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Financial Institutions Canada

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ACTUARIAL REPORT

on the
**CANADA
STUDENT
LOANS
PROGRAM**

as at 31 July 2018

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22 July 2019

Mr. Atiq Rahman
Director General, Canada Student Loans Program
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Dear Mr. Rahman:

As per the business plan for 2019-20 to 2021-22, I am pleased to submit the Actuarial Report on the Canada Student Loans Program, prepared as at 31 July 2018. This report is prepared for the CSLP to support internal accounting requirements as well as your partners' needs between statutory reports.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Assia Billig'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Assia Billig, Ph.D, FCIA, FSA
Chief Actuary
Office of the Chief Actuary



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I. Purpose and Summary

Effective 1 August 2000, the Government redesigned the delivery of the Canada Student Loans Program (CSLP) from one delivered by chartered banks to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given the mandate to conduct an actuarial review of the program.

Section 19.1 of the *Canada Student Financial Assistance Act* defines the mandate given to the Chief Actuary; it states that the Chief Actuary of the Office of the Superintendent of Financial Institutions shall prepare a report on the financial assistance provided under this Act no later than three years apart. Such an actuarial report was prepared as at 31 July 2017 and tabled before Parliament on 18 July 2018. The next triennial statutory report will be prepared as at 31 July 2020 and is scheduled to be tabled before Parliament in 2021.

This actuarial report, prepared as at 31 July 2018, is provided to support Employment and Social Development Canada's accounting requirements and its partners, the Office of the Auditor General, the Treasury Board Secretariat, and the Department of Finance. The report includes a forecast of the Program's costs and revenues for 25 years (through the 2042-43 loan year), and shows estimates of:

- the number of students receiving a loan under the CSLP and the amount of new loans issued;
- the portfolio of loans in-study, loans in repayment and loans in default;
- the allowances under the direct loan regime in effect since August 2000; and
- the revenues, the expenses and the net resulting cost by type of regime.

This valuation report is based on the Program provisions as described in Appendix 1.

After a short discussion of recent program changes in section A of the Main Report, section B presents the best-estimate assumptions while section C presents projections of new loans issued. Section D includes projections of the portfolio by type of regime and section E contains projections for the operating cost of the Program for all three regimes. A conclusion of the actuarial review ensues, followed by the actuarial opinion.

The various appendices provide supplemental information on Program provisions, data used, assumptions and methodologies as well as concessionary terms.

Main Findings

New Loans Issued

- \$3,358 M disbursed in 2017-18
- \$3,613 M expected in 2018-19

Grants

- \$1,365 M disbursed in 2017-18
- \$1,601 M expected in 2018-19

Direct Loan Portfolio

- \$19.3 B as at 31 July 2018
- \$38.5 B expected by 2042-43
- \$34 B limit projected to be reached in 2033-34

Program's Net Cost

- \$2.3 B in 2017-18
- \$4.5 B expected in 2042-43
- Grants represent 60% of net cost in 2017-18

Defaults (Bad Debt)

- Net default rate is 8.2%
- \$2,472 M in allowance for bad debt – principal as at 31 July 2018
- \$231 M in allowance for bad debt – interest as at 31 July 2018

RAP (Repayment Assistance Plan)

- \$1,469 M in allowance for RAP – principal as at 31 July 2018



II. Main Report

The Canada Student Loans Program (CSLP) has been in effect since 1964; it provides Canadians with financial assistance to pursue a post-secondary education. On 1 August 2000, the Government redesigned the delivery of the Program to disburse loans directly to students. The Office of the Chief Actuary was given the mandate to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, and a portfolio projection. The results are presented on a loan year basis from 1 August to 31 July.

The government has been incurring higher public debt charges since the implementation of the direct loan arrangement. The costs related to direct loans include:

- The interest subsidy on in-study loans and loans in the 6-month non-repayment period
- The interest relief from the Repayment Assistance Plan (RAP)
- The provisions for RAP (principal) and bad debt (principal and interest)
- The Canada Student Grants (CSG)
- The alternative payments
- The loan forgiveness expenses
- The administrative expenses

These costs are reduced by an estimate of the net interest revenues from:

- The student interest payments
- The RAP interest payments
- The interest accrued during the six-month non-repayment period
- The interest accrued on defaulted loans

A. Recent Program Changes

Over the last few years, several changes were made to the Canada Student Loans Program. This section summarizes recent changes that were implemented in loan year ending 31 July 2018 or will be implemented in future years.

Budget 2016 introduced several program modifications. The following modifications, effective in loan year 2017-18, are considered in the projections of this report:

- A single progressive threshold is used to determine CSGs' eligibility for full-time students (CSG-FT), replacing the former low- and middle-income cut-offs.
- A fixed student contribution is used to determine students' eligibility for loans and grants. Under the fixed student contribution, determined by family income and size, students are expected to contribute between \$1,500 and \$3,000 per loan year toward their post-secondary education costs. Students with disabilities, students with dependent children, Indigenous students, and current or former Crown wards are exempt from the fixed student contribution.

Budget 2017 also introduced several modifications. The following modifications, effective in loan year 2018-19, are considered in the projections of this report:

- Part-time students' eligibility for loans and grants is expanded by replacing low- and middle-income cut-offs with the same single progressive thresholds used for the CSG-FT.



- Students with dependent children's eligibility for CSG is expanded by replacing low- and middle-income cut-offs with the same single progressive thresholds used for the CSG-FT.

Budget 2018 introduced the following three-year pilot project starting in loan year 2018-19; this change is included in the projections of this report:

- Adults returning to school full-time, who have been out of secondary school for at least 10 years, will receive a top-up grant funding of \$1,600 per school year. The pilot project also allows all students who experience a decline in family income to be reassessed for CSGs based on their reduced current year's income while in school as opposed to their prior year's income. This three-year pilot project will make it easier for all full-time students to qualify for grants.

Budget 2019 introduced the following eight modifications to the Canada Student Loans Program; these changes are considered in the projections of this report, except the last one which has not received regulatory approval at the time the report was finalized.

- Effective on 1 November 2019, the floating interest rate will be lowered to prime, from its current rate of prime plus 2.5 percentage points. The floating interest rate is the rate chosen by 99% of Canada Student Loans borrowers.
- Effective on 1 November 2019, the fixed interest rate will be lowered to prime (at the time of consolidation) plus 2.0 percentage points, from its current rate of prime plus 5.0 percentage points.
- Effective on 1 November 2019, student loans will no longer accumulate interest during the six-month non-repayment period after a student loan borrower leaves school.
- Effective on 1 August 2019, the cap on the Canada Student Grant for Services and Equipment for Students with Permanent Disabilities will be increased from \$8,000 to \$20,000 per year.
- Effective on 1 August 2019, the eligibility for the Severe Permanent Disability Benefit will be expanded to allow more student borrowers with severe permanent disabilities to qualify for loan forgiveness.
- Currently, borrowers who have been out of study for five years and have used the Repayment Assistance Plan for Students with Permanent Disabilities (RAP-PD) cannot receive further loans and grants until their outstanding loans are fully paid. Starting in loan year 2020-21, this restriction will be removed.
- Effective on 1 January 2020, the eligibility for loan rehabilitation for borrowers in default will be enhanced. This change will allow financially vulnerable borrowers in default to access supports such as the Repayment Assistance Plan and begin making affordable payments on their outstanding debt again.
- Starting in 2020-21, interest-free and payment-free leave, for a maximum of 18 months, will be implemented for borrowers taking temporary leave from their studies for medical or parental reasons, including mental health leave,.

Budget 2019 also announced increased compensation to provinces and territories - partners in the Canada Student Loans Program - by \$20.0 million over five years, starting in 2019-20, with \$4.0 million per year ongoing. This increased funding will compensate provinces and territories for their costs stemming from Budget 2019's proposed changes to improve the accessibility of student financial assistance.



B. Best-estimate Assumptions

Several economic and demographic assumptions are needed to determine the 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 the actuary’s best judgment and are referred to as “best-estimate” assumptions. Some of these assumptions are based on the most recent actuarial reports prepared by the Office of the Chief Actuary, adjusted to reflect loan year periods and current economic and demographic experience. The assumptions were chosen to be internally consistent.

1. Assumptions related to Total Loans Issued Projection

Several assumptions are needed to determine the total amount of loans issued. Table 1 and 2 summarize the main assumptions used. Other economic assumptions used can be found in Table 3.

Table 1 presents the demographic and labour force assumptions. These assumptions are based on the 27th Actuarial Report on the Canada Pension Plan as at 31 December 2015.

Table 1 Demographic and Labour Force Assumptions

1.	Total fertility rate for Canada (ultimate)	1.65 per woman
2.	Mortality	Canadian Human Mortality Database with assumed future improvements
3.	Net migration rate for Canada (ultimate)	0.62% of population
4.	Youth participation rate	69.4% (2018-19)
	(participating provinces/territory,	70.8% (2019-20)
	ages 15-29)	71.1% (2020-21)
		⋮
		73.7% (2042-43)

Table 2 presents the real wages and tuition fee increases assumptions. Real wage increases are based on the 27th Actuarial Report on the Canada Pension Plan as at 31 December 2015.

Table 2 Real Wage and Tuition Increases Assumptions

1.	Real wage increases	0.8% (2018-19)
		0.9% (2019-20)
		1.0% (2020-21)
		⋮
		1.1% (2025-26+)
2.	Tuition fee increases	3.2% (2018-19)
		-5.8% ¹ (2019-20)
		0.7% (2020-21)
		3.2% (2021-22)
		⋮
		CPI + 1.75% (2025-26+)

¹ The Ontario government announced in the *2019 Ontario Budget Protecting What Matters Most* that tuition rates will be lowered by 10 per cent starting in the 2019-20 school year and remain frozen for the 2020-21 school year.



2. Cost of Borrowing

Table 3 presents the interest rates and inflation assumptions used to calculate the cost of borrowing for the Government and for borrowers. The inflation assumption is also used in the projection of total loans issued.

Loan Year	Inflation (%)	Government's Real Cost of Borrowing (%)	Government's Cost of Borrowing (%)	Prime Rate (%)	Student's Cost of Borrowing (%)¹
	(1)	(2)	(1) + (2)	(3)	(4)
2018-19	2.0	0.1	2.1	3.9	6.4
2019-20	2.0	0.6	2.6	4.0	4.6
2020-21	2.0	0.8	2.8	4.0	4.0
2021-22	2.0	1.0	3.0	4.0	4.0
2022-23	2.0	1.2	3.2	4.0	4.0
2023-24	2.0	1.4	3.4	4.2	4.2
2024-25	2.0	1.5	3.5	4.3	4.3
2025-26	2.0	1.7	3.7	4.4	4.4
2026-27	2.0	1.9	3.9	4.6	4.6
2027-28	2.0	2.0	4.0	4.7	4.7
2028-29+	2.0	2.2	4.2	4.8	4.8

¹ For loan year 2018-19, the student's cost of borrowing corresponds to prime rate plus 2.5 percentage points (based on the floating interest rate). Starting 1 November 2019, the floating interest rate is reduced to prime rate. Therefore, loan year 2019-20 has a blended student's cost of borrowing corresponding to three months (from 1 August 2019 to 31 October 2019) at prime plus 2.5 percentage points and nine months (from 1 November 2019 to 31 July 2020) at prime.

The average prime rate for the 2018-19 loan year is 3.9%. It is obtained by adding the government's cost of borrowing and an interest rate spread. The short term government's cost of borrowing (until 2022-23) is based on the most recent Department of Finance Private Sector Survey and takes into account new actual data released after the publication of the survey. The government's cost of borrowing is expected to increase to reach an ultimate rate of 4.2% in 2028-29. The assumption on the interest rate spread is developed based on the analysis of historical data and the expected short term trajectory of interest rates. The spread is expected to decrease gradually from 1.8% in 2018-19 to an ultimate value of 0.6% in 2028-29, resulting in an ultimate prime rate of 4.8%.

As per Budget 2019, the floating interest rate (student's cost of borrowing, shown in Table 3) used to calculate interest revenue, will be lowered to prime rate from its current rate of prime plus 2.5 percentage points. This change will take place on 1 November 2019.

3. Assumptions related to Allowances

Since August 2000, the CSLP has been delivered and financed directly by the Government. Three allowances exist to cover future costs: bad debt – principal, bad debt – interest and Repayment Assistance Plan (RAP) – principal. The RAP came into effect in August 2009, replacing the former Debt Reduction in Repayment (DRR) and Interest Relief (IR) measures.

A summary of the assumptions used to determine the allowances is provided below. Additional details can be found in Appendix 3.

It is important to note that ESDC's accounting division uses the provision rates based on this report's assumptions to determine the allowances for the Public Accounts. These were determined as at 31 March 2019 before the incorporation of the measures related to Budget 2019. The new measures affect the Bad Debt – Principal and RAP provision rates, hence this report will present the two different sets of results.



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Long-Term Defaulted Principal Assumptions

Several assumptions are used to determine the expected future amount of defaulted principal that will not be recovered. The assumptions are reviewed each year based on new experience available.

Recent experience shows lower defaults than expected. Consequently, the future default rate, net of recoveries, is assumed to decrease from 9.0% of consolidations in the previous report to 8.2% in this report. The following ultimate assumptions are used:

- The future gross default rate assumption is 14.5% of future consolidations.
- The recalls and rehabilitations represent 11.3% of gross defaults in the long term, which decreases the default rate to 12.9% $[(14.5\% \times (1 - 11.3\%))]$.
- The future recovery rate is 32.0% of gross defaults (before recalls and rehabilitations).
- The resulting future net default rate is 8.2% $[14.5\% \times (1 - 11.3\% - 32.0\%)]$.

Interest Recovery Assumption

The interest recovery assumption is used to project the future expected non-recoverable interest. It is determined by a distribution that varies according to the time elapsed since the interest defaulted. The recovery rates are based on historical observations. In this report, they vary between 40% (for the newest defaulted interest) to 12% (for the oldest defaulted interest).

Repayment Assistance Plan (RAP) Assumptions

Several assumptions are used to determine the dollar amount of loans that will ultimately be repaid by the government through the RAP rather than by borrowers. A table of RAP utilization rates is developed for RAP-Stage 1, RAP-Stage 2 and RAP-PD respectively. More details can be found in Appendix 3.



C. Projection of Total Loans Issued

The purpose of this section is to discuss the projection of the total amount of loans issued by the CSLP. The first step is to project full-time enrolment in post-secondary institutions. Then, the future number of students participating in the CSLP is determined using a projection of the loan uptake rate. Finally, the average assessed need of a CSLP student is projected net of grants and capped according to the loan limit. The total amount of loans issued is calculated by multiplying the average assessed need by the number of students in the CSLP.

1. Projection of Full-time Post-secondary Enrolment

The first step is to determine the projected number of full-time students in post-secondary institutions using demographic projections.

Demographic Projections

Demographic projections are based on the population projected in the 27th Actuarial Report on the Canada Pension Plan as at 31 December 2015. The population of Canada less Québec, Northwest Territories, Nunavut, and non-permanent residents (the “population”) is used to project the number of students enrolled in post-secondary institutions.

As shown in Table 4, the population aged 15-29 is expected to increase from 5,027,000 in 2017-18 to 5,034,000 in 2018-19. It is then expected to decrease over the following seven years, bringing it to 5,011,000 in 2025-26. After that, it is expected to increase for the remainder of the projection period to reach 5,637,000 in 2042-43. Over the 25-year projection, the population aged 15-29 is expected to increase by 610,000.

Post-secondary Enrolment

Projections of the post-secondary enrolment are based on enrolment data from Statistics Canada’s Labour Force Survey up to January 2019.

The number of students enrolled full-time in post-secondary institutions is based on both the evolution of the population in labour force (individuals who are employed or looking for employment) and the population not in labour force. The enrolment rate also varies according to the student’s age group, gender and whether the student is in college or university. Overall, the aggregate enrolment rate for students aged 15 to 29 is expected to remain between 21% and 22% over the next 25 years.

Table 4 shows the evolution of the number of students enrolled full-time in a post-secondary institution (age group 15-29 and total). Students aged 15-29 are used for illustrative purposes as they represent more than 85% of the total post-secondary enrolment and better demonstrate the movement of this population across time.



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Table 4 Population and Post-Secondary Enrolment⁽¹⁾

Loan Year	Population of Canada Less Québec, Nunavut, and NWT (15-29)⁽²⁾ (thousands)	Students Enrolled Full-Time (15-29)⁽³⁾ (thousands)	Students Enrolled Full-Time (Total)⁽³⁾ (thousands)	Increase (thousands)	Increase (%)
2017-18	5,027	1,070	1,216		
2018-19	5,034	1,086	1,230	14	1.2
2019-20	5,025	1,090	1,238	8	0.6
2020-21	5,024	1,085	1,233	-5	-0.4
2021-22	5,018	1,083	1,231	-2	-0.2
2022-23	5,014	1,081	1,229	-2	-0.1
2023-24	5,014	1,078	1,226	-3	-0.2
2024-25	5,013	1,078	1,226	0	0.0
2025-26	5,011	1,078	1,226	0	0.0
2026-27	5,012	1,083	1,230	4	0.3
2027-28	5,028	1,090	1,237	7	0.5
2028-29	5,054	1,099	1,245	8	0.7
2029-30	5,090	1,108	1,253	8	0.7
2030-31	5,131	1,118	1,263	10	0.8
2031-32	5,171	1,125	1,270	7	0.5
2032-33	5,219	1,131	1,276	6	0.5
2033-34	5,271	1,136	1,282	6	0.4
2034-35	5,320	1,143	1,288	6	0.5
2035-36	5,372	1,150	1,296	8	0.6
2036-37	5,420	1,159	1,306	10	0.8
2037-38	5,461	1,169	1,316	10	0.8
2038-39	5,496	1,177	1,326	10	0.7
2039-40	5,530	1,185	1,335	9	0.7
2040-41	5,565	1,192	1,343	8	0.6
2041-42	5,602	1,201	1,354	11	0.8
2042-43	5,637	1,209	1,363	9	0.7

(1) Full-time enrolment in post-secondary institutions in Canada, excluding Québec, Nunavut, NWT.

(2) Excluding non-permanent residents. Numbers are higher than previously reported in the Actuarial Report as at 31 July 2017 since the methodology to project the 15-29 population has been slightly revised.

(3) Excluding international students.

The future number of students enrolled full-time in a post-secondary institution is determined by multiplying projected enrolment rates for each future year by its corresponding population. As shown in Table 4, the number of enrolled students is expected to increase from its current level of 1,216,000 to 1,363,000 at the end of the projection period.

2. Student Need

Not every student enrolled in a post-secondary institution is eligible to participate in the CSLP. The need assessment process determines whether students are eligible for a loan, and if so, the amount they are eligible to receive. The need is defined as the excess of expenses over resources, if positive. The expenses assessed include tuition fees, compulsory fees, books, shelter, food and transportation. The resources include student contributions and, when applicable, parental or spousal contributions. Starting in the 2017-18 loan year, students' pre-study and in-study incomes, as well as all financial assets, were replaced by a fixed student contribution amount up to \$3,000 per academic year. Students with disabilities, students with dependent children, Indigenous students, and current and former crown wards are exempt from the fixed student contribution.

The loan issued by the federal government under the CSLP covers 60% of the assessed need, up to a maximum of \$210 per week. Sometimes, a student's need is completely fulfilled by a grant



and no loan is issued. The initial average student need is based on the expenses and resources from the CSLP need assessment data for the 2016-17 loan year provided by ESDC. Future distributions of student need are obtained by projecting the expenses and resources of each student over the next 25 years using economic assumptions. A single progressive threshold was introduced in the 2017-18 loan year to determine eligibility for the CSG-FT. This change increases the average grant and the number of grant recipients, while it decreases the average student net need.

For projection purposes, students are separated into three groups based on the type of educational institution they attend (college, university or private). The results are aggregated using a weighted average based on the number of students.

Table 5 summarizes the three main elements of student need, as well as the average student need, the average grant for the net need calculation and the CSLP average student net need (net of grant). The average resources and expenses specific to the students receiving a loan is presented for the average number of study week.

Table 5 Student Need⁽¹⁾

Loan Year	Resources (\$)	Tuition (\$)	Other Expenses (\$)	Total Expenses (\$)	Average Student Need (\$)	Average Grant for Net Need Calculation ⁽²⁾	CSLP Average Student Net Need ⁽³⁾	CSLP Average Student Net Increase
						(\$)	(\$)	(\$)
	(1)	(2)	(3)	(4) = (2) + (3)	(5) = (4) - (1)	(6)	(7) = (5) * 0.6 - (6)	
2017-18	2,500	8,700	11,300	20,000	17,500	2,300	8,200	
2018-19	2,500	9,000	11,500	20,500	18,000	2,300	8,500	300
2019-20	2,500	8,500	11,800	20,300	17,800	2,300	8,400	-100 ⁽⁴⁾
2020-21	2,600	8,600	12,000	20,600	18,000	2,300	8,500	100
2021-22	2,600	8,900	12,200	21,100	18,500	2,300	8,800	300
2022-23	2,600	9,200	12,500	21,700	19,100	2,200	9,300	500
2023-24	2,700	9,600	12,700	22,300	19,600	2,200	9,600	300
2024-25	2,700	9,900	12,900	22,800	20,100	2,200	9,900	300
2025-26	2,800	10,300	13,200	23,500	20,700	2,200	10,200	300
2026-27	2,800	10,700	13,400	24,100	21,300	2,200	10,600	400
2027-28	2,800	11,100	13,700	24,800	22,000	2,200	11,000	400
2028-29	2,900	11,600	13,900	25,500	22,600	2,200	11,400	400
2029-30	2,900	12,000	14,200	26,200	23,300	2,200	11,800	400
2030-31	3,000	12,500	14,500	27,000	24,000	2,100	12,300	500
2031-32	3,000	13,000	14,800	27,800	24,800	2,100	12,800	500
2032-33	3,100	13,500	15,000	28,500	25,400	2,100	13,100	300
2033-34	3,100	14,000	15,300	29,300	26,200	2,100	13,600	500
2034-35	3,200	14,500	15,600	30,100	26,900	2,100	14,000	400
2035-36	3,200	15,100	15,900	31,000	27,800	2,100	14,600	600
2036-37	3,300	15,700	16,200	31,900	28,600	2,100	15,100	500
2037-38	3,400	16,300	16,500	32,800	29,400	2,100	15,500	400
2038-39	3,400	17,000	16,800	33,800	30,400	2,000	16,200	700
2039-40	3,500	17,600	17,100	34,700	31,200	2,000	16,700	500
2040-41	3,500	18,300	17,500	35,800	32,300	2,000	17,400	700
2041-42	3,600	19,000	17,800	36,800	33,200	2,000	17,900	500
2042-43	3,700	19,800	18,100	37,900	34,200	2,000	18,500	600

- (1) Some numbers do not reconcile properly due to rounding.
- (2) This average grant is strictly used for the purpose of calculating the net need, hence all students receiving a loan (including the 139,000 with a grant of \$0) are included in the calculation. The real average grant (paid only to grant recipients) would be \$2,738 in the 2017-18 loan year.
- (3) The loan amount paid by the federal Government represents 60% of the assessed need reduced by grants.
- (4) The reduction in expected average student net need is due to the planned 10% reduction of Ontario tuition fees for the 2019-20 school year (announced in the 2019 Ontario Budget).



3. Number of Students in the Canada Student Loans Program (CSLP)

The projected number of students in the CSLP is based on the expected future enrolment, as well as the future loan uptake rate. Table 6 shows the evolution of loan recipients over the 25-year projection period. An increase in the loan uptake rate is expected as tuition fees and other expenses grow at a faster pace than resources. This is mainly due to the minimum and maximum amounts of the fixed student contribution (\$1,500 and \$3,000) being kept constant over the entire projection period.

The product of the number of students enrolled full-time and the CSLP loan uptake rate gives the number of students in the CSLP. Table 6 shows that the loan uptake rate is expected to increase from 48.7% in 2017-18 to 56.3% in 2042-43, adding 176,000 students to the Program (from 592,000 students in 2017-18 to 768,000 in 2042-43). The number of students in the CSLP shown in Table 6 does not include the small number of students that only receives a CSG since their entire need is covered by the grant (no loans are issued to them). According to the ESDC data file, the total number of students who received a grant in the 2017-18 loan year is 490,000. The majority of grant recipients (92%) received both a loan and a grant.

Table 6 Loan Recipients

Loan Year	Students Enrolled Full-Time (thousands)	Loan Uptake Rate (%)	Students in CSLP (thousands)	Annual Increase in CSLP Students (thousands)	Annual Increase in CSLP Students (%)
	(1)	(2)	(1) x (2)		
2017-18	1,216	48.7	592		
2018-19	1,230	51.4	632	40	6.7
2019-20	1,238	52.2	646	14	2.2
2020-21	1,233	52.7	650	4	0.7
2021-22	1,231	52.9	651	1	0.2
2022-23	1,229	53.1	653	2	0.3
2023-24	1,226	53.4	654	1	0.2
2024-25	1,226	53.6	657	3	0.5
2025-26	1,226	53.9	660	3	0.5
2026-27	1,230	54.1	666	5	0.8
2027-28	1,237	54.3	672	7	1.0
2028-29	1,245	54.6	679	7	1.1
2029-30	1,253	54.7	685	6	0.9
2030-31	1,263	54.8	692	7	1.0
2031-32	1,270	54.9	697	5	0.8
2032-33	1,276	55.0	702	5	0.7
2033-34	1,282	55.2	707	5	0.7
2034-35	1,288	55.5	716	8	1.2
2035-36	1,296	55.8	723	7	1.0
2036-37	1,306	55.9	730	7	1.0
2037-38	1,316	56.0	737	7	0.9
2038-39	1,326	56.1	743	6	0.9
2039-40	1,335	56.1	749	6	0.8
2040-41	1,343	56.2	755	5	0.7
2041-42	1,354	56.3	762	7	0.9
2042-43	1,363	56.3	768	6	0.8



4. New Loans Issued

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

Impact of Student Need on Loans Issued

An increasing student need puts growing pressure on new loans issued since more students become eligible for a loan and previously eligible students qualify for a larger loan. Table 7 shows that the average student need is projected to increase from \$17,500 in 2017-18 to \$34,200 in 2042-43.

Impact of Grants on Loans Issued

The CSG introduced in the 2009-10 loan year alleviates the financial needs of many students, thus reducing the amount of loans issued by the Program. Since the 2017-18 loan year, the eligibility to CSG has been expanded as the former low- and middle-income cut-offs were replaced by a single progressive threshold based on income and family size.

The amount of grants disbursed is expected to increase from \$1,365 million in 2017-18 to \$1,601 million in 2018-19. Part of this increase is due to the increased eligibility for CSGs for part-time students and students with dependent children as well as the introduction of the adult learners' three-year pilot project. Ultimately, the amount of grants disbursed is projected to be \$1,629 million in 2042-43. Table 15 shows the amount of grants and Appendix 1 contains a description of the CSGs.

Impact of Loan Limit on Loans Issued

A constant loan limit (currently \$210 per week) restricts the growth of new loans issued. Over time, more students reach the loan limit without their needs being completely fulfilled.

As shown in Table 7, in the 2017-18 loan year, the percentage of students at the loan limit is 42.1%; it is projected to increase to 43.6% in 2018-19 and to 91.9% in 2042-43. This large increase can be attributed not only to the \$210 loan limit per week, but also to the fact that resources considered in the need assessment process increase at a slower pace than the students' costs. This is a result of the maximum annual amount of \$3,000 imposed on the students' contribution, which ranges from \$1,500 to \$3,000.



ACTUARIAL REPORT

CANADA STUDENT LOANS PROGRAM

as at 31 July 2018

Table 7 Increase in New Loans Issued

Loan Year	Average Student Need (\$)	Increase (%)	% of Students at Limit ⁽¹⁾	New Loans Issued (\$ million)	Increase (%)	Students in CSLP (thousands)	Increase (%)	Average Loan Size (\$)	Increase (%)
2017-18	17,500		42.1	(1) 3,358		(2) 592		(1) / (2) 5,672	
2018-19	18,000	2.9	43.6	3,613	7.6	632	6.7	5,717	0.8
2019-20	17,800	-1.1 ⁽²⁾	43.0	3,672	1.6	646	2.2	5,687	-0.5
2020-21	18,000	1.1	44.9	3,743	1.9	650	0.7	5,759	1.3
2021-22	18,500	2.8	48.4	3,816	2.0	651	0.2	5,860	1.8
2022-23	19,100	3.2	51.0	3,891	2.0	653	0.3	5,960	1.7
2023-24	19,600	2.6	53.4	3,963	1.9	654	0.2	6,058	1.6
2024-25	20,100	2.6	55.8	4,044	2.0	657	0.5	6,151	1.5
2025-26	20,700	3.0	58.5	4,125	2.0	660	0.5	6,245	1.5
2026-27	21,300	2.9	61.0	4,214	2.2	666	0.8	6,332	1.4
2027-28	22,000	3.3	63.6	4,311	2.3	672	1.0	6,415	1.3
2028-29	22,600	2.7	66.1	4,412	2.3	679	1.1	6,494	1.2
2029-30	23,300	3.1	68.5	4,501	2.0	685	0.9	6,568	1.1
2030-31	24,000	3.0	70.9	4,592	2.0	692	1.0	6,636	1.0
2031-32	24,800	3.3	73.4	4,671	1.7	697	0.8	6,699	0.9
2032-33	25,400	2.4	75.8	4,746	1.6	702	0.7	6,757	0.9
2033-34	26,200	3.1	78.0	4,815	1.5	707	0.7	6,809	0.8
2034-35	26,900	2.7	80.2	4,905	1.9	716	1.2	6,855	0.7
2035-36	27,800	3.3	81.9	4,984	1.6	723	1.0	6,897	0.6
2036-37	28,600	2.9	83.8	5,064	1.6	730	1.0	6,936	0.6
2037-38	29,400	2.8	85.5	5,138	1.4	737	0.9	6,971	0.5
2038-39	30,400	3.4	86.9	5,206	1.3	743	0.9	7,002	0.4
2039-40	31,200	2.6	88.3	5,269	1.2	749	0.8	7,030	0.4
2040-41	32,300	3.5	89.6	5,326	1.1	755	0.7	7,055	0.3
2041-42	33,200	2.8	90.7	5,391	1.2	762	0.9	7,077	0.3
2042-43	34,200	3.0	91.9	5,446	1.0	768	0.8	7,095	0.3

- (1) The Percentage of Students at Limit represents the number of students with a weekly need of \$210 or more divided by the total number of students receiving a loan (students only receiving a grant are excluded from both the numerator and the denominator).
- (2) The reduction in expected average student net need is due to the planned 10% reduction of Ontario tuition fees for the 2019-20 school year (announced in the 2019 Ontario Budget).

Table 7 shows the annual increase in new loans issued over the 25-year projection period. Overall, the total new loans issued is expected to increase from \$3,358 million in 2017-18 to \$3,613 million in 2018-19. In 2042-43, projected new loans issued total \$5,446 million, which corresponds to an average annual increase of 1.95%. This average annual increase can be attributed to two factors: an average annual increase in the number of students in the CSLP of 1.05% and an average annual increase in the average loan size of 0.90% over the 25-year projection period. The average loan size is calculated as the ratio of new loans issued over the number of students in the CSLP. The growth rate of the average loan size is moderated due to the constant loan limit.

The total amount of new loans issued in 2017-18 can be reconciled as follow from the information contained in the Monthly Financial Information Schedule (MFIS).

	(\$ million)
Disbursements (full-time loans)	3,328.7
Disbursements (part-time loans)	23.0
Subtotal	3,351.7
CSG converted to loans	10.0
Loans converted to CSG	-3.3
Total	3,358.4



D. Portfolio Projections

This section presents projections of the portfolio for all three regimes described in Appendix 1, as well as projections of the three allowances under the direct loan regime. The amounts for loans in-study represent loans issued to students who are still in the post-secondary educational system. Interest on loans in-study is fully subsidized by the Government for students in the CSLP. Loans in repayment consist of outstanding loans consolidated by students with financial institutions (or the Government).

1. Guaranteed and Risk-Shared Regimes

The guaranteed and risk-shared regimes apply to loans issued before August 2000. Some loans in these regimes are still outstanding since there are still students under these regimes attending post-secondary institutions or repaying their loans. Table 8 presents the projections of the loans, separately for the guaranteed and risk-shared regimes, as well as the projection of defaulted risk-shared loans bought back by the Government (principal only). The projection of risk-shared impaired loans purchased by the Government is necessary to determine when the limit on the aggregate amount of outstanding loans prescribed through the *Canada Student Financial Assistance Regulations* will be reached, as presented in Table 14. The guaranteed and risk-shared regimes are gradually being phased out.

At the end of the 2017-18 loan year, the sum of all loans in default coming from the guaranteed and risk-shared regimes that are owned by the Government amounts to approximately \$210 million (principal and interest) but is subject to possible future recoveries. The guaranteed loans in default are not included in the projection of the guaranteed portfolio in Table 8. The Government sets up a separate allowance in the Public Accounts for those loan guarantees, as well as for risk-shared defaulted loans bought back by the Government. This provision calculation is not included in this report. Expenses related to Guaranteed and Risk-Shared Loans are presented in Table 15 and Table 16.

Table 8 Guaranteed and Risk-Shared Regimes Portfolio

As at July 31	Guaranteed			Risk-Shared			
	Loans In-Study (with financial institutions)	Loans in Repayment (\$ million)	Total	Loans In-Study (with financial institutions)	Loans in Repayment (\$ million)	Defaulted Loans (bought back by the Government)	Total
2018	0	2	3	2	783	45	829
2019	0	2	2	1	696	40	737
2020	-	1	1	1	604	36	641
2021	-	1	1	0	506	33	539
2022	-	1	1	0	399	29	429
2023	-	0	0	-	294	26	321
2024	-	-	-	-	202	23	225
2025	-	-	-	-	129	20	149
2026	-	-	-	-	82	16	99
2027	-	-	-	-	52	14	66
2028	-	-	-	-	33	11	45
2029	-	-	-	-	21	9	30
2030	-	-	-	-	14	4	18
2031	-	-	-	-	9	1	10
2032	-	-	-	-	6	0	6
2033	-	-	-	-	-	-	-



2. Direct Loan Regime

The projection of the direct loan portfolio includes the balance of outstanding loans (in-study and in repayment separately) and the balance of loans in default. There are two allowances for bad debt (principal and interest) to cover the risk of future default, net of recoveries, and an allowance for the RAP (principal) to cover the future cost of students benefiting from this program. The projection of the direct loan portfolio and allowances is shown in Table 9.

Table 9 Direct Loan Portfolio and Allowances

As at July 31	Principal only			Total	Allowance for		
	Loans In-Study	Loans in Repayment	Defaulted Loans		Bad Debt Principal	Bad Debt Interest	RAP – Principal
	(\$ million)				(\$ million)		
2018	7,379	9,810	2,148 ⁽¹⁾	19,337	2,472	231	1,469
2019	8,233	10,306	2,180	20,719	2,596	255	1,561
2020	8,836	10,894	2,229	21,959	2,718	262	1,634
2021	9,322	11,383	2,292	22,997	2,836	262	1,698
2022	9,711	11,895	2,362	23,969	2,952	261	1,755
2023	10,038	12,398	2,438	24,874	3,065	260	1,807
2024	10,325	12,882	2,524	25,731	3,178	261	1,857
2025	10,595	13,338	2,613	26,546	3,286	263	1,906
2026	10,853	13,770	2,703	27,327	3,394	269	1,956
2027	11,108	14,195	2,788	28,091	3,482	278	2,005
2028	11,369	14,618	2,872	28,859	3,582	292	2,056
2029	11,634	15,034	2,956	29,625	3,682	310	2,109
2030	11,892	15,438	3,039	30,368	3,782	330	2,162
2031	12,146	15,835	3,121	31,102	3,882	349	2,215
2032	12,384	16,220	3,205	31,810	3,979	367	2,267
2033	12,611	16,591	3,289	32,491	4,072	384	2,318
2034	12,825	16,949	3,367	33,141	4,159	399	2,366
2035	13,052	17,292	3,451	33,794	4,253	413	2,414
2036	13,276	17,628	3,532	34,436	4,345	427	2,461
2037	13,498	17,958	3,609	35,065	4,433	439	2,507
2038	13,714	18,282	3,686	35,681	4,520	451	2,552
2039	13,919	18,600	3,761	36,280	4,605	462	2,597
2040	14,113	18,909	3,836	36,858	4,689	473	2,639
2041	14,294	19,207	3,910	37,411	4,771	484	2,681
2042	14,475	19,493	3,983	37,952	4,852	494	2,721
2043	14,657	19,771	4,054	38,483	4,932	505	2,760

(1) Outstanding balance of defaulted loans based on the Departmental Account Receivable System (DARS) data file. There is a difference between the outstanding balance determined using the DARS data file and the outstanding balance shown in the “Detailed Age Analysis by Account Status” provided by ESDC. At the end of calendar year 2018, this difference is about \$7 million (0.3%).

The outstanding direct loans portfolio is projected to increase rapidly from \$19.3 billion as at 31 July 2018 to \$24.9 billion five years later. By the end of the 2042-43 loan year, the portfolio is projected to reach \$38.5 billion.



As at 31 July 2018, the outstanding direct loan portfolio is \$19.3 billion and is retrospectively derived from the experience during loan years 2000-01 to 2017-18 as follow:

New loans issued	\$39.3 billion
Plus the interest accrued during the non-repayment period	\$ 1.2 billion
Minus repayments ¹	\$19.6 billion
Minus loans forgiven and debt reductions in repayment ²	\$ 0.6 billion
Minus defaulted loans written-off	\$ 1.0 billion
	\$19.3 billion

The remainder of subsection 2 provides detailed information on the three allowances.

Allowance for Bad Debt – Principal

Table 10 provides the calculation details for the projection of the defaulted loans portfolio and the allowance for bad debt – principal under the direct loan regime.

Table 10 Defaulted Loans and Allowance for Bad Debt – Principal									
Loan Year	Defaulted Loans Portfolio (Principal only)					Allowance for Bad Debt – Principal			
	Balance 1 August	Defaulted Loans ⁽¹⁾	Collected Loans	Write- offs	Balance 31 July	Allowance 1 August	Write- offs	Allowance 31 July	Yearly Expense
	(\$ million)					(\$ million)			
	(1)	(2)	(3)	(4)	(1+2) - (3+4)	(1)	(2)	(3)	(3) - (1 - 2)
2017-18	2,149	268	114	155	2,148	2,538	155	2,472	89
2018-19	2,148	266	108	126	2,180	2,472	126	2,596	250
2019-20	2,180	289	109	130	2,229	2,596	130	2,718	253
2020-21	2,229	314	110	141	2,292	2,718	141	2,836	258
2021-22	2,292	331	112	148	2,362	2,836	148	2,952	264
2022-23	2,362	348	116	156	2,438	2,952	156	3,065	270
2023-24	2,438	364	114	164	2,524	3,065	164	3,178	276
2024-25	2,524	378	115	173	2,613	3,178	173	3,286	282
2025-26	2,613	390	119	181	2,703	3,286	181	3,394	288
2026-27	2,703	401	122	194	2,788	3,394	194	3,482	283
2027-28	2,788	412	127	201	2,872	3,482	201	3,582	301
2028-29	2,872	422	132	207	2,956	3,582	207	3,682	308
2029-30	2,956	433	136	214	3,039	3,682	214	3,782	314
2030-31	3,039	444	141	220	3,121	3,782	220	3,882	320
2031-32	3,121	457	145	229	3,205	3,882	229	3,979	326
2032-33	3,205	470	149	238	3,289	3,979	238	4,072	331
2033-34	3,289	480	153	248	3,367	4,072	248	4,159	336
2034-35	3,367	490	158	248	3,451	4,159	248	4,253	342
2035-36	3,451	499	162	256	3,532	4,253	256	4,345	348
2036-37	3,532	508	165	265	3,609	4,345	265	4,433	353
2037-38	3,609	517	169	271	3,686	4,433	271	4,520	358
2038-39	3,686	526	173	277	3,761	4,520	277	4,605	363
2039-40	3,761	534	176	284	3,836	4,605	284	4,689	367
2040-41	3,836	543	179	289	3,910	4,689	289	4,771	371
2041-42	3,910	551	183	295	3,983	4,771	295	4,852	376
2042-43	3,983	559	186	301	4,054	4,852	301	4,932	381

(1) This amount is net of rehabilitations, recalls and other adjustments that occurred during the year.

The balance of loans in default (principal only) was \$2,148 million as at 31 July 2018. The defaulted loans portfolio is projected to reach \$4,054 million by the end of the projection period.

¹ Either prepayments while in-study, normal and accelerated payments while in repayment, affordable payments while in RAP, or recoveries while in default.

² Under the former Debt Reduction in Repayment (DRR) or the Repayment Assistance Plan (RAP) measures.



As shown in Table 10, an amount of \$155 million was written-off in 2017-18. The amount of write-offs in 2018-19 is \$126 million and includes all the non-recoverable loans that were identified and approved for write-off by ESDC and CRA between July 2017 and June 2018. These write-offs were approved on 20 March 2019, via Royal Assent of Bill C-95 (Appropriation Act No. 4, 2018-19). The decision to write off particular loans is part of a multi-step process inevitably resulting in some volatility in the actual amount written off from year to year.

The allowance for bad debt – principal covers the risk of future defaults, net of recoveries. It is estimated at \$2,472 million as at 31 July 2018, which is lower than the \$2,643 million projected in the previous statutory report. For the 2017-18 loan year, the yearly expense for the allowance for bad debt – principal is \$89 million and corresponds to the difference between the new allowance of \$2,472 million and the total allowance of \$2,538 million at the beginning of the loan year, net of the loans written-off, which totalled \$155 million in the 2017-18 loan year [$\$89\text{M} = \$2,472\text{M} - (\$2,538\text{M} - \$155\text{M})$].

For the **Public Accounts**, the allowance as at 31 March 2019 is determined using the outstanding balance of portfolio and the corresponding provision rates for the 2018-19 loan year according to the status of the loans as follows:

- 7.1% of the outstanding balance of loans in-study, which is \$8,413 million as at 31 March 2019;
- 3.5% of the outstanding balance of loans in repayment, which is \$10,501 million as at 31 March 2019; and
- 76.5% of the outstanding balance of loans in default, which is \$2,138 million as at 31 March 2019.

The resulting allowance as at 31 March 2019 is \$2,600 million. The allowance can be determined at any month end through the loan year by using the outstanding balance of loans at that time and the above-mentioned provision rates.

All allowances for the Public Accounts as at 31 March 2019 were determined before the incorporation of the measures from Budget 2019. However, the implementation dates for these measures were confirmed before the report was completed. Therefore, they were incorporated in the results of this report. These modifications affect the calculation of the Bad Debt – Principal allowance since there is less interest accrued to consider between the end of the study period and the loans consolidation. Consequently, the provision rate on the outstanding balance of loans in-study for the calculation of the allowance in this report is slightly lower than the one used for Public Accounts purposes as at 31 March 2019. The rates correspond to:

- 6.9% of the outstanding balance of loans in-study;
- 3.5% of the outstanding balance of loans in repayment; and
- 76.5% of the outstanding balance of loans in default.

The long-term provision rates used in this report can be found in Appendix 3.

Allowance for Bad Debt – Interest

In accordance with the collection practice, interest accrues on defaulted loans until they reach a “non-recoverable” status. A provision is set to cover the risk that such accrued interest will never be recovered. The methodology used is the same as in the previous report. Provision rates are



modified to take into account recent experience. The allowance for bad debt – interest on recoverable accounts is determined using the outstanding interest and a variable provision rate for each year since default. The provision rates are presented in Appendix 3 (Table 25).

The projection of the balance of interest on defaulted loans is presented in Table 11.

Table 11 Interest on Defaulted Loans and Allowance for Bad Debt – Interest

Loan Year	Interest on Defaulted Loans						Allowance for Bad Debt – Interest			
	Balance August 1	Interest			Write-offs	Balance July 31	Allowance August 1	Write-offs	Allowance July 31	Yearly expense
		Transferred in Default ⁽¹⁾	Interest Accrued	Interest Collected						
(1)	(2)	(3)	(4)	(5)	(1+2+3) - (4+5)	(1)	(2)	(3)	(3) - (1-2)	
2017-18	326	8	113	68	45	334	224	45	231	52
2018-19	334	14	122	70	36	364	231	36	255	60
2019-20	364	11	89	65	37	362	255	37	262	44
2020-21	362	10	79	59	39	353	262	39	262	39
2021-22	353	11	80	57	40	348	262	40	261	39
2022-23	348	12	82	56	41	345	261	41	260	39
2023-24	345	13	88	57	41	347	260	41	261	42
2024-25	347	14	94	59	42	353	261	42	263	45
2025-26	353	14	100	62	41	364	263	41	269	48
2026-27	364	15	109	66	43	378	269	43	278	52
2027-28	378	16	118	71	42	400	278	42	292	56
2028-29	400	17	122	75	40	424	292	40	310	58
2029-30	424	17	126	78	39	450	310	39	330	60
2030-31	450	18	130	81	43	474	330	43	349	61
2031-32	474	18	134	84	46	497	349	46	367	63
2032-33	497	19	138	86	49	518	367	49	384	66
2033-34	518	19	142	89	52	538	384	52	399	68
2034-35	538	20	146	92	55	556	399	55	413	69
2035-36	556	20	149	94	58	573	413	58	427	72
2036-37	573	20	153	96	61	589	427	61	439	73
2037-38	589	21	156	98	63	605	439	63	451	75
2038-39	605	21	159	101	65	619	451	65	462	77
2039-40	619	21	163	103	67	634	462	67	473	78
2040-41	634	22	166	105	69	647	473	69	484	80
2041-42	647	22	169	106	71	661	484	71	494	81
2042-43	661	22	172	108	73	674	494	73	505	83

(1) This amount is net of rehabilitations, recalls and other adjustments that occurred during the year.

When a loan is transferred to the Government after nine months without a payment, it comes with an interest portion that generally represents slightly more than nine months of interest accrued on the defaulted principal transferred. Table 11 shows that \$8 million of interest was returned to the Government in the 2017-18 loan year, along with the newly defaulted principal portion of the loans. An additional amount of \$113 million in interest was accrued during the 2017-18 loan year on the principal balance of the recoverable defaulted loans portfolio at the beginning of the loan year.

Once loans are in default, CRA collects money for their repayment on behalf of the CSLP. These collections are first applied to the interest portion of defaulted loans. As such, an amount of \$68 million was recovered in the 2017-18 loan year.

Finally, when a loan meets certain criteria and has exceeded the six-year limitation period, the interest amounts are also considered for write-off. In the 2017-18 loan year, \$45 million in interest was written off. As shown in Table 11, the balance of interest in default was



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\$326 million at the beginning of the 2017-18 loan year and it increased to \$334 million as at 31 July 2018. The balance of interest in default is projected to increase to \$674 million by the end of the projection period.

The allowance for bad debt – interest is estimated at \$231 million as at 31 July 2018, which is slightly higher than the \$226 million projected in the previous report. This change is due to the increase in non-recoverable interest. For the 2017-18 loan year, the yearly expense of \$52 million corresponds to the difference between the allowance of \$231 million as at 31 July 2018 and the allowance of \$224 million at the beginning of the loan year, net of interest written off during the 2017-18 loan year, which totaled \$45 million [$52\$M = \$231M - (\$224M - \$45M)$].

For the **Public Accounts**, the allowance as at 31 March 2019 is determined using the outstanding balance of accrued interest on recoverable defaulted loans according to the year since default and the corresponding provision rates shown in Appendix 3 (Table 25). The resulting allowance as at 31 March 2019 is \$240 million.

Allowance for the Repayment Assistance Plan – Principal

Table 12 provides the calculation details for the projection of the allowance for the Repayment Assistance Plan (RAP) under the direct loan regime.

Table 12 Allowance for Repayment Assistance Plan – Principal

Loan Year	Allowance 1 August	RAP Expenses	Allowance 31 July	Yearly Expense
	(\$ million)	(\$ million)	(\$ million)	(\$ million)
	(1)	(2)	(3)	(3) - (1-2)
2017-18	1,213	90	1,469	346
2018-19	1,469	101	1,561	193
2019-20	1,561	118	1,635	192
2020-21	1,635	131	1,698	195
2021-22	1,698	142	1,755	199
2022-23	1,755	151	1,807	203
2023-24	1,807	156	1,857	206
2024-25	1,857	162	1,906	210
2025-26	1,906	168	1,956	218
2026-27	1,956	172	2,005	220
2027-28	2,005	175	2,056	226
2028-29	2,056	178	2,109	231
2029-30	2,109	182	2,162	235
2030-31	2,162	186	2,215	240
2031-32	2,215	191	2,267	243
2032-33	2,267	197	2,318	247
2033-34	2,318	202	2,366	250
2034-35	2,366	207	2,414	255
2035-36	2,414	212	2,461	259
2036-37	2,461	217	2,507	263
2037-38	2,507	222	2,552	267
2038-39	2,552	227	2,597	271
2039-40	2,597	231	2,639	274
2040-41	2,639	236	2,681	277
2041-42	2,681	240	2,721	280
2042-43	2,721	244	2,760	284

Effective August 2009, the RAP replaced the Interest Relief (IR) and Debt Reduction in Repayment (DRR) measures. Table 12 shows the projection of the allowance for the principal portion of the required payment paid by the Government under Stage 2, including the RAP for



borrowers with permanent disabilities (RAP-PD). For the RAP – interest, a provision is determined by ESDC for accounting purposes to take into account the timing of the interest accrued.

As with the allowance for bad debt – principal, the methodology used to determine the provision rate for the RAP – principal is based on a snapshot of the portfolio at a given time and takes into account the status of the loans along with the corresponding level of risk for each status. Two of the RAP provision rates have been revised upward compared with the previous report. This increase is attributable to recent experience following the change in repayment thresholds that took place on 1 November 2016.

As shown in Table 12, the allowance for the RAP – principal is estimated at \$1,469 million as at 31 July 2018, which is higher than the \$1,297 million projected in the previous report. This increase is mainly due to change in methodology and updated assumptions to better reflect the movement in and out of the RAP-Stage 2. For the 2017-18 loan year, the yearly expense for the RAP – principal allowance is \$346 million; it corresponds to the difference between the new allowance of \$1,469 million and the allowance of \$1,213 million at the beginning of the loan year, net of the portion of loans paid by the Government under the RAP-Stage 2 and RAP-PD, which totalled \$90 million in the 2017-18 loan year [$\$346\text{M} = \$1,469\text{M} - (\$1,213\text{M} - \$90\text{M})$].

For the **Public Accounts**, the allowance as at 31 March 2019 is determined using the outstanding portfolio balances with their corresponding provision rates:

- 5.2% on the balance of loans in-study, which is \$8,413 million as at 31 March 2019;
- 1.9% on the balance of loans in repayment (reduced by loans in the RAP – all stages), which is \$6,622 million as at 31 March 2019; and
- 23.8% on the balance of loans in the RAP (all stages), which is \$3,879 million as at 31 March 2019.

The resulting allowance as at 31 March 2019 is \$1,487 million. Compared with loans in-study, the portfolio of loans in repayment includes cohorts of loans for which partial reimbursements have already occurred, as well as some defaults and utilization of the RAP, resulting in a lower risk for the remaining loans and consequently a lower required provision rate. The highest risk for the RAP comes from the portfolio of loans already in the RAP (Stages 1, 2 and PD). As the RAP is still relatively new, provision rates may require further adjustments in the future as experience emerges.

All allowances for the Public Accounts as at 31 March 2019 were determined before the incorporation of the measures from Budget 2019. However, the implementation dates for these measures were confirmed before the report was completed. Therefore, they were incorporated in the results of this report. These modifications affect the calculation of the RAP allowance since by lowering the interest rate, the principal portion payable in earlier years increases; this principal portion is largely paid by the government in both RAP Stage 2 and RAP-PD, hence the liability for the government increases. Therefore, the provision rates used for the calculation of the allowances in this report are slightly different than those used for Public Accounts purposes as at 31 March 2019. They correspond to:

- 5.3% for loans in-study,
- 2.0% for loans in repayment (net of loans in the RAP), and
- 24.8% for loans in the RAP (all stages combined).



For comparison purposes, Table 13 shows the direct loan portfolio and allowances in 2018 constant dollars.

Table 13 Direct Loan Portfolio and Allowances (in millions of 2018 constant dollars)⁽¹⁾

As at July 31	Principal only				Allowance for		
	Loans In-study	Loans in Repayment	Defaulted Loans	Total	Bad Debt Principal	Bad Debt Interest	RAP – Principal
	(\$ million)				(\$ million)		
2018	7,379	9,810	2,148	19,337	2,472	231	1,469
2019	8,068	10,103	2,136	20,307	2,544	250	1,530
2020	8,489	10,469	2,142	21,100	2,612	252	1,570
2021	8,780	10,724	2,159	21,663	2,671	247	1,600
2022	8,967	10,986	2,182	22,135	2,725	241	1,621
2023	9,087	11,226	2,208	22,520	2,775	235	1,636
2024	9,164	11,435	2,240	22,839	2,820	231	1,649
2025	9,219	11,607	2,274	23,100	2,860	229	1,659
2026	9,259	11,748	2,306	23,313	2,895	230	1,669
2027	9,290	11,872	2,332	23,494	2,912	232	1,677
2028	9,322	11,986	2,355	23,663	2,937	239	1,686
2029	9,353	12,086	2,376	23,815	2,960	249	1,695
2030	9,372	12,167	2,395	23,934	2,981	260	1,704
2031	9,385	12,235	2,412	24,031	2,999	270	1,712
2032	9,381	12,287	2,428	24,096	3,014	278	1,718
2033	9,366	12,322	2,442	24,130	3,024	285	1,721
2034	9,338	12,340	2,451	24,130	3,028	291	1,723
2035	9,317	12,343	2,463	24,123	3,036	295	1,723
2036	9,291	12,337	2,472	24,099	3,041	299	1,722
2037	9,261	12,321	2,476	24,058	3,041	301	1,720
2038	9,224	12,297	2,479	24,001	3,040	303	1,717
2039	9,179	12,266	2,481	23,925	3,037	305	1,712
2040	9,124	12,225	2,480	23,830	3,032	306	1,706
2041	9,060	12,174	2,478	23,713	3,024	307	1,699
2042	8,995	12,114	2,475	23,584	3,015	307	1,691
2043	8,930	12,045	2,470	23,445	3,004	307	1,681

(1) For a given year, the value in 2018 constant dollars is equal to the corresponding value divided by the cumulative index of the Consumer Price Index (CPI) for that year.

3. Limit on the Aggregate Amount of Outstanding Loans

The *Canada Student Financial Assistance Regulations* (CSFAR) imposes a limit on the aggregate amount of outstanding loans in the CSLP. The limit was increased from \$24 billion to \$34 billion in June 2019. Table 14 presents the projection of the aggregate amount of outstanding loans. The aggregate amount of outstanding direct loans includes the principal portion of all direct loans disbursed and not yet repaid, which consists of the total principal amount of loans in study, loans in repayment and loans in default. The aggregate amount of outstanding risk-shared loans includes the principal portion of risk-shared student loans bought back by the Government from financial institutions. Collection activities are performed on these risk-shared loans by the Government.

In comparison with Tables 8 and 9, which shows the projection of the loan portfolio at the end of loan years, Table 14 presents the estimated peak of the portfolio during the loan year. Monthly fluctuations throughout the year cause the aggregate amount of loans to be lower both at the beginning and at the end of the loan year. The peak occurs in the middle of the loan year and is 3% to 5% higher than the aggregate amount at the end of the loan year. Table 9 shows an aggregate amount of outstanding direct loans of \$19.3 billion as at 31 July 2018. Table 14 shows



that the aggregate amount of outstanding direct loans reached \$20.1 billion in January 2018 and \$21.3 billion in January 2019.

The projection shows that the \$34 billion limit is expected to be reached during the 2033-2034 loan year if Program’s provisions don’t change and assumptions materialize.

Table 14 Aggregate Amount of Outstanding Student Loans

Loan Year	Estimated Peak During the Loan Year (January)		Total
	Direct Loans	Risk-Shared Loans	
	(\$ million)	(\$ million)	(\$ million)
2017-18	20,069	47	20,116
2018-19	21,339	43	21,381
2019-20	22,668	38	22,706
2020-21	23,819	35	23,853
2021-22	24,850	31	24,881
2022-23	25,816	28	25,844
2023-24	26,725	25	26,749
2024-25	27,591	21	27,612
2025-26	28,418	18	28,437
2026-27	29,227	15	29,242
2027-28	30,028	13	30,041
2028-29	30,832	10	30,842
2029-30	31,620	7	31,627
2030-31	32,392	3	32,395
2031-32	33,142	1	33,143
2032-33	33,866	0	33,866
2033-34	34,560	0	34,560
2034-35	35,241	-	35,241
2035-36	35,919	-	35,919
2036-37	36,586	-	36,586
2037-38	37,237	-	37,237
2038-39	37,869	-	37,869
2039-40	38,482	-	38,482
2040-41	39,069	-	39,069
2041-42	39,641	-	39,641
2042-43	40,202	-	40,202



E. Projection of the Net Cost of the Program

1. Student Related Expenses

The primary expense of the CSLP is the cost of supporting students during their study and repayment periods. This expense, presented in Table 15, includes the following:

- Interest subsidy, which corresponds to the cost of borrowing incurred by the Government while borrowers are in school or in the six-month non-repayment period between the end of study and the consolidation;
- Interest portion of the Repayment Assistance Plan (RAP) paid by the Government;
- Provision or expenses for the RAP – principal under the different regimes; and
- CSG.

Table 15 Student Related Expenses

Loan Year	Direct Loan			Risk-Shared and Guaranteed Loans		Canada Student Grants	Total
	Interest Subsidy	RAP – Interest	Provision RAP – Principal	Interest Subsidy	RAP – Interest and Principal		
	(\$ million)			(\$ million)		(\$ million)	(\$ million)
2017-18	164.4	222.8	346.3	0.1	6.7	1,364.9	2,105.3
2018-19	180.7	269.1	193.1	0.0	5.9	1,600.8	2,249.7
2019-20	242.1	200.0	192.0	0.0	5.3	1,611.1	2,250.5
2020-21	275.8	183.4	195.2	-	4.6	1,605.3	2,264.3
2021-22	308.6	190.5	198.9	-	3.8	1,484.7	2,186.6
2022-23	340.8	198.8	202.6	-	3.0	1,484.4	2,229.7
2023-24	372.8	216.6	206.3	-	2.2	1,482.8	2,280.8
2024-25	394.0	229.3	210.4	-	1.5	1,481.7	2,316.9
2025-26	426.8	241.7	217.8	-	1.0	1,479.6	2,366.8
2026-27	460.5	259.6	220.1	-	0.6	1,497.5	2,438.3
2027-28	483.3	272.3	225.7	-	0.4	1,503.3	2,485.0
2028-29	519.4	285.3	231.0	-	0.3	1,511.4	2,547.3
2029-30	531.0	292.5	235.2	-	0.2	1,519.2	2,578.0
2030-31	542.5	299.7	239.6	-	0.1	1,530.8	2,612.7
2031-32	553.3	306.9	243.3	-	0.0	1,536.7	2,640.2
2032-33	563.6	314.0	246.9	-	-	1,542.7	2,667.2
2033-34	573.3	320.8	250.2	-	-	1,547.7	2,692.1
2034-35	583.4	327.4	254.8	-	-	1,554.6	2,720.1
2035-36	593.4	333.9	259.0	-	-	1,561.3	2,747.6
2036-37	603.4	340.3	263.4	-	-	1,570.5	2,777.6
2037-38	613.2	346.5	267.3	-	-	1,580.4	2,807.5
2038-39	622.5	352.7	270.9	-	-	1,589.6	2,835.6
2039-40	631.3	358.7	274.0	-	-	1,598.5	2,862.4
2040-41	639.5	364.5	276.8	-	-	1,605.7	2,886.5
2041-42	647.7	370.2	280.1	-	-	1,617.9	2,915.9
2042-43	655.8	375.6	283.5	-	-	1,629.2	2,944.1

In the 2017-18 loan year, a total of \$1,365 million of CSGs were disbursed. It is projected to increase to \$1,601 million in 2018-19 due to increased eligibility for CSGs for part-time students and students with dependent children as well as the introduction of the three-year pilot project that provides a top-up grant to adult learners. The total amount of grants is then projected to reach \$1,629 million by the end of the projection period. Monthly grant amounts are set in the *Canada Student Financial Assistance Regulations* and are assumed to remain constant for the entire projection period for the purpose of this evaluation.



2. Program Risk Expenses

Another expense for the Government corresponds to the risk that loans will never be repaid. This includes the risk of loan default and the risk of loans being forgiven upon a student's death or severe permanent disability. Loans forgiven for family physicians and nurses practicing in underserved rural or remote communities are also included in Table 16 below.

Table 16 Risks to the Government

Loan Year	Direct Loan		Risk-Shared	Guaranteed	Loans Forgiven (\$ million)	Total (\$ million)
	Provision for Bad Debt Principal	Interest	Risk Premium, Put-Backs & Refunds to FIs (\$ million)	Claims for Defaulted Loans (\$ million)		
2017-18	89.2	51.6	1.4	1.3	49.7	193.1
2018-19	250.0	59.8	0.7	0.2	46.2	356.9
2019-20	252.8	44.3	0.6	0.1	46.6	344.4
2020-21	258.2	38.7	0.5	0.1	49.2	346.7
2021-22	264.1	38.7	0.4	0.1	51.1	354.4
2022-23	270.3	39.3	0.3	0.0	51.0	360.9
2023-24	276.4	42.1	0.3	-	52.8	371.5
2024-25	282.2	44.6	0.2	-	54.8	381.8
2025-26	287.8	47.6	0.1	-	56.9	392.4
2026-27	282.8	51.6	0.1	-	59.1	393.5
2027-28	300.6	55.9	0.1	-	61.3	417.8
2028-29	307.6	57.9	-	-	63.7	429.2
2029-30	313.8	59.7	-	-	66.1	439.6
2030-31	320.1	61.5	-	-	68.5	450.2
2031-32	325.6	63.4	-	-	71.1	460.2
2032-33	330.9	65.5	-	-	73.7	470.2
2033-34	335.8	67.5	-	-	76.4	479.7
2034-35	342.0	69.4	-	-	79.2	490.6
2035-36	347.6	71.5	-	-	82.1	501.2
2036-37	353.2	72.5	-	-	85.1	510.7
2037-38	358.3	75.1	-	-	88.1	521.5
2038-39	363.0	76.7	-	-	91.3	531.0
2039-40	367.4	78.3	-	-	94.5	540.2
2040-41	371.4	79.8	-	-	97.9	549.1
2041-42	376.0	81.3	-	-	101.3	558.6
2042-43	380.6	82.8	-	-	104.9	568.3

Under the direct loan regime, the provisions for bad debt (principal and interest) represent the cost of the default risk assumed by the Government in directly disbursing loans to students.

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

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



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

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

Loans forgiven correspond to loans that are forgiven (principal only) following the death or severe permanent disability of a borrower during the period of study, repayment, or even after the loan has been transferred to default status. As of August 2009, loans forgiven for disability are limited to borrowers who, due to their severe permanent disability, are unable to pay their loans and will never be able to repay them. Borrowers with a permanent disability who do not qualify for loan forgiveness could be eligible for the RAP for Borrowers with Permanent Disabilities (RAP-PD). Loans forgiven also include the projection of forgiveness of a portion of loans for family physicians and nurses who practice in under-served rural or remote communities. This measure was implemented on 1 January 2013.

3. Other Expenses

Alternative payments are made directly to Québec, the Northwest Territories, and Nunavut, as they do not participate in the CSLP. The calculation of alternative payments is based on expenses and revenues for a given loan year and the payment is accounted for in the following loan year.

The administrative expenses include fees paid to the participating provinces and to the Yukon Territory as well as general administrative fees. Fees are paid to the participating provinces and to the Yukon Territory to administer certain aspects of the CSLP. Budget 2019 announced increased compensation to participating provinces and territory by \$4,0 million per year, starting in 2019-2020, to compensate for the partner's costs stemming from Budget 2019's proposed changes. The general administrative fees represent the expenses incurred by the departments involved and fees paid to the National Student Loans Service Centre (NSLSC), which is responsible for the administration of student loans and grants. The NSLSC is run by a private entity contracted by the Government. All collection activities on defaulted loans are fulfilled by CRA and a cost is included in the projected general administrative fees for this purpose.

As shown in Table 17, total expenses associated with the Program increase from \$2.8 billion in 2017-18 to \$4.8 billion in 2042-43. On average, total expenses are projected to increase at an annual rate of 2.1%.



Table 17 Summary of Expenses

Loan Year	Student Related Expenses (\$ million)	Risks to the Government (\$ million)	Alternative Payments ⁽¹⁾ (\$ million)	Administrative Expenses		Total Expenses (\$ million)
				Fees Paid to Provinces (\$ million)	General	
2017-18	2,105.3	193.1	338.6	20.5	148.5	2,805.9
2018-19	2,249.7	356.9	456.7	21.0	152.2	3,236.5
2019-20	2,250.5	344.4	511.3	25.6	157.3	3,289.1
2020-21	2,264.3	346.7	588.5	26.3	158.6	3,384.4
2021-22	2,186.6	354.4	621.2	27.0	163.4	3,352.6
2022-23	2,229.7	360.9	611.3	27.7	168.5	3,398.0
2023-24	2,280.8	371.5	632.0	28.4	173.7	3,486.4
2024-25	2,316.9	381.8	652.6	29.3	179.1	3,559.7
2025-26	2,366.8	392.4	671.2	30.2	184.7	3,645.3
2026-27	2,438.3	393.5	696.7	31.1	190.4	3,750.1
2027-28	2,485.0	417.8	725.8	32.1	196.4	3,857.1
2028-29	2,547.3	429.2	748.0	33.1	202.5	3,960.2
2029-30	2,578.0	439.6	779.6	34.2	208.8	4,040.2
2030-31	2,612.7	450.2	801.1	35.2	215.4	4,114.6
2031-32	2,640.2	460.2	822.3	36.3	222.1	4,181.1
2032-33	2,667.2	470.2	838.9	37.5	229.0	4,242.7
2033-34	2,692.1	479.7	851.1	38.6	236.2	4,297.7
2034-35	2,720.1	490.6	857.5	39.8	243.5	4,351.7
2035-36	2,747.6	501.2	863.3	41.1	251.1	4,404.3
2036-37	2,777.6	510.7	868.1	42.4	259.0	4,457.7
2037-38	2,807.5	521.5	871.7	43.7	267.1	4,511.3
2038-39	2,835.6	531.0	875.7	45.0	275.4	4,562.7
2039-40	2,862.4	540.2	878.7	46.5	284.0	4,611.7
2040-41	2,886.5	549.1	883.9	47.9	292.9	4,660.3
2041-42	2,915.9	558.6	890.9	49.4	302.0	4,716.7
2042-43	2,944.1	568.3	896.9	50.9	311.4	4,771.6

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

4. Total Revenue

Interest revenues from the direct loan regime (shown in Table 18) include:

- Interest earned from student loans in repayment;
- Interest accrued during the six-month non-repayment period following the study end date (which will be eliminated on 1 November 2019); and
- Interest accrued on defaulted loans and the interest portion of the RAP.

These interest revenues are net of interest on loans forgiven. They are also reduced by the Government’s cost of borrowing for loans in repayment and in default (only for the interest accrued expected to be recovered). The difference results in net interest revenues. It is worth noting that the interest on defaulted direct loans is accrued until the status of the loans becomes “non-recoverable”.

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

Total revenues are expected to decrease significantly in 2019-20 and 2020-21 following the reduction of student interest rate and the elimination of the interest during the non-repayment



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period, both effective as of 1 November 2019. Total revenues are projected to increase at an average rate of 0.7% per year over the remaining 22 years of the projection.

Table 18 Total Revenues

Loan Year	Direct Loan			Risk-Shared Principal and Interest from Recovery	Guaranteed Principal and Interest from Recovery	Total Revenues
	Interest Revenues	Borrowing Cost	Net Interest Revenues			
	(\$ million)		(\$ million)	(\$ million)	(\$ million)	(\$ million)
2017-18	751.4	-225.6	525.7	4.2	6.3	536.3
2018-19	873.6	-226.2	647.5	3.3	4.7	655.5
2019-20	661.6	-293.4	368.2	2.6	3.5	374.3
2020-21	521.7	-330.5	191.2	1.9	2.9	196.0
2021-22	541.7	-369.6	172.1	1.4	1.5	175.0
2022-23	563.7	-411.2	152.5	1.3	1.1	154.9
2023-24	614.4	-454.7	159.7	1.1	0.4	161.2
2024-25	652.2	-485.5	166.7	1.0	0.2	167.9
2025-26	690.3	-530.6	159.7	0.8	0.0	160.5
2026-27	745.0	-577.1	167.9	0.4	-	168.2
2027-28	787.6	-610.1	177.4	0.3	-	177.7
2028-29	825.6	-659.3	166.3	0.0	-	166.3
2029-30	848.6	-677.6	171.0	0.0	-	171.0
2030-31	871.5	-695.6	175.9	-	-	175.9
2031-32	894.0	-713.2	180.8	-	-	180.8
2032-33	915.9	-730.1	185.8	-	-	185.8
2033-34	937.0	-746.4	190.6	-	-	190.6
2034-35	957.3	-762.2	195.2	-	-	195.2
2035-36	977.1	-777.2	199.9	-	-	199.9
2036-37	996.5	-792.8	203.7	-	-	203.7
2037-38	1,015.4	-806.7	208.7	-	-	208.7
2038-39	1,033.8	-821.0	212.8	-	-	212.8
2039-40	1,051.8	-835.0	216.8	-	-	216.8
2040-41	1,068.7	-848.5	220.2	-	-	220.2
2041-42	1,086.0	-861.6	224.5	-	-	224.5
2042-43	1,102.3	-874.2	228.1	-	-	228.1



5. Net Cost of the Program

Table 19 shows projected total expenses, total revenues, and the total net cost of the Program in current dollars for the 25-year projection period, while Table 20 shows the same information expressed in 2018 constant dollars. The expenses and revenues shown correspond to values presented earlier in this report.

Table 19 Net Annual Cost of the Program

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenues	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	(\$ million)		(\$ million)	(\$ million)	
2017-18	2,805.9	536.3	2,269.6	2,265.9	3.6
2018-19	3,236.5	655.5	2,581.0	2,580.7	0.2
2019-20	3,289.1	374.3	2,914.9	2,913.6	1.2
2020-21	3,384.4	196.0	3,188.4	3,186.9	1.5
2021-22	3,352.6	175.0	3,177.6	3,175.3	2.3
2022-23	3,398.0	154.9	3,243.1	3,241.4	1.7
2023-24	3,486.4	161.2	3,325.3	3,323.7	1.5
2024-25	3,559.7	167.9	3,391.8	3,390.9	0.9
2025-26	3,645.3	160.5	3,484.8	3,484.3	0.5
2026-27	3,750.1	168.2	3,581.9	3,581.4	0.5
2027-28	3,857.1	177.7	3,679.4	3,679.1	0.2
2028-29	3,960.2	166.3	3,793.9	3,793.6	0.3
2029-30	4,040.2	171.0	3,869.2	3,869.0	0.2
2030-31	4,114.6	175.9	3,938.7	3,938.6	0.1
2031-32	4,181.1	180.8	4,000.3	4,000.3	0.0
2032-33	4,242.7	185.8	4,057.0	4,057.0	0.0
2033-34	4,297.7	190.6	4,107.1	4,107.1	-
2034-35	4,351.7	195.2	4,156.5	4,156.5	-
2035-36	4,404.3	199.9	4,204.4	4,204.4	-
2036-37	4,457.7	203.7	4,254.0	4,254.0	-
2037-38	4,511.3	208.7	4,302.6	4,302.6	-
2038-39	4,562.7	212.8	4,349.9	4,349.9	-
2039-40	4,611.7	216.8	4,394.9	4,394.9	-
2040-41	4,660.3	220.2	4,440.0	4,440.0	-
2041-42	4,716.7	224.5	4,492.3	4,492.3	-
2042-43	4,771.6	228.1	4,543.5	4,543.5	-

As shown in Table 19, the initial net annual cost for the direct loan regime is \$2.3 billion for the 2017-18 loan year and is projected to increase to \$4.5 billion in the 2042-43 loan year. This represents an annual average increase of 2.8% over the entire projection period.

It is important to specify that this net cost includes the amount of CSG disbursed. The amount of grants disbursed is \$1,365 million in 2017-18, representing 60% of the net cost in 2017-18. Moreover, the net cost also includes yearly expenses to account for provisions that recognize in advance the risk of future losses associated with student loans.



ACTUARIAL REPORT

CANADA STUDENT LOANS PROGRAM

as at 31 July 2018

In 2018 constant dollars (Table 20), the cost of the direct loan regime increases on average by 0.8% per year, from \$2.3 billion at the beginning of the projection period to \$2.8 billion at the end of it.

Table 20 Net Annual Cost of the Program (in millions of 2018 constant dollars)⁽¹⁾

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenues	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	(\$ million)		(\$ million)	(\$ million)	
2017-18	2,805.9	536.3	2,269.6	2,265.9	3.6
2018-19	3,171.5	642.4	2,529.1	2,528.9	0.2
2019-20	3,159.9	359.6	2,800.3	2,799.2	1.2
2020-21	3,187.7	184.6	3,003.1	3,001.7	1.4
2021-22	3,095.8	161.6	2,934.2	2,932.0	2.2
2022-23	3,076.2	140.2	2,936.0	2,934.4	1.6
2023-24	3,094.3	143.0	2,951.3	2,950.0	1.3
2024-25	3,097.4	146.1	2,951.3	2,950.6	0.8
2025-26	3,109.8	136.9	2,972.9	2,972.4	0.4
2026-27	3,136.4	140.7	2,995.7	2,995.3	0.4
2027-28	3,162.7	145.7	3,016.9	3,016.7	0.2
2028-29	3,183.5	133.6	3,049.8	3,049.6	0.3
2029-30	3,184.2	134.8	3,049.4	3,049.2	0.2
2030-31	3,179.2	135.9	3,043.3	3,043.2	0.1
2031-32	3,167.2	137.0	3,030.3	3,030.3	0.0
2032-33	3,150.9	138.0	3,012.9	3,012.9	0.0
2033-34	3,129.1	138.8	2,990.4	2,990.4	0.0
2034-35	3,106.3	139.3	2,967.0	2,967.0	-
2035-36	3,082.3	139.9	2,942.3	2,942.3	-
2036-37	3,058.4	139.8	2,918.7	2,918.7	-
2037-38	3,034.5	140.4	2,894.1	2,894.1	-
2038-39	3,008.9	140.4	2,868.5	2,868.5	-
2039-40	2,981.6	140.2	2,841.4	2,841.4	-
2040-41	2,953.9	139.6	2,814.3	2,814.3	-
2041-42	2,931.1	139.5	2,791.6	2,791.6	-
2042-43	2,907.0	139.0	2,768.1	2,768.1	-

(1) For a given year, the value in 2018 constant dollars is equal to the corresponding value divided by the cumulative index of the Consumer Price Index (CPI) for that year.



III. Conclusion

The Canada Student Loans Program (CSLP) promotes accessibility to post-secondary education for those who demonstrated financial need by providing loans and grants, thereby encouraging successful and timely completion of post-secondary education. In accordance with section 19.1 of the *Canada Student Financial Assistance Act* (CSFAA), the Chief Actuary of the Office of the Superintendent of Financial Institutions shall prepare a report on the financial assistance provided under this Act no later than three years apart. The most recent statutory Actuarial Report on the CSLP was prepared as at 31 July 2017. The present report as at 31 July 2018 is prepared mainly to support ESDC's accounting requirements and partners' needs.

During the 2017-18 loan year, 592,000 students received a loan for a total amount of new loans issued of \$3,358 million. The amount of new loans issued is projected to increase to \$3,613 million in 2018-19. The amount of loans issued is projected to reach \$5,446 million in 2042-43.

During the 2017-18 loan year, 490,000 students received a Canada Student Grant (CSG) for a total of \$1,365 million. Total CSGs are expected to increase to \$1,629 million in 2042-43.

The direct loan portfolio is projected to increase from \$19.3 billion as at 31 July 2018 to \$38.5 billion in 25 years. According to the projections, the aggregate amount of outstanding student loans is expected to exceed the \$34 billion limit in 2033-34. The total net cost of the Government's involvement in the CSLP, which is the difference between expenses and revenues, is expected to grow from \$2.3 billion in 2017-18 to \$4.5 billion by the end of the projection period.

Recent experience shows lower defaults than expected. Consequently, the future default rate, net of recoveries, decreases from 9.0% of consolidations in the previous report to 8.2% in this report. The allowance for bad debt – principal covers the risk of future default, net of recoveries. It corresponds to \$2,472 million as at 31 July 2018, which is lower than the \$2,643 million projected in the previous report.

The allowance for bad debt – interest covers the risk that the interest accrued on defaulted loans will never be recovered. It corresponds to \$231 million as at 31 July 2018, which is slightly higher than the \$226 million projected in the previous report.

The allowance for RAP – Principal recognizes that part of the loan principal of students benefiting from RAP-Stage 2 and RAP-PD will be paid by the Government. It corresponds to \$1,469 million as at 31 July 2018, which is higher than the \$1,297 million projected in the previous report.

Overall, there is an increase of 6 million (a 0.1% increase) for the three allowances as at 31 July 2018 compared with the projections in the previous report.

Allowances for the Public Accounts as at 31 March 2019:

Bad Debt – Principal:	\$2,600 million
Bad Debt – Interest:	\$ 240 million
RAP – Principal:	\$1,487 million



IV. Actuarial Opinion

In our opinion, considering that this Actuarial Report on the Canada Student Loans Program was prepared pursuant to the Canada Student Financial Assistance Act:

- the data on which this report is based are sufficient and reliable for the purposes of this report;
- the assumptions used are, individually and in aggregate, reasonable and appropriate for the purposes of this report; and
- the methods employed are appropriate for the purposes of this report.

This report has been prepared, and our opinion given, in accordance with accepted actuarial practice in Canada, in particular, the General Standards of the Standards of Practice of the Canadian Institute of Actuaries.

As of the date of the signing of this report, we have not learned of any events, other than those already accounted for in this report, that would have a material impact on the results presented in this report as at 31 July 2018.

Assia Billig, FCIA, FSA
Chief Actuary

Annie St-Jacques, FCIA, FSA

Thierry Truong, FCIA, FSA

Ottawa, Canada
22 July 2019



Appendix 1 - Summary of Program Provisions

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

Historically, two successive acts were established to assist qualifying students. The *Canada Student Loans Act* (CSLA) applied to loan years preceding August 1995 while the subsequent *Canada Student Financial Assistance Act* (CSFAA) applies to loan years starting after July 1995.

1. Eligibility Criteria

In order to be eligible for a student loan, a student must be a Canadian citizen, permanent resident, protected person within the meaning of the Immigration and Refugee Protection Act or a person registered as an Indian under the Indian Act, and must demonstrate the need for financial assistance, which is determined by the Need Assessment Process under the CSLP. The assessed need is the difference between the student's costs and the student's resources. A student must also fulfill a series of criteria (scholastic standard and financial) to be considered for a loan. Each year, upon application with their province of residence, loans are available to full-time students regardless of age, and since 1983, loans are also available to part-time students.

A multi-year student financial assistance agreement was implemented in all jurisdictions starting in the 2013-14 loan year. It is referred to as the Master Student Financial Assistance Agreement (MSFAA) and replaces the former single-year student loan agreement. By signing an MSFAA, a borrower agrees to repayment terms that will apply to their loans when they leave their studies.

Since the 2016-17 loan year, the value of student-owned vehicles has been eliminated from the student's total resources in the need assessment process in all jurisdictions to better reflect the needs of students who commute or work while studying.

Starting in the 2017-18 loan year, the student's resources definition was modified to consider only the student contribution as well as parental contribution or spousal contribution, if applicable. The student contribution is comprised of fixed student contribution, merit-based scholarships, need-based bursaries, and targeted resources.

The fixed student contribution depends on the borrower's previous year's gross annual family income, family size and the number of weeks of study. Students with gross family income from the previous year equal to or below a low-income threshold will contribute up to \$1,500 per academic year. Students with gross family income from the previous year above a low-income threshold will contribute \$1,500 plus an additional 15% of income above the threshold up to a maximum total contribution of \$3,000 per academic year. The low-income thresholds vary depending on the student's family size. The previous year's gross family income is defined by the applicable CSLP student category. For independent students and single parent, family income is comprised of the student's income only. For dependent students, family income is comprised of the student's parental income only. In the case of a married or common-law student, family income is comprised of the student's and the spouse's or partner's income. Indigenous learners, students with permanent disabilities, students with dependants, and current or former Crown wards, are exempted from the fixed student contribution.

The expected contribution from merit-based scholarships and need-based bursaries is equivalent to the combined assessed actual amount less an exemption of \$1,800 per loan year.



Targeted resources are those provided to help with specific educational costs and may include funds received from municipal, provincial, or federal governments (e.g. training allowances from the skills portion of Employment Insurance benefits), or from the private sector (e.g. room and board provided by an employer while a full-time student). They are assessed at 100%.

Parents of single dependent students are expected to contribute to their children's education. The amount of parental contribution depends on family income and size, but do not depend on the living situation of the student.

The spouses and partners of married or common-law students are expected to make a spousal contribution equal to 10% of their gross family income exceeding the low-income thresholds. Spouses and partners at or below the low-income threshold are not expected to make any spousal contribution.

Partnerships

Since the Program's inception in 1964, the Minister entered into an agreement with the participating provinces/territory regarding their powers, duties and functions related to the administration of the Program. The participating provinces have their own student financial assistance programs that complement the CSLP. On behalf of the Government of Canada, the provinces and territory determine whether students require financial assistance as well as their eligibility for the CSLP. Provincial/territorial authorities determine the students' required financial needs based on the difference between their expected expenses and available resources. In general, for each school year, the CSLP covers around 60% of the assessed need up to a maximum of \$210 per week. The participating provinces and territory complement the CSLP by providing additional financial assistance up to established maximum amounts. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Service Centre (NSLSC) was established on 1 March 2001 and is responsible for the administration of student loans and grants. The NSLSC processes all applicable documentation from the loans' disbursement to the consolidation and repayment for the federal portion of the loans, as well as the provincial portion of integrated loans. It keeps students informed of all available options to assist in repaying their loans. The NSLSC is run by a private entity contracted by the government.

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

- **Guaranteed Loan Regime:** Student loans provided by lenders (financial institutions) under the Canada Student Loans Act prior to August 1995 were fully guaranteed by the Government to the lenders. The Government reimbursed lenders for the outstanding principal, accrued interest, and costs in the event of default or death of the borrower. Therefore, the Government bore all the risk involved with guaranteed loans.
- **Risk-Shared Loan Regime:** Between August 1995 and July 2000, student loans continued to be disbursed, serviced and collected by financial institutions; however, the loans were no longer fully guaranteed by the Government. Instead, the Canada Student Financial Assistance Act permitted the Government to pay financial institutions a risk premium of five per cent of the value of loans that consolidated in each loan year. Under this financial arrangement, the Government was not at risk except for the payment of the risk premium. Financial institutions could also decide to sell a certain amount of defaulted loans and the



Government had to pay a put-back fee of five cents on the dollar for these loans. Finally, the agreement provided that part of the recoveries be shared with financial institutions.

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

The Government of Canada currently has integration agreements in place with five provinces: Ontario (August 2001), Saskatchewan (August 2001), Newfoundland and Labrador (April 2004), New Brunswick (May 2005), and British Columbia (August 2011). Students in integrated provinces benefit from having one single loan administered through the NSLSC instead of managing two separate loans (federal and provincial).

2. Loan Benefit

a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the borrower's study period and during the six-month non-repayment period. The benefit takes the form of an in-study interest subsidy. During this period, the Government pays interest (Government's cost of borrowing) on the loan and no payment on the principal is required. Because this interest-free period ends at consolidation and the remaining loan's lifetime is repaid with interest, Canada Student Loans are currently not considered as having significant concessionary terms according to the Directive on Accounting Standards (GC 3050 Loans Receivable). This could change in the future if the repayment terms and conditions for student loans changed. Appendix 4 presents more details.

Since June 2008, members of the Reserve Force who interrupt their program of study to serve on a designated operation are considered full-time students until the last day of the month in which their service ends and, as such, benefit from an extended in-study interest-free period.

As of 1 January 2012, part-time students do not accrue interest on their loans while they are studying. This change occurred to align part-time and full-time loans.

b) Loan Consolidation

During the first six months following the end of the study period (six-month non-repayment period), all loans previously received by a student are added together and consolidated. During this period, interest accrues on the loan(s) but no payment is required. As per Budget 2019, after 1 November 2019, there will be no interest accrual during the non-repayment period. With the implementation of the MSFAA, the *Canada Student Financial Assistance Regulations* were amended to remove the regulatory requirement that borrowers sign a consolidation agreement. Repayment terms are part of the MSFAA and a repayment letter is sent to borrowers upon leaving their studies. The letter provides information on their CSL balance, repayment options and available repayment assistance measures. Budget 2019 proposed to reduce the floating and fixed interest rates. Starting on 1 November 2019, the floating interest rate will be lowered to prime, from its current rate of prime plus 2.5 percentage points. This is the rate chosen by approximately 99 per cent of Canada Student Loans borrowers. At the same time, the fixed interest rate will be lowered to prime (at the time of consolidation) plus 2.0 percentage points, from its current rate of prime plus 5.0 percentage points. This change has been considered in the projections for this report



Students must provide their financial institution or the NSLSC with a proof of enrolment for each study period in which they are enrolled even if they are not applying for a new loan. This prevents an automatic consolidation from occurring while they are still in school and it prevents interest from accruing on the loan.

Budget 2019 also proposed more flexibility for borrowers who take a temporary leave from their studies for medical or parental reasons, including mental health leaves. Borrowers will be eligible for an interest-free and payment-free leave for a maximum of 18 months. This change is expected to be implemented in 2020-21 and has not been considered in the projections of this report.

c) Repayment Assistance

In 1983, the Government introduced a repayment assistance measure in the form of an Interest Relief to assist students experiencing financial difficulty repaying their loan. The Government assumed the responsibility for making interest payments on the outstanding loan and no principal payments were required. This measure was improved over time. Between 1998 and 2009, a borrower in financial difficulty could be awarded a total of 30 months of Interest Relief during the repayment period. If the borrower was still within five years from the end of studies when the 30 months ended, he could be awarded an additional 24 months of Interest Relief. In determining eligibility for Interest Relief, a borrower's monthly family income had to fall below an established income threshold in relation to the loan's required monthly payment.

In 1998, the Government introduced the Debt Reduction in Repayment (DRR) measure to help students who remained in financial difficulty after all possible Interest Relief measures had been exhausted. Between 2005 and 2009, the principal loan reductions corresponded to two reductions of up to \$10,000 each and a third reduction of up to \$6,000. To determine whether the previous reduction had resulted in a manageable debt level, twelve months had to have elapsed between each reduction.

As of 2009-10 loan year, the Repayment Assistance Plan (RAP) replaced the Interest Relief and DRR measures. The RAP is designed to make it easier for borrowers to manage their debt by calculating affordable payments (\$0 for those under the established minimum income threshold, or from 1% to 20% of family income for those above the established minimum income threshold) based on family income and family size. Therefore, the affordable payment formula ensures no borrower pays more than 20% of their gross income towards their student loan debt. Borrowers are deemed eligible for the RAP for a six-month period if their affordable payment is less than their required monthly payment. The RAP is composed of two stages to help borrowers fully repay their loan within a maximum of 15 years of leaving school (or 10 years for borrowers with a permanent disability).

Since 2016-17 loan year, the RAP income thresholds has been increased to ensure that students will not be required to repay their student loan until they earn at least \$25,000 per year (\$25,000 is the threshold for a single student with no dependents, which scales up based on family size).

Under Stage 1, the required monthly payment is determined by amortizing a borrower's outstanding principal amount over a period that ends 120 months after leaving school. The borrower's monthly affordable payment, if any, goes directly towards the loan principal first, and then the interest, while the Government covers any interest amount not covered by the affordable payment. The principal portion of the loan not covered by the affordable payment is deferred. Stage 1 can last for a maximum of five years in cumulative six-month periods.



Stage 2 is available to borrowers who continue to experience financial difficulty after Stage 1 has been exhausted and to those whose loan has been in repayment for more than 10 years. Under Stage 2, the required payment is calculated by amortizing the outstanding principal between the start date of Stage 2 and the date corresponding to 15 years after the borrower left school (10 years for borrowers with a permanent disability). The Government covers both the required principal amount and the interest amount not covered by the borrower's affordable payment such that the student loan is repaid in full within 15 years (10 years for borrowers with a permanent disability) of the borrower leaving school.

Budget 2019 proposed to expand the eligibility for loan rehabilitation after a borrower defaults on their student loan. This change will be effective on 1 January 2020. Financially vulnerable borrowers in default could access support such as the Repayment Assistance Plan and begin making affordable payments on their outstanding debt again.

Borrowers with a permanent disability who are not eligible for the Severe Permanent Disability Benefit have access to the RAP-PD. Additional expenses related to costs faced by permanently disabled borrowers are taken into account in the income calculation when they apply for RAP-PD. Similar to all borrowers in RAP Stage 2, additional student loans or grants are not available under RAP-PD until existing loans are paid in full. However, interest-free status may be available for existing loans if the borrower returns to school.

Budget 2019 proposed to remove the existing restriction that states that borrowers with a permanent disability are no longer eligible for additional loans and grants if they have been out of study for five years and have used the Repayment Assistance Plan. This modification will take effect in the 2020-21 loan year.

d) Loan Forgiveness

The Minister has the authority, upon application and qualification, to forgive a loan in the event of a borrower's severe permanent disability or death while in school or during the repayment period. Effective 1 August 2009, in order for a borrower's loan to be forgiven due to a permanent disability, the Minister must be satisfied that the borrower's condition respects the definition of "severe permanent disability", is unable to repay the student loan, and will never be able to repay it.

Effective 1 January 2013, a portion of student loans allocated to family physicians (including residents in family medicine programs), nurses and nurse practitioners who work during a year in an under-served rural or remote community can be forgiven for that year. Qualifying family physicians are eligible for up to \$8,000 of loan forgiveness per year to a maximum of \$40,000 over five years. Qualifying nurses are eligible for up to \$4,000 (of loan forgiveness) per year to a maximum of \$20,000 over five years. Qualifying participants who started their current employment in under-served communities on or after 1 July 2011, and who complete a year of work (starting on or after 1 April 2012), are eligible for loan forgiveness.

Budget 2019 proposed to expand the eligibility for the Severe Permanent Disability Benefit making it possible for more student borrowers with severe permanent disabilities to qualify for loan forgiveness. This modification will take effect in the 2019-20 loan year.



3. Canada Student Grants

Canada Study Grants were introduced in 1995 as non-repayable grants administered by the participating provinces on behalf of the Federal Government. These grants were taxable and assisted students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies, and students with dependents. Canada Access Grants were then introduced in the 2005-06 loan year and included grants for students from low-income families as well as grants for students with permanent disabilities.

The Canada Student Grants (CSGs), implemented in August 2009, provide non-repayable assistance to targeted groups of students, including students from low- and middle-income families, students with permanent disabilities, and students with children under the age of 12. These grants are not taxable.

As of the 2018-19 loan year, the CSGs include:

- **CSG-FT:** a grant of up to \$375 per month of study for full-time university undergraduate or college students from low- and middle-income families. To be eligible, a student's academic program must be at least two years (60 weeks) in duration.
- **CSG-PD:** a grant of \$2,000 per school year for students with permanent disabilities.
- **CSG-PDSE:** a grant of up to \$8,000 per school year to help cover exceptional education-related costs associated with a student's permanent disability.
- **CSG-FTDEP:** a grant of \$200 per month of full-time study, for every dependent child under the age of 12.
- **CSG-PT:** a grant of up to \$1,800 per school year for part-time students from low-income families.
- **CSG-PTDEP:** a grant of \$40 per week of study for part-time students with one or two children under 12 years of age and \$60 per week of study for students with three or more children under 12 years of age, up to a maximum of \$1,920 per year.

The grants amounts are stated in the *Canada Student Financial Assistance Regulations*. The thresholds and phase-out rates for the Grant for full-time students are based on family size and income and are set out in Schedule 4 of the Regulations.

Starting in the 2018-19 loan year, a three-year pilot project provides an additional \$200 per month, or \$1,600 per standard 8-month academic year, in grants to eligible adult learners returning to school full-time after several years in the workforce. This pilot project also makes it easier for students to qualify for grants.

Budget 2019 proposed to increase the cap on the Canada Student Grant for Services and Equipment for Students with Permanent Disabilities from \$8,000 to \$20,000 per year. This modification will take effect in the 2019-20 loan year.



Appendix 2 - Data

The input data required with respect to direct loans were extracted from data files provided by Employment and Social Development Canada (ESDC).

1. Direct Loans Issued

Table 21 presents a comparison of the data extracted from ESDC's files on the amount of direct loans issued and the number of students for loan years 2000-01 to 2017-18 with ESDC's aggregate data. These data were found to be complete.

Table 21 Direct Loans Issued and Number of Students

Loan Year	Amount of Loans Issued		Number of Students	
	ESDC File	ESDC Aggregate Data	ESDC File	ESDC Aggregate Data
		(\$ million)		
2000-01	1,573	1,570	343,746	346,568
2001-02	1,507	1,512	328,671	331,541
2002-03	1,549	1,549	331,042	331,763
2003-04	1,648	1,648	342,264	342,982
2004-05	1,633	1,633	339,204	339,828
2005-06	1,936	1,939	345,549	345,765
2006-07	1,916	1,931	344,214	345,124
2007-08	2,004	2,015	353,548	354,144
2008-09	2,071	2,081	366,145	366,788
2009-10	2,088	2,088	403,566	404,432
2010-11	2,225	2,226	427,054	428,549
2011-12	2,412	2,412	450,246	450,314
2012-13	2,583	2,583	477,394	477,487
2013-14	2,721	2,721	497,636	497,725
2014-15	2,723	2,723	495,297	495,318
2015-16	2,722	2,722	496,998	497,042
2016-17	2,627	2,627	497,045	497,064
2017-18	3,352	3,352	592,091	592,091

According to the Monthly Financial Information Schedule (MFIS), the total amount of loans issued in 2017-18 rounded to the million was \$3,352, which is identical to the value calculated using the data file.

2. Direct Loans Consolidated

Table 22 presents the amount of consolidated direct loans, the amounts that were reversed due to students returning to school and the accrued interest during the six-month non-repayment period according to the MFIS. These data closely match consolidations from individual data for the most recent two years although some adjustments to the individual data were necessary. It was observed that reversals (students returning to school) generally occur in the same loan year as consolidation or the year after.



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Table 22 Direct Loans Consolidated

Loan Year	Consolidations	Amounts from the MFIS		Total Amount Consolidated ⁽¹⁾
		Reversal	Interest Accrued	
(\$ million)				
	(1)	(2)	(3)	(1) - (2) + (3)
2000-01	65.7	4.1	0.7	62.2
2001-02	901.0	154.9	26.0	772.2
2002-03	1,211.9	262.7	39.6	988.8
2003-04	1,434.3	326.6	43.7	1,151.4
2004-05	1,632.6	388.4	52.6	1,296.7
2005-06	1,720.0	435.4	61.8	1,346.4
2006-07	1,936.3	499.8	82.7	1,519.3
2007-08	2,100.8	571.8	90.4	1,619.3
2008-09	2,187.5	638.2	74.8	1,624.0
2009-10	2,302.3	703.3	54.9	1,654.0
2010-11	2,464.8	762.0	65.3	1,768.1
2011-12	2,580.8	799.9	72.1	1,852.9
2012-13	2,684.9	801.3	75.0	1,958.6
2013-14	2,797.6	788.3	78.8	2,088.2
2014-15	2,909.9	797.6	82.0	2,194.3
2015-16	3,034.1	852.6	81.7	2,263.2
2016-17	3,082.9	904.2	83.6	2,262.2
2017-18	3,072.5	963.8	88.3	2,197.0

(1) The net consolidated amount represents the total consolidation for the year less all reversals regardless of the original consolidation year.

3. Defaults and Recoveries for Direct Loans

Table 23 shows the main items of the defaulted loans portfolio (principal only). This information is extracted from ESDC's data files.

- Defaults: amount of loans transferred to the Government in each loan year after nine months without a payment;
- Account adjustments: loans recalled and financial adjustments made by ESDC;
- Rehabilitations: amount of loans rehabilitated under certain criteria;
- Recoveries: payments recovered by the CRA from borrowers in default;
- Write-offs: amounts approved for write-off when a loan meets certain criteria and has exceeded the limitation period.

Adjustments, rehabilitations, recoveries and write-offs shown in Table 23 represent the amounts recorded in each loan year, regardless of the time of default. For example, in the 2017-18 loan year, there were \$113.7 million in recoveries. This amount includes recoveries for loans that could have been transferred in default in any loan year between 2000-01 and now.

Table 23 shows that the balance of the portfolio in default is \$2,148.3 million as at 31 July 2018 based on the information extracted from the data file. There is a difference between the balance determined in the DARS data file received and the balance shown in the "Detailed Age Analysis by Account Status" table provided by ESDC. As at 31 December 2018, this difference is about \$7.4 million (\$2,232.7 million in DARS and \$2,225.3 million in the "Detailed Age Analysis" table), which represents 0.3%.

**Table 23 Direct Loans Default Portfolio - Principal**

Loan Year	Defaults	Account			Recoveries	Write-Offs	Balance
		Adjustments	Rehabilitated	Net Defaults			
	(1)	(2)	(3)	(4)=(1)-(2)-(3)	(5)	(6)	(7) = Previous year's balance + (4)-(5)-(6)
					(\$ million)		(\$ million)
2000-01	5.3	-	-	5.3	0.3	-	5.0
2001-02	5.0	-	0.1	4.9	0.7	-	9.1
2002-03	244.3	0.6	17.5	226.2	23.8	-	211.6
2003-04	265.9	12.4	3.1	250.4	48.8	-	413.1
2004-05	364.4	19.0	2.2	343.2	83.0	-	673.3
2005-06	275.6	12.3	7.8	255.5	85.6	-	843.2
2006-07	257.7	8.7	5.8	243.2	83.7	0.2	1,002.5
2007-08	303.4	11.1	5.0	287.4	91.8	0.3	1,197.8
2008-09	308.3	8.7	7.0	292.6	85.4	-	1,404.9
2009-10	301.2	6.1	10.9	284.3	81.1	-	1,608.2
2010-11	335.2	6.4	18.0	310.8	92.8	-	1,826.2
2011-12	382.8	6.9	34.9	341.0	99.3	220.9	1,847.0
2012-13	353.4	5.9	31.4	316.1	105.0	167.6	1,890.5
2013-14	372.9	12.5	39.0	321.3	113.0	-	2,098.8
2014-15	357.6	6.3	39.3	312.0	120.2	218.0	2,072.6
2015-16	346.0	2.0	40.9	303.1	118.5	131.7	2,125.9
2016-17	350.4	2.6	73.8	274.1	114.8	136.1	2,149.1
2017-18	340.6	-0.9	73.6	267.9	113.7	155.1	2,148.3

4. Repayment Assistance Plan

The Repayment Assistance Plan (RAP) was implemented in August 2009. Detailed data files by applicant are available. The data files received were found to be complete and have been used to update the assumptions for the utilization rates (both entrance and continuation) for each stage. Table 24 presents the RAP expenses split by stage as found in the MFIS as well as the totals calculated from the data files. Those expenses correspond to the portion of the monthly payments covered by the Government for all borrowers in the RAP.



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Table 24 Repayment Assistance Plan

Loan Year	Principal Payments				Data Files Total (\$ million)
	MFIS			Total	
	Stage 2	PD	Total		
	(\$ million)				
2009-10	3.3 ⁽¹⁾	1.2	4.4 ⁽¹⁾	2.8	
2010-11	2.9	6.1	8.9	10.2	
2011-12	6.3	11.7	18.1	17.1	
2012-13	11.1	12.9	24.0	24.3	
2013-14	16.7	15.5	32.2	32.7	
2014-15	25.5	20.2	45.7	44.1	
2015-16	33.8	23.4	57.2	56.2	
2016-17	45.8	28.9	74.7	73.3	
2017-18	59.0	31.4	90.4	90.0	

Loan Year	Interest Payments				Data Files Total (\$ million)
	MFIS			Total	
	Stage 1	Stage 2	PD		
	(\$ million)				
2009-10	67.5	0.5 ⁽²⁾	0.7	68.7 ⁽²⁾	73.7
2010-11	82.7	1.8	3.0	87.5	87.6
2011-12	94.1	3.9	5.8	103.8	101.9
2012-13	106.1	6.5	6.1	118.7	119.3
2013-14	119.2	9.3	6.8	135.3	139.1
2014-15	131.3	12.9	8.5	152.7	153.9
2015-16	137.8	15.4	9.3	162.5	164.0
2016-17	154.3	19.2	11.1	184.7	182.3
2017-18	182.2	27.0	13.6	222.8	219.4

(1) Includes \$2.3 million of DRR payments approved before August 2009.

(2) Includes \$15.8 million of interest relief payments approved before August 2009.



Appendix 3 - Allowances Assumptions and Methodology

This section provides a summary of the assumptions and methodology used to determine the three allowances (Bad Debt – Principal, Bad Debt – Interest and RAP – Principal).

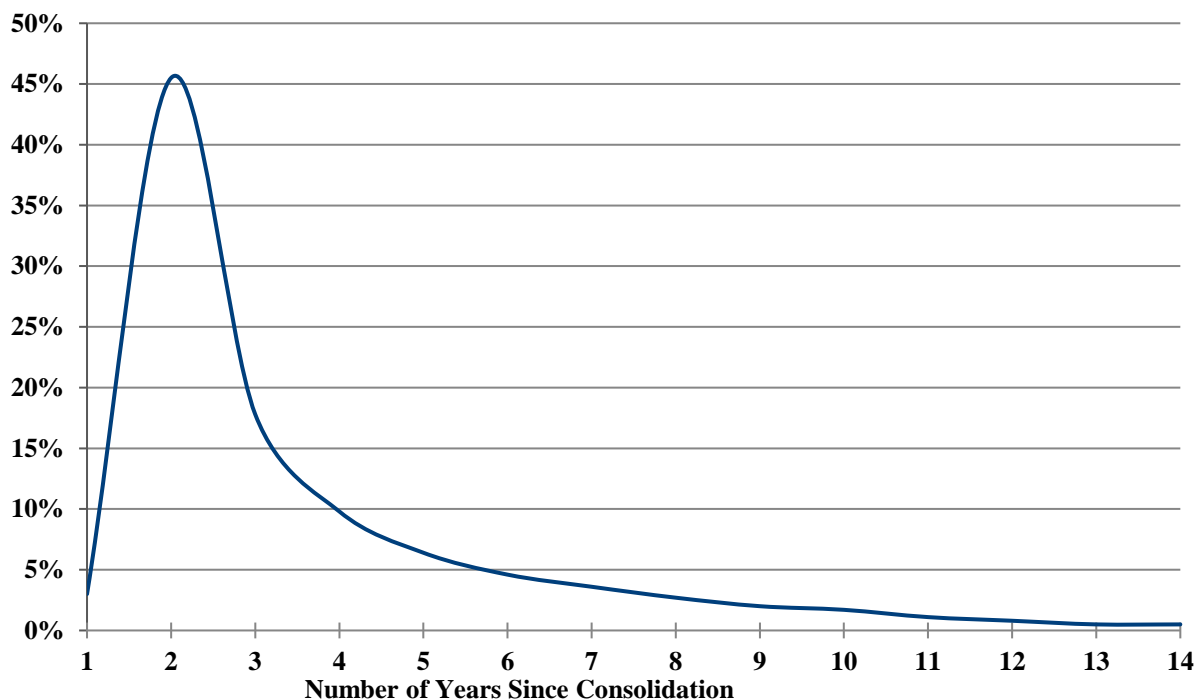
1. Allowance for Bad Debt – Principal

The calculation of the allowance for bad debt – principal is based on a number of assumptions, namely the gross default rate, the loans rehabilitations and recalls, the loans recoveries, the prepayments, and an adjustment for the interest accrued during the non-repayment period. These assumptions are based on historical observations and the actuary’s best judgment.

Gross Default Rate

A default rate is determined for each consolidation cohort. All future consolidation cohorts are assumed to have the same long-term gross default rate of 14.5% introduced in section B of the main report. This rate represents the proportion of loans consolidated in a year that are expected to default at some point before they are completely repaid. As shown in Chart 1, the largest proportion of loans goes into default within three years of consolidation.

Chart 1 Default Distribution



Recalls and Rehabilitations Rate

For different reasons, loans can be mistakenly transferred in default. When they are brought back in good standing, the transaction is referred to as a recall. In addition, borrowers who find themselves legitimately in default have the ability to bring their loans back in good standing by performing what is called a rehabilitation. Prior to March 2011, borrowers had to pay all outstanding interest and the equivalent of six monthly payments to rehabilitate their loan. In March 2011, the number of required monthly payments was reduced to two. This change in rehabilitation criteria is part of the measures or incentives that were taken to encourage loan



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rehabilitation. This will be further strengthened in January 2020, when borrowers will also have the option to meet the rehabilitation criteria by making two monthly payments and capitalizing the remaining interest on their loan.

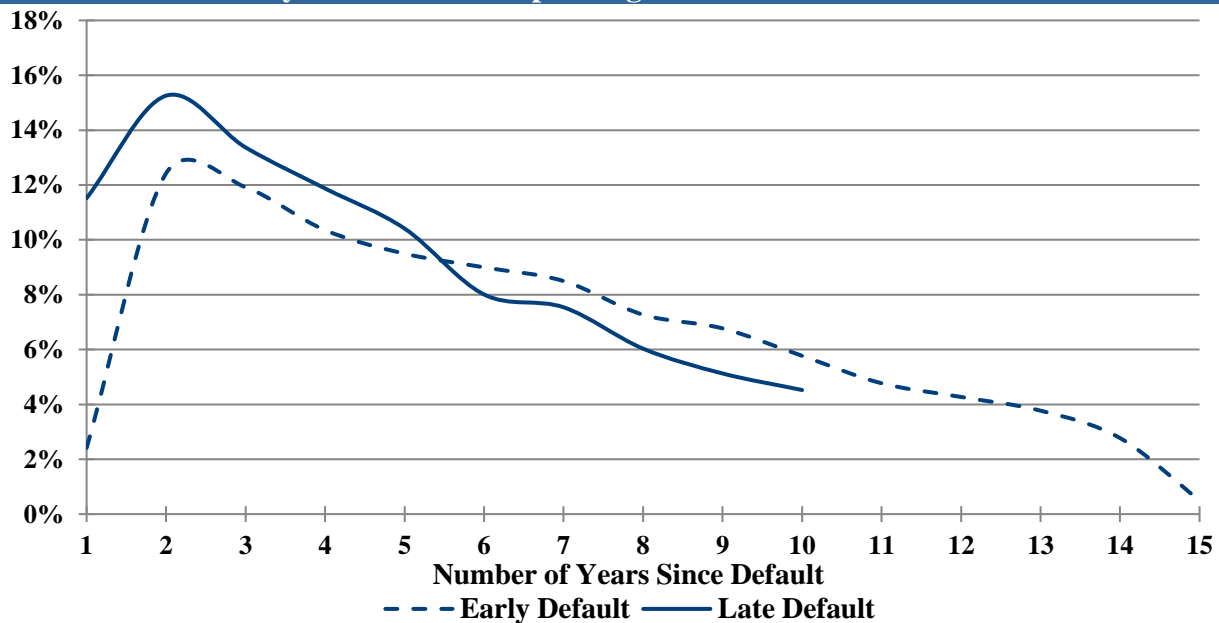
Another incentive for borrowers to rehabilitate their loans came with the introduction of the RAP in loan year 2009-10, since to be eligible for the RAP, borrowers first needed to have a loan in good standing. Finally, ESDC has recently been working closely with CRA to promote rehabilitation to borrowers in default. All of these actions have contributed to an increase in loan rehabilitations.

As introduced in section B of the main report, the long-term recalls and rehabilitations rate was increased from 8.3% of gross defaults in the previous report to 11.3%.

Recovery Rate

Recoveries represent monies the CSLP is able to recuperate after loans have defaulted. CRA is responsible for collecting this money on behalf of the CSLP. Recoveries are analysed based on the default year after consolidation. As introduced in section B, the future recovery rate for a default cohort is assumed to be 32.0%. The assumption is based on six different recovery distribution curves representing the recovery rate after default that were developed. Each of the first five curves corresponds to a cohort that has defaulted within each of the first five years after consolidation, while the sixth one represents all cohorts that have defaulted more than five years after consolidation. Chart 2 shows a recovery curve for early defaults (those who defaulted in the first year after consolidation) and one for late defaults (those who defaulted more than five years after consolidation).

Chart 2 Recovery Distributions Depending on Date of Default





Net Default Rate

The net default rate represents the proportion of consolidated loans that will eventually be written off for each future consolidation cohort. The long-term net default rate corresponds to:

$$\text{Gross Default Rate} \times (1 - \text{Recalls and Rehabilitation Rate} - \text{Recovery Rate}) = \\ 14.5\% \times (1 - 11.3\% - 32.0\%) = 8.2\%$$

This report also provides rates for loan year 2018-19 used in the calculation of the allowances for Public Account purposes. The net default rate for 2018-19 is projected to be 8.0%; this is slightly lower than the long-term rate due to short-term volatility in rehabilitations.

Bad Debt Provision - Principal

The allowance for bad debt – principal is based on a prospective approach that uses a snapshot of the portfolio at a specific point in time to determine the amount of the allowance at that time. The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or in default (according to the number of years since default).

a) Allowance for loans in study

This allowance is determined using a blend of short- and long-term assumptions as loans presently in study will consolidate according to the consolidation distribution over the next 15 years. It corresponds to the net default rate adjusted to account for the interest accrued during the six month non-repayment period and for prepayments (payments received from students prior to consolidation). Based on experience, these two components amount to 0.4% and 15.0% respectively. This results in a provision rate for loans in study for the 2018-19 loan year of:

$$[(2018-19 \text{ Net Default Rate} + \text{Adj. for non-repayment period int.}) \times (1 - \text{Prepayments})] \\ [(8.0\% + 0.4\%) \times (1 - 15.0\%)] = 7.1\%$$

This 2018-19 provision rate corresponds to the one used for the **Public Accounts** as at 31 March 2019 that was determined before the incorporation of the measures from Budget 2019. However, the implementation dates for most of these measures were confirmed before the report was completed. Therefore, they were incorporated in the results of this report. These modifications affect the provision rate for loans in study for loan year 2018-19 since the adjustment to account for the interest accrued during the six-month non-repayment period is reduced from 0.4% to 0.1%. This results in a new provision rate for loan year 2018-19 of:

$$[(8.0\% + 0.1\%) \times (1 - 15.0\%)] = 6.9\%$$

The long term provision rate for loans in-study (calculated with ultimate assumptions) is equal to:

$$[\text{Long-term Net Default Rate} \times (1 - \text{Prepayments})] \\ [8.2\% \times (1 - 15.0\%)] = 7.0\%$$

b) Allowance for loans in repayment

This allowance is determined using projected future defaults according to the number of years since consolidation. The recovery rate assumption is then applied to determine the portion of projected defaulted loans that will not be recovered. This result corresponds to the allowance on the balance of loans in repayment. As mentioned previously, the future recovery rate for each gross default cohort is expected to be 32.0%; hence, it is assumed that 68.0% (1 – 32.0%) of the



projected gross defaulted loans will not be recovered. This results in a provision rate on outstanding loans in repayment of 3.5% for the 2018-19 loan year (used for Public Accounts purposes) and 4.0% in the long-term. This is lower than the provision rate of 7.0% for loans in-study since the portfolio in repayment includes cohorts of loans for which some defaults and partial reimbursements have already occurred, resulting in a lower inherent risk of loss for the remaining loans.

c) Allowance for loans in default

The last allowance component is the one on the balance of loans in default that will not be recovered. For loan year 2018-19, this resulting provision rate (used for Public Accounts purposes) corresponds to 76.5%, while the long-term rate is 77.0%. This rate is higher than the non-recovery rate of 68.0% (1 – 32.0%) since the portfolio in default includes cohorts of loans that have been transferred in default for a certain number of years and for which some recoveries have already occurred. Thus, the remaining loans have aged and have an increased risk of loss.

The provision rates used for the projected allowance as at 31 July 2019 shown in this report (including Budget 2019's modifications with regards to interest rates) are:

- 6.9% for loans in-study;
- 3.5% for loans in repayment;
- 76.5% for loans in default

The ultimate provision rates used in this report are:

- 7.0% for loans in-study;
- 4.0% for loans in repayment;
- 77.0% for loans in default

The level of the total allowance is determined at the end of the loan year. The annual expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

2. Allowance for Bad Debt - Interest

The methodology for the calculation of the provision for bad debt – interest takes into account the number of years since default. Interest on defaulted loans is accrued until the loan reaches the “non-recoverable” status. A loan reaches this status when the collection of either principal or interest is not reasonably assured. For projection purposes, a loan becomes “non-recoverable” according to a 15-year distribution and is then gradually written off.

The interest accrued on defaulted loans is considered a revenue until the loan reaches the “non-recoverable” status. To lessen the effect of changing this revenue to a loss, an allowance is created based on the outstanding interest at the end of each year. The methodology involves the calculation of:



- Accrued interest on defaulted loans in each loan year
- Projected outstanding interest at the end of each loan year based on non-recoverable and recovery rates, applied to outstanding interest at the beginning of the year
- Projected allowance at the end of each year (obtained by adding the products of recoverable outstanding interest accounts with the corresponding provision rate for each year since default, and then adding 100% of outstanding non-recoverable accounts)

The annual expense for bad debt – interest in a year is equal to the difference between the total allowance (on recoverable and non-recoverable accounts) at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year. A set of provision rates that vary according to the number of years since default was established for the projection. The provision rate is 25.9% of interest accrued in the first year after loans are transferred into default. It increases in each of the four subsequent years before decreasing in the sixth and seventh years (when a large portion of interest is transferred to the “non-recoverable” status because of the six-year limitation period – statute of limitations). After that, the provision rates increase each year to reach 100% in the 15th year. This reflects the increasing difficulty of recovering defaults as time passes. Table 25 shows the provision rates for bad-debt – interest, which remain constant throughout the projection period.

Table 25 Provision Rates for Bad Debt – Interest

Year Since Default	Provision Rates (%)
1st	25.9
2nd	36.5
3rd	46.5
4th	56.9
5th	67.4
6th	58.7
7th	52.7
8th	55.3
9th	58.3
10th	61.7
11th	65.9
12th	71.1
13th	78.6
14th	88.5
15th	100.0

3. Allowance for the Repayment Assistance Plan (RAP)

As explained in Appendix 1, the two stages of RAP are aimed to help student borrowers, who apply and meet the eligibility criteria, to fully repay their student loan within fifteen years (or ten years for borrowers with permanent disabilities). During Stage 1, the Government covers the monthly interest amount owed that the borrower’s affordable payment does not cover. Stage 2 begins once the borrower has completed five years in Stage 1, or has been in repayment for ten years following the end of the study period. The Government continues to cover the interest, as in Stage 1, but also begins to cover a portion of the student loan’s principal amount (i.e. the difference between the required and affordable payment). Borrowers with a permanent disability can elect to apply for either RAP Stage 2 or RAP-PD, on approval of their RAP-PD application.

The methodology used to calculate the allowance for the RAP consists of evaluating the dollar proportion of consolidated loans expected to enter each stage, and then remain there, during each year after consolidation. The assumptions are based on the analysis of the historical data available for each cohort of consolidation.



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RAP – Stage 1

Table 26 shows the long-term utilization rate assumptions used for RAP–Stage 1. These rates are applied to the consolidated loans amounts for cohorts 2019-20 onwards. Many borrowers complete their RAP–Stage 1 over a period longer than five years, hence the utilization rates do not always include the same borrowers from year to year, and some borrowers may be in the program for only part of a year. The model takes all of this into account by incorporating the average time spent in RAP–Stage 1 in a loan year.

The first year in RAP–Stage 1 (first row of Table 26) generally consists of a partial loan year since most borrowers do not enter the RAP on August 1st. However, if borrowers remain in the RAP for a greater amount of time in the second year, then the utilization rate can be higher than the preceding year.

Table 26 RAP-Stage 1 Utilization Rates

RAP1 Loan Year	Start Year after Consolidation							
	1	2	3	4	5	6	7	8
1	27.5%	3.2%	1.2%	0.5%	0.3%	0.2%	0.1%	0.1%
2	31.4%	2.7%	1.1%	0.5%	0.3%	0.2%	0.1%	0.0%
3	20.4%	1.7%	0.7%	0.3%	0.1%	0.1%	0.0%	0.0%
4	15.9%	1.4%	0.6%	0.2%	0.1%	0.1%	0.0%	0.0%
5	12.7%	1.1%	0.4%	0.1%	0.1%	0.0%	0.0%	
6	7.6%	0.7%	0.3%	0.1%	0.0%	0.0%		
7	2.7%	0.3%	0.1%	0.0%	0.0%			
8	1.5%	0.2%	0.1%	0.0%				
9	1.0%	0.1%	0.0%					
10	0.5%	0.0%						
11	0.1%							

RAP –Stage 2

The methodology used to calculate the amount of dollars in RAP–Stage 2 assumes that as borrowers become eligible for RAP–Stage 2 (five years after entering RAP–Stage 1), they immediately enter RAP–Stage 2. This means that a borrower could enter RAP–Stage 2 from the 6th year after consolidation until the 11th year after consolidation.

Table 27 shows the resulting long-term utilization rate assumptions used for RAP–Stage 2.

Table 27 RAP-Stage 2 Utilization Rates

RAP2 Loan Year	Start Year after Consolidation					
	6	7	8	9	10	11
6	3.2%	1.5%	0.5%	0.3%	0.3%	0.2%
7	5.4%	1.7%	0.7%	0.4%	0.3%	0.2%
8	3.9%	1.2%	0.5%	0.3%	0.2%	0.1%
9	2.8%	0.9%	0.3%	0.2%	0.1%	0.1%
10	2.0%	0.6%	0.2%	0.1%	0.0%	0.0%
11	1.3%	0.4%	0.1%	0.1%	0.0%	
12	0.9%	0.2%	0.1%	0.0%		
13	0.5%	0.1%	0.0%			
14	0.3%	0.0%				
15	0.1%					



RAP–PD

RAP–PD is available for borrowers with a permanent disability. A borrower who had a RAP–PD application approved is eligible to start in the RAP–PD as soon as his loan consolidates and can remain in the plan for a period of 9.5 years, when the loan is expected to have been repaid in full.

Table 28 shows the long-term utilization rate assumptions used for RAP–PD.

Table 28 RAP-PD Utilization Rates							
RAP-PD Loan Year	Start Year after Consolidation						
	1	2	3	4	5	6	7
1	1.95%	0.20%	0.10%	0.10%	0.03%	0.02%	0.01%
2	2.30%	0.20%	0.10%	0.07%	0.02%	0.01%	0.01%
3	1.50%	0.15%	0.07%	0.05%	0.01%	0.01%	0.01%
4	1.10%	0.10%	0.05%	0.04%	0.01%	0.01%	0.00%
5	0.80%	0.10%	0.04%	0.03%	0.01%	0.00%	0.00%
6	0.60%	0.10%	0.03%	0.02%	0.00%	0.00%	
7	0.50%	0.07%	0.02%	0.01%	0.00%		
8	0.33%	0.04%	0.01%	0.00%			
9	0.19%	0.01%	0.00%				
10	0.07%	0.00%					
11	0.00%						

Provisions for RAP–Principal (Stage 2 and PD)

The RAP – principal provision covers future costs related to RAP-Stage 2 and RAP-PD, which corresponds to the portion of the loan principal paid off by the Government.

As with the provision for bad debt – principal, the methodology to determine the provision rates and allowance for the RAP – principal is based on a prospective approach that uses a snapshot of the portfolio at a particular point in time to determine the amount of the allowance at that time. The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (excluding loans in the RAP) or in the RAP (considering the current stage). The provision rates are based on current and future RAP utilization rates at each stage. Three distinct provision rates, depending on the status of the loan at a given time, will be used to determine the required allowance. Budget 2019 introduced two measures to lower the interest rate payable by borrowers. These modifications affect the calculation of the provision rates for the RAP. Therefore, this report presents two sets of provision rates: the first one is determined before the implementation of Budget 2019 modifications and is used for the calculation of the RAP allowance for Public Accounts purposes, while the second one is determined after the implementation of Budget 2019 modifications mentioned above and is used for the calculation of the RAP allowance shown in this report.

The provision rates for loan year 2018-19 used for **Public Accounts** purposes are:

- 5.2% for loans in-study,
- 1.9% for loans in repayment (net of loans in the RAP), and
- 23.8% for loans in the RAP (all stages combined).



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The 2018-19 provision rates used for the results of this report (including Budget 2019's modifications with regards to the interest rates) are:

- 5.3% for loans in-study
- 2.0% for loans in repayment (net of loans in the RAP), and
- 24.8% for loans in the RAP (all stages combined).

The ultimate provision rates used in this report are:

- 5.2% for loans in-study
- 1.8% for loans in repayment (net of loans in the RAP), and
- 23.1% for loans in the RAP (all stages combined).

Rates for loans in repayment and loans in the RAP are higher than the rates presented in the previous report. This increase is consistent with the recent experience showing higher RAP utilization than expected.

The lowest provision rate is for the portfolio of loans in repayment. This portfolio includes cohorts of loans for which partial reimbursements have already occurred, as well as some defaults and utilization of the RAP, resulting in a lower risk for the remaining loans, and consequently a lower required provision rate than the one for loans in study.

The highest provision rate is for the portfolio of loans already in the RAP. Having already entered the program by meeting the eligibility criteria, there is a greater chance that these loans will remain eligible and consequently remain in the program.

The annual expense for the RAP – principal provision is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of the current year's expenses.

The RAP is a program that was introduced in 2009 and thus, has limited experience. Since students using RAP – Stage 2 repay their loan over a period of 15 years after consolidation, it takes 15 years for a cohort to fully develop its experience. Hence, the first cohort to have full experience will be the 2009 consolidation cohort when it reaches year 2024. The related projection of costs and underlying assumptions will be revised in the future as experience emerges, and the provision rates will be updated accordingly. As with the former Interest Relief measure, a modest provision for the RAP – interest is determined by ESDC for accounting purposes to take into account the timing of the interest accrued.



Appendix 4 - Concessionary Terms

Section PS3050 (Loans Receivable) of the Public Sector Accounting Standards of the Chartered Professional Accountants Canada states that loans with significant concessionary terms should be accounted for based on the substance of the transaction. The Directive on Accounting Standards (GC 3050 Loans Receivable) in effect at the valuation date specifies that only loans with a concessionary portion greater than 25 per cent of the face value of the loan shall be considered as having significant concessionary terms. As mentioned in Appendix 1 of this report, Canada Student Loans are currently not considered as having significant concessionary terms according to the Directive on Accounting Standards. The following items could have an impact on the determination of the value of concessionary terms:

- The discount rate used in determining the present value of the loans. This rate corresponds to 1.66% for a term to maturity of 10 years and is determined by reference to market yields as at 31 March 2019 on Government of Canada Bonds and treasury bills. The higher the discount rate, the more likely it is to have significant concessionary terms;
- The student interest rate during the repayment period. Interests start to accrue 6 months after the end of the study period. The student interest rate is higher than the discount rate and is expected to remain higher in the future. The lower the student interest rate, the more likely it is to have significant concessionary terms;
- The length of the interest free period (in-study period and non-repayment period, generally around three and a half years), which is the portion considered as concessionary terms. The longer this period, the more likely it is to have significant concessionary terms;
- The length of the amortization period (in repayment period), which is used to determine the present value of the loans. The shorter this period, the more likely it is to have significant concessionary terms.

Based on the above mentioned items, the student interest rate accruing during a standard ten-year repayment period offsets the three-and-a-half-year interest free period, resulting in no significant concessionary terms. Significant changes to these four items were tested individually. It appears that loans would not be considered as having significant concessionary terms even in the unlikely situations where:

- The discount rate would double; or
- The in-study interest free period would increase from the three-and-a-half-year period generally observed to 10 years; or
- The loans would be repaid within the 6-month period following the consolidation.



Appendix 5 - Acknowledgements

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

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