008 - 2009	957.5	205.5	752.0	797.6	-45.6
2009 - 2010	964.1	218.1	746.0	785.7	-39.7
2010 - 2011	974.5	227.2	747.3	780.8	-33.5
2011 - 2012	986.7	232.8	753.9	781.1	-27.2
2012 - 2013	996.7	235.6	761.1	782.2	-21.1
2013 - 2014	1,006.0	238.0	768.0	784.2	-16.2
2014 - 2015	1,011.7	236.8	774.9	786.7	-11.8
2015 - 2016	1,014.9	235.8	779.0	786.8	-7.8
2016 - 2017	1,010.7	227.9	782.8	787.4	-4.6
2017 - 2018	1,001.0	222.5	778.5	781.3	-2.8
2018 - 2019	989.3	218.3	771.0	772.7	-1.7
2019 - 2020	977.6	214.6	763.0	764.0	-1.0
2020 - 2021	966.2	211.3	754.9	755.4	-0.5
2021 - 2022	956.4	208.3	748.1	748.4	-0.3
2022 - 2023	947.7	205.5	742.2	742.3	-0.1
2023 - 2024	940.3	203.0	737.3	737.3	–
2024 - 2025	934.9	200.6	734.3	734.4	–
2025 - 2026	930.9	198.3	732.6	732.6	–

III- Conclusion

The CSLP promotes accessibility to post-secondary education for those with demonstrated financial need through providing loans and grants and encouraging successful and timely completion of post-secondary education. The Government became involved in assisting 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.

Effective 1 August 2000, the Government redesigned the delivery of the CSLP and moved the Program 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 a mandate to conduct an actuarial review to provide a precise assessment of the current cost of the CSLP, a long-term (25 years) forecast of those costs, a portfolio projection, and a discussion of all the assumptions underlying the results of the review.

The number of students receiving a CSLP loan in a year is expected to increase from 346,000 to 441,000 over the projection period. It represents an increase in the participation of the students in the CSLP from 43% to 55%. Such an increase in the program eligibility is mainly a result of rising student needs. These needs are affected by the projection of higher tuition fees and faster increases in expenses compared to resources. Contrary to the past two decades, the number of students enrolled in post-secondary institutions is not a contributing factor to such an increase.

The total growth rate of new loans issued is, on average, 1.9% per year; it comprises an annual average increase of 1.0% in the number of students eligible in the CSLP and only a 0.9% increase in the average loan size caused by keeping the weekly loan limit constant.

The portfolio of student loans increases from $9.4 billion to $17.0 billion in 2025. In constant dollars, the portfolio is projected to decrease slightly during the same period from $9.4 billion to $8.8 billion. Moreover, by 2017, the entire portfolio is made up of loans issued in the Direct Loan Regime.

The total net cost of the Government’s involvement in the CSLP, which is the difference between the expenses and the revenues, is expected to grow from $0.96 billion to $1.41 billion. This represents an annual increase in costs to the Government of 1.5%. The real cost of the Government’s involvement in constant dollars is expected to decrease from $0.96 billion to $0.73 billion. This represents a real annual decrease of 1.1%, mainly caused by the loan limit remaining fixed over the 25-year period.

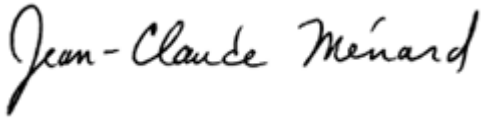
IV- Actuarial Opinion

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 but incomplete;
- the demographic and economic assumptions that have been 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.

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



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

Ottawa, Canada
22 February 2002

V- APPENDICES

Appendix 1 – Summary of Plan Provisions

The Canada Student Loans Program (CSLP) came into force on 28 July 1964 to provide Canadians equal opportunity to study beyond secondary level and to encourage successful and timely completion of post-secondary education. The Government became involved 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* was established, applying to loan years preceding August 1995. More recently, the *Canada Student Financial Assistance Act* replaced the previous act for loan years after July 1995. Both acts permit the Minister of Human Resources 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. The students must also fulfil all the following criteria to be considered for a loan. They must:

- be enrolled in a post-secondary course that leads to a degree, diploma or certificate offered at a designated educational institution for the purposes of the CSLP;
- maintain a satisfactory scholastic standard;
- if over age 21 and applying for a loan for the first time, pass a credit check;
- not have a previous defaulted loan;
- realize that assistance is limited to either a lifetime limit of 340 weeks or the number of periods of studies normally specified by the institution for completion of that program plus one period; and
- apply every year to their province of residence for a loan.

For each school year, the CSLP covers up to 60% of the assessed need with a maximum of $165 per week for students in full-time studies up to a lifetime maximum of 340 weeks. No securities are required from students for the repayment of the loans. Loans are available to full-time students and, since 1983, to part-time students but with some variations. Also, there is no age limit for borrowing under the Program.

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 also determine whether the students need financial assistance and their eligibility to the CSLP. Provincial/territorial authorities calculate the costs and determine the needs of the student based on the difference between

costs and resources available. A loan provides up to 40% of the assessed need with a maximum of $110 per week. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Services Centre (NSLSC) was established 1 March 2001 to assist students with questions related to the CSLP. Once the students qualify for a loan, they will obtain their loan from the NSLSC. The service providers receive and process all the applicable loan documentation; i.e., from the disbursement to the consolidation and repayments of the loans. They also keep the students informed of all available options.

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

- Guaranteed Loan Regime: The student loans provided by the lenders prior to 1995, under the *Canada Student Loans Act*, were fully guaranteed by the Government to the lenders. The Government would reimburse the lenders for the outstanding principal, accrued interest and costs, in the event of default or death of the student. Therefore the Government bears all the risks involved with those guaranteed loans.
- Risk-Shared Loan Regime: For the period from 1995 to 2000, student loans continued to be disbursed, serviced and collected by financial institutions. They were no longer fully guaranteed by 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 in a year. Under this financial arrangement, the Government was not at risk except for the payment of a risk premium.
- 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 Regulations of the *Canada Student Financial Assistance Act*. The Government issues loans directly to the student and, again, bears all the risks involved.

3. Loan Benefit

a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the period that the student is in full-time studies. 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 borrowing cost) on the loan; no payment on the principal is required from the student until they graduate.

Part-time students are provided assistance in the form of a line of credit up to $4,000.

Table 21: Class A Interest Rate

Loans Issued	Interest Rate
Before August 1995	6 month average of 5-year Canada bond
August 1995 to August 2000	Prime rate
After August 2000	Government borrowing cost

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 on the principal is required; the student has to negotiate an agreement with the lending institution to set out the repayment terms. This is called consolidating all the loans and now the student becomes a borrower in repayment.

For loans issued prior to August 1993, no interest accrues 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 August 1993, the student is liable for interest that accrues on loans during this grace period.

Each year, once the students return to school, they must provide the lenders 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 happening while the student is still in school and permits the student not to pay interest on their loan.

Table 22: Class B Interest Rate

Loans Issued	Interest Rate
Before August 1995	6 month average of 10-year Canada bond
After August 1995	Floating (prime + 250 points) **Or** Fixed (prime + 500 points)

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.

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 made. In 1997, this 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, allowing anyone to be entitled 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 the exhaustion of the 30 months of interest relief period. First is an extension of the repayment period to 15 years, provided to the student in order to reduce the monthly payments. Second, if the student is still in financial difficulty, the interest relief period may be extended further to cover completely 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.

At the same time, a debt reduction in repayment measure was introduced. It is a one-time benefit to help students who remain in financial difficulty once all possible interest relief is exhausted. The Government will, upon application and qualification, reduce the loan principal by 50% up to a maximum of $10,000.

Also, the Minister has the authority, upon application and qualification, to forgive the loan in the event of the borrower's permanent disability or death.

4. Other Government Assistance

a) Canada Study Grants

Canada Study Grants were introduced as non-repayable grants administered since 1995 by the participating provinces on the Government's behalf. They assist students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies and students with dependants. Students will qualify for a grant if they have assessed needs in excess of $275 per week of study. The following table summarizes the key features.

Table 23: Key Features of Canada Study Grants

Category by Student	Yearly Maximum	Additional Eligibility Requirements
With disabilities	$5,000	• Exceptional education-related costs associated with disability • Enrolled in courses representing 40% of a full-time course load
High-need part-time	$1,200	• Qualify as a part-time student • Enrolled in courses representing 20% of a course load • Justify reason for part-time studies • Depends on gross income and living situation
Women pursuing doctoral studies	$3,000 and three years maximum	• Studying in certain fields at doctoral level to help increase participation of women
With dependants	$3,120 - full-time $1,920 - part-time	• Extra $40 per week of study with one or two dependants, or • Extra $60 per week of study with three or more dependants

b) Canada Millennium Scholarship Foundation

The Foundation was established in 1998 with a $2.5 billion endowment. Starting in 2000, with a ten-year mandate, it allocates $285 million in bursaries among the provinces and territories, according to each jurisdiction's share of the population of Canada.

The Excellence Awards represent 5% of the awards distributed by the Foundation. They are given on the basis of academic merit, community involvement, leadership and innovation; the amount is intended to cover the average cost of tuition and fees even if recipients are not in financial need. Only students entering a college or university undergraduate program for the first time may apply.

The Bursary Program represents 95% of the awards distributed by the Foundation. Bursaries are awarded to post-secondary students who demonstrate merit and have the greatest financial need. The bursaries are fully portable and may be used at any recognized post-secondary institution in Canada.

The value of the bursaries is approximately $3,000 per year on average but may range from $1,000 to $4,500. There is a lifetime limit of $19,200 in awards from the Foundation for up to 32 months of full-time study. These bursaries are disbursed differently through each province and they can either be given as a cash grant to the students or paid directly to the financial institution.

The Foundation grants scholarships in a manner that complements existing provincial/territorial student assistance programs. The Foundation entered into an agreement with the provincial ministers respecting the criteria for developing financial need and merit as well as providing names of students qualified to receive a scholarship from the Foundation.

The students are in a better financial position with these scholarships and so their need for a loan is reduced. Generally, the practice of the provinces is to reduce the provincial student loan only and to reinvest, for the benefit of students, any money saved as a result of the Foundation’s bursaries. Therefore, the funds from this Foundation have very little impact on reducing the loans provided by the CSLP.

Appendix 2 – Data

The input data required with respect to defaults, recoveries and consolidations were extracted from computer files maintained by Human Resources Development Canada (HRDC).

The data files supplied by HRDC contained information about defaulted loans and recoveries under the Guaranteed Regime. Since data on loan recoveries for the Risk-Shared Regime were not available, only data relating to Guaranteed Loans were used.

To validate the administrative data provided, the data were compared to unaudited accounting reports and the Evaluation of the Canada Student Loans Program, October 1997. The loans data were examined and some adjustments were necessary in order to use this data. Overall, the data are found to be reliable but incomplete. Certain inconsistencies in the data are shown below.

1. Loans Issued

Table 24 compares the number and amount of loans issued extracted from the files with aggregate data on loans issued provided by HRDC. Data files contain approximately 85% of the loans issued and do not reconcile on a loan-year basis. Starting in 2000, the data provided by the service providers appears to be similar to the data extracted from the file received from HRDC.

Table 24: Loans Issued

Loan Year	Number of Students [2]	Number of Students [3]	Amount of Loans Issued [2]	Amount of Loans Issued [3]
			($ million)	($ million)
1993-94	308,400	304,942	1,037	987
1994-95	322,100	315,670	1,281	1,215
1995-96	337,800	324,165	1,378	1,340
1996-97	351,800	343,224	1,552	1,584
1997-98	316,300	350,774	1,384	1,568
1998-99	294,500	358,931	1,312	1,670
1999-00	279,200	365,883	1,230	1,698
2000-01	335,500 [4]	Not available	1,515 [4]	1,562 [5]

[2] Data file (Certprov).
[3] Aggregate data provided by HRDC.
[4] Data from Certprov are provided up until the end of June 2001.
[5] Service Providers.

2. Loans Consolidated

Table 25 compares the number and amount of loans consolidated extracted from files[6] with those found in the study[7]. Again, it can be seen that the files contain approximately 89% of the loans consolidated and do not reconcile on a loan-year basis.

Table 25: Loans Consolidated

Loan Year	Number of Loans Consolidated [6]	Number of Loans Consolidated [7]	Amount of Loans Consolidated [6]	Amount of Loans Consolidated [7]
			($ million)	($ million)
1989-90	94,346	109,870	586	643
1990-91	93,870	110,498	591	669
1991-92	100,363	114,292	642	692
1992-93	109,859	125,730	719	785
1993-94	121,664	132,337	834	852
1994-95	131,406	151,050	982	1,046
1995-96	123,810	166,437	1,037	1,288

3. Defaulted and Recovered Loans

Analysis of past data on defaults and recoveries (Table 26) shows a one-year increase of 160% for defaults in the fiscal year 1996-97 and a one-year increase of 138% for recoveries in the fiscal year 1998-99. These increases do not appear in the accounting report. Furthermore, the recoveries shown in fiscal year 1998-99 may not relate to that particular fiscal year. Since the data were incomplete, the reliability of the data is decreased.

Table 26: Administrative Defaults and Recoveries by Fiscal Year

Fiscal Year	Defaults [8]	% Increase	Recoveries [9]	% Increase
	($ million)		($ million)	
1992-93	181	–	114	–
1993-94	156	-14	122	7
1994-95	197	26	117	-4
1995-96	230	17	127	8
1996-97	598	**160**	185	46
1997-98	258	-57	170	-8
1998-99	273	6	406	**138**

[6] Data file (Borrower).
[7] Evaluation of the Canada Student Loans Program, October 1997
[8] Data file (Claim).
[9] Departmental Accounts Receivable System (DARS), HRDC.

4. Portfolio and Risk Premium

The portfolio of loans in-study and loans in repayment, for Guaranteed and Risk-Shared loans, as of 30 June 2001, comes from the banks and HRDC has no means of verifying this information. The portfolio as of 31 July is assumed to be the same as of 30 June.

Using the information from the banks on portfolio, the risk premium for the loan year 2000-01 should be $78.1 million. The banks invoiced for $83.6 million for the same loan year. The projection model produces a Risk Premium of $80.7 million for 2000-01. Therefore, an adjustment of $2.9 million has been made to the Risk Premium for the loan year 2000-01 for discrepancy resulting from timing differences between consolidation and invoicing the Government.

5. Interest Relief and Debt Reduction in Repayment (DRR)

Table 27 presents the interest relief that has been invoiced by the banks as well as the interest relief expense extracted from the data files. The interest relief file does not contain the interest relief payment; it has to be calculated using interest rate, outstanding principal, interest relief starting date and end date. There is no information about the amount of interest relief paid to the banks prior to December 1996.

Table 27: Interest Relief Data ($ million)

Loan Year	Invoice from Banks	Extracted from File
1997-1998	38.9	26.4
1998-1999	65.8	35.6
1999-2000	91.6	43.1
2000-2001	106.5	39.2

Since the inception of DRR, the banks invoiced for $3.5 million as of 30 June 2001. The file provided by HRDC on DRR shows only $0.5 million of debt relief.

Considering these results, it is apparent that the files on interest relief and DRR are not complete. The take-up of interest relief and DRR is adjusted to obtain the amount invoiced by the banks.

Appendix 3 – Assumptions and Methodology

1. Growth Rate of New Loans Issued

a) Growth Rate of CSLP Students

The following table summarizes each individual growth component of the evolution of participating students in the CSLP. The individual growth rate components are presented for every year of the projection period and they reconcile the overall growth rate of the number of students in the CSLP. Following this section, the detailed methodology of each of the elements is shown.

Table 28: Growth of Students in the CSLP (in percentages)

Loan Year	Demographic Evolution	Post-secondary Enrolment	Elimination of Grade 13 in Ontario	Students Enrolled	Participation in CSLP	Total CSLP Students
2001 - 2002	0.49	0.04	–	0.53	0.72	1.25
2002 - 2003	0.68	0.66	–	1.34	0.63	1.98
2003 - 2004	0.81	0.64	8.00	9.57	0.53	10.15
2004 - 2005	0.84	-0.16	1.63	2.32	0.53	2.86
2005 - 2006	0.78	-0.17	-3.08	-2.49	0.52	-1.99
2006 - 2007	0.64	-0.18	-2.67	-2.22	0.60	-1.63
2007 - 2008	0.62	-0.18	-1.70	-1.27	0.69	-0.59
2008 - 2009	0.81	-0.18	-1.23	-0.60	0.79	0.18
2009 - 2010	0.92	-0.18	-0.64	0.10	0.88	0.97
2010 - 2011	0.87	-0.18	-0.27	0.42	0.97	1.39
2011 - 2012	0.75	-0.47	-0.04	0.23	1.02	1.26
2012 - 2013	0.61	-0.47	–	0.14	1.07	1.21
2013 - 2014	0.45	-0.47	–	-0.03	1.12	1.10
2014 - 2015	0.27	-0.47	–	-0.21	1.18	0.97
2015 - 2016	-0.10	-0.48	–	-0.58	1.23	0.64
2016 - 2017	-0.53	-0.48	–	-1.01	1.26	0.24
2017 - 2018	-0.81	-0.48	–	-1.29	1.29	-0.02
2018 - 2019	-0.95	-0.49	–	-1.43	1.32	-0.14
2019 - 2020	-0.92	-0.50	–	-1.41	1.34	-0.09
2020 - 2021	-0.67	-0.50	–	-1.16	1.37	0.19
2021 - 2022	-0.41	-0.46	–	-0.87	1.40	0.52
2022 - 2023	-0.19	-0.46	–	-0.64	1.43	0.78
2023 - 2024	0.07	-0.46	–	-0.39	1.45	1.06
2024 - 2025	0.27	-0.46	–	-0.19	1.48	1.29
2025 - 2026	0.34	-0.46	–	-0.12	1.51	1.39

Table 28 summarizes the growth of student enrolment in post-secondary education and the participation in the CSLP, by using geometric compounding of the demographic evolution, the enrolment, the elimination of Grade 13 in Ontario and increased participation in the CSLP. The Student Enrolled percentages are related to the growth rate column of Table 4 in section II-B of the Main Report. The last column corresponds to the growth rate of the number of students in the CSLP (Table 8, Main Report).

i) Demographic Evolution

The demographic evolution involves changes in the composition of the future population aged 17-35 for Canada minus Quebec, applying future fertility, mortality and migration assumptions. These rates are calculated with population growth rates for each age weighted by the CSLP age distribution. Thus, ages containing a greater number of CSLP students would have a greater weight in the final determined growth rate. This growth component is the demographic evolution shown for certain years in Table 29.

The population in the target age range (17-35) has evolved. This has had the effect of increasing or decreasing the number of potential students. An age distribution was established using experience of past ages of students requesting loans. The projected demographic evolution for each age was then determined using the projected future fertility, mortality and migration rates in the actuarial reports of the Canada Pension Plan and Old Age Security. The demographical increase was calculated as the change in the targeted age range weighted by the age distribution of loan recipients. Thus, age groups containing a higher number of loan recipients get a higher weighting in the final calculated change.

Table 29 demonstrates the calculations described above, projecting the change in future loan recipients caused by the population evolution at targeted age for every five years during the projection period.

Table 29: Population Evolution for Potential Recipients

		Population Increase (%)					
Age	**Distribution**	**2001**	**2005**	**2010**	**2015**	**2020**	**2025**
17	0.1	0.85	3.00	-0.76	-0.98	0.49	0.94
18	3.6	1.65	-0.42	-1.42	-1.92	0.47	0.90
19	8.9	-0.07	-0.73	-0.13	-5.86	0.48	0.80
20	10.9	1.04	0.25	-0.50	-0.44	4.35	0.66
21	11.2	1.72	1.39	3.24	0.13	-1.25	0.57
22	11.9	1.54	0.87	2.90	-0.67	-0.88	0.50
23	11.5	-0.17	1.64	-0.38	-1.30	-1.78	0.48
24	9.4	-0.16	-0.01	-0.67	-0.05	-5.52	0.49
25	7.2	0.83	1.05	0.26	-0.39	-0.35	4.14
26	5.5	2.67	1.70	1.34	3.16	0.19	-1.13
27	4.3	-0.76	1.52	0.84	2.84	-0.56	-0.78
28	3.3	-1.05	-0.09	1.56	-0.25	-1.14	-1.61
29	2.7	-3.42	-0.07	0.01	-0.53	0.04	-5.11
30	2.2	0.48	0.85	0.99	0.34	-0.28	-0.28
31	1.9	1.80	2.57	1.60	1.35	3.05	0.22
32	1.6	0.99	-0.64	1.44	0.88	2.74	-0.48
33	1.4	-0.57	-0.91	-0.08	1.55	-0.15	-1.03
34	1.2	-4.56	-3.17	-0.06	0.09	-0.42	0.07
35	1.1	-5.80	0.52	0.81	1.02	0.40	-0.23
Final Calculated Change		0.49	0.78	0.87	-0.10	-0.67	0.34

ii) Post-secondary Enrolment

The growth rate of post-secondary enrolment represents the long-term decrease in post-secondary enrolment primarily caused by the future anticipated labour shortage. This labour shortage is caused by the significant aging of the Canadian population and will significantly raise labour participation rates. The cumulative growth rates associated with post-secondary enrolment are shown for years 2010 and 2025 in Table 30 below.

A labour shortage is forecasted in Canada after year 2010 because of the significant aging of the Canadian population. This shortage will raise future labour force participation rates. A higher expected participation rate in the future implies that a smaller percentage of potential students will be available to attend a post-secondary institution. To measure the effect of this increase in participation, the change in the percentage of individuals not in the labour force is analyzed over time. The result is the percentage change in the individuals not in the labour force weighted by the percentage of eligible individuals falling in each age band.

Table 30: Enrolment of Students in Post-secondary Education

Sex	Age Band	Weighting	Not in Labour Force 2001 (1)	Not in Labour Force 2010 (2)	Change - Not in Labour Force (2) / (1) - 1	Not in Labour Force 2025 (3)	Change - Not in Labour Force (3) / (2) - 1
		%	%	%	%	%	%
Male	15-19	6.4	49.1	49.8	1.4	48.7	-2.2
Male	20-24	27.8	21.6	21.2	-1.9	19.7	-7.1
Male	25-29	11.6	11.8	12.1	2.5	10.6	-12.4
Male	30-34	4.2	9.6	9.9	3.1	9.1	-8.1
Female	15-19	6.4	48.7	49.3	1.2	48.6	-1.4
Female	20-24	27.8	26.9	27.2	1.1	26.0	-4.4
Female	25-29	11.6	20.8	20.6	-1.0	16.6	-19.4
Female	30-34	4.2	21.7	20.4	-6.0	16.5	-19.1
Weighted Average			24.8	24.8	0.0	23.1	-6.9

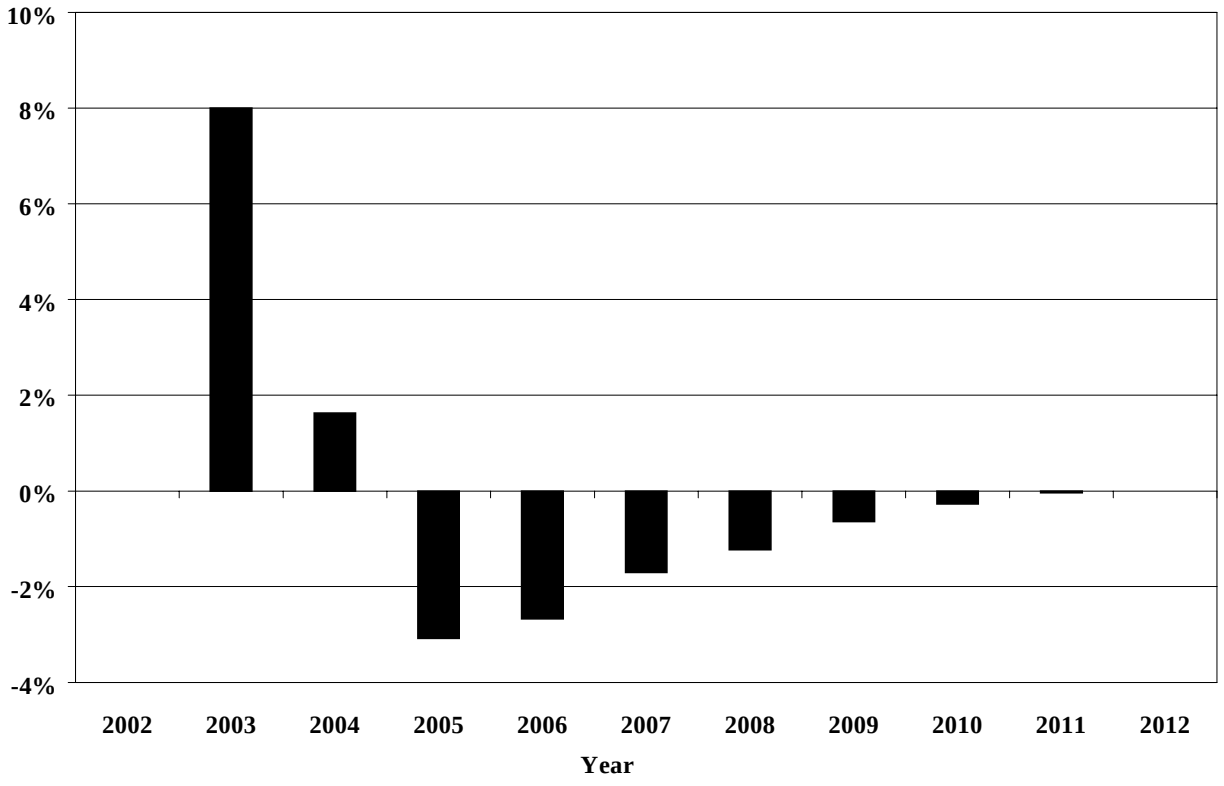
This table demonstrates that the labour shortage will not cause a decrease in the inactive population until 2010. The cumulative decrease of 6.9% in the population not in the labour force is expected from 2010 to 2025. This decrease is mainly concentrated in the older age ranges (25-34) since these individuals are most likely to choose to be 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 to go to school regardless of the situation in the labour force.

iii) Elimination of Grade 13 in Ontario

Ontario's provincial government will be phasing out Grade 13 by 2003. An estimated 78,000 additional students will be enrolled at colleges and universities, creating a 10% increase in students spread over two years. The effect will phase out when both cohorts graduate, creating an excess of consolidations. This growth is shown in Chart 5.

To calculate the effect of the elimination of Grade 13 in Ontario, the size of a second cohort of Ontario students in 2003 has to be quantified. The Ministry of Training, Colleges and Universities of Ontario estimates that 78,000 additional students will be enrolled at colleges and universities. This increase is spread over two years because of space limitations. It corresponds to an additional 8.00% growth for 2003 and 1.63% growth for 2004. The effect will phase out when both cohorts graduate creating an excess of consolidations as two cohorts of graduates leave the educational system.

Chart 5: Growth Caused by Elimination of Grade 13 in Ontario



iv) Participation in the CSLP

Participation in the Program is determined from the evolution of the student's expenses and resources. Expenses include tuition, books, food, transportation and shelter; resources include wages, parental contributions, savings and grants. The excess of the students' expenses over their resources becomes their need. The student becomes eligible if their need is positive.

In previous years, some students with negative needs were not eligible; others did not take their loan because it was too small. In the future, some students will become eligible and/or will decide to take their small loan because their needs have increased. On average, student's expenses increase faster than their resources.

Based on past experience, a participation parameter has been developed. The number of students with loans between $35 and $45 a week is used as an estimate of new loans created for each $10 increase in need. The average size of new loans issued is about $40 per week, since any amount less than this is insignificant to the student and, on average, the loan is not taken.

The participation parameter represents the proportion of non-eligible students that become eligible for each $10 increase of need per week.

The following table shows a historical representation for the evolution of the participation parameter. The parameter representing the loan year 2000-01 data is used since the data are considered more reliable, complete and recent. Using the loan year 2000-01 to estimate the parameter, 1.4% of those not eligible become eligible for a $10 increase in need. This means that 0.14% become eligible for every $1 increase in need. The participation parameter is assumed to remain constant over the 25-year period.

Table 31: Participation Parameter

Loan Year	Number With Loan Between $35 and $45 a Week	Total Students Without a Loan	Ratio for Parameter %
	(1)	(2)	(1) / (2)
1993 - 1994	4,157	407,427	1.02
1994 - 1995	8,943	416,472	2.15
1995 - 1996	8,597	429,926	2.00
1996 - 1997	7,412	450,702	1.64
1997 - 1998	6,844	461,164	1.48
1998 - 1999	5,959	498,690	1.19
1999 - 2000	5,744	481,774	1.19
2000 - 2001	6,474	464,858	1.39
Parameter Used Based On 2000-2001			1.40

The impact on the growth rate is determined using the annual increase in need per week, applied to the proportion of students without a loan and multiplying this result

by the participation parameter for every $1 increase in need. The increase in need per week (2001) is calculated as:

= (Average student need increase) x (portion CSLP) / (average number of weeks)

= $236 x 60% / 37

= $3.83 per week

The growth rate impact of participation in CSLP for 2001 is:

= (Participation parameter) x [1- participation rate (2000)] x increase in need per week (2001) / participation rate (2000)

= (0.14%) x [1 - 42.6%] x ($3.83) / (42.6%)

= 0.72% (Table 28)

b) Growth Rate of Average Loan Size

The following table summarizes the growth components of the average loan size for each student in the CSLP. The growth rates for each individual component are presented for every year of the projection period. These growth rates combined (first four columns) give a good approximation of loan size growth rates, given no loan limit. The total average loan size growth rate is derived by adding the effect of limit growth and compounding the new small loans component.

Table 32: Average Loan Size Growth (in percentages)

Loan Year	Tuition	Student Resources	Other Expenses	Private Colleges Tuition Ceiling	Subtotal	Effect of Limit	New Small Loans	Total Average Loan Size Growth
2001 - 2002	0.95	-1.93	4.09	-0.15	2.96	-1.30	-0.61	1.04
2002 - 2003	1.46	-1.70	2.98	-0.45	2.28	-1.02	-0.53	0.71
2003 - 2004	1.48	-2.19	3.01	–	2.31	-1.06	-0.45	0.79
2004 - 2005	1.51	-2.27	3.05	–	2.29	-1.07	-0.45	0.76
2005 - 2006	1.54	-2.36	3.09	–	2.27	-1.08	-0.44	0.74
2006 - 2007	1.90	-2.54	3.28	–	2.64	-1.29	-0.51	0.83
2007 - 2008	2.28	-2.72	3.47	–	3.03	-1.51	-0.59	0.92
2008 - 2009	2.69	-2.91	3.67	–	3.45	-1.77	-0.67	1.00
2009 - 2010	3.14	-3.16	3.88	–	3.85	-2.03	-0.74	1.07
2010 - 2011	3.63	-3.43	4.09	–	4.29	-2.32	-0.83	1.13
2011 - 2012	3.85	-3.63	4.31	–	4.54	-2.53	-0.87	1.12
2012 - 2013	4.09	-3.84	4.54	–	4.80	-2.75	-0.91	1.12
2013 - 2014	4.35	-4.06	4.78	–	5.07	-2.99	-0.96	1.11
2014 - 2015	4.63	-4.30	5.04	–	5.37	-3.25	-1.00	1.09
2015 - 2016	4.94	-4.56	5.30	–	5.68	-3.54	-1.05	1.07
2016 - 2017	5.18	-4.70	5.41	–	5.88	-3.76	-1.07	1.03
2017 - 2018	5.43	-4.84	5.51	–	6.10	-4.00	-1.10	0.98
2018 - 2019	5.71	-4.99	5.62	–	6.34	-4.26	-1.12	0.93
2019 - 2020	5.99	-5.15	5.74	–	6.58	-4.52	-1.15	0.89
2020 - 2021	6.30	-5.32	5.86	–	6.85	-4.81	-1.17	0.84
2021 - 2022	6.62	-5.49	5.99	–	7.12	-5.11	-1.20	0.79
2022 - 2023	6.97	-5.67	6.12	–	7.42	-5.43	-1.22	0.74
2023 - 2024	7.34	-5.86	6.26	–	7.73	-5.78	-1.24	0.69
2024 - 2025	7.72	-6.06	6.41	–	8.07	-6.14	-1.26	0.64
2025 - 2026	8.14	-6.28	6.56	–	8.42	-6.52	-1.28	0.60

i) Tuition

Tuition growth involves the growth in loan size caused solely by tuition fee increases. Tuition fees are, in part, determined by government policy. Thus, they are determined using provincial budgets stating their intentions along with historical experience for long-term growth rates in tuition. The future evolution of tuition is shown both in Table 5 of section B-2 of the Main Report and Table 33 of this appendix.

To arrive at an estimate for tuition growth, the provinces' respective budgets stating their intentions, are used for the next five years. The following table illustrates these results.

Table 33: Short-term Growth of Tuition Expenses

Province	Weight	Budget	Results				
			2001	2002	2003	2004	2005
	%		%	%	%	%	%
Newfoundland	6.56	10.0% decrease, freeze	-10.0	0.0	0.0	0.0	0.0
Prince Edward Island	0.97	6.0% increase	6.0	6.0	6.0	6.0	6.0
Nova Scotia	5.58	7.5% increase	7.5	7.5	7.5	7.5	7.5
New Brunswick	6.50	5.7% increase	5.7	5.7	5.7	5.7	5.7
Ontario	51.13	2.0% cap	2.0	2.0	2.0	2.0	2.0
Manitoba	3.55	Tuition freeze	0.0	0.0	0.0	0.0	0.0
Saskatchewan	4.17	8.2% increase	8.2	8.2	8.2	8.2	8.2
Alberta	9.34	5.0% increase	5.0	5.0	5.0	5.0	5.0
British Columbia	12.15	2.2% decrease, freeze	-2.2	0.0	0.0	0.0	0.0
Weighted Average			1.8	2.7	2.7	2.7	2.7

The long-term estimate of tuition is based on past increases in tuition relative to the CPI. Over the last 25 years, tuition increases have been a result of the CPI plus 3.0%. Since similar budgetary pressures are expected in the future because of the aging of the population, the 2.7% tuition increase is graded to reach CPI plus 3.0% by 2010.

The starting point for 2000 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 each province's participation in the Program. This analysis resulted in an estimate of $4,112 for student expenses in 2000 attributable to tuition.

Taking the 60% portion of the increase attributable to the CSLP and dividing the result by the average loan size for that year determines the effect of tuition on the growth of the CSLP loan size. For example, the tuition growth in 2001 is:

= 60% x (tuition for 2000) x (tuition increase) / (average loan size 2001)

= 60% x $4,112 x 1.76% / $4,567

= 0.95% (Table 32)

ii) Student Resources

This growth rate involves the growth in loan size attributable to student wages, parental contributions and other resources. Increased resources ultimately serve to reduce the maximum loan available to a student through needs analysis. It is shown in Table 5 of the Main Report.

Student resources consist of income from a student's pre-study period, assets, and parental contributions. These resources serve to reduce a student's need, which ultimately reduces the maximum loan available to the student.

The starting point for average resources in 2000 is calculated as a residual value. Since the average loan equals expenses minus resources, then average resources are roughly equal to average expenses minus average loan size with certain adjustments.

An adjustment must be made to the average loan size to account for the effect of the loan limit. Based on an extrapolation of the curve for the average amount per week for each student, the loan limit reduces the average loan size by about $800 from where the loan size would be without a limit. As well, this average loan size must be increased to include the 40% provincial share of the loan since total expenses are included. The resources are calculated as follows:

= tuition + other expenses - (average loan size CSLP 2000 + $800) / (1 - 40%)

= $4,112 + $11,135 – ($4,520 + $800) / 60%

= $6,380 as the student's total resources in 2000

Taking the 60% portion of the increase attributable to the CSLP and dividing the result by the average loan size for that year determines the effect of resources on the growth of the CSLP loan size. For example, the resources growth in 2001 is:

= -60% x (resources 2000) x (% increase wages 2001) / (average loan size 2001)

= -60% x $6,380 x 2.3% / $4,567

= -1.93% (Table 32)

iii) Other Expenses

This growth rate involves the growth in loan size attributable to student expenses other than tuition fees. These expenses include books, shelter, food, clothing and transportation and are assessed by province. They are both shown in Table 5 and Table 34.

Expenses are put into two categories: books and living costs. Simplifying assumptions are used to assess living costs. It is assumed that all students live away from home and incur expenses for the full 12 months. They will be paying for living expenses in the summer while earning money in their pre-study period. These simplifying assumptions are necessary in the absence of data on students' living arrangements. It is assumed that the most common arrangement is students living away from home and paying for their lodging. The amount covered per week includes shelter, food, clothing and local transportation. Table 34 illustrates the amount allotted per month by category and by weight per province to come up with the final annual expense for shelter, food, clothing and transportation. The total of these expenses amounts to approximately $10,300.

Table 34: Monthly Expenses

Province	Weight in %	Monthly Budget $					Annual Expenses $
		Shelter	Food	Clothing	Transportation	Total	
Newfoundland	5.97	318	197	171	53	739	8,873
Prince Edward Island	1.23	319	174	184	51	727	8,722
Nova Scotia	5.25	364	178	180	50	772	9,261
New Brunswick	6.59	334	179	173	54	741	8,887
Québec	1.17	313	201	236	54	804	9,651
Ontario	45.68	436	195	211	71	913	10,957
Manitoba	2.84	330	185	222	62	800	9,598
Saskatchewan	4.01	299	184	221	43	747	8,962
Alberta	11.22	319	187	225	46	776	9,317
British Columbia	16.02	481	197	197	58	934	11,205
Yukon	0.01	429	218	227	31	904	10,854
Northwest Territories	0.00	585	219	230	65	1,100	13,201
Weighted Average		401	192	205	61	858	10,302

Books are assumed to be roughly equal to 20% of tuition. This brings the total expenses attributable to books and supplies to $833. The total amount of the CSLP student expenses, indexed in the future to the CPI, comes to $11,135.

Taking the 60% portion of the increase attributable to the CSLP and dividing the result by the average loan size for that year determines the effect of expenses on the growth of the CSLP loan size. For example, the expenses growth in 2001 is:

= 60% x (expenses 2000) x (CPI 2001) / (average loan size 2001)

= 60% x $11,135 x 2.8% / $4,567

= 4.1% (Table 32)

iv) Private Colleges Tuition Ceiling in Ontario

This growth rate involves the growth in loans issued for student of private colleges in Ontario. The tuition ceiling will be lowered from $7,500 to $4,500, causing a small decrease in loan size over the next two years.

The ceiling on tuition was modified for private colleges of Ontario. The ceiling, formerly $7,500, will be lowered to $6,000 in 2001 and $4,500 in 2002, bringing the ceiling in line with public institutions.

An estimate was made for the number of students affected by the change in the limit. It was determined from a study that 7.5% of the loans came from private institutions in Ontario. As well, 20% of loans in private institutions had their tuition between $6,000 and $7,500 while another 20% had their tuition between $4,500 and $6,000. The

following table summarizes the expected effect of the change in the ceiling on the average loan.

Table 35: Changes in Average Loan

Loan Year	% Private Ontario	Tuition Ceiling	% of Loans Affected	Average Changes	Total Effect on Loans
2000-2001	7.5	$7,500	0	$0	$0
2001-2002	7.5	$6,000	20	-$750	-$6.75
2002-2003	7.5	$4,500	40	-$1,125*	-$20.25

* (20% / 40%) x ($4,500 - $6,000) + (20% / 40%) x ($4,500 - $6,000) / 2

Dividing the last column of the table by the average loan size gives the effect of private colleges on the growth (2001) of the average loan size:

= effect on loan (2001) / (average loan size 2001)

= -$6.75 / $4,567

= -0.15% (Table 32)

v) Effect of Limit

The negative impact of the loan limit on average loan size growth is presented in Table 32. Student at the loan limit cannot increase their loan size despite cost pressures and increased student need. The negative effect is a direct result of the frozen limit in the base scenario.

The average size of each loan is affected by the limit. For example, the average size of the loan would have increased 2.96% given no limit. However, since 43.9% of the loans are at the limit, only 56.1% of the effect will be felt. The effect of the limit on average loan growth in 2001 is:

= -(% loans at the limit) x (% increase given no limit)

= -(43.9%) x (2.96%)

= -1.30% (Table 32)

Table 36 illustrates how the effect of the limit will evolve over time. The table shows that the effect is greatest in 2025 when a greater percentage of the students are at the limit and when the change in the average loan size without limit is larger.

Table 36: Loan Limit Effect

Loan Year	% of Change in Average Loan Size Without Limit	% at limit	Effect of Limit on Growth (%)
2001 - 2002	2.96	43.90	-1.30
2005 - 2006	2.27	47.75	-1.08
2010 - 2011	4.29	54.14	-2.32
2015 - 2016	5.68	62.26	-3.54
2020 - 2021	6.85	70.27	-4.81
2025 - 2026	8.42	77.40	-6.52

A limit parameter was derived using the historical proportion of individuals near the loan limit. This limit parameter set at 0.92% is used to determine the proportion of students reaching the limit for every $1 increase in need per week.

The proportion of students at the loan limit is projected using the average increase in need for the student. The proportion of individuals near the loan limit is added first using the limit parameter and reduced thereafter by the increased participation in the CSLP due to small loans. The percentage at loan limit (2001) is calculated as follows:

= % at loan limit (2000) +
limit parameter x (1 - % at loan limit (2000)) x increase in need per week (2001) - % increased participation in the CSLP (2001)

= 42.6% + [0.92% x (1 – 42.6%) x $3.83] – 0.7%

= 42.6% + 2.0% – 0.7%

= 43.9% (Table 7)

vi) New Small Loans

Loans corresponding to students newly eligible are, on average, smaller than loans in the portfolio since these students were not eligible in the past. As a result, these loans have a negative impact on the loan size growth as a greater number of these smaller new loans are issued. The new loan reduction percentages are included in Table 37.

As new people become eligible for loans, the number of loans will increase. However, these loans are smaller in size since these individuals were not eligible in the past. First, the average size of new loans is calculated. New loans are assumed to be distributed uniformly between $18 a week (which represents the average need for a student eligible for a small loan but not participating in the Program) and the average increase in loans per week for that particular year plus $18 a week. The midpoint of this range is used as the average new loan size.

Table 37: New Small Loan Effect

Loan Year	Increased Participation in CSLP	Average New Small Loans	Previous Year's Average Loan Size	Combined Average Loan Size	Effect of New Small Loans	Effect In %
		($)	($)	($)	($)	
2001 – 2002	0.72	741	4,520	4,493	-27	-0.6
2005 – 2006	0.52	723	4,671	4,651	-21	-0.4
2010 – 2011	0.97	776	4,888	4,848	-40	-0.8
2015 – 2016	1.23	819	5,167	5,112	-54	-1.0
2020 – 2021	1.37	858	5,425	5,361	-63	-1.2
2025 – 2026	1.51	910	5,629	5,557	-72	-1.3

The new updated loan size is calculated as the weighted average of new small loans and the average loan size of the previous year. For example, the new average loan size in 2001 is:

= $4,520 x (1 – 0.72%) + $741 x (0.72%) = $4,493

The effect of new small loans on the portfolio is a reduction of the combined average loan size compared with the previous year's average loan size. The effect is greater when the increased participation in the CSLP (higher percentage of new small loans are issued) and the average size of new small loans are higher. The effect of new small loans on growth in 2001 is:

= Combined Average Loan Size / Previous Year's Average Loan Size - 1

= $4,493 / $4,520 – 1

= -0.6% (Table 32)

2. Consolidation

The consolidation of the loans occurs in the seven years after the loan is disbursed. Table 38 shows the percentage consolidation by year since the loan is issued. These results were derived from past HRDC data.

Table 38: Distribution of Consolidation

Number of Years After the Loan was Issued	% Consolidated
1	32.3
2	25.8
3	16.4
4	11.9
5	7.3
6	4.7
7	1.6

3. Interest Relief (IR)

Once a loan is consolidated, the student may apply for interest relief. Using the data file on interest relief, a distribution of the amount consolidated going into interest relief was obtained. This distribution shows the proportion of consolidated loans in interest relief.

The expenditure for interest relief has grown significantly in recent years as a result of extending interest relief from 18 to 54 months, Table 39 shows this increase. The distribution has to be adjusted, using past data, to match the actual expenditures.

Table 39: Interest Relief Expense ($ million)

Loan Year	Expense
1997-1998	38.9
1998-1999	65.8
1999-2000	91.6
2000-2001	106.5

Table 40 shows the interest relief distribution used in this report. It was also found that students are on interest relief for an average of eight months in the year.

Table 40: Interest Relief Take-up

Years Since Consolidation	First Time in IR	Second Year in IR	Third Year in IR	Fourth Year in IR	Fifth Year in IR
0 - 1	40.3%	20.1%	12.1%	6.0%	2.0%
1 - 2	5.5%	2.7%	1.6%	0.9%	
2 - 3	1.8%	0.9%	0.4%		
3 - 4	0.7%	0.4%			
4 +	0.0%				

4. Debt Reduction in Repayment

Once all interest relief available has been exhausted, students may apply for the debt reduction in repayment. The proportion of amount of loans in their last year of interest relief going on debt reduction in repayment is 40% (it is assumed that this rate will reach 60% by 2004). The average amount of debt relief is 29% of the loan value.

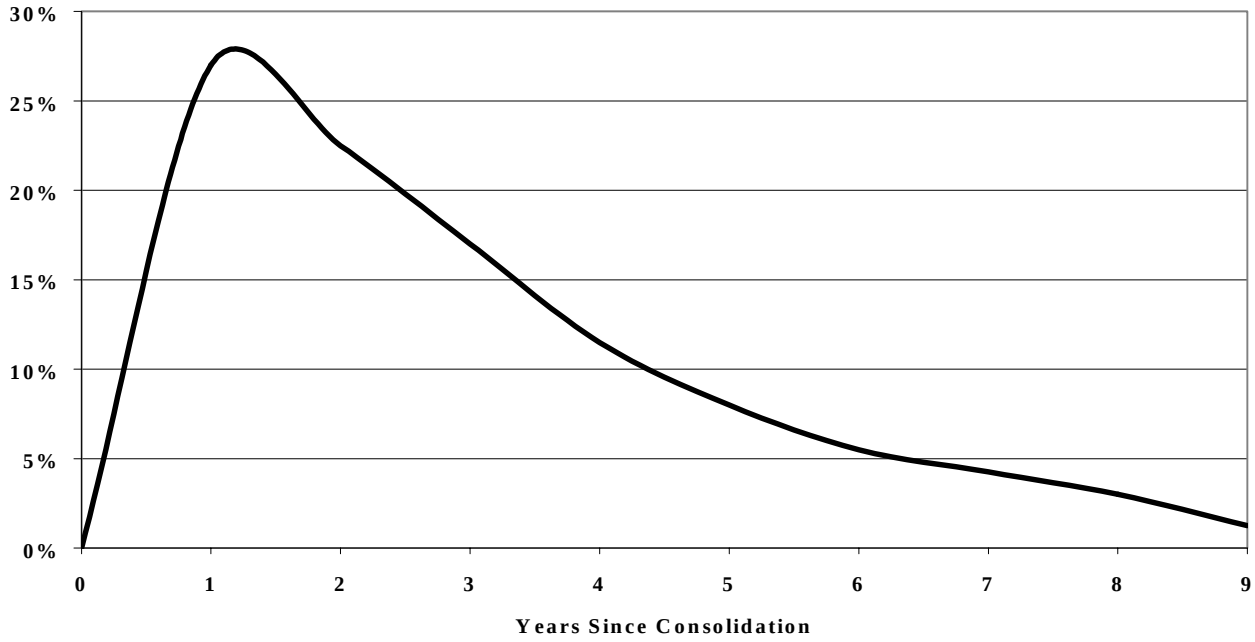
5. Default Rate

The amounts in default were analyzed by consolidation year. All the defaults occurring after consolidation were considered. Since all of the defaults occur in the 10 years following consolidation, some extrapolation was made to complete the data. The ratio of recent years was used to extrapolate data because the last consolidation year considered is 1995-96 and 95% of defaults occurred in the six years following consolidation. A maximum of 5% of defaults needed to be extrapolated.

To complete the analysis of defaults, the amount consolidated is needed. Since data files provided on consolidation were not showing the same results that were used in the study entitled "Evaluation of the Canada Student Loans Program", October 1997, consolidated amounts from that study were used. Only data for the consolidation years 1989 through 1995 were in the study.

For future defaults, a distribution was defined to take into account the changes in student's behaviour resulting from program enhancement. Chart 6 shows this distribution.

Chart 6: Default Distribution



6. Recovery Rate

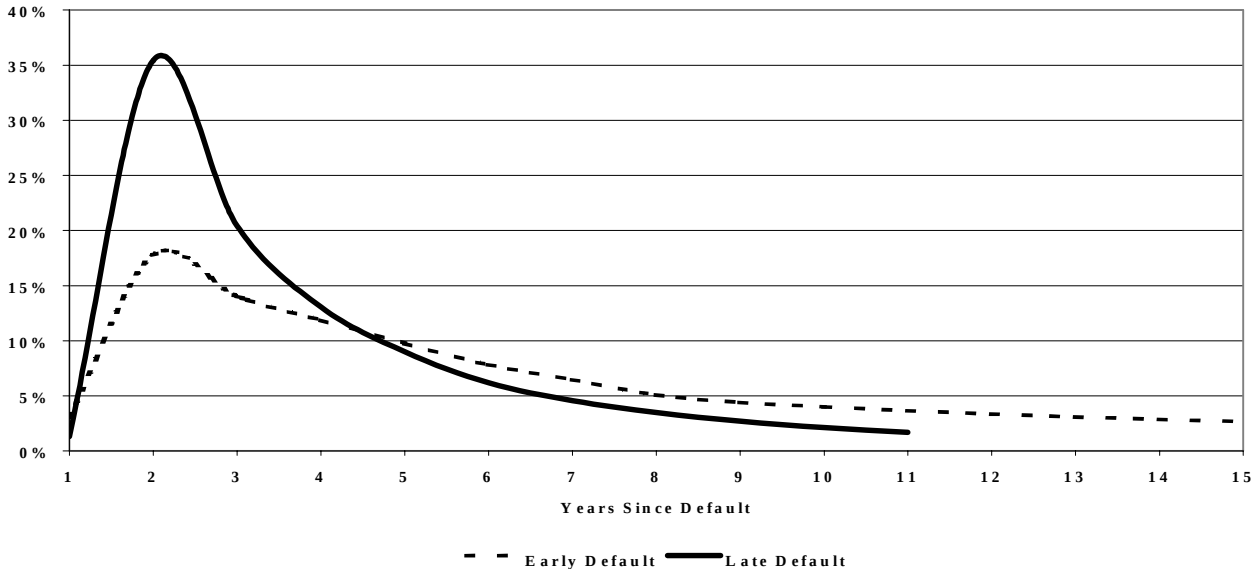
The recovery amounts were analyzed by consolidation year and by year since default. The empirical data were fit to a Weibull distribution. The flexible shape of this distribution makes it an appropriate fit for modelling the recovery process.

To fit the empirical data to a Weibull distribution, the parameters of the distribution were estimated by minimizing the sum of square of the errors with the curve. Once these parameters were found for all years of default, recoveries were extrapolated by adjusting the tail of the Weibull distribution to the empirical data. The recovery period was limited to 15 years as a realistic time frame in which loans can still be recovered.

To extrapolate data for more recent years where little information was available, an ultimate recovery rate was calculated using the most stable years (1989, 1990 and 1991). 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 7).

Chart 7: Recovery Distribution Depending on Date of Default



To calculate the proportion of defaults and recoveries, data files were used to classify amounts of default according to consolidation year and recoveries associated with each default year. Since the file on consolidations was incomplete, consolidated amounts were used from the study entitled "Evaluation of the Canada Student Loans Program", October 1997. Only years 1989 to 1995 were used in this report. Data for the Risk-Shared Regime were not used because the recoveries were not in the files and the definition of default varies from one bank to another. Table 41 shows the results of administrative data and the default and recoveries by consolidation year.

Table 41: Administrative Net Default Results

Consolidation Year	Consolidated Amount ($ million)	Default ($ million)	Recovery ($ million)	Default Rate (%)	Recovery Rate (%)	Net Default (%)
1989-90	642.5	146.9	72.2	22.9	49.2	11.6
1990-91	668.8	157.4	65.7	23.5	41.7	13.7
1991-92	691.6	173.5	64.9	25.1	37.4	15.7
1992-93	785.0	204.5	66.5	26.0	32.5	17.6
1993-94	852.2	233.9	69.1	27.4	29.5	19.3
1994-95	1,045.7	313.5	81.9	30.0	26.1	22.1
1995-96	1,172.2	368.3	71.3	31.4	19.4	25.3

Since defaults and recoveries generally involve a long period of runoff, some extrapolation had to be made to the administrative data to obtain a better estimate of defaults and recoveries. Table 42 shows extrapolated results.

Table 42: Extrapolated Net Default Results

Consolidation Year	Consolidated Amount ($ million)	Default ($ million)	Recovery ($ million)	Default Rate (%)	Recovery Rate (%)	Net Default (%)
1989-90	642.5	146.9	86.0	22.9	58.5	9.5
1990-91	668.8	157.5	83.6	23.5	53.1	11.0
1991-92	691.6	173.7	89.2	25.1	51.4	12.2
1992-93	785.0	205.1	100.4	26.1	49.0	13.3
1993-94	852.2	236.1	123.0	27.7	52.1	13.3
1994-95	1,045.7	320.4	152.9	30.6	47.7	16.0
1995-96	1,172.2	387.1	180.5	33.0	46.6	17.6
			Average	**27.0**	**51.2**	**13.2**

The results in Table 42 show that the average default rate is 27.0% and the average recovery rate is 51.2% giving a net default rate of 13.2% based on past experience.

7. Bad Debt Provision

According to the accounting regulation section 3050.34 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. The following factors are considered and will create an adjustment to the past net default rate of 13.2% to determine the adequate future provision.

a) Program Enhancement

The Canada Student Loans Program was enhanced in 1997 and 1998 in order to help students repay their loans. The Program enhancement is described in Appendix 1.

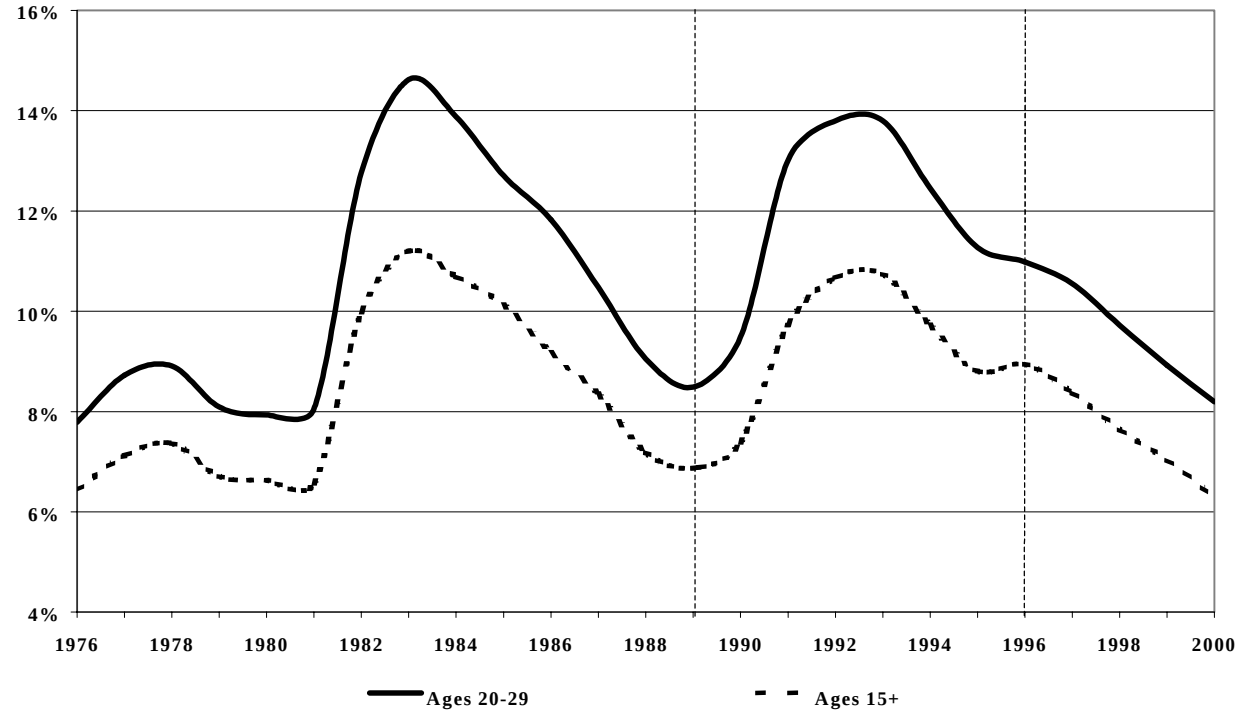
The effect of the enhancement should be a decrease in gross defaults and recoveries in the future and result in a 0.6% reduction of the net default rate. As well, there is potential for the Government's new service providers to do a better job administering loans and following the student, which could also contribute towards lowering the net default rate. The 0.6% reduction of the net default rate may be separated in two parts, a 0.5% decrease caused by an increased awareness of interest relief and 0.1% for the use of the debt reduction in repayment.

Our assumption for program enhancement includes a 0.6% decrease in the net default rate from past experience.

b) Economic Environment (Past and Present)

The average net default rate for the years 1989-96 was based on past experience for when the economic environment was very poor for students. During that period, the unemployment rate (Chart 8) was generally very high, especially for the segment of the population aged 20 to 29 (the range of ages of new graduates). The economic environment has improved greatly since those years; the average unemployment rate has fallen from 11.7% (1989-96) to 8.2% today, a decrease of 30%. The anticipated future labour shortage will prevent the unemployment rate from increasing much further.

Chart 8: Unemployment Rate



A survey by Human Resources Development Canada indicated that 33% of defaults were attributable to unemployment. However, the sample size is very small and the 95% confidence interval is situated at ±6% of the mean. To be prudent, the lower bound of the confidence interval is used - 27%.

The net decrease in the default rate resulting from the improved economic environment is the product of:

- a 27% of default being due to lack of employment,
- a 30% decrease in the unemployment rate for recent graduates, and
- a 13.2% net default rate in a poor economic environment.

Based on the foregoing, the decrease in unemployment rate results in a decrease in the net default rate of 1.0%, from 13.2% to 12.2%. This gives a reasonable figure for the effect of a change in the economic environment.

c) Grace Period Interest Accrued on Loans

The Program provides an interest-free loan during the period in which the student is in full-time studies. The benefit is available to full-time students and takes the form of an in-study interest subsidy. During this period, the Government pays interest on the loan and no payment is required from the student until graduation.

After the student graduates, there is a grace period of up to six months where interest accrues on the loan but no payment is required. For loans issued prior to August 1993, no interest accrues during the grace period as 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 since August 1993, the student is liable for interest that accrues on Canada Student Loans during this grace period.

Since the provision is applicable to the amount of the loans issued, the amount of the loan at consolidation can be higher than the amount at issue. An adjustment to the bad debt provision has to be made for the interest added to the loan at consolidation. Based on administrative data, students effectively consolidate six months after leaving school to make the fullest use of the grace period. Assuming that the interest rate is 8.0% on average for the projection period, the adjustment that has to be made is the product of:

- an 8.0% average annual interest rate,
- an 11.3% provisioning rate, and
- a six-month lag to consolidation divided by 12 months.

As a result, a 0.4% increase in the net default rate is made to determine the bad debt provision.

d) Debt Reduction in Repayment Provision

The amount of utilization of the debt reduction in repayment program will decrease the net default rate since those who default will do so on a lower loan balance (part of the loan will have been reduced). Therefore, the provision used for debt reduction in repayment, described in the following section, should serve to reduce the net default rate. A downward adjustment of 0.7% is made to the net default rate, which represents the cost of debt reduction in repayment.

e) Summary of Adjustments to Net Default Rate

The following table summarizes all of the above adjustments along with the recommended Bad Debt Provision for the projection period. The net default rate is based on analysis done on past experience mentioned earlier in the report.

Table 43: Bad Debt Provision

Historical Net Default Rate		13.2%
Adjustments:		
Program Enhancement	-0.6%	
Economic Environment	-1.0%	
Grace Period Interest on Accrued Loans	+0.4%	
Debt Reduction in Repayment Expense	-0.7%	
Bad Debt Provision		11.3%

The assumption used for gross default rate on loans consolidated is 22.0% and 50.5% is used for the recovery rate. This gives a net default rate of 10.9%. The provision rate is set at 11.3% on new loans issued to take into account the grace period interest on accrued loans.

8. Debt Reduction in Repayment Provision

This is a relatively new program and there is limited experience with it. Debt reduction in repayment (DRR) is taken following expiry of the interest relief period available to the student borrower. According to Table 39 in the previous section on interest relief, 4% of borrowers are on interest relief in the fifth year. Based on those student borrowers, the proportion of students taking DRR in the sixth year will grow from 40% in 2000 to 60% by 2004.

The DRR program will forgive approximately 29% of the loan since the potential reduction varies between 0% and 50%, limited to $10,000.

The projected DRR divided by the loans issued gives a provisioning rate of 0.7% on all new loans issued.

The program enhancement would normally increase the provisioning rate for DRR. However, since the future economic environment will be better compared to past experience, the effect of these two components will offset each other. DRR is not affected with the interest rate; therefore, the provision will remain constant in the future.

9. Interest Relief Provision

This provision is calculated using a projection of future consolidations for one cohort of loans issued and a distribution by number of years since consolidation of the amount going on interest relief.

Based on Human Resources Development Canada data, it was determined that a student takes interest relief on average for eight months in the year.

All of these assumptions were used to project future costs for one cohort of new loans issued. The resulting interest relief costs were summed and divided by the new loans issued to come up with 5.0% of the amount of new loans issued in 2000. Since the provision used for 2000-01 was 2.6%, the provision rate for the loan year 2001-02 must be adjusted to take into account the difference in the provision rate for 2000-01. The process was then repeated with other cohorts using the appropriate future interest rates. Table 44 shows the interest relief provision used for the projection. The program enhancement and economic environment are assumed to counterbalance each other, but the increase in interest rate affects the level of the future provision.

Table 44: Interest Relief Provision

Loan Year	% of Provision
2000-2001	2.6
2001-2002	5.0% + (5.0% - 2.6%) = 7.4
2002-2003	5.0
2003-2004	5.1
2004-2005	5.2
2005-2006	5.3
2006-2007	5.4
2007-2008	5.5
2008-2009	5.6
2009-2010	5.7
2010-2011	5.7
2011-2012	5.8
2012-2013	5.8
2013 +	5.9

10. Others Assumptions

a) Alternative Payment

The projection of alternative payment has been made by multiplying the net cost of the Program (excluding HRDC's administrative expense, administration fees to provinces, alternative payment and net interest revenues) by the ratio of the population aged 18-24 that is not participating in the Program on the population aged 18-24 that is participating in the Program. The initial cost of alternative payment is $138.9 million for the loan year 2000-01. The increase for the loan year 2001-02 comes from including all three provisions in the calculation of the net cost.

b) Recovery Cost

The recovery cost has been projected using a percentage of the recoveries. In 1999-2000, the recovery cost was 15.3% of the total recoveries. This rate is assumed constant in the future.

c) Administration Costs

HRDC provided estimates for four years of these costs based on a fiscal year basis. The costs have been converted in loan year and the extrapolation of future years has been done using the wage increase.

Table 45: Administrative Costs ($ million)

Loan Year	Administrative Costs
2000-2001	129.7
2001-2002	120.4
2002-2003	150.0
2003-2004	166.0
2004 +	Increase with wages

d) Administration Fees to Provinces

Initial cost for administrative fees to provinces is the actual cost of $8.6 million. The wage increase is used to project this expense.

e) Canada Study Grants

For the loan year 2000-01, the actual cost of the Canada Study Grants is $81.1 million. In 2001, the cost is estimated by HRDC at $120.2 million. For future years, this cost is increasing following the inflation.

f) Loans Forgiven

The actual cost of loans forgiven is $9.5 million. The projection of loans forgiven follows the increase of the portfolio that performs normally (loan in-study and in repayment).

Appendix 4 – 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 future 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 the set of sensitivity tests, each of the key assumptions was changed individually, with the other assumptions being maintained at their best-estimate levels. Two tests were performed with respect to each of the assumptions. The alternative assumptions selected are intended to represent the extreme 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 a "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 46 below summarizes the alternative assumptions that were used in the sensitivity tests. The table is followed by a brief discussion of each assumption and the impact its variation has on the results.

Table 46: Long-term Sensitivity Test Assumptions

Assumption	Low-cost	Best-estimate	High-cost
1. Loan Limit	--	$165	Indexed with inflation
2. Wage Increase	0.6%	1.1%	1.6%
3. Inflation	2.0%	3.0%	4.0%
4. Participation Rates – Canada (aged 18-34)	83%	80%	75%
5. Tuition Cost	CPI	CPI + 3.0%	CPI + 6.0%
6. Real Rate of Borrowing:			
Government cost of borrowing	4.0%	6.0%	8.0%
Student borrowing cost	6.85%	8.85%	10.85%
7. Interest Relief Take-up	4.1%	5.9%	7.6%
8. Net Defaults	7.9%	10.9%	13.9%

1. Loan Limit

This scenario assumes that the current loan limit of $165 a week is indexed with inflation. The scenario is increasing the loan limit with inflation as student financial needs increase. Contrary to the best-estimate scenario, the proportion of students at the loan limit will remain relatively stable in this scenario but the amount of loans issued increases by 74% in 2025.

Chart 9: New Loans Issued ($ million)

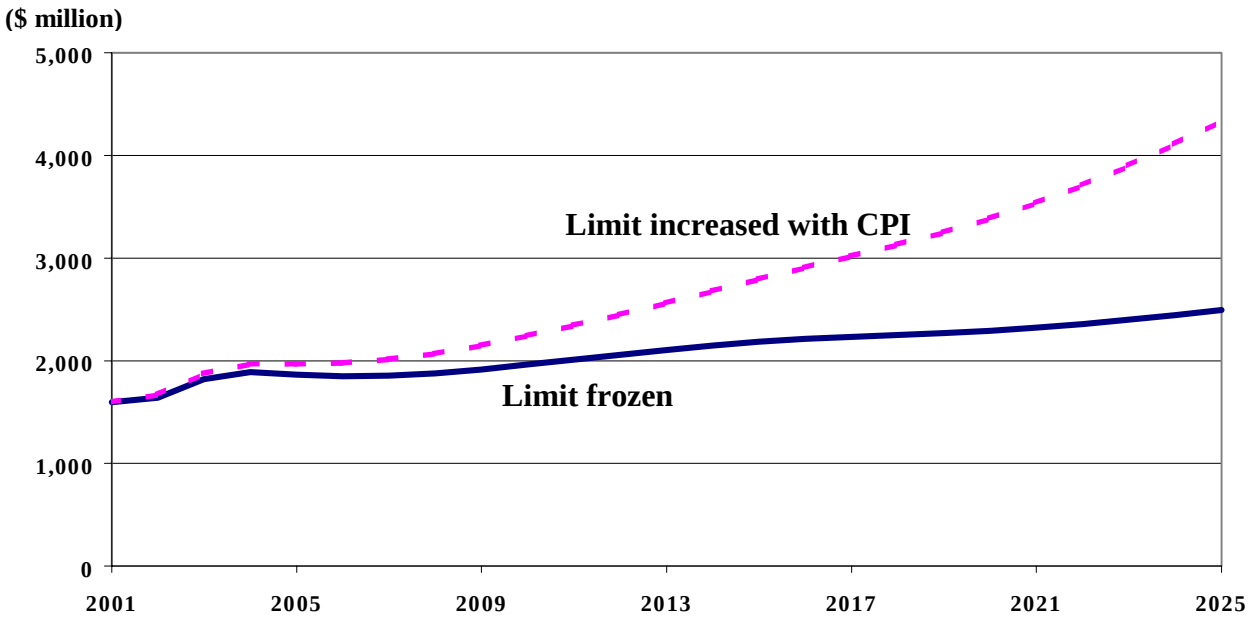


Chart 9 compares the new loans issued of the base scenario to the new loans issued with the limit indexed to inflation.

Table 47: Impact of Loan Limit on Loans Issued

	Frozen		Increased with Inflation	
Loan Year	Limit	Loans Issued	Limit	Loans Issued
	($)	($ million)	($)	($ million)
2001 - 2002	165	1,598	165	1,598
2002 - 2003	165	1,641	170	1,669
2003 - 2004	165	1,822	173	1,876
2004 - 2005	165	1,889	176	1,969
2005 - 2006	165	1,865	180	1,969
2010 - 2011	165	1,965	201	2,245
2015 - 2016	165	2,185	229	2,796
2020 - 2021	165	2,293	266	3,387
2025 - 2026	165	2,495	308	4,342

2. Wage Increase

Wage increases impact the CSLP by increasing the resources of a student determined in the needs analysis process. This, in turn, reduces the needs of a student, which can reduce a student loan's availability. However, there is also an increase in costs in administration expenses because these are influenced by salary increases.

The initial years of the projection period assume the real-wage differential to increase uniformly from 2001 to its ultimate level. An ultimate real-wage differential of 1.1% has been assumed in years 2015 and thereafter for the best-estimate projections. Combined with the best-estimate inflation assumption of 3.0%, it results in assumed nominal annual increases in wages of 4.1% in 2015 and thereafter.

For the low-cost scenario, the assumed real-wage differential increases by 0.5%. This reduces its ultimate level to 0.6% in 2015.

For the high-cost scenario, the assumed real-wage differential decreases by 0.5%. This increases its ultimate level to 1.6% in 2015. 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 3.0% has been assumed for the best-estimate projections. The rates of inflation are assumed at 2.8% in 2001 and 2.0% for 2002 to 2005. It is assumed to increase uniformly from 2.0% in 2005 to its ultimate level of 3.0% in 2015. The inflation rate affects the growth of a student's expenses. It also impacts 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 inflations is assumed to decrease by 1.0%. This reduces the long-term rate of inflation to 2.0% in 2015. 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 4.0% in 2015. This level of inflation is comparable to long-term historical averages.

4. Participation Rates

Participation rates are used to determine the population not in the labour force. A higher participation rate means that fewer people will be available to go to school. Therefore, it decreases enrolment. During the next decade, it is assumed that the overall labour force participation rate will remain relatively stable for youths, at 77.6%. For 2010-25, it is assumed that participation rates will increase to 80.0% to compensate for the labour shortage.

For the low-cost scenario, participation rates are assumed to reach their highest historical level by 2025. The labour shortage is greater than has been forecasted in this scenario.

For the high-cost scenario, participation rates are assumed constant after year 2010. The labour shortage will be moderated by increases in migration.

5. Tuition Cost

The long-term estimate of tuition growth is based on past increases of tuition relative to the CPI. Over the last 25 years, tuition increases have been a result of the CPI plus 3.0%. Since similar budgetary pressures are anticipated in the future, given the aging of the population, the CPI plus 3.0% was used as our ultimate growth rate.

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

For the high-cost scenario, tuition growth is expected to be CPI plus 6.0%. The aging of the population could cause significant budget pressures that could reduce funding in key areas such as post-secondary education.

6. Real Rate of Borrowing

Changes in the real rate of borrowing involve fluctuations in the interest rate not caused by inflation. This rate is related to the Government cost of borrowing, which impacts the cost of the interest subsidy for students in school and the cost of providing interest relief for students in need. This sensitivity test also affects the students' real rate of borrowing. This rate has been historically 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 volatility of past experience.

7. Interest Relief Take-up

In 1998, the interest relief program was extended from a maximum of 18 months to a maximum of 54 months. As a result, experience based on the use of this extended benefit is limited. Greater emphasis should be placed on assessing the sensitivity of interest relief use based on this limited experience.

The low-cost scenario reduces the interest relief and the provision use by 30% to 4.1% in the long term. An enhanced economic environment is assumed in the future. This will reduce the need for interest relief benefits.

The high-cost scenario increases the interest relief use and its provision by 30% to 7.6% in the long term. Better communication to students is assumed to increase the awareness of the existence of this relatively new extended interest relief benefit. This will increase its use.

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 rate is 10.9%, which corresponds to a provision rate of 11.3% on new loans issued. This rate is closely linked with the employment environment for new graduates since that environment affects the ability of students to repay their loans.

The low-cost scenario reduces the gross default by 2% to 20% and increases the recovery rate to 60.5%. Subsequently, the net default rate is 7.9% with a corresponding provision of 8.3% of new loans issued. An assumed enhanced economic environment in the future will reduce the default rate. Potential better communication with students will also serve to reduce this rate.

The high-cost scenario increases the gross default rate by 2% to 24% and decreases the recovery rate to 42.0%. Subsequently, the net default rate is 13.9% with a corresponding provision of 14.3% on new loans issued. The economic environment is assumed to be worse in this scenario with a higher unemployment rate for students.

The results of the sensitivity tests are shown below.

Table 48: Sensitivity Test Results for Loan Year 2025-2026

Assumptions	Scenario	Loans Issued	Increase	Growth Rate	Portfolio July	Increase	Net Cost	Increase
		($ million)	%	%	($ million)	%	($ million)	%
Base scenario	Best-estimate	2,495	–	2.0	17,034	–	1,412	–
Sensitivity tests								
1 – Index limit with inflation	High-cost	4,342	74.0	5.6	26,389	54.9	1,982	40.4
2 – Wage differential -0.5%	Low-cost	2,597	4.1	2.1	17,676	3.8	1,397	-1.1
2 – Wage differential +0.5%	High-cost	2,369	-5.0	1.9	16,266	-4.5	1,425	0.9
3 – Inflation –1%	Low-cost	2,255	-9.6	1.7	15,422	-9.5	1,115	-21.0
3 – Inflation +1%	High-cost	2,733	9.5	2.2	21,073	23.7	1,760	24.7
4 – High participation	Low-cost	2,090	-16.2	-1.9	15,920	-6.5	1,282	-9.2
4 – Low participation	High-cost	2,684	7.6	2.5	18,005	5.7	1,471	4.2
5 – Tuition –3%	Low-cost	2,097	-16.0	1.0	14,856	-12.8	1,289	-8.7
5 – Tuition +3%	High-cost	2,942	17.9	2.8	19,456	14.2	1,550	9.8
6 – Interest rate –2%	Low-cost	2,495	–	2.0	16,679	-2.1	1,231	-12.8
6 – Interest rate +2%	High-cost	2,495	–	2.0	17,384	2.1	1,594	12.9
7 – Interest relief take-up 70%	Low-cost	2,495	–	2.0	16,859	-1.0	1,356	-4.0
7 – Interest relief take-up 130%	High-cost	2,495	–	2.0	17,207	1.0	1,465	3.7
8 – Net default rate 7.9%	Low-cost	2,495	–	2.0	17,217	1.1	1,351	-4.3
8 – Net default rate 13.9%	High-cost	2,495	–	2.0	16,850	-1.1	1,519	7.6

Appendix 5 – Acknowledgements

We would like to thank the Socio-Economic Research Group, Canada Student Loans Program Division of the Department of Human Resources Development Canada that provided the relevant data used in this report. Without the Group's useful assistance, we would not have been able to produce this report.

The following people assisted in the preparation of this report:

Francis Picotte
Monique Denner
Stephan Sabourin, A.S.A.