Office of the Superintendent of Financial Institutions Canada
Bureau du surintendant des institutions financières Canada

Office of the Chief Actuary
Bureau de l'actuaire en chef

2019 ACTUARIAL REPORT

on the

EMPLOYMENT INSURANCE PREMIUM RATE

Canada

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Commissioners of the Canada Employment Insurance Commission

Dear Commissioners,

Pursuant to section 66.3 of the *Employment Insurance Act*, I am pleased to submit the 2019 report, which provides actuarial forecasts and estimates for the purposes of sections 4, 66 and 69 of the *Employment Insurance Act*. Please note that the estimates presented in this report are based on the Employment Insurance provisions as of 22 July 2018.

Yours sincerely,

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Senior Actuary, Employment Insurance Premium Rate-Setting
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I. Executive Summary

A. Purpose of the Report

This Actuarial Report prepared by the Senior Actuary, Employment Insurance Premium Rate-Setting (Actuary), is the sixth report to be presented to the Canada Employment Insurance Commission (Commission) in accordance with the *Employment Insurance Act* ("EI Act").

Pursuant to section 66.3 of the EI Act, the purpose of this report is to provide the Commission with actuarial forecasts and estimates for the purposes of calculating the maximum insurable earnings (MIE) under section 4 of the EI Act, the employment insurance (EI) premium rate under section 66 of the EI Act, and the premium reductions under section 69 of the EI Act for employers who sponsor qualified wage-loss plans, and for employees and employers of a province that has established a provincial plan. The report also provides a detailed analysis in support of the forecasts, including data sources, methodology and assumptions.

This report reflects program changes that were announced in the Budget 2018, such as making the Working While on Claim pilot provisions permanent and the new EI Parental Sharing Benefit. Important changes introduced through Budget 2017 were already considered in the previous report such as the extension up to 18 months for the parental leave period, flexibility of the maternity benefit and leave commencement date and the Family Caregiver Benefit for Adults.

The Commission shall, on or before 14 September, make available to the public this report along with its summary of this report.

B. Overview of Methodology

In accordance with subsection 66(1) of the EI Act, the Commission shall set the premium rate each year in order to generate just enough premium revenue during the next seven years to ensure that at the end of this seven-year period, the total of the amounts credited to the EI Operating Account after 31 December 2008 is equal to the total of the amounts charged to that Account after that date. This calculated premium rate is referred to as the 7-year forecast break-even rate. Subsection 66(7) of the EI Act states that the premium rate may not be increased or decreased by more than five cents from one year to the next.

For 2019, the 7-year forecast break-even rate is determined such that the projected balance in the EI Operating Account as at 31 December 2025 is $0. This rate is expected to generate sufficient premium revenue during the 2019-2025 period to pay for the expected EI expenditures over that same period and to eliminate the projected surplus that has accumulated in the EI Operating Account up to 31 December 2018.

The 7-year forecast break-even rate is calculated each year based on a seven-year projection of the insurable earnings, the EI expenditures, and the amount of premium reductions granted to employers who sponsor a qualified wage-loss plan as well as to employees and employers of a province that has established a provincial plan.

The projections of the insurable earnings and EI expenditures are based on the expected growth rates in the relevant economic and demographic variables. The methodology and assumptions are developed by the Actuary and take into account prescribed information provided by the Ministers of Employment and Social Development (ESD) and Finance.

In addition to the calculation of the 7-year forecast break-even rate, this report sets out the premium reductions that will apply in 2019 for employers who sponsor a qualified wage-loss plan, and for employees and employers of a province that has established a provincial plan.

Generally, EI premiums paid by the employer are equal to 1.4 times the premiums deducted by the employer on behalf of its employees, referred to as the employer multiplier. However, pursuant to subsection 69(1) of the EI Act, the employer premiums can be reduced through a lower employer multiplier when its employees are covered under one of four types of qualified wage-loss plans which reduce EI special benefits otherwise payable. The 2019 premium reductions for those employers are determined in accordance with subsection 69(1) of the EI Act and related regulations, and are based on the methodology and assumptions developed by the Actuary.

Québec is currently the only province that has established a provincial plan through the Québec Parental Insurance Plan (QPIP) which has been providing maternity, parental and adoption (MPA) benefits to Québec residents since 1 January 2006. In accordance with subsection 69(2) of the EI Act and related regulations, a mechanism to reduce EI premiums paid by Québec residents and their employers was introduced. The 2019 reduction for Québec residents and their employers is determined in accordance with legislation and based on a methodology and assumptions developed by the Actuary. The reduction is granted through a reduced premium rate. For 2019, this reduction is referred to as the 2019 QPIP reduction.

C. Main Findings

The following estimates are based on the EI provisions as of 22 July 2018, on the information provided on or before 22 July 2018 by the Minister of Employment and Social Development and the Minister of Finance, and on the methodology and assumptions developed by the Actuary.

In 2019, insured employees and their employers will pay EI premiums on their earnings up to the 2019 MIE of **$53,100**, an increase of $1,400, or 2.7%, from the 2018 MIE of $51,700.

The 2019 EI 7-year forecast break-even rate, which is the rate needed to generate just enough premium revenue such that the projected EI Operating Account balances out as of 31 December 2025, is **1.62%**.

The 2019 QPIP reduction is **0.37%** and represents the estimated savings to the EI program due to the existence of the Québec Parental Insurance Plan, which provides MPA benefits to residents of Québec.

Should the Commission set the 2019 premium rate at the 7-year forecast break-even rate, the premium rate applicable to residents of all provinces except Québec would be **1.62%** and the premium rate applicable to residents of Québec would be **1.25%**. With the exception of employers who sponsor a qualified wage-loss plan, employers will pay 1.4 times the employees' premiums.

The 2019 estimated cost savings to the EI program that are generated by employer sponsored qualified wage-loss plans are $1,009 million. This translates in premium reductions for employers who sponsor a qualified wage-loss plan corresponding to about 0.21%, 0.36%, 0.35% and 0.39% of insurable earnings for categories 1 through 4 respectively. Assuming a premium rate of 1.62%, the employer multipliers for out-of-Québec employers are thus reduced from 1.4 to 1.269, 1.177, 1.181 and 1.160 for categories 1 through 4 respectively (1.230, 1.111, 1.116 and 1.089 for Québec employers).

Table 1 shows the status of the EI Operating Account for 2017, as well as its projected evolution until 2025. Using a premium rate corresponding to the 7-year forecast break-even rate (1.62%) from 2019 to 2025, the EI Operating Account is expected to balance out at the end of 2025. The cumulative balance in the EI Operating Account at the end of 2025 is not exactly $0 since the 7-year forecast break-even rate is rounded to the nearest cent.

Table 1 Summary of the EI Operating Account ($ million)

Calendar Year	Break-Even Rate	Premium Revenue	Expenditures	Annual Surplus (Deficit)	Cumulative Surplus (Deficit) 31 December
2017					1,602
2018	1.66%	22,301	21,323	977	**2,579**
2019	1.62%	22,442	22,404	37	2,617
2020	1.62%	23,244	23,528	(285)	2,332
2021	1.62%	24,048	24,588	(540)	1,792
2022	1.62%	24,921	25,468	(546)	1,246
2023	1.62%	25,848	26,175	(327)	918
2024	1.62%	26,779	27,098	(319)	600
2025	1.62%	27,736	27,903	(167)	**433**

It is important to note that the figures included in this report are projections, and eventual differences between future experience and these projections will be analyzed and taken into account in subsequent reports.

D. Sensitivity of the 7-Year Forecast Break-Even Rate

Two of the most relevant assumptions used to determine the 7-year forecast break-even rate are the unemployment rate, which is provided by the Minister of Finance, and the recipiency rate, which is projected by the Actuary.

With all other assumptions remaining constant:

- a variation in the average unemployment rate of five-tenths of a percentage point (0.5%) over the period 2019-2025 would result in an increase/decrease of about 0.07% in the 2019 EI 7-year forecast break-even rate;
- a variation in the average recipiency rate of five percentage points (5%) over the period 2019-2025 would result in an increase/decrease of about 0.05% in the 2019 EI 7-year forecast break-even rate; and
- a variation in the premium rate of one-hundredth percentage point (0.01% of insurable earnings) would result in a $1,190 million increase/decrease in the cumulative balance of the EI Operating Account at the end of the 7-year forecast period.

E. Conclusion

This report was prepared by the Actuary in accordance with the relevant legislation and accepted actuarial practices.

In accordance with the methodology detailed in the EI Act and the relevant economic data, the 2019 MIE is **$53,100**.

Should the Commission set the 2019 premium rate at the 7-year forecast break-even rate, the 2019 premium rate would be equal to:

- **1.62% of insurable earnings for residents of all provinces except Québec; and**
- **1.25% of insurable earnings for residents of Québec, after taking into account the QPIP reduction of 0.37%.**

The 7-year forecast break-even rate for residents of all provinces except Québec decreases from 1.66% in the 2018 Actuarial Report to 1.62% in the current report. A reconciliation of the rate is shown in Section VII. The decrease is mainly attributable to the change in the unemployment rate assumptions, as a result of the better than anticipated recent economic situation. This is partially offset by the cost of the changes introduced in Budget 2018.

The 2019 premium reduction for employers who sponsor qualified wage-loss plans is estimated at $1,009 million.

II. Introduction

A. Purpose of the Report

This Actuarial Report prepared by the Senior Actuary, Employment Insurance Premium Rate-Setting (“Actuary”) is the sixth one to be presented to the Canada Employment Insurance Commission (Commission) in compliance with section 66.3 of the EI Act.

The Actuary is a Fellow of the Canadian Institute of Actuaries who is an employee of the Office of the Superintendent of Financial Institutions and who is engaged by the Commission to perform duties under section 66.3 of the EI Act. Pursuant to this section, the Actuary shall prepare actuarial forecasts and estimates for the purposes of sections 4, 66 and 69 of the EI Act, and shall, on or before 22 August of each year, provide the Commission with a report that sets out:

- the forecast premium rate for the following year and a detailed analysis in support of the forecast;
- the calculations performed for the purposes of sections 4 and 69 of the EI Act;
- the information provided under section 66.1 of the EI Act; and
- the source of the data, the actuarial and economic assumptions and the actuarial methodology used.

The purpose of this report is to provide the Commission with all the information prescribed under section 66.3 of the EI Act. The Commission will make available to the public this report along with its summary. More information on the rate setting process along with the inherent deadlines can be found in Appendix I.

B. Recent Legislative Changes

1. Changes announced in 2018:

The following changes were introduced in the *Budget Implementation Act 2018, No. 1 (An Act to implement certain provisions of the budget tabled in Parliament on February 27, 2018 and other measures)*:

- Making the current EI Working While on Claim pilot project rules permanent, effective August 12, 2018. The current pilot project allows claimants to keep 50 cents of their benefits for every dollar they earn, up to a maximum of 90% of the weekly insurable earnings used to calculate their EI benefit amount.
- Extending the Working While on Claim provisions to EI maternity and sickness benefits, effective August 12, 2018, to provide greater flexibility to mothers and those dealing with an illness or injury to stage their return to work and keep more of their EI benefits.

Further measures that were announced in Budget 2018:

- Investing $230 million over two years, in 2018-2019 and 2019-2020 through the bilateral Labour Market Development Agreements (LMDAs) with provinces and territories to better support workers in seasonal industries affected by a loss of income in the off-season.
- Introducing a new EI Parental Sharing Benefit to promote greater gender equality, which would add five weeks to the existing standard parental benefits when parents agree to share parental leave. It would also apply to the extended parental benefit, providing eight extended parental benefit weeks. This new benefit would be available to eligible two-parent families, including adoptive and same-sex couples and is expected to become available in June 2019.

On June 29, 2018, the Government of Canada also announced support for workers and families who may be affected by the recent U.S. tariffs imposed on Canadian steel and aluminium:

- Introducing temporary special Work-Sharing (WS) measures for affected employers, including extending the maximum duration of WS agreements, waiving the mandatory cooling-off period and easing employer Recovery Plan requirements ($25 million over three years).
- Investing an additional $50 million over two years through the LMDAs for provincially delivered skills training and employment services to support affected workers and employers.

2. Changes announced in 2017:

The following changes were introduced in the *Budget Implementation Act 2017, No. 1 (An Act to implement certain provisions of the budget tabled in Parliament on March 22, 2017 and other measures)*:

- Providing parents a choice of their EI parental benefit and leave period, effective 3 December 2017. Claimants can choose between 35 weeks paid at 55% of their average weekly insurable earnings or the new 61 weeks paid at 33% of their average weekly insurable earnings, up to a maximum.
- Expanding the flexibility of the EI maternity benefit and leave commencement date, effective 3 December 2017. Women are allowed to claim EI maternity leave benefits earlier, up to 12 weeks before their due date (up from eight weeks prior). The maximum amount of benefit weeks is unchanged.
- Expanding EI benefits to incorporate a new Family Caregiver Benefit for Adults, effective 3 December 2017. Claimants are granted up to 15 weeks to support an adult family member who is critically ill or injured. Benefits for Parents of Critically Ill Children (PCIC) have been enhanced and replaced by the Family Caregiver Benefit for Children. This benefit still gives access to up to 35 weeks of benefits with additional flexibility to share the benefits with other family members, not just parents.

- Broadening eligibility for EI-funded skills training programs and employment supports provided by provinces and territories under the LMDAs.

Further measures that were introduced by Budget 2017:

- Investing an additional $1.8 billion in the LMDAs over six years, starting in 2017-18. This, along with broadening eligibility, means that Canadians, including underrepresented groups, will have more opportunities to upgrade their skills, gain experience or get help to start their own business. It also means more support such as employment counselling to help them plan their career.
- Expanding flexibilities within the EI program that allow claimants who have lost their job after several years in the workforce to pursue self-funded full-time training while continuing to receive EI benefits.

The Government of Canada also announced the Softwood Lumber Action Plan in June 2017, which includes the following measures to support forest industry workers and communities affected by U.S. tariffs targeting softwood lumber:

- Introducing temporary special WS measures to support employers who are affected by the downturn in the forestry sector, including extending the maximum duration of WS agreements, waiving the mandatory cooling-off period and easing employer Recovery Plan requirements. This measure is in place from 30 July 2017 to 28 March 2020.
- Providing training and employment supports to the most affected provinces through their LMDAs in 2017-18 and 2018-19 to help workers transition to new employment opportunities.
- Working with interested affected provinces to offer Targeted Earnings Supplements (TES) along with complementary employment supports (e.g., counselling, job search assistance) to help affected workers transition into new jobs and sectors.

C. Scope of the Report

The methodology used in determining the premium rate, including the premium rate reduction for employees and employers of a province that has established a provincial plan such as Québec, and the reduction in employer premiums due to qualified wage-loss plans, is summarized in Section III.

The main variables used in determining the premium rate are the expected insurable earnings, the expected EI expenditures, the reduction in employer premiums due to qualified wage-loss plans, the reduction for employees and employers of a province that has established a provincial plan, and the projected EI Operating Account balance as of 31 December 2018. An overview of the key assumptions used in projecting these variables is outlined in Section IV.

Based on the methodology and assumptions from the previous sections, Section V provides the resulting 2019 EI 7-year forecast break-even rate, the 2019 reduction in employer premiums due to qualified wage-loss plans, the 2019 QPIP reduction, which is the premium reduction applicable to residents of Québec due to its provincial plan, and the projection of the status of the EI Operating Account. The uncertainty of the results to the main assumptions is outlined in Section VI along with two alternative economic growth scenarios.

A reconciliation between the 2018 and 2019 EI 7-year forecast break-even rates is presented in Section VII.

Concluding remarks and the actuarial opinion are presented in Section VIII and Section IX, respectively. The various appendices provide supplemental information on the EI program and on the data, assumptions and methodology employed. Detailed information on the calculation of the maximum insurable earnings (MIE) is presented in Appendix III.

III. Methodology

In accordance with subsection 66(1) of the EI Act, the Commission shall set the premium rate each year in order to generate just enough premium revenue during the next seven years to ensure that at the end of this seven-year period, the total of the amounts credited to the EI Operating Account after 31 December 2008 is equal to the total of the amounts charged to that Account after that date. This calculated premium rate is referred to as the 7-year forecast break-even rate. The 2018 Actuarial Report calculated the 2018 7-year forecast break-even rate at 1.66%. Annual adjustments to the premium rate are limited to five cents.

Based on relevant assumptions, the 2019 EI 7-year forecast break-even rate is the premium rate that is expected to generate sufficient premium revenue to ensure that at the end of 2025 the amounts credited and charged to the EI Operating Account after 31 December 2008 are equal. It is therefore based on the projected balance of the EI Operating Account as of 31 December 2018 and the projection over a period of seven years of the earnings base, the EI expenditures and the amount of premium reductions granted to employers who sponsor a qualified wage-loss plan as well as to employees and employers of a province that has established a provincial plan.

The earnings base represents the total insurable earnings on which salaried employees and their employers pay EI premiums, and the earnings on which self-employed individuals that opted into the EI program pay EI premiums. Prior to an adjustment to reflect employee premium refunds, the employer portion of the earnings base is equal to 1.4 times the employee portion of the earnings base.

For purposes of determining the 7-year forecast break-even rate, the earnings base and EI expenditures are projected over a seven-year period using the expected growth rates in the relevant economic and demographic variables applied to the base year, i.e. the last year for which complete data are available. The base year for the earnings base is 2016, which is the most recent year for which fully assessed T4 slips (Statement of Remuneration Paid) data are available. However, for certain assumptions, the 2017 partially assessed information is used. Complete data for 2017 will not become available until January 2019. The base year for EI benefits is calendar year 2017.

The earnings base and EI expenditures are projected from the base year using:

- Data and assumptions provided by the Minister of Employment and Social Development (ESD), including prescribed information as set out in section 66.1 of the EI Act;
- Assumptions and forecasts provided by the Minister of Finance in accordance with section 66.2 of the EI Act;
- Additional data provided by Service Canada, Employment and Social Development Canada (ESDC), and the Canada Revenue Agency (CRA); and,

- Methodology and assumptions developed by the Actuary.

In accordance with section 69 of the EI Act and related regulations, premium reductions are granted to employers who sponsor a qualified wage-loss plan as well as to employees residing in a province that has established a provincial plan and their employers. The expected amounts of these premium reductions over the next seven years are included in the EI expenditures for purposes of determining the 7-year forecast break-even rate.

Generally, EI premiums paid by the employer are equal to 1.4 times the premiums deducted by the employer on behalf of its employees, referred to as the employer multiplier. However, pursuant to subsection 69(1) of the EI Act, the employer premiums can be reduced through a lower employer multiplier when its employees are covered under one of four types of qualified wage-loss plans which reduce EI special benefits otherwise payable. The 2019 premium reductions for those employers are determined in accordance with subsection 69(1) of the EI Act and related regulations, and are based on the methodology and assumptions developed by the Actuary.

Québec is currently the only province that has established a provincial plan through the Québec Parental Insurance Plan (QPIP) which has been providing maternity, parental and adoption (MPA) benefits to Québec residents since 1 January 2006. In accordance with subsection 69(2) of the EI Act and related regulations, a mechanism to reduce EI premiums paid by Québec residents and their employers was introduced. The 2019 reduction for Québec residents and their employers is determined in accordance with legislation and based on a methodology and on assumptions developed by the Actuary. The reduction is granted through a reduced premium rate. For 2019, this reduction is referred to as the 2019 QPIP reduction.

More information on the methodology used for calculating the 7-year forecast break-even rate and the premium reductions for 2019 is provided in Appendix II.

IV. Assumptions

This section provides a brief overview of the main assumptions used in projecting the variables included in the calculation of the 7-year forecast break-even rate. More detailed information and supporting data are provided in Appendix IV. The section is broken down into two subsections: assumptions related to the projected earnings base and assumptions related to the projected expenditures.

A. Earnings Base

The earnings base is detailed in the denominator of the formula for the 7-year forecast break-even rate and the QPIP reduction developed in Appendix II. The earnings base is comprised of:

- the total insurable earnings on which employers pay EI premiums prior to any adjustment for wage-loss plans or provincial plans;
- the total insurable earnings on which employees pay EI premiums adjusted to reflect employee premium refunds, and;
- the earnings on which self-employed individuals that opted into the EI program pay EI premiums.

The main assumptions used in determining the earnings base are presented in Table 2 below.

Table 2 Assumptions for Earnings Base

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Increase in Maximum Insurable Earnings	0.98%	0.78%	2.71%	3.01%	2.93%	2.84%	3.11%	3.35%	3.24%
Increase in Number of Earners	1.85%	0.81%	0.37%	0.44%	0.39%	0.51%	0.46%	0.53%	0.57%
Increase in Average Employment Income	2.80%	4.45%	3.39%	3.66%	3.18%	3.45%	3.39%	2.58%	2.58%
Increase in Total Employment Income	4.70%	5.30%	3.77%	4.11%	3.59%	3.97%	3.87%	3.12%	3.16%
Increase in Total Insurable Earnings	3.80%	3.18%	3.38%	3.73%	3.43%	3.61%	3.70%	3.58%	3.55%
Net Transfer of Insurable Earnings to Québec Reflecting the Province of Residence	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
Adjustment Due to Employee Premium Refunds (% of Total Insurable Earnings)	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Increase in Covered Self-Employed Earnings:									
Total	14%	15%	12%	12%	10%	10%	10%	9%	8%
Out-of-Québec Residents	15%	15%	12%	12%	11%	11%	10%	9%	8%
Québec Residents	7%	10%	7%	8%	7%	7%	7%	6%	6%

1. Maximum Insurable Earnings

The MIE represents the income level up to which EI premiums are paid and up to which EI benefits are calculated, and is a key element in determining the earnings base. Section 4 of the EI Act provides details on how to determine the yearly MIE. In accordance with this section, the MIE increases annually based on increases in the average weekly earnings, as reported by Statistics Canada.

The 2019 MIE is equal to $53,100, which represents a 2.7% increase to the 2018 MIE of $51,700. The projected MIE for years 2020 to 2025 are calculated based on estimates of the average weekly earnings provided by the Minister of Finance. Detailed explanations and calculations of the 2019 MIE are provided in Appendix III.

2. Number of Earners

The number of earners and their distribution across income ranges is used to determine the earnings base of salaried employees. The projected number of employees per year, which is based on an average of the number of employees per month, is provided by the Minister of Finance. The total number of earners for a year is higher than the number of employees provided given that the number of earners includes all individuals who had earnings at any time during the year rather than an average per month.

The preliminary number of earners for the year 2017 is set such that the resulting insurable earnings are in line with the expected assessed premiums for 2017, which are derived from the 2017 year-to-date assessed premiums and the 2017 increase in average employment income provided by the Minister of Finance. The projected number of earners from 2018 to 2025 is derived from a regression analysis based on the number of earners[1] and the number of employees[2].

The number of earners is expected to increase by 1.85% and 0.81% in 2017 and 2018 respectively. The average annual increase for the following seven years, from 2019 to 2025, is 0.47%. Given the historical year-to-year stability of the distribution of earners across income ranges, the projected distribution of earners as a percentage of average employment income is based on the 2016 distribution.

3. Average and Total Employment Income

The increase in average employment income, combined with the increase in the number of earners, is used to determine the increase in total employment income. The 2016 distribution of the total employment income across income ranges is used to determine the future distribution of total employment income.

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[1] The number of earners is derived from the T4 data provided by CRA.
[2] The number of employees is based on the latest Statistics Canada Labour Force Survey.

The increase in average employment income is provided by the Minister of Finance and is expected to be 2.80% and 4.45% in 2017 and 2018 respectively. The average annual increase for the following seven years, from 2019 to 2025, is 3.17%. Based on these increases in average employment income and the expected increases in the total number of earners, the total employment income is expected to increase by 4.70% and 5.30% in 2017 and 2018 respectively. The average annual increase for the following seven years, from 2019 to 2025, is 3.66%.

4. Total Insurable Earnings

The total insurable earnings of salaried employees are equal to the total employment income, up to the annual MIE, earned by a person employed in insured employment. They are used to determine the earnings base for salaried employees. Prior to any adjustments for employee premium refunds, the earnings base for salaried employees is equal to 2.4 times the total insurable earnings (employer premiums are generally equal to 1.4 times the employee premiums, for a combined total of 2.4).

Historical information regarding total insurable earnings is derived from aggregate assessed premiums gathered from T4 slips of all salaried employees, and is provided by CRA. For employees with multiple employments in the year, this information is based on the combined total EI premiums. This means that, although insurable earnings of each employment are capped at the MIE, the combined total insurable earnings can exceed the MIE. The adjustment to insurable earnings and the earnings base reflecting multiple employments is captured in the employee premium refund section below.

The expected total employment income capped at the annual MIE for 2017 to 2025 is derived from the 2016 distribution of the total employment income and of the total number of earners as a percentage of average employment income, and the expected increases in these variables. The resulting capped employment income is adjusted for consistency with total insurable earnings which take into account multiple employments as well as excluded employments.

Based on this methodology, the total insurable earnings, before any adjustment for premium refunds, are expected to increase by 3.80% and 3.18% in 2017 and 2018 respectively. The average annual increase for the following seven years, from 2019 to 2025, is 3.57%. For 2017, the resulting insurable earnings reflect the year-to-date assessed premiums and related total expected assessed premiums for 2017.

5. Split of Total Insurable Earnings Due to Provincial Plan

For the purposes of determining the reduction that applies to residents of a province with a provincial plan, the earnings base for salaried employees must be split between residents of provinces with and without a provincial plan. The only province that currently has a provincial plan is Québec. Therefore, the earnings base for salaried employees must be split based on the province of residence (between out-of-Québec residents and Québec residents).

The information used to derive historical insurable earnings provided by CRA is on a T4 basis, and is therefore based on the province of employment. The historical distribution of insurable earnings on a T4 basis shows that the proportion of insurable earnings that relates to employment in Québec has generally been decreasing. A slight increase is observed for 2016 and 2017. Based on the historical pattern, it is expected that the proportion of insurable earnings that relates to employment in Québec will decrease from 21.9% in 2017 to 21.7% in 2018, and to 21.2% in 2025.

The information on historical assessed premiums provided by CRA includes adjustment payments made between the Government of Canada and the Government of Québec each year to reflect the province of residence rather than the province of employment of each employee. These adjustment payments are the object of an administrative agreement between both parties, and can be used as a basis to adjust the distribution of insurable earnings to reflect the province of residence. The methodology used in adjusting the distribution of insurable earnings based on aggregated adjustment payments was validated against administrative data. The administrative data were provided by CRA and are part of the annual exchange of information between the Government of Canada and the Government of Québec.

Based on information provided by CRA, the net annual transfer of insurable earnings on a T4 basis to reflect actual province of residence was on average 0.30% of total insurable earnings for the last five years of available data, 2012 to 2016, with the transfer of insurable earnings on a T4 basis going to Québec from the rest of Canada. It is assumed to remain at 0.30% of total insurable earnings until 2025.

6. Employee Premium Refunds

In general, salaried employees contribute EI premiums on their total insurable earnings in a given tax year up to the annual MIE. However, when filing their tax returns, some employees may exceed the maximum contribution and receive a refund of all or a portion of the EI premiums paid in the year (e.g. employees with multiple employers in the same year, employees with insurable earnings below $2,000). The insurable earnings that are subject to any subsequent premium refund must be excluded from the earnings base. Given that the data used for projection purposes (T4 slips) include insurable earnings for which premiums may later be refunded, an adjustment must be made to reduce the earnings base. It is important to note that the employer does not receive a refund. Thus, only the employee's portion of the total earnings base is adjusted, which is reflected in the formulas presented in Appendix II.

The historical data provided by CRA show that the total insurable earnings subject to a subsequent employee refund as a percentage of total insurable earnings is relatively stable. Based on the average for the last five years of available data, 2012 to 2016, it is assumed that this percentage is 2.50% from 2017 to 2025.

7. Self-Employed Earnings

Since 31 January 2010, under *The Fairness for the Self-Employed Act*, self-employed workers may elect to voluntarily opt into the EI program to receive EI special benefits for those who are sick, pregnant or caring for a newborn or adopted child, and for those caring for a seriously ill family member (Family Caregiver Benefit for Children and for Adults). Although self-employed residents of Québec are able to access MPA benefits through their provincial plan, they may voluntarily opt into the EI program to access other special benefits. As such, the earnings base used in calculating the forecast break-even rate must take into account the covered earnings of self-employed individuals who opt into the EI program.

Self-employed individuals who participate in the EI program contribute premiums based on their self-employed earnings, up to the annual MIE, at the employee rate which corresponds to their province of residence, and there are no employer premium contributions. Therefore, as with the insurable earnings of salaried employees, self-employed covered earnings must be split between out-of-Québec residents and Québec residents.

The increase in self-employed earnings reflects the expected increase in the number of participants, and in the average earnings of self-employed individuals.

The projected number of participants is based on historical enrolments information, adjusted to reflect expected future changes in enrolment. The increase in average earnings is assumed to be the same increase in average earnings as the salaried employees.

Based on this methodology, the covered earnings of all self-employed individuals are expected to increase on average by 10% per year from 2019 to 2025.

B. Expenditures

EI Part I benefits are projected from actual 2017 benefits paid using several economic and demographic assumptions.

Table 3 presents a summary of the key expenditure assumptions used in this report, followed by a short description for each of them. A detailed description of the methodology used to project all benefits is available in Appendix IV.

Table 3 Assumptions for Expenditures

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Increase in Labour Force	1.1%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%
Unemployment Rate	6.3%	5.8%	5.8%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%
Increase in Average Weekly Earnings	2.0%	3.2%	2.9%	2.8%	3.1%	3.3%	3.3%	3.2%	3.1%
Increase in Average Weekly Benefits	1.0%	2.1%	2.8%	2.9%	3.0%	3.0%	3.2%	3.3%	3.2%
Potential Claimants (as a % of Unemployed)	54.6%	54.4%	55.3%	56.2%	57.1%	58.0%	59.0%	59.0%	59.0%
Recipiency Rate (as a % of Potential Claimants)	78.5%	76.8%	77.0%	77.0%	77.0%	77.0%	77.0%	77.0%	77.0%
Number of weeks	52.0	52.2	52.2	52.4	52.2	52.0	52.0	52.4	52.2
Percentage of Benefit Weeks for Claimants with Insurable Earnings above the MIE	46.5%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%

1. Labour Force

The labour force affects most of Part I benefits directly by increasing/decreasing the number of potential claimants. The labour force population is expected to increase from 19.7 million in 2017 to 20.5 million in 2025. This represents an annual average increase of 0.5%. This assumption is provided by the Minister of Finance.

2. Unemployment Rate

The unemployment rate affects regular EI benefits directly by also increasing/decreasing the number of potential claimants. The average unemployment rate was 6.3% in 2017, and is expected to decrease to 5.8% in 2018 and 2019 before increasing to a stable unemployment rate of 6.0% starting in 2021. This assumption is provided by the Minister of Finance.

3. Average Weekly Earnings

The growth in average weekly earnings on a calendar year basis is used, in conjunction with the increase in the MIE, to project the average weekly benefits. The expected growth in average weekly earnings is 3.2% in 2018 and decreases to 2.9% in 2019. The average annual growth for years 2020 to 2025 is 3.1%. This assumption is provided by the Minister of Finance.

4. Average Weekly Benefits

The average weekly benefits growth affects EI expenditures directly through a corresponding increase/decrease in Part I expenditures. The average weekly benefits are equal to the benefit payments divided by the number of benefit weeks paid for Part I benefits.

The annual average weekly benefits growth rates are forecasted at 2.1% for 2018 and 2.8% for 2019. The average annual increase for years 2020 to 2025 is 3.1%. The growth rates are generally the same for all benefit types. However, after further analysing claims data for the first 6 months of 2018, the assumed average weekly benefit growth in 2018 for maternity and parental benefits was adjusted.

5. Potential Claimants

The EI Program is designed to provide temporary income support to eligible insured persons who have lost their jobs through no fault of their own, such as due to a shortage of work, or as a result of seasonal or mass lay-offs, and are available for work. The potential claimants represent the number of individuals or the percentage of unemployed individuals that meet the basic coverage criteria of the EI program. The number of potential claimants as a percentage of unemployed decreased from 57.3% in 2016 to 54.6% in 2017 and is expected to further decrease to 54.4% in 2018 before increasing to reach 59.0% in 2023.

6. Recipiency Rate

The recipiency rate represents the proportion of potential claimants in a given period who are receiving EI regular benefits. It is directly linked to the target population of the EI program (i.e. potential claimants) and does not consider individuals outside the target population of the EI program, such as the long-term unemployed and those who did not contribute to the program in the previous year. The recipiency rate is lower than 100% for multiple reasons including that some potential claimants have not accumulated the required number of insurable hours, while other potential claimants do not apply for benefits, are serving the one-week waiting period, or have exhausted the number of weeks they were entitled to receive and remain unemployed.

The actual recipiency rate was 72.4% in 2016 and increased to 78.5% in 2017 due to the temporary extension of EI regular benefits in selected regions affected by commodities downturn, the expanded access to EI regular benefits for new entrants and re-entrants (NERE) and the reduction of the waiting period from two weeks to one week. Based on the experience of the first six months of 2018, it is assumed to decrease to 76.8% for the whole year 2018. The recipiency rate is set at 77% starting in 2019.

7. Number of Weeks

EI expenditures are reported in the EI Operating Account on an accrual basis, that is, they are recorded in the period for which they should have been paid, regardless of the delay in processing the payment. Furthermore, EI benefits are paid on a weekly basis, but only weekdays that belong to a particular period are reported in that period.

The number of weeks affects Part I expenditures as benefits are payable for every weekday of the year, regardless of holidays. The number of workdays in a year ranges from 260 days to 262 days. Therefore, an adjustment is included to reflect the number of days benefits are paid in any year. The number of weeks for years 2017 to 2025 ranges between 52.0 and 52.4.

8. Percentage of Benefit Weeks for Claimants with Earnings Above MIE

From analyses of administrative data provided by ESDC, 46.5% of benefit weeks for claims that accrued in 2017 were based on insurable earnings above the MIE compared to 48.0% in 2016. This figure was particularly high in 2016 due, in part, to the temporary extension of EI regular benefits in selected regions affected by commodities downturn, since this measure affected some regions with higher earnings than the average normal EI claimant. Based on partial data for 2018, the proportion of benefit weeks for claimants with insurable earnings above the MIE is assumed to increase slightly in 2018 to 47.1%. It remains constant at 47.1% thereafter.

9. Other Expenditures

Additional information used to project expenditures such as pilot projects, temporary measures, the cost of new program changes, administration costs and employment benefits and support measures (EI Part II benefits) are provided by ESDC.

V. Results

A. Overview

This report provides actuarial forecasts and estimates for purposes of sections 4, 66 and 69 of the EI Act. It has been prepared based on EI provisions as of 22 July 2018, on the information provided on or before 22 July 2018 by the Ministers of ESD and Finance, and on the methodology and assumptions developed by the Actuary. The key findings are as follows:

- The 2019 MIE is equal to $53,100, which represents a 2.7% increase to the 2018 MIE of $51,700.
- The 2019 EI 7-year forecast break-even rate is 1.62% of insurable earnings.
- The 2019 premium reduction for residents of Québec due to its provincial plan is 0.37%.
- Should the Commission set the 2019 premium rate at the 7-year forecast break-even rate, the premium rate applicable to residents of all provinces except Québec would be 1.62% and the premium rate applicable to residents of Québec would be 1.25%. With the exception of employers who sponsor a qualified wage-loss plan, employers will pay 1.4 times the employees' premiums.
- The 2019 estimated cost savings to the EI program that are generated by employer sponsored qualified wage-loss plans are $1,009 million. This translates in premium reductions for employers who sponsor a qualified wage-loss plan corresponding to about 0.21%, 0.36%, 0.35% and 0.39% of insurable earnings for categories 1 through 4 respectively. Assuming a premium rate of 1.62%, the employer multipliers for out-of-Québec employers are thus reduced from 1.4 to 1.269, 1.177, 1.181 and 1.160 for categories 1 through 4 respectively (1.230, 1.111, 1.116 and 1.089 for Québec employers).
- The total earnings base is expected to grow from $1,429 billion in 2017 to $1,884 billion in 2025.
- Total expenditures are expected to increase from $22 billion in 2017 to $28 billion in 2025.
- The EI Operating Account is expected to have a cumulative surplus of $2.6 billion as of 31 December 2018.

B. Earnings Base

EI premiums, prior to any adjustment for wage-loss plans, are determined by the product of the premium rate and the earnings base. The national earnings base is required to determine the 7-year forecast break-even rate while the earnings base of provinces not offering a provincial plan is required to determine the reduction due to those plans. Since Québec is the only province offering a provincial plan, the earnings base is split between Québec and out-of-Québec residents.

Based on the methodology and assumptions developed in Section IV, Table 4 shows the earnings base for Québec and out-of-Québec residents as well as the total number of earners.

Table 4 Earnings Base and Number of Earners

Calendar Year	Earnings Base ($ million)			Number of Earners (thousands)
	Out-of-Québec	Québec	Total	
2016	1,073,396	304,818	1,378,214	18,874
2017	1,111,761	317,028	1,428,789	19,223
2018	1,149,458	324,743	1,474,200	19,379
2019	1,189,348	334,641	1,523,989	19,451
2020	1,234,985	345,857	1,580,842	19,535
2021	1,278,718	356,426	1,635,145	19,612
2022	1,326,234	367,934	1,694,168	19,711
2023	1,376,664	380,126	1,756,790	19,802
2024	1,427,456	392,289	1,819,745	19,906
2025	1,479,517	404,911	1,884,428	20,019

These results are used in the calculation of the 2019 EI 7-year forecast break-even rate and the 2019 QPIP reduction. A detailed explanation of the methodology and assumptions used to derive the results is available in Appendix IV.

C. Expenditures

This section examines the expenditures side of the 7-year forecast break-even rate. EI expenditures include Part I (income benefits), Part II (Employment Benefits and Support Measures (EBSM)), administration costs, benefit repayments and bad debts. EI benefits may also include temporary spending initiatives, such as pilot projects or special measures announced by the Government of Canada. A detailed explanation of the methodology and assumptions used to derive the results is available in Appendix IV.

For the purposes of the 7-year forecast break-even rate calculation, penalties and interest on overdue accounts receivable are included on the expenditures side of the equation.

Table 5 shows the breakdown of the 2017 EI expenditures, as well as a projection up to 2025.

Table 5 Expenditures ($ million)

Calendar Year	Part I	Part II	Admin. Costs	Benefit Repayments	Bad Debt	Penalties	Interest	Total
2017	18,269	2,180	1,852	(286)	60	(66)	(15)	21,995
2018	17,547	2,295	1,752	(255)	62	(60)	(18)	21,323
2019	18,539	2,496	1,678	(292)	68	(63)	(21)	22,404
2020	19,751	2,445	1,666	(313)	70	(67)	(24)	23,528
2021	20,801	2,483	1,665	(334)	70	(71)	(26)	24,588
2022	21,682	2,501	1,662	(350)	74	(74)	(28)	25,468
2023	22,731	2,183	1,661	(369)	77	(77)	(30)	26,175
2024	23,785	2,076	1,661	(387)	76	(81)	(33)	27,098
2025	24,605	2,076	1,661	(400)	79	(84)	(34)	27,903

Table 6 shows the breakdown of Part I EI expenditures.

Table 6 Part I Expenditures ($ million)

				Special Benefits						
							Family Caregiver Benefit for			
Calendar Year	Regular	Fishing	Work-Sharing	MP*	Sickness	Compas-sionate	Children	Adults	Sub-Total	Total
2017	12,190	326	19	4,030	1,620	61	23	0	5,734	18,269
2018	11,197	334	8	4,108	1,674	63	24	139	6,007	17,547
2019	11,819	343	15	4,403	1,723	65	24	146	6,361	18,539
2020	12,685	354	16	4,661	1,789	68	25	153	6,696	19,751
2021	13,512	364	8	4,818	1,843	70	26	161	6,918	20,801
2022	14,158	373	5	4,975	1,902	72	27	169	7,145	21,682
2023	14,929	385	5	5,160	1,972	75	28	177	7,412	22,731
2024	15,624	401	6	5,398	2,064	78	29	186	7,755	23,785
2025	16,161	412	6	5,585	2,134	81	30	195	8,026	24,605

* EI Maternity and Parental benefits; EI parental benefits are offered to parents who are caring for a newborn or newly adopted child or children. The new Parental Sharing Benefit expected to be in place in June 2019 is included in the projection.

D. Premium Reductions

The employer premiums can be reduced through a lower employer multiplier when its employees are covered under a qualified wage-loss plan which reduces EI special benefits otherwise payable, provided that at least 5/12 of the reduction is passed on to the employees. Premiums paid by employees and their employers can also be reduced when employees are covered under a plan established under provincial law which reduces EI maternity and parental (MP) benefits otherwise payable, provided that an agreement has been entered into between the Government of Canada and the province to establish a system for reducing premiums paid by residents of that province and their employers.

Table 7 shows the projection of the expected premium reductions up to 2025 taken into account in the determination of the 7-year forecast break-even rate.

Table 7 Premium Reductions ($ million)

Calendar Year	Qualified Wage-Loss Plans	Provincial Plans
2019	1,009	1,238
2020	1,052	1,314
2021	1,087	1,354
2022	1,126	1,398
2023	1,168	1,444
2024	1,210	1,491
2025	1,253	1,539

E. 7-Year Forecast Break-Even Rate

The 7-year forecast break-even rate is the rate that, based on the relevant assumptions, is expected to generate sufficient premium revenue during the next seven years to ensure that, at the end of that seven-year period, the amounts credited and charged to the EI Operating Account (EIOA) after 31 December 2008 are equal. It is therefore based on the projection over a period of seven years of EI expenditures, the earnings base and the projected balance of the EIOA as of 31 December 2018.

The expected amounts of the premium reductions over the next seven years for qualified wage-loss plans (WLP) and for provincial plans (PP) are included in the EI expenditures for purposes of determining the 7-year forecast break-even rate. This ensures that in the absence of wage-loss plans and provincial plans, a premium rate set at the 7-year forecast break-even rate would generate enough revenues to cover all EI expenses for employees of every employer and residing in any province.

Table 8 shows the projection of the variables used to determine the 7-year forecast break-even rate. The annual expected pay-as-you-go rates (PayGo) are the rates required to cover the expected expenditures of that year.

Table 8 Calculation of the 7-Year Forecast Break-Even Rate ($ million)

	Expenditures Covered by the 7-Year Forecast Break-Even Rate						
Calendar Year	EI Expenditures	Reduction for WLP	Reduction for PP	Total Expenditures Before Reduction for WLP and PP	Surplus (Deficit) in the EIOA as at 31 December 2018	Earnings Base	Annual PayGo Rate / 7-Year Forecast Break-Even Rate
2019	22,404	1,009	1,238	24,651		1,523,989	1.62%
2020	23,528	1,052	1,314	25,894		1,580,842	1.64%
2021	24,588	1,087	1,354	27,029		1,635,145	1.65%
2022	25,468	1,126	1,398	27,992		1,694,168	1.65%
2023	26,175	1,168	1,444	28,787		1,756,790	1.64%
2024	27,098	1,210	1,491	29,798		1,819,745	1.64%
2025	27,903	1,253	1,539	30,695		1,884,428	1.63%
2019-2025	**177,165**	**7,904**	**9,779**	**194,847**	**2,579**	**11,895,107**	**1.62%**

Table 9 shows the projection of revenues, EI expenditures, and the account balance using the 7-year forecast break-even rate and the premium reductions.

Table 9 Projection of the EI Operating Account ($ million)

		Revenues							
Calendar Year	Premium Rate (%)	Gross Premiums after Refunds	Reduction for WLP	Reduction for Provincial Plans	Other Adj.*	Net Premiums	Expenditures	Annual Surplus (Deficit)	Cumulative Surplus (Deficit) 31 December
2017	1.63%	23,289	(941)	(1,141)	(124)	21,083	21,995	(912)	1,602
2018	1.66%	24,472	(973)	(1,169)	(29)	22,301	21,323	977	2,579
2019	1.62%	24,689	(1,009)	(1,238)	0	22,442	22,404	37	2,617
2020	1.62%	25,610	(1,052)	(1,314)	0	23,244	23,528	(285)	2,332
2021	1.62%	26,489	(1,087)	(1,354)	0	24,048	24,588	(540)	1,792
2022	1.62%	27,446	(1,126)	(1,398)	0	24,921	25,468	(546)	1,246
2023	1.62%	28,460	(1,168)	(1,444)	0	25,848	26,175	(327)	918
2024	1.62%	29,480	(1,210)	(1,491)	0	26,779	27,098	(319)	600
2025	1.62%	30,528	(1,253)	(1,539)	0	27,736	27,903	(167)	433

*Adjustments for the timing of premium assessment.

The 2019 EI 7-year forecast break-even rate is 1.62%. This rate is expected to generate just enough premium revenue to ensure that, at the end of 2025, all amounts credited and charged to the EI Operating Account after 31 December 2008 are equal. The cumulative balance in the EI Operating Account at the end of 2025 is not exactly $0 since the 7-year forecast break-even rate is rounded to the nearest cent.

F. Québec Parental Insurance Plan (QPIP) Reduction for 2019

EI MP benefits included in Part I special benefits, as well as direct EI administrative costs incurred to provide MP benefits (variable administration costs (VAC)), are required to determine the QPIP reduction. The VAC represent the direct operating costs incurred by the EI program associated with the administration of EI MP benefits outside Québec. They are determined each year by ESDC in accordance with the agreement between Canada and Québec which stipulates a minimum VAC amount.

EI MP benefits are projected from the base year (2017) and reflect the impacts of any program changes and pilot projects. The projected EI MP expenditures used to determine the 2019 QPIP reduction are shown in Table 10. They include the cost for the new Parental Sharing Benefits expected to be implemented in June 2019 as provided by ESDC.

Table 10 MP Expenditures ($ million)

	Actual	Forecast	
	2017	2018	2019
EI MP Benefits	4,030	4,108	4,403
Variable Administration Costs	18	18	18
MP Expenditures	**4,048**	**4,125**	**4,421**

The QPIP reduction is equal to the ratio of EI MP expenditures (EI MP benefits and VAC) to the earnings base of residents of all provinces without a provincial plan, that is, residents of all provinces except Québec. It is the premium reduction for Québec residents as it relates to the savings to the EI Program resulting from the QPIP.

Table 11 shows the estimates of the variables that are required in the calculation of the 2019 QPIP reduction, as well as the resulting 2019 QPIP reduction.

Table 11 Calculation of the QPIP Reduction ($ million)

	Forecast 2019
MP Expenditures	**4,421**
MP Earnings Base **(Out-of-Québec residents)**	1,189,348
Unrounded QPIP Reduction	0.3717%
QPIP Reduction	**0.37%**

G. Qualified Wage-Loss Plan Reductions for 2019

Based on the methodology developed in Appendix II and on the 2019 projected insurable earnings of employees covered by a qualified wage-loss plan, the 2019 estimated reduction in employer premiums due to qualified wage-loss plans is $1,009 million, compared to $973 million for 2018. Table 12 shows the main results. A detailed explanation of the data and methodology used to derive the results are available in Appendix V. Note that pursuant to section 62 of the EI Regulations and section 68 of the EI Act, the employer multiplier is calculated from the unrounded rates of reduction and the rounded rates of reduction are shown for illustration purposes only.

Table 12 Reduction in Employer Premiums Due to Qualified Wage-Loss Plans

Wage-Loss Plan Category	Unrounded Rate of Reduction	Rounded Rate of Reduction	Employer Multiplier (Out-of-Québec)	Employer Multiplier (Québec)	2019 Insurable Earnings ($ million)	2019 Premium Reduction ($ million)
Category 1	0.2123%	0.21%	1.269	1.230	50,814	108
Category 2	0.3610%	0.36%	1.177	1.111	25,278	91
Category 3	0.3549%	0.35%	1.181	1.116	202,356	718
Category 4	0.3883%	0.39%	1.160	1.089	23,546	91
Total	N/A	N/A	N/A	N/A	301,995	1,009

VI. Uncertainty of Results

The 7-year forecast break-even rate and the subsequent impact on the EI Operating Account (EIOA) depends on different demographic and economic factors. The age distribution of the Canadian population has changed considerably over the last decades; the average age has been increasing as the baby boom cohorts have continued to age, the fertility rate has remained low and longevity has been increasing. Larger numbers of young people have chosen to pursue higher levels of education, delaying their full-time entry into the workforce. These changes have had a direct impact on the labour force. Countering these effects have been factors such as younger cohorts' greater attachment to the labour force due to their higher level of education and older workers delaying their retirement due to their expected increase in longevity.

Economic cycles have also had an impact on the labour force and the unemployment rate. In times of recession, jobs were lost and workers found themselves involuntarily unemployed, while in times of growth, more workers were needed and wages tended to increase as companies competed for qualified labour.

The determination of the 7-year forecast break-even rate is based on best-estimate assumptions. However, as assumptions generally do not materialize exactly as expected, the objective of this section is to illustrate the sensitivity of the 7-year forecast break-even rate and the EIOA to changes in assumptions.

A. Individual Tests

The individual tests focus on two different assumptions: the unemployment rate and the recipiency rate. The impact on the 7-year forecast break-even rate of a change in each of these two assumptions is being analysed. Afterwards, the effect of a variation in the premium rate on the EIOA is examined.

1. Unemployment Rate

The unemployment rate is closely related to the state of the economy and the supply of labour. The following table shows that a variation in the average unemployment rate of five-tenths of a percentage point (0.5%) over the period 2019-2025 would result in an increase/decrease of about 0.07% in the 2019 EI 7-year forecast break-even rate (assuming all other assumptions remain constant).

Table 13 Sensitivity of the 7-Year Forecast Break-Even Rate to the Unemployment Rate (UR)

Variation in Average UR (2019-2025)	Average UR (2019-2025)	Resulting 7-Year Forecast Break-Even Rate
(1.0%)	5.0%	1.47%
(0.5%)	5.5%	1.54%
Base	**6.0%**	**1.62%**
0.5%	6.5%	1.69%
1.0%	7.0%	1.77%

2. Recipiency Rate

The volatility shown by the recipiency rate in the past can be attributed to a number of factors, such as the decision of those eligible for EI to apply (or not) for the benefit. The following table shows that a variation in the average recipiency rate of five percentage points (5%) over the period 2019-2025 would result in an increase/decrease of about 0.05% in the 2019 EI 7-year forecast break-even rate (assuming all other assumptions remain constant).

Table 14 Sensitivity of the 7-Year Forecast Break-Even Rate to the Recipiency Rate (RR)

Variation in Average RR (2019-2025)	Average RR (2019-2025)	Resulting 7-Year Forecast Break-Even Rate
(10.0%)	67.0%	1.52%
(5.0%)	72.0%	1.57%
Base	**77.0%**	**1.62%**
5.0%	82.0%	1.67%
10.0%	87.0%	1.71%

3. Premium Rate

The cumulative balance of the EIOA is extremely sensitive to the change in the premium rate. As shown in the following table, a variation in the premium rate of one-hundredth percentage point (0.01% of insurable earnings) from the 7-year forecast break-even rate would result in a $1,190 million increase/decrease in the cumulative balance of the EIOA at the end of the 7-year forecast period.

Table 15 Sensitivity of the EIOA Balance to the 7-Year Forecast Break-Even Rate

Variation in EI 7-Year Forecast Break-Even Rate	Resulting EI 7-Year Forecast Break-Even Rate	Cumulative EIOA Balance as at 31 Dec. 2025 ($ million)	Variation in EIOA Cumulative Balance as at 31 Dec. 2025 ($ million)
(0.05%)	1.57%	(5,515)	(5,948)
(0.01%)	1.61%	(757)	(1,190)
Base	**1.62%**	**433**	**-**
0.01%	1.63%	1,622	1,190
0.05%	1.67%	6,380	5,948

B. Scenarios

The Canadian economy has been relatively strong recently. However, Canada faces challenges to sustain this consistent growth; persistent low interest rates, slow productivity growth and the aging of the population could adversely affect the Canadian economy. This section combines changes to various assumptions to create scenarios of high and low economic growth. These scenarios assume a sudden change in the economic environment starting in 2019. Consequently, the 2019 break-even rate remains at 1.62% as already calculated in this report, while the 2020 break-even rate (that would apply from 2020 to 2026) shows the impact of the economic change. It is also worth noting that given the current strength of the Canadian economy, the impact under the high economic growth scenario is smaller than the one under the low economic growth scenario since the upswing to the economy is more limited than the downswing.

For comparison purposes, Table 16 below presents the key best-estimate assumptions used in this report that vary in the low and high economic growth scenarios.

Table 16 Assumptions for Best-Estimate Scenario

Calendar Year	Labour Force Increase	Unemployment Rate	Increase in Average Employment Income	Recipiency Rate
2019	0.5%	5.8%	2.9%	77.0%
2020	0.5%	5.9%	2.8%	77.0%
2021	0.5%	6.0%	3.1%	77.0%
2022	0.5%	6.0%	3.3%	77.0%
2023	0.5%	6.0%	3.3%	77.0%
2024	0.6%	6.0%	3.2%	77.0%
2025	0.6%	6.0%	3.1%	77.0%

1. High Economic Growth

Under this scenario, the economy is doing better than what is assumed under the best-estimate scenario; the population aging and the baby-boomers' retirement are expected to create additional labour demands, which means that unemployment is down, while wages and the labour force increase at a faster rate than originally anticipated. Table 17 presents the alternate assumptions for the high economic growth scenario.

Table 17 Alternate Assumptions for High Economic Growth Scenario

Calendar Year	Labour Force Increase	Unemployment Rate	Increase in Average Employment Income	Recipiency Rate
2019	1.0%	5.5%	3.4%	76.0%
2020	1.1%	5.5%	3.3%	76.0%
2021	1.1%	5.5%	3.6%	76.0%
2022	1.1%	5.5%	3.8%	76.0%
2023	1.0%	5.5%	3.8%	76.0%
2024	1.1%	5.5%	3.7%	76.0%
2025	1.2%	5.5%	3.6%	76.0%
2026*	1.2%	5.5%	3.6%	76.0%

* Assumptions for calendar year 2026 are necessary to determine the 2020 7-year break-even rate. They are the same as 2025.

The results of such an economic development on the EI program are illustrated in Table 18. The 7-year forecast break-even rate would decrease by 11 cents, from 1.62% in 2019 to 1.51% in 2020, which would result in an application of the five-cent limit to adjust the premium rate for two years. After this period (in year 2022), for illustration purposes, the premium rate corresponds to the 7-year forecast break-even rate, i.e. 1.51%. As for the EIOA, it would increase in the short-term to a high of $4.0 billion in 2020. In 2026, the account would be close to balance ($1.2 billion).

Table 18 Impact of High Economic Growth Scenario on EI Program

Calendar Year	7-Year Break-Even Rate	Premium Rate (5-cent decrease limit)	Annual Surplus/Deficit on EIOA ($ Billion)	Cumulative Surplus / Deficit on EIOA (31 Dec.) ($ Billion)
2019	1.62%	1.62%	1.1	3.7
2020	1.51%	1.57%	0.3	4.0
2021	1.51%	1.52%	-0.5	3.5
2022	1.51%	1.51%	-0.7	2.9
2023	1.51%	1.51%	-0.3	2.5
2024	1.51%	1.51%	-0.6	2.0
2025	1.51%	1.51%	-0.4	1.6
2026*	1.51%	1.51%	-0.3	1.2

* Calendar year 2026 is presented in the high economic scenario as the 2020 7-year break-even rate would apply until 2026.

2. Low Economic Growth

Under this scenario, the economy is doing worse than what is assumed under the best-estimate scenario. This development is similar to what happened during the 2008-2009 recession, which means that the unemployment rate is going up, while the labour force sees a shock decrease in 2019, wages increase at a slower rate than originally anticipated and the recipiency rate increases. In 2025, the unemployment rate remains 100 basis points higher than the best estimate scenario (7% compared to 6%). Although the Canadian labour force has evolved during the last decade, the 2008-2009 recession serves as a basis to determine the variation in key variables following an economic slowdown. Table 19 below presents the alternate assumptions for the low economic growth scenario.

Table 19 Alternate Assumptions for Low Economic Growth Scenario

Calendar Year	Labour Force Increase	Unemployment Rate	Increase in Average Employment Income	Recipiency Rate
2019	-3.4%	8.5%	1.9%	80.0%
2020	0.5%	8.3%	1.9%	80.0%
2021	0.5%	8.0%	2.3%	79.0%
2022	0.5%	7.8%	2.6%	78.0%
2023	0.5%	7.5%	2.7%	78.0%
2024	0.6%	7.3%	2.7%	78.0%
2025	0.6%	7.0%	2.6%	78.0%
2026*	0.6%	7.0%	2.6%	78.0%

* Assumptions for calendar year 2026 are necessary to determine the 2020 7-year break-even rate. They are the same as 2025.

The results of such an economic development on the EI program are illustrated in Table 20. The 7-year forecast break-even rate would increase by 22 cents, from 1.62% in 2019 to 1.84% in 2020, which would result in the application of the five-cent limit to adjust the premium rate for four years. After this period (in year 2024), for illustration purposes, the premium rate corresponds to the 7-year forecast break-even rate, i.e. 1.84%. As for the EIOA, it would decrease to a low of $-12.2 billion in 2022. In 2026, the account would show a deficit of $5.6 billion. The results presented below do not include any special temporary measures that the Government could put in place to stabilize the economy, such as a premium rate freeze, regular benefit extensions or pilot projects.

Table 20 Impact of Low Economic Growth Scenario on EI Program

Calendar Year	7-Year Break Even Rate	Premium Rate (5-cent increase limit)	Annual Surplus / Deficit on EIOA ($ Billion)	Cumulative Surplus / Deficit on EIOA (31 Dec.) ($ Billion)
2019	1.62%	1.62%	-6.9	-4.4
2020	1.84%	1.67%	-5.5	-9.9
2021	1.84%	1.72%	-1.8	-11.7
2022	1.84%	1.77%	-0.6	-12.2
2023	1.84%	1.82%	1.0	-11.2
2024	1.84%	1.84%	1.6	-9.7
2025	1.84%	1.84%	2.2	-7.5
2026*	1.84%	1.84%	1.9	-5.6

* Calendar year 2026 is presented in the low economic scenario as the 2020 7-year break-even rate would apply until 2026.

VII. Reconciliation of Changes in the 7-Year Forecast Break-Even Rate

The main elements of change in the 7-year forecast break-even rate since the 2018 Actuarial Report are presented in Table 21.

Table 21 Reconciliation of Changes in the 7-Year Forecast Break-Even Rate

	7-Year Forecast Break-Even Rate (%)
2018 Actuarial Report - After Rounding	**1.66**
2018 Actuarial Report - Before Rounding	**1.6608**
Variation in the EI Operating Account as at 31 December 2017	(0.0083)
Change in Unemployment Rate assumptions over 7-year period	(0.0576)
Changes in Economics - Earnings Base	(0.0041)
Changes in Economics - Expenditures	0.0034
New measures - Budget 2018	0.0251
Change in 7-year period (2018-2024 to 2019-2025)	(0.0033)
2019 Actuarial Report - Before Rounding	**1.6160**
2019 Actuarial Report - After Rounding	**1.62**

The 2017 experience was better than anticipated overall as revenues were slightly higher than projected in the 2018 Actuarial Report while expenditures were lower than expected. The net effect is an increase in the Cumulative Surplus of the EI Operating Account as at 31 December 2017 of $927 million, i.e. $1,602 million compared to $675 million projected in the 2018 Actuarial Report. This lowered the 7-year forecast break-even rate.

As shown in the sensitivity test section, the unemployment rate assumption has a significant impact on the 7-year forecast break-even rate. In comparison with the 2018 Actuarial Report, the unemployment rate assumption was revised downward, from around 6.4% to 5.9% in average for the 2018-2024 period. This lowered the 7-year forecast break-even rate.

In comparison with the 2018 Actuarial Report, there is a faster progression of earnings over the projection period. As a result, the earnings base over the 7-year period 2018-2024 is slightly higher than expected in the previous report. This also lowered the 7-year forecast break-even rate.

The three elements mentioned above decreased the 7-year forecast break-even rate. This reduction in the rate is partially offset by slight changes in assumptions (other than unemployment rate) having an impact on expenditures and particularly by the new measures introduced in Budget 2018, i.e. the new Parental Sharing Benefits and the Working While on Claims permanent provisions.

Overall, the 7-year forecast break-even rate decreased from 1.66% in 2018 to 1.62% in 2019.

VIII. Conclusion

This report was prepared by the Actuary in accordance with the relevant legislation and accepted actuarial practices, and provides to the Commission the forecasts and estimates for the purposes of sections 4 (MIE), 66 (EI premium rate) and 69 (employers who sponsor qualified wage-loss plans and premium reductions for Québec residents and their employers) of the EI Act.

In accordance with the methodology detailed in the EI Act and the relevant economic data, the 2019 MIE is **$53,100**. In addition, the 2019 estimated employer premium reduction due to qualified wage-loss plans is $1,009 million, and the 2019 QPIP reduction is **0.37%**.

Based on the assumptions of the relevant economic and demographic variables provided by the Minister of Finance, on the expenditure estimates provided by the Minister of ESD, and on the methodology and assumptions developed by the Actuary, the 7-year forecast break-even rate which would generate sufficient premium revenue to cover the expected cost of the EI program in the period 2019-2025 and eliminate the projected $2.6 billion cumulative surplus in the EI Operating Account as of 31 December 2018, is:

- **1.62% of insurable earnings for residents of all provinces except Québec; and**
- **1.25% of insurable earnings for residents of Québec, after taking into account the QPIP reduction.**

The 7-year forecast break-even rate for residents of all provinces except Québec decreases from 1.66% in the 2018 Actuarial Report to 1.62% in the current report. The decrease is mainly attributable to the change in the unemployment rate assumptions, which is related to the better than anticipated recent economic situation. This is partially offset by the cost of the changes introduced in Budget 2018.

It is important to note that the figures included in this report are projections, and eventual differences between future experience and these projections will be analyzed and taken into account in subsequent reports.

IX. Actuarial Opinion

In our opinion, considering that this report was prepared pursuant to the *Canada Employment Insurance Act and Regulations*:

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

Based on the results of this valuation, the 7-year forecast break-even rate, which would generate sufficient premium revenue to cover the expected cost of the EI program over the period 2019-2025 and eliminate the projected cumulative surplus in the EI Operating Account as of 31 December 2018, is 1.62% of insurable earnings.

This report has been prepared, and opinions given, in accordance with both accepted actuarial practice in Canada, in particular, the General Standards of Practice of the Canadian Institute of Actuaries, and internationally accepted actuarial practice as provided by the International Standards of Actuarial Practice for General Actuarial Practice (ISAP 1) and Financial Analysis of Social Security Programs (ISAP 2) of the International Actuarial Association.

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Ottawa, Canada
22 August 2018

Appendix I. Summary of EI Legislation

The Unemployment Insurance program was first implemented in 1940, with the last major reform occurring in 1996. At that time, the name of the program was changed from “Unemployment Insurance” to “Employment Insurance” to reflect the program’s primary objective of promoting employment in the labour force and to better emphasize that individuals’ access to the program is linked to significant workforce attachment.

The EI program provides temporary income support to individuals who have lost their employment through no fault of their own or are unable to work due to specific life circumstances. This Appendix provides a brief overview of the EI program.

A. EI Part I Benefits

Benefits provided under Part I are described below.

Although access and entitlement to benefits vary depending on each benefit type, the calculation of weekly benefit rates is the same for most benefit types. Weekly benefits are generally equal to 55% of the claimants’ insurable earnings, during their variable best weeks over the qualifying period (generally 52 weeks), up to a maximum amount. The number of best weeks taken into account is determined by the regional unemployment rate and varies from 14 to 22 insurable earnings weeks. The maximum amount payable is determined by the maximum insurable earnings (MIE).

The EI family supplement provides additional benefits to low-income families with children. The family supplement rate is based on the net family income up to a maximum of $25,921 per year and the number of children in the family and their ages. The family supplement may increase benefits up to 80% of average insurable earnings.

Benefits are not paid until claimants have served a waiting period of one week of unemployment.

1. Regular Benefits

EI regular benefits are provided to eligible insured persons who have lost their jobs through no fault of their own (for example, due to a shortage of work, seasonal or mass lay-offs) and are available for and able to work but can’t find a job.

To qualify for regular benefits, individuals must have been without work and without pay for at least seven consecutive days. Claimants must have worked at least the minimum required hours of insurable employment, between 420 and 700 hours, as determined by the regional unemployment rate, in the last 52-week qualifying period. The number of insurable hours required to qualify is increased in cases of violations regarding prior EI claims. Claimants must also be actively looking for work in order to maintain eligibility.

The maximum number of regular benefit weeks varies from 14 to 45 weeks, depending on the number of insurable hours accumulated in the qualifying period and the regional unemployment rate. From time to time, the maximum duration of benefits can be extended through temporary special measures.

2. Fishing Benefits

EI provides fishing benefits to qualifying self-employed fishers who are actively seeking work. Unlike regular EI benefits, eligibility for EI fishing benefits is determined by the claimant's insurable fishing earnings accumulated during the qualifying period, not the number of hours worked. A self-employed person engaged in fishing who has earned at least between $2,500 and $4,200 (depending on the regional unemployment rate) during the maximum 31 week qualifying period is eligible to receive up to 26 weeks of EI fishing benefits.

3. Work-Sharing Benefits

To avoid lay-offs due to a temporary reduction in the normal level of business activity that is beyond the control of the employer, employers and employees can enter into a work-sharing agreement with the Canada Employment Insurance Commission (Commission) through Service Canada to provide EI benefits to eligible workers willing to work a temporarily reduced work week. This enables employers to retain staff and adjust their work activity during temporary work shortages, as well as avoid the expenses of hiring and training new staff once business levels return to normal. Employees are able to retain their skills and jobs while receiving EI benefits for the days that they do not work.

Work-sharing agreements have a minimum duration of 6 weeks and a maximum of 26 weeks, with a possible extension of up to 12 weeks for a maximum duration of 38 weeks. From time to time, the maximum duration of work-sharing agreements may be extended through temporary special measures.

4. Special Benefits

To qualify for special benefits, the claimant's normal weekly earnings must be reduced by over 40%. In addition, special benefits require a minimum of 600 hours of insurable employment in the 52 week qualifying period.

Special benefits include:

- <u>Maternity benefits</u>, for mothers who give birth. These benefits can be paid for a maximum of 15 weeks. They can start as early as 12 weeks before the expected date of birth, and can end as late as 17 weeks after the actual date of birth.

- Parental benefits, for a parent to take care for their newborn or newly adopted child. Parents may share the weeks of parental benefits. There are two options available:

  - *Standard parental benefits* can be paid for a maximum of 35 weeks at 55% of the claimant's average weekly insurable earnings (up to a maximum) and must be claimed within a 52 week period (12 months) after the week the child was born or placed for the purpose of adoption.
  - *Extended parental benefits* can be paid for a maximum of 61 weeks at 33% of the claimant's average weekly insurable earnings (up to a maximum) and must be claimed within a 78 week period (18 months) after the week the child was born or placed for the purpose of adoption. Individuals can choose to claim extended parental benefits only if the child was born or placed for the purpose of adoption on or after December 3, 2017.

  To support equal parenting and the flexibility for earlier returns to work, Budget 2018 introduced a new Parental Sharing Benefit that will be available when both parents agree to share parental leave. This benefit would add five weeks to the existing standard parental benefits (eight weeks for extended parental benefits). Under the standard parental benefits, either parent may take up to 35 weeks. The other parent may take the remainder of the 40 total weeks available. Consequently, a minimum of five weeks is available for each parent.

- Sickness benefits, for people who are unable to work due to illness, injury or quarantine. These benefits can be paid for a maximum of 15 weeks.

- Compassionate care benefits, for people who take a temporary leave from work to provide care or support for a seriously ill family member who has a significant risk of death. These benefits can be paid for a maximum of 26 weeks, which can be shared between different eligible family caregivers.

- Family Caregiver Benefit for Children, for family members who must be away from work to care for or support a critically ill or injured child. This benefit can be paid for a maximum of 35 weeks, which can be shared between different eligible family caregivers.

- Family Caregiver Benefit for Adults, for family members who must be away from work to care for or support a critically ill or injured adult. This benefit can be paid for a maximum of 15 weeks, which can be shared between different eligible family caregivers.

Since 2006, the Province of Québec has been responsible for providing maternity, parental and adoption (MPA) benefits to residents of Québec through the Québec Parental Insurance Plan (QPIP). All other types of EI benefits remain available to residents of Québec.

Self-employed fishers can qualify for special benefits with fishing earnings of $3,760 during the 31-week qualifying period.

Self-employed Canadians voluntarily enter into an agreement with the Commission through Service Canada to contribute EI premiums and access EI special benefits. They must be registered for at least one year prior to claiming benefits and their self-employment earnings must meet the minimum self-employment eligibility threshold in the calendar year preceding the claim.

Self-employed residents of Québec entering into an agreement with the Commission cannot access EI MP benefits, as maternity and parental (including adoption) benefits are already payable through QPIP, but can access sickness, compassionate care and family caregiver benefits.

B. EI Part II Benefits

Part II of the EI Act includes Employment Benefits and Support Measures (EBSM), which are labour market programs and services established to help unemployed Canadians return to work and to develop a labour force that meets the current and emerging needs of employers. These programs are delivered mostly by provincial and territorial governments through Labour Market Development Agreements (LMDAs).

C. Financing

The EI program is financed by contributions from employees and employers, via premiums paid on insurable earnings up to the MIE. Employee premiums apply to insurable earnings, up to the MIE. However, the EI program has specific provisions for contributors who are unlikely to qualify for benefits, e.g. employees with insured earnings of less than $2,000 are entitled to a refund of their EI premiums when they file an income tax return.

In addition, in accordance with subsection 69(2) of the EI Act and related regulations, a mechanism to reduce EI premiums paid by Québec residents and their employers was introduced. The reduced premium rate reflects the savings to the EI program due to the existence of the QPIP.

Since 31 January 2010, self-employed individuals may voluntarily opt into the EI program to receive EI special benefits. Self-employed individuals pay the same EI premium rate as salaried employees but are not required to pay the employer portion of premiums, as they do not have access to EI regular benefits.

Employers pay premiums at the rate of 1.4 times those of employees. Employers bear a higher overall share of program costs based on the principle that they have more control over layoffs. However, in accordance with subsection 69(1) of the EI Act, employers who sponsor a qualified wage-loss plan which reduces the EI special benefits otherwise payable receive a premium reduction if they meet the requirements set out by the Commission. In such cases, the employer pays premiums at a rate that is lower than 1.4 times those of employees, and a portion of those savings must be returned to their employees.

D. Premium Rate

In accordance with subsection 66(1) of the EI Act, the Commission shall set the premium rate for each year in order to generate just enough premium revenue to ensure that, at the end of the seven-year period that commences at the beginning of that year, the total of the amounts credited to the EI Operating Account after 31 December 2008 is equal to the total of the amounts charged to that Account after that date. This calculated premium rate is referred to as the 7-year forecast break-even rate.

Legislative Framework

The EI Act includes the following dates by which various responsibilities related to the setting of the EI premium rate must be met.

22 July

The Minister of ESD shall provide the information prescribed in subsection 66.1(1) of the EI Act.

The Minister of Finance shall provide the information prescribed in subsection 66.2(1) of the EI Act.

22 August

In accordance with section 66.3 of the EI Act, the Actuary shall prepare actuarial forecasts and estimates for the purposes of sections 4, 66 and 69 of the EI Act, and shall provide the Commission with a report that sets out:

- the forecast premium rate for the following year and a detailed analysis in support of the forecast;
- the calculations performed under sections 4 and 69 of the EI Act;
- the information provided under section 66.1 of the EI Act; and
- the source of the data, the actuarial and economic assumptions and the actuarial methodology used.

31 August

The Commission shall provide the Ministers of ESD and Finance with the report referred to in section 66.3 and a summary of that report.

14 September

The Commission shall set the premium rate for the following year and make available to the public the report referred to in section 66.3 of the EI Act and a summary of that report. After the premium rate is set and the report and its summary are made available to the public, the Minister of ESD shall cause them to be laid before each House of Parliament on any of the next 10 days during which that House is sitting.

30 September

The Governor in Council may set a premium rate that is different from the one set by the Commission, based on the joint recommendation of the Ministers of ESD and Finance, if it is considered to be in the public interest.

Appendix II. Premium Calculation Methodology

A. Premium Rate

Based on relevant assumptions and prior to any limit to the annual change in the premium rate, the 7-year forecast break-even rate for 2019 is the premium rate that is expected to generate sufficient premium revenue to ensure that at the end of 2025 the amounts credited and charged to the EI Operating Account after 31 December 2008 are equal. It is therefore based on the projected balance of the EI Operating Account as of 31 December 2018 and the projection over a period of seven years (2019-2025) of both the earnings base and EI expenditures.

The earnings base represents the total insurable earnings on which salaried employees and their employers pay EI premiums, and the earnings on which self-employed individuals that opted into the EI program pay EI premiums. The employer portion of the earnings base for salaried employees is equal to 1.4 times the employee portion of the earnings base for salaried employees, prior to the adjustment to reflect employee premium refunds.

In accordance with section 69 of the EI Act and related regulations, premium reductions are granted to employers who sponsor a qualified wage-loss plan as well as to employees residing in a province that has established a provincial plan and their employers. The expected costs of these premium reductions over the next seven years are included in the EI expenditures for purposes of determining the 7-year forecast break-even rate. More information on these premium reductions as well as the methodology used for calculating the applicable reductions for 2019 are provided in subsections B (wage-loss) and C (provincial plan).

For purposes of determining the 7-year forecast break-even rate, the earnings base and EI expenditures are projected over a seven-year period using the expected growth rates in the relevant economic and demographic variables applied to the base year, i.e. the last year for which complete data are available. The base year for the earnings base is 2016, which is the most recent year for which fully assessed T4 data are available. However, for certain assumptions, the 2017 partially assessed information is used. Complete data for 2017 will not become available until January 2019. The base year for EI benefits is calendar year 2017.

The earnings base and EI expenditures are projected from the base year using:

- Data and assumptions provided by the Minister of ESD, including prescribed information as set out in section 66.1 of the EI Act;
- Assumptions and forecasts provided by the Minister of Finance in accordance with section 66.2 of the EI Act;
- Additional data provided by Service Canada, ESDC, and the Canada Revenue Agency (CRA); and

- Methodology and assumptions developed by the Actuary.

The 7-year forecast break-even rate is calculated such that the sum of expected revenues from insurable and self-employed covered earnings over the next seven years and the EI Operating Account balance as of 31 December 2018 are equal to the expected EI expenditures over the same period. For this purpose, the expected EI expenditures include the expected amount of premium reductions granted to employers who sponsor a qualified wage-loss plan as well as to employees residing in a province that has established a provincial plan and their employers.

The expected EI expenditures are comprised of:

- Direct program expenditures, including:
  - EI Part I benefits, net of benefit repayments that apply in certain situations (e.g. if a claimant’s income for a tax year exceeds 1.25 times the annual MIE, the claimant may be required to repay a portion of benefits received);
  - EI Part II benefits, that is, employment benefits and support measures;
  - Additional benefits paid through various pilot projects and transitional measures, net of government funding;
  - Administration costs; and
  - Other costs such as bad debt expense, net of penalties and interests recovered from claimants.
- Premium reductions granted to employers who sponsor qualified wage-loss plans; and
- Premium reductions granted to employees residing in a province that has established a provincial plan and their employers.

The expected revenues are comprised of:

- Employer premiums paid on behalf of salaried employees over the next seven years prior to premium reductions for wage-loss plans and provincial plans;
- Employee premiums over the next seven years for earnings included in insured employment of salaried employees, net of refunds that apply in certain situations (e.g. insurable earnings below $2,000, over contributions due to multiple employments in the year) and prior to premium reductions for provincial plans; and
- Employee premiums over the next seven years for self-employed individuals who voluntarily opted into the EI program prior to premium reductions for provincial plans.

Depending on the projected cumulative balance in the EI Operating Account as at 31 December 2018, the 7-year forecast break-even rate could either increase or decrease. For 2019, given that the projected EI Operating Account as of 31 December 2018 is projected to be in surplus, the amortization of the projected EI Operating account balance decreases the 7-year forecast break-even rate.

The formula for calculating the 7-year forecast break-even rate is developed as follows:

EI Expenditures (over the next 7 years) = Revenues (over the next 7 years) + EIOA as at 31 December 2018

$$\text{Direct Program Expenditures} + R_{WLP} + R_{PP} = \underbrace{1.4 \text{ x Rate x TIE}}_{\substack{\text{Employer premiums paid on behalf of} \\ \text{salaried employees, prior to reductions} \\ \text{for wage-loss plans and provincial plans}}} + \underbrace{\text{Rate x TIE x } (1 - \text{PR\%})}_{\substack{\text{Salaried employee premiums} \\ \text{net of employee refunds} \\ \text{prior to reductions for} \\ \text{provincial plans}}} + \underbrace{\text{Rate x TSEE}}_{\substack{\text{Employee premiums} \\ \text{for self-employed} \\ \text{prior to reductions for} \\ \text{provincial plans}}} + \text{EIOA}$$

$$\textbf{7-year forecast break-even rate} = \frac{\textbf{Direct Program Expenditures} + \mathbf{R_{WLP}} + \mathbf{R_{PP}} - \textbf{EIOA}}{\underbrace{\textbf{1.4 x TIE + TIE x (1 – PR\%) + TSEE}}_{\substack{\text{Earnings base for residents of all} \\ \text{provinces over the next 7 years}}}}$$

Where:

R_{WLP} = amount of reduction in employer premiums due to qualified wage-loss plans over the next 7 years;
R_{PP} = amount of reduction in employee and employer premiums due to provincial plans over the next 7 years;
EIOA = EI Operating Account as of 31 December 2018;
TIE = total insurable earnings over the next 7 years for salaried employees prior to adjustments for employee premium refunds;
PR% = average adjustment over the next 7 years to reflect employee premium refunds (as a percentage of TIE);
TSEE = total self-employed earnings over the next 7 years for individuals who opt into the EI program.

A description of the assumptions used in projecting the variables included in the above formulas is provided in Section IV of the main report, with additional supporting information provided in Appendix IV.

B. Reduction in Employer Premiums Due to Qualified Wage-Loss Plans

Generally, EI premiums paid by the employer are equal to 1.4 times the premiums deducted by the employer on behalf of the employee, referred to as the employer multiplier. However, pursuant to subsection 69(1) of the EI Act, the employer premiums can be reduced through a lower employer multiplier when its employees are covered under a qualified wage-loss plan which reduces EI special benefits otherwise payable, provided that at least 5/12 of the reduction is passed on to the employees.

In accordance with sections 63, 64, 65 and 66 of the *Employment Insurance Regulations* ("EI Regulations"), there are four distinct categories of qualified wage-loss plans, and a separate rate of reduction, expressed as a percentage of insurable earnings, is calculated annually for each category. These rates of reduction are then converted into reduced employer multipliers for each category and applicable premium rate. The principle in determining the rates of reduction is that the EI program is paying lower sickness benefits due to the presence of qualified wage-loss plans, and that these savings to the EI program should be passed on to the employers who sponsor these plans and their employees. For administrative simplicity, the full premium reduction is provided to the employer who is then responsible for returning the employees' portion of the reduction to them.

As discussed in the previous subsection, the projection over seven years of the reduction in employer premiums due to qualified wage-loss plans is taken into account in the determination of the 7-year forecast break-even rate. For this purpose, it is viewed as a cost to the EI program and included in the numerator of the 7-year forecast break-even rate calculation. However, the cost to the EI program of granting premium reductions to employers with qualified wage-loss plans is offset by the savings to the EI program generated by lower EI sickness benefits due to the existence of qualified wage-loss plans. In addition to determining the 7-year forecast break-even rate, one of the purposes of this report is to determine the reduction in employer premiums due to qualified wage-loss plans that will apply for 2019. The remainder of this subsection provides summarized information on this.

The methodology to calculate the rates of reduction applicable for 2019 is prescribed in section 62 of the EI Regulations. Pursuant to this section, the employer's premium rate shall be reduced by the percentage by which the first payer cost ratio in respect of all insured persons exceeds the experience cost ratio in respect of insured persons covered by a qualified wage-loss plan of that employer's category. The formula used in determining the rate of reduction of each category is provided below:

Rate of reduction(x) = First Payer Cost ratio – Experience Cost ratio(x)

Where: x = Category of wage-loss plan (1 to 4).

First-Payer Cost (FPC) ratio

The FPC ratio, which is identical for all insured persons and categories, represents the average estimated job-attached[1] EI sickness benefits that would have been paid if benefits payable under a group sickness or disability wage-loss indemnity plan or paid sick leave plan were disregarded for purposes of determining benefits otherwise payable to persons under the EI Act. It is expressed as a percentage of average insurable earnings for all insured persons. The FPC for each year is determined by multiplying the hypothetical number of first payer job-attached EI sickness benefit weeks by the average weekly sickness benefits that would apply in such circumstance.

For the purposes of calculating the 2019 rates of reduction, the FPC ratio is equal to the average of the FPC for the years 2015 to 2017, divided by the average insurable earnings of all insured persons for the years 2015 to 2017. The formula used in determining the FPC ratio is provided below:

$$\textbf{FPC ratio} = \frac{\textbf{FPC (2017) + FPC (2016) + FPC (2015)}}{\textbf{TIE (2017) + TIE (2016) + TIE (2015)}}$$

Where: TIE = total insurable earnings for all salaried employees prior to adjustments for employee premium refunds.

Experience Cost (EC) ratio

The EC ratio is different for each category and reflects the actual average job-attached EI sickness benefits paid for each category. It is expressed as a percentage of average insurable earnings for the insured persons in that category.

The EC for each year and category, as well as the allocation of insurable earnings amongst categories are based on an analysis of administrative data provided by Service Canada and ESDC.

Similarly to the calculation of the FPC ratio, for the purposes of calculating the 2019 rates of reduction, the EC ratio of each category is based on the years 2015 to 2017. The formula used in determining the EC ratio of each category is provided below:

[1] A sickness claim is considered job-attached if the interruption of earnings with the employer was by reason of illness, injury or quarantine.

$$\textbf{EC ratio (x)} = \frac{\textbf{EC(x) (2017) + EC(x) (2016) + EC(x) (2015)}}{\textbf{TIE(x) (2017) + TIE(x) (2016) + TIE(x) (2015)}}$$

Where: x = Category of wage-loss plan (1 to 4);
TIE(x) =total insurable earnings for salaried employees of the category x, prior to adjustments for employee premium refunds.

Rates of Reduction and Amount of Premium Reduction

The resulting uniform FPC ratio applicable to all categories and the EC ratio of each category are used to determine the 2019 rates of reduction per category. The 2019 estimated insurable earnings per category are then used to estimate the 2019 employer premium reduction due to qualified wage-loss plans.

The estimated employer premium reduction due to qualified wage-loss plans for years 2020 to 2025 are projected assuming that the 2017 FPC and EC ratios remain constant throughout the projection. The 2017 experience used to determine the 2019 rates of reduction reflects the change in the waiting period from two weeks to one week effective 1 January 2017.

Additional supporting information on the calculation of the 2019 employer premium reduction due to qualified wage-loss plans and of each separate component is provided in Appendix V.

C. Reduction in Premiums Due to Provincial Plan

In accordance with subsection 69(2) of the EI Act and related regulations, premiums paid by employees and their employers can be reduced when employees are covered under a plan established under provincial law which reduces EI maternity and parental (MP) benefits otherwise payable, provided that an agreement has been entered into between the Government of Canada and the province to establish a system for reducing premiums paid by residents of that province and their employers.

As discussed in the previous subsection, the projection over seven years of the reduction in premiums due to the presence of provincial plans is taken into account in the determination of the 7-year forecast break-even rate. For this purpose, it is viewed as a cost to the EI program and included in the numerator of the 7-year forecast break-even rate calculation. However, the cost to the EI program of granting these premium reductions is offset by the savings to the EI program generated by lower EI MP benefits due to the existence of provincial plans. In addition to determining the 7-year forecast break-even rate, one of the purposes of this report is to determine the reduction in premiums due to provincial plans that will apply for 2019. The remainder of this subsection provides more information on this.

Since 1 January 2006, the province of Québec has been responsible for providing maternity, parental and adoption (MPA) benefits to the residents of Québec through the Québec Parental Insurance Plan (QPIP). Pursuant to subsection 69(2) of the EI Act and related regulations, a mechanism to reduce EI premiums paid by Québec residents and their employers was introduced. The reduced premium rate reflects the savings to the EI program due to the existence of the QPIP. To date, the QPIP is the only provincial plan established in Canada.

Pursuant to the agreement signed between the Government of Canada and the Government of Québec and in accordance with Part III.1 of EI Regulations, the 2019 premium reduction for the MP provincial plan in the province of Québec, also referred to as the QPIP reduction, is equal to the ratio of the 2019 EI MP expenditures, including EI MP benefits and the variable administrative costs related to administering EI MP benefits, to the 2019 earnings base of residents outside the province of Québec. Accordingly, the formula for the QPIP reduction is as follows:

$$\textbf{2019 QPIP Reduction} = \frac{\textbf{2019 EI MP Expenditures}}{\underbrace{1.4 \times TIE_{(2019\ OQ)} + TIE_{(2019\ OQ)} \times (1 - PR\%) + TSEE_{(2019\ OQ)}}_{\text{2019 earnings base for out-of-Québec residents}}}$$

Where:

$TIE_{(2019\ OQ)}$ = 2019 total insurable earnings for out-of-Québec resident salaried employees, prior to adjustments for employee premium refunds;

PR% = adjustment to reflect 2019 employee premium refunds (as a percentage of TIE);

$TSEE_{(2019\ OQ)}$ = 2019 total self-employed earnings for out-of-Québec residents who opted into the EI program.

Appendix III. Maximum Insurable Earnings (MIE)

Section 4 of the *Employment Insurance Act* ("EI Act") provides details on how to determine the yearly MIE, the income level up to which EI premiums are paid and up to which EI benefits are calculated.

Based on the EI Act, the annual MIE is set at $39,000, beginning in 1996, until this threshold is surpassed by 52 times the product obtained by multiplying:

(a) the average for the 12-month period ending on April 30 in the preceding year of the Average Weekly Earnings (AWE), according to the latest revision of Statistics Canada[1], for each month in that period

by

(b) the ratio that the average for the 12-month period ending on April 30 in that preceding year of the AWE for each month in that 12-month period bears to the average for the 12-month period ending twelve months prior to April 30 of that preceding year of the AWE for each month in that 12-month period ending twelve months prior to April 30 of that preceding year.

In the year in which the threshold is surpassed, the MIE is equal to the amount calculated as described above, and is rounded down to the nearest multiple of $100.

For subsequent years, the MIE before rounding is equal to the previous year's MIE before rounding, multiplied by the average of the AWE for each month for the twelve month period ending on April 30 of the previous year divided by the average of the AWE for each month for the twelve month period ending on April 30 in the year prior to the previous year. This unrounded MIE is then rounded down to the nearest multiple of $100.

In accordance with the EI Act, the first time the $39,000 threshold was exceeded was for 2007. The revised unrounded MIE for 2007 is $40,070.97[2].

The unrounded MIE for 2019 is equal to the unrounded MIE from 2007 ($40,070.97) multiplied by the average of the AWE for each month for the twelve month period ending 30 April 2018 ($985.4742) divided by the average of the AWE for each month for the twelve month period ending 30 April 2006 ($743.5550).

[1] The AWE series has been revised by Statistics Canada since the 2018 Actuarial Report.

[2] $$52 \times AWE_{2006} \times \frac{AWE_{2006}}{AWE_{2005}} = 52 \times \$743.5550 \times \frac{\$743.5550}{\$717.4633}$$

$$MIE_{2019} = MIE_{2007} \times \frac{AWE_{2018}}{AWE_{2006}}$$

$$= \$40{,}070.97 \times \frac{\$985.4742}{\$743.5550} = \$53{,}108.25$$

Rounded down to the nearest multiple of $100, the MIE is **$53,100** for 2019. This is an increase of $1,400 or 2.7% from the 2018 MIE of $51,700.

Table 22 Maximum Insurable Earnings ($)

Year	12-Month AWE Average as of 30 April	Revised Unrounded MIE	Applicable MIE	% change in Applicable MIE
2005	717.4633	37,255.53	39,000	
2006	743.5550	38,374.48	39,000	-
2007	764.8367	40,070.97	40,000	2.56%
2008	796.5900	41,217.86	41,100	2.75%
2009	814.7983	42,929.08	42,300	2.92%
2010	830.0725	43,910.35	43,200	2.13%
2011	862.2567	44,733.49	44,200	2.31%
2012	878.4383	46,467.93	45,900	3.85%
2013	901.3425	47,339.97	47,400	3.27%
2014	919.2200	48,574.30	48,600	2.53%
2015	943.5183	49,537.74	49,500	1.85%
2016	952.9192	50,847.20	50,800	2.63%
2017	961.3792	51,353.82	51,300	0.98%
2018	985.4742	51,809.74	51,700	0.78%
2019	N/A	53,108.25	**53,100**	2.71%

The MIE for the years prior to 2019 are not revised and are based on the legislation that applied at the time they were determined. However the 2019 MIE reflects retroactive adjustments to the calculation in accordance with current legislation.

2019 Minimum Self-Employed Earnings (MSEE)

To qualify for EI special benefits, self-employed individuals who opted in the EI program need to earn at least the MSEE during the calendar year before the year they submit a claim. For claims filed in 2018, in accordance with subsection 11.1 of the EI Regulations, the unrounded MSEE of 2018 was $6,947.13 of self-employed earnings in 2017. It is adjusted annually on a compound basis by the same ratio used for the indexation of the MIE (see previous section), rounded down to the nearest dollar.

$$MSEE_{2019} = MSEE_{2018} \times \frac{AWE_{2018}}{AWE_{2017}} = \$6{,}947.13 \times \frac{\$985.4742}{\$961.3792} = \$7{,}121.25$$

The MSEE for claims filed in 2019 is therefore set at $7,121 of self-employed earnings in 2018.

Appendix IV. Data, Methodology and Assumptions

This appendix describes the data, methodology and assumptions that underlie the projections of the earnings base and expenditures included in this report. Although the assumptions have been developed using the best available information, the resulting estimates should be interpreted with caution. These estimates are projections, and eventual differences between future experience and these projections will be analyzed and taken into account in subsequent reports.

A. Prescribed Data

1. Minister of Employment and Social Development

Under subsection 66.1(1) of the *Employment Insurance Act* ("EI Act"), the Minister of Employment and Social Development (ESD) shall provide the Actuary, on or before 22 July of each year, with:

- the forecast change in payments to be made under paragraphs 77(1) (a), (b) or (c) of the EI Act during each of the following seven years if any changes to the payments to be made are announced;
- the forecast administration costs to be paid under paragraphs 77(1) (d),(d.1) and (g) of the EI Act during each of the following seven years, including any forecast change in those costs resulting from any change to the payments to be made under paragraphs 77(1) (a), (b) or (c) of the EI Act; and
- the total amounts charged to the EI Operating Account as of the last day of the most recent month for which that total is known.

Accordingly, for the purposes of determining the 2019 EI 7-year forecast break-even rate under section 66 of the EI Act, the Minister of ESD has provided the Actuary with the following information:

Table 23 Prescribed Information Provided by the Minister of ESD ($ millions)

	Actual	Forecast							
Part I	2017	2018	2019	2020	2021	2022	2023	2024	2025
Pilot Projects/Special Measures									
Working While on Claim Pilot Project	78	46	-	-	-	-	-	-	-
Extending EI Regular Benefits for Regions Affected by Commodities Downturn	1,111	356	-	-	-	-	-	-	-
Extending the Maximum Duration of Work-Sharing Agreements	4	4	11	11	3	-	-	-	-
Sub-Total	1,193	405	11	11	3	-	-	-	-
New Permanent Changes									
Working While on Claim Legislation	-	25	64	65	66	68	69	71	73
Applying Working While on Claim Provisions to sickness and maternity claimants	-	3	7	8	8	8	8	8	9
Parental Sharing Benefits	-	-	168	266	289	301	313	326	339
Family Caregiver Benefit for Adults*	0	139	146	153	161	169	177	186	195
Earlier Access to Maternity Benefits*	0	5	5	5	5	5	5	6	6
Expanding Parental Benefits*	-	24	24	24	24	24	24	24	24
Extending flexibilities to encourage lifelong learning*	-	11	34	35	36	37	38	40	41
Sub-Total	0	206	447	554	588	611	635	660	686
Total	1,193	611	458	565	591	611	635	660	686

	Actual	Forecast							
Part II	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Employment Benefits and Support Measures**	2,168	2,481	2,501	2,426	2,501	2,501	2,076	2,076	2,076
Administration Costs	1,878	1,710	1,667	1,666	1,665	1,661	1,661	1,661	1,661

* These cost estimates were provided by ESDC for the 2018 EI Actuarial Report, except for Family Caregiver Benefit for Adults and Expanding Parental Benefits shown as $0 in 2017 as those changes are only effective since December 2017.

** Includes additional LMDA investment of $1.8 billion announced in Budget 2017, Softwood Lumber Action Plan measures of $80 million announced in June 2017, Budget 2018 announcement of $230 million to better support unemployed workers in seasonal industries, as well as $50 million in LMDA funding announcement in June 2018 to support workers impacted by steel and aluminium tariffs.

In addition, the Minister of ESD provided an EI Operating Account summary that shows a preliminary cumulative surplus of $3.0 billion as of 31 March 2018, the most recent month for which that total is known.

2. Minister of Finance

Under subsection 66.2(1) of the EI Act, the Minister of Finance shall provide the Actuary, on or before 22 July of each year, with the following:

- the most current forecast values of the economic variables relevant to the determination of the 7-year forecast break-even rate for the following seven years;
- the forecast amounts to be credited and charged to the EI Operating Account for the current year and an estimate of the total amounts credited to the Account as at 31 December of the previous year.

Accordingly, for the purposes of determining the 2019 EI 7-year forecast break-even rate under section 66 of the EI Act, the Minister of Finance has provided the Actuary with the following information:

Table 24 Prescribed Information Provided by the Minister of Finance (thousands)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Population (15+)	29,902	30,255	30,538	30,810	31,084	31,364	31,653	31,944	32,234
Labour Force	19,664	19,750	19,848	19,953	20,053	20,158	20,256	20,374	20,501
Employment	18,421	18,609	18,697	18,776	18,850	18,949	19,041	19,152	19,271
Employees	15,613	15,723	15,786	15,860	15,927	16,014	16,093	16,184	16,282
Self-Employed	2,808	2,886	2,911	2,916	2,923	2,935	2,948	2,968	2,989
Unemployed	1,243	1,141	1,151	1,177	1,203	1,209	1,215	1,222	1,230
Unemployment Rate	6.3%	5.8%	5.8%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%
Average Weekly Earnings ($)	976	1,007	1,036	1,065	1,098	1,134	1,171	1,208	1,246
Average Employment Income Growth	2.8%	4.5%	3.4%	3.7%	3.2%	3.5%	3.4%	2.6%	2.6%

The information for 2017 is based on actual data from the Labour Force Survey whereas the information from 2018 to 2025 are based on projections provided by the Minister of Finance, which are consistent with the definitions of the corresponding seasonally-adjusted quarterly estimates in the Labour Force Survey as published by Statistics Canada.

B. Earnings Base

The earnings base represents the total insurable earnings on which salaried employees and their employers pay EI premiums, and the earnings on which self-employed individuals that opted into the EI program pay EI premiums. The earnings base is comprised of:

- the total insurable earnings on which employers pay EI premiums prior to any adjustment for qualified wage-loss plans or the small business job credit;
- the total insurable earnings on which employees pay EI premiums, adjusted to reflect employee premium refunds; and
- the earnings on which self-employed individuals that opted into the EI program pay EI premiums.

Section IV of the report presents an overview of the assumptions used in determining the earnings base. The following subsections provide additional information and data in support of the development of these assumptions.

1. Number of Earners

In order to calculate the earnings base, an assumption is required for the number of earners, as well as the split of these earners between those that have earnings below and above the maximum insurable earnings (MIE).

The annual statistic on the number of employees provided by the Minister of Finance represents an average of the number of individuals who work for a public or private sector employer in a month. The number of earners provided by CRA is always greater than the average monthly number of employees since it represents a count of all individuals who received one or more T4 slips in the year and had employment income and/or insurable earnings during the year. This is mainly due to the fact that the number of earners includes all individuals who had earnings at any time during the year, whereas the number of employees only indicates a monthly average.

A historical comparison of the number of employees and the number of earners is presented in Table 25. The preliminary number of earners for the year 2017 is set such that the resulting insurable earnings are in line with the expected assessed premiums for 2017, which are derived from the 2017 year-to-date assessed premiums and the 2017 increase in average employment income provided by the Minister of Finance.

Table 25 Historical Comparison of the Number of Employees and Number of Earners (thousands)

Year	Number of Employees	Increase in Number of Employees	Number of Earners (CRA T4 Data)	Increase in Number of Earners	Difference in Annual Increases (%)
2011	14,562		18,028		
2012	14,765	1.40%	18,244	1.19%	(0.20%)
2013	14,955	1.28%	18,424	0.99%	(0.29%)
2014	15,072	0.78%	18,645	1.20%	0.41%
2015	15,189	0.78%	18,851	1.11%	0.33%
2016	15,314	0.83%	18,874	0.12%	(0.71%)
2017	15,613	1.95%	19,223	1.85%	(0.10%)

The projected number of earners is obtained by a regression based on a correlated historical relationship from 1989 to 2016 between the number of earners and the number of employees.

Table 26 shows projected number of employees as provided by the Minister of Finance as well as the projected number of earners for the years 2018 to 2025.

Table 26 Projected Number of Earners (thousands)

Year	Projected Number of Employees	Increase in Number of Employees	Projected Number of Earners	Increase in Number of Earners
2018	15,723		19,379	
2019	15,786	0.40%	19,451	0.37%
2020	15,860	0.47%	19,535	0.44%
2021	15,927	0.42%	19,612	0.39%
2022	16,014	0.54%	19,711	0.51%
2023	16,093	0.49%	19,802	0.46%
2024	16,184	0.56%	19,906	0.53%
2025	16,282	0.61%	20,019	0.57%

As shown in Table 27, based on information with regards to the historical number of earners across income ranges, the distribution of earners as a percentage of average employment income is fairly stable from year to year.

Table 27 Historical Distribution of Earners as a % of Average Employment Income

Year	Average Employment Income ($)	Range as a % of Average Employment Income					
		0 - 25 %	25 - 50 %	50 - 75 %	75 - 100 %	100 - 125 %	> 125 %
2011	42,784	22.2%	14.7%	12.8%	12.2%	10.0%	28.2%
2012	44,073	21.9%	14.7%	12.9%	12.3%	10.0%	28.2%
2013	45,227	21.9%	14.7%	13.0%	12.4%	9.9%	28.2%
2014	46,415	21.8%	14.7%	13.1%	12.4%	9.9%	28.1%
2015	47,223	22.0%	14.7%	13.3%	12.4%	9.9%	27.8%
2016	46,872	21.4%	14.6%	13.2%	12.4%	10.0%	28.4%

The 2016 distribution of the number of earners as a percentage of average employment income is used to determine the proportion of earners with employment income below and above the MIE for the years 2017 to 2025. Table 28 shows the resulting split of the number of earners between those with employment income below the MIE and those with employment income above the MIE. Actual data is also shown for the years 2011 to 2016.

Table 28 Number of Earners Below and Above the MIE

Year	MIE ($)	MIE as a Proportion of Average Employment Income	Proportion of Earners Below MIE	Thousands		
				Total Number of Earners	Number of Earners Below MIE	Number of Earners Above MIE
2011	44,200	1.0331	63.4%	18,028	11,422	6,607
2012	45,900	1.0415	63.7%	18,244	11,621	6,622
2013	47,400	1.0480	64.1%	18,424	11,803	6,621
2014	48,600	1.0471	64.2%	18,645	11,962	6,683
2015	49,500	1.0482	64.5%	18,851	12,168	6,683
2016	50,800	1.0838	65.3%	18,874	12,327	6,547
2017	51,300	1.0647	64.4%	19,223	12,382	6,841
2018	51,700	1.0272	62.8%	19,379	12,164	7,214
2019	53,100	1.0205	62.5%	19,451	12,152	7,299
2020	54,700	1.0141	62.2%	19,535	12,151	7,385
2021	56,300	1.0116	62.1%	19,612	12,177	7,435
2022	57,900	1.0057	61.8%	19,711	12,187	7,524
2023	59,700	1.0029	61.7%	19,802	12,220	7,582
2024	61,700	1.0104	62.0%	19,906	12,349	7,557
2025	63,700	1.0170	62.3%	20,019	12,476	7,543

2. Average and Total Employment Income

The projected increase in average employment income, provided by the Minister of Finance, combined with the increase in the projected number of earners, are used to determine the total employment income for the years 2017 to 2025. Table 29 shows the derivation of the projected total employment income for the years 2017 to 2025, as well as actual data provided by CRA for the years 2011 to 2016.

Table 29 Projected Total Employment Income

Year	Number of Earners from CRA T4 Data (thousands)	Increase in Number of Earners	Average Employment Income from CRA T4 Data ($)	Increase in Average Employment Income	Increase in Total Employment Income	Total Employment Income ($ thousands)
2011	18,028		42,784			771,325,267
2012	18,244	1.19%	44,073	3.01%	4.24%	804,060,540
2013	18,424	0.99%	45,227	2.62%	3.63%	833,270,357
2014	18,645	1.20%	46,415	2.63%	3.85%	865,389,791
2015	18,851	1.11%	47,223	1.74%	2.87%	890,187,256
2016	18,874	0.12%	46,872	(0.74%)	(0.62%)	884,643,535
2017	N/A	1.85%	N/A	2.80%	4.70%	926,237,705
2018	N/A	0.81%	N/A	4.45%	5.30%	975,306,193
2019	N/A	0.37%	N/A	3.39%	3.77%	1,012,112,987
2020	N/A	0.44%	N/A	3.66%	4.11%	1,053,725,585
2021	N/A	0.39%	N/A	3.18%	3.59%	1,091,508,129
2022	N/A	0.51%	N/A	3.45%	3.97%	1,134,882,735
2023	N/A	0.46%	N/A	3.39%	3.87%	1,178,749,839
2024	N/A	0.53%	N/A	2.58%	3.12%	1,215,520,653
2025	N/A	0.57%	N/A	2.58%	3.16%	1,253,939,441

As shown in Table 30, based on information with regards to the historical employment income across income ranges, the distribution of total employment income as a percentage of average employment income is stable from year to year.

Table 30 Historical Distribution of Employment Income as a % of Average Employment Income

		Range as a % of Average Employment Income					
Year	Average Employment Income ($)	0 - 25 %	25 - 50 %	50 - 75 %	75 - 100 %	100 - 125 %	> 125%
2011	42,784	2.4%	5.4%	8.0%	10.6%	11.1%	62.4%
2012	44,073	2.4%	5.4%	8.1%	10.7%	11.2%	62.2%
2013	45,227	2.4%	5.4%	8.1%	10.8%	11.1%	62.3%
2014	46,415	2.4%	5.4%	8.2%	10.8%	11.1%	62.2%
2015	47,223	2.3%	5.4%	8.3%	10.8%	11.1%	62.1%
2016	46,872	2.3%	5.4%	8.2%	10.8%	11.2%	62.1%

The 2016 distribution of the total employment income as a percentage of average employment income is used to determine the proportion of employment income that relates to earners with employment income below and above the MIE for the years 2017 to 2025. Table 31 shows the total employment income split between the earners with employment income below the MIE and earners with employment income above the MIE for the years 2017 to 2025. Actual data is also shown for the years 2011 to 2016.

Table 31 Distribution of Employment Income for Earners Below and Above the MIE

Year	MIE ($)	MIE as a Proportion of Average Employment Income	Proportion of Employment Income for Earners Below MIE	($ thousands) Total Employment Income	Total Employment Income for Earners Below MIE	Total Employment Income for Earners Above MIE
2011	44,200	1.0331	28.0%	771,325,267	215,792,198	555,533,068
2012	45,900	1.0415	28.5%	804,060,540	229,466,429	574,594,111
2013	47,400	1.0480	28.9%	833,270,357	240,789,645	592,480,712
2014	48,600	1.0471	28.9%	865,389,791	250,470,009	614,919,782
2015	49,500	1.0482	29.1%	890,187,256	259,085,340	631,101,916
2016	50,800	1.0838	30.6%	884,643,535	271,084,982	613,558,553
2017	51,300	1.0647	29.7%	926,237,705	275,011,835	651,225,870
2018	51,700	1.0272	28.0%	975,306,193	272,833,855	702,472,338
2019	53,100	1.0205	27.7%	1,012,112,987	280,058,818	732,054,169
2020	54,700	1.0141	27.4%	1,053,725,585	288,568,727	765,156,858
2021	56,300	1.0116	27.3%	1,091,508,129	297,690,897	793,817,232
2022	57,900	1.0057	27.0%	1,134,882,735	306,498,729	828,384,006
2023	59,700	1.0029	26.9%	1,178,749,839	316,902,245	861,847,594
2024	61,700	1.0104	27.2%	1,215,520,653	330,886,095	884,634,558
2025	63,700	1.0170	27.5%	1,253,939,441	345,003,155	908,936,286

3. Total Insurable Earnings

The total insurable earnings of salaried employees are equal to the total employment income, up to the annual MIE, earned by a person employed in insured employment. They are used to determine the earnings base for salaried employees. Prior to any adjustments for employee premium refunds, the earnings base for salaried employees is equal to 2.4 times the total insurable earnings.

Historical information regarding total insurable earnings is derived from aggregate assessed EI premiums gathered from T4 slips of all salaried employees, and is provided by CRA. The insurable earnings can be calculated by dividing the gross EI premium revenues by 2.4 times the weighted-average premium rate. The gross EI premium revenues are derived by adding the following components to the net EI assessed premiums:

- Unadjusted employee premium refunds (multiple employments, insurable earnings below $2,000 and net adjustments for Québec residents working outside of Québec and vice-versa);
- Overage (correction to EI premiums due to employer-related administrative errors);
- Employer premium reductions for qualified wage-loss plans;
- Net adjustment payments between the Government of Canada and the Government of Québec for Québec residents working outside of Québec and vice-versa; and
- Other accounting adjustments.

The gross EI premium revenues represent the employee EI premiums deducted at source and the corresponding employer premium before adjusting for qualified wage-loss plans, and reflect the employee's province of work. Therefore, the annual weighted-average premium rates are calculated from the split of insurable earnings between Québec and out-of-Québec as reflected in the T4 data provided by CRA (i.e. on a province of employment basis, not province of residence). The derivation of insurable earnings for the years 2011 to 2016 from the CRA statement of premium revenue is shown in Table 32. The net premiums assessed shown in the table are prior to the reduction in premiums due to the hiring credit for small businesses and small business job credit.

Table 32 Derived Insurable Earnings from Assessed Premiums ($ millions)

	2011	2012	2013	2014	2015	2016
Net Premiums Assessed	18,771.6	20,379.4	21,881.2	22,838.3	23,459.0	23,918.0
Unadjusted Employee Premium Refunds	222.5	243.5	253.8	266.0	254.0	235.3
Overage	3.4	3.1	3.1	3.0	3.1	2.7
Wage-Loss Premium Reduction	877.0	920.0	909.0	854.0	837.4	867.8
Net Adjustment Payments (QPIP)	8.8	8.1	8.4	7.4	6.3	7.4
Other Accounting Adjustments	5.3	6.1	8.8	5.7	5.0	21.7
Gross EI Premium Revenues	19,888.5	21,560.3	23,064.4	23,974.3	24,564.7	25,053.0
Distribution of Insurable Earnings (Province of Employment):						
Out-of-Québec	77.6%	77.8%	78.0%	78.2%	78.4%	78.2%
Québec	22.4%	22.2%	22.0%	21.8%	21.6%	21.8%
EI Premium Rate:						
Out-of-Québec	1.78%	1.83%	1.88%	1.88%	1.88%	1.88%
Québec	1.41%	1.47%	1.52%	1.53%	1.54%	1.52%
Weighted Average Premium Rate	1.70%	1.75%	1.80%	1.80%	1.81%	1.80%
Total Insurable Earnings	**488,248**	**513,328**	**533,682**	**553,812**	**566,606**	**579,486**

For employees with multiple employments in a year, the information is based on the combined total EI premiums. This means that although insurable earnings of each employment are capped at the MIE, the combined total insurable earnings can exceed the MIE. The adjustment to insurable earnings and the earnings base to reflect multiple employments is captured in the employee premium refund section.

The 2016 distributions of the total number of earners and total employment income as a percentage of average employment income are used to calculate the insurable earnings for the years 2017 to 2025. From these distributions, the total employment income capped at the MIE is derived. The resulting capped employment income is adjusted for consistency with total insurable earnings which take into account multiple employments as well as excluded employments. For the years 2017 to 2025, the adjustment is assumed to be 96.1%, which is the three-year average of the ratio of insurable earnings to capped employment income from 2014 to 2016. Table 33 shows details of the calculation of the projected total insurable earnings for the years 2017 to 2025, as well as the actual data for 2011 to 2016. For 2017, the resulting insurable earnings reflect the year-to-date assessed premiums and related total expected assessed premiums for 2017.

Table 33 Projected Total Insurable Earnings

Year	MIE ($)	Total Employment Income for Earners Below MIE ($ thousands)	Number of Earners Above MIE (thousands)	Total Employment Income, Capped at MIE for Earners Above MIE ($ thousands)	Total Employment Income, Capped at MIE ($ thousands)	Total Insurable Earnings ($ thousands)	Increase in Total Insurable Earnings
2011	44,200	215,792,198	6,607	292,023,971	507,816,169	488,248,436	
2012	45,900	229,466,429	6,622	303,971,463	533,437,892	513,327,874	5.14%
2013	47,400	240,789,645	6,621	313,835,684	554,625,329	533,682,404	3.97%
2014	48,600	250,470,009	6,683	324,804,152	575,274,161	553,811,508	3.77%
2015	49,500	259,085,340	6,683	330,817,311	589,902,651	566,606,136	2.31%
2016	50,800	271,084,982	6,547	332,577,288	603,662,269	579,486,462	2.27%
2017	51,300	275,011,835	6,841	350,922,099	625,933,934	601,522,511	3.80%
2018	51,700	272,833,855	7,214	372,985,429	645,819,285	620,632,333	3.18%
2019	53,100	280,058,818	7,299	387,564,618	667,623,436	641,586,122	3.38%
2020	54,700	288,568,727	7,385	403,952,908	692,521,635	665,513,291	3.73%
2021	56,300	297,690,897	7,435	418,611,467	716,302,364	688,366,572	3.43%
2022	57,900	306,498,729	7,524	435,651,635	742,150,364	713,206,500	3.61%
2023	59,700	316,902,245	7,582	452,672,467	769,574,711	739,561,298	3.70%
2024	61,700	330,886,095	7,557	466,259,374	797,145,469	766,056,796	3.58%
2025	63,700	345,003,155	7,543	480,469,416	825,472,570	793,279,140	3.55%

4. Split of Total Insurable Earnings Due to Provincial Plan

On 1 March 2005, an agreement was reached between the Government of Canada and the Government of Québec, which gave the Government of Québec the means to set up, starting 1 January 2006, the Québec Parental Insurance Plan (QPIP). Under the QPIP, Québec is responsible for MPA benefits claimed by residents of Québec. The final agreement between the Governments of Canada and Québec includes a financial mechanism whereby the Government of Canada reduces EI premiums paid by Québec residents and their employers so that the Government of Québec can collect premiums for its own program. The premium reduction reflects the savings to the EI Account realized as a result of Québec's program, including MP benefits that are no longer paid under EI and administrative savings.

Given that eligibility for the QPIP is based on the province of residence, for the purposes of calculating the QPIP reduction, insurable earnings must be split between Québec and all other provinces based on the province of residence. The information regarding historical insurable earnings provided by CRA (T4 basis) is based on the province of employment. Therefore, an adjustment is required to transfer insurable earnings from Québec to out-of-Québec and vice-versa to reflect the province of residence.

Split Based on Province of Employment (T4)

Premiums are remitted by employers and employees based on province of employment, or on a T4 basis. The information regarding historical insurable earnings provided by CRA is also on a T4 basis, and is therefore based on the province of employment. The historical distribution of insurable earnings on a T4 basis shows that the proportion of insurable earnings that relates to employment in Québec has generally been decreasing. A slight increase was observed in 2016 and 2017. Based on the historical pattern, the proportion of insurable earnings that relates to employment in Québec is expected to decrease from 21.9% in 2017 to 21.7% in 2018. It reaches 21.2% in 2025. This is highlighted in Table 34.

Table 34 Split of Insurable Earnings Between Québec and Out-of-Québec, Based on Province of Employment (T4 data)

Year	Proportion of Insurable Earnings for Employment in Québec	Proportion of Insurable Earnings for Employment Out-of-Québec
2011	22.36%	77.64%
2012	22.21%	77.79%
2013	22.02%	77.98%
2014	21.79%	78.21%
2015	21.64%	78.36%
2016	21.84%	78.16%
2017	21.89%	78.11%
2018	21.73%	78.27%
2019	21.66%	78.34%
2020	21.58%	78.42%
2021	21.50%	78.50%
2022	21.42%	78.58%
2023	21.34%	78.66%
2024	21.26%	78.74%
2025	21.19%	78.81%

The proportions shown in the table above are used to split the insurable earnings between Québec and out-of-Québec based on province of employment. Adjustments to these proportions are required to reflect the province of residence.

Split Based on Province of Residence (T1)

Despite the fact that premiums are remitted based on the province of employment, in accordance with the Canada-Québec Agreement and for the purpose of facilitating inter-provincial mobility, when a worker's premium, as well as the related employer's premium has been collected under either the EI MP or the QPIP, and if the person for whom the premium has been collected is not covered by the regime to which he or she has contributed because of his or her province of residence, adjustment payments between the Government of Canada and the Government of Québec will be made as long as this person is covered under the other regime. These adjustment payments are based on information included in individual tax returns and reflect the province of residence as of 31 December.

The information on historical assessed premiums provided by CRA includes the annual adjustment payments between the Government of Canada and the Government of Québec. A split between the employee adjustment payments and the employer adjustment payments, and a split between the transfer from the Government of Canada to the Government of Québec and vice-versa is provided. Table 35 shows the detailed adjustment payments between both parties for the calendar years 2011 to 2016. The adjustment payments for calendar years 2015 and 2016 are preliminary.

Table 35 Historical Adjustment Payments Between the Government of Canada and the Government of Québec to Reflect Province of Residence ($ thousands)

	2011	2012	2013	2014	2015	2016
Adjustment Payments from Government of Canada to Government of Québec (i.e. for Québec residents working outside of Québec):						
Employee Portion	11,587	11,773	12,060	12,155	12,241	12,776
Employer Portion	15,094	15,197	15,738	15,894	15,920	16,868
Total	26,681	26,970	27,799	28,049	28,161	29,645
Adjustment Payments from Government of Québec to Government of Canada (for non-Québec residents working in Québec):						
Employee Portion	10,599	11,412	11,607	12,451	13,285	13,042
Employer Portion	7,288	7,456	7,744	8,234	8,581	9,163
Total	17,887	18,868	19,351	20,685	21,866	22,205
Net Adjustment Payment from Government of Canada to Government of Québec:						
Employee Portion	988	361	454	(296)	(1,044)	(266)
Employer Portion	7,806	7,742	7,994	7,660	7,339	7,706
Total	8,794	8,103	8,448	7,364	6,295	7,440

The rules on how these adjustment payments are calculated are established in Division 4 of the *Employment Insurance Regulations* and Division 5 of *An Act Respecting Parental Insurance* (QPIP). Under these rules, the employer adjustment payment for each T4 slip of a given employee is generally equal to that employee's insurable earnings times the QPIP reduction times the employer's multiplier. Therefore, by using the aggregate employer adjustment payments provided by CRA and an average employer multiplier, it is possible to calculate the insurable earnings of Québec residents working outside of Québec and vice-versa. Given that a similar exercise is not possible using the employee adjustment payments due to different rules that apply to various individual situations, the employer adjustment payments are used to calculate the transfer of insurable earnings on a province of employment basis from Québec to out-of-Québec and vice-versa to reflect the province of residence.

Based on information provided by CRA, insurable earnings for employees who reside in Québec and work outside of Québec correspond to 0.63% of total insurable earnings on average for the last five years of available data, 2012 to 2016. Insurable earnings for employees who reside outside of Québec and work in Québec correspond to 0.33% of total insurable earnings for the same period. The resulting net effect is that, from the split based on province of employment, an average net transfer of 0.30% of total insurable earnings from out-of-Québec to Québec occurs to reflect the province of residence. This is outlined in Table 36.

Table 36 Adjustment to Insurable Earnings Split to Reflect Province of Residence ($ thousands)

	2011	2012	2013	2014	2015	2016
Total Insurable Earnings	488,248,436	513,327,874	533,682,404	553,811,508	566,606,136	579,486,462
QPIP Reduction	0.37%	0.36%	0.36%	0.35%	0.34%	0.36%
Average Employer Multiplier:						
Out-of-Québec Employers	1.29	1.29	1.30	1.31	1.32	1.32
Québec Employers	1.27	1.28	1.29	1.31	1.31	1.31
Employer Adjustment Payments:						
From Government of Canada to Government of Québec	15,094	15,197	15,738	15,894	15,920	16,868
From Government of Québec to Government of Canada	7,288	7,456	7,744	8,234	8,581	9,163
Estimated Transfer of Insurable Earnings to Reflect Province of Residence (Employer Adjustment Payments / (QPIP reduction x Average Employer Multiplier))						
From Government of Canada to Government of Québec ($)	3,171,612	3,278,659	3,365,149	3,460,215	3,550,507	3,559,073
From Government of Québec to Government of Canada ($)	1,547,541	1,616,684	1,663,509	1,802,579	1,928,919	1,947,641
Net Transfer (from Canada to Québec) ($)	1,624,071	1,661,975	1,701,640	1,657,636	1,621,588	1,611,432
Estimated Transfer of Insurable Earnings to Reflect Province of Residence as a % of Total Insurable Earnings						
From Government of Canada to Government of Québec	0.65%	0.64%	0.63%	0.62%	0.63%	0.61%
From Government of Québec to Government of Canada	0.32%	0.31%	0.31%	0.33%	0.34%	0.34%
Net From Government of Canada to Government of Québec	0.33%	0.32%	0.32%	0.30%	0.29%	0.28%

The information included in the administrative files that are exchanged between CRA and Revenu Québec was used to validate the methodology developed to estimate the transfer of insurable earnings using aggregate data. This file includes information on all taxfilers who are Québec residents and work outside of Québec and vice-versa. The actual insurable earnings of Québec residents working outside of Québec (115,000 in 2016) and of non-Québec residents working in Québec (79,000 in 2016) were close to the ones calculated on an aggregate basis.

It is assumed that the net transfer of insurable earnings on a T4 basis to reflect actual province of residence for the years 2017 to 2025 will be equal to the average transfer for the years 2012 to 2016, that is 0.30%. The resulting insurable earnings on a province of residence basis are outlined in Table 37.

Table 37 Split of Salaried Insurable Earnings Based on Province of Residence

Year	Proportion of Insurable Earnings - Province of Work (T4 Basis)		Net Transfer to Québec	Proportion of Insurable Earnings - Province of Residence		Total Insurable Earnings - Province of Residence ($ thousands)		
	Out-of-Québec	Québec		Out-of-Québec	Québec	Canada	Out-of-Québec	Québec
2016	78.16%	21.84%	0.28%	77.88%	22.12%	579,486,462	451,315,187	128,171,275
2017	78.11%	21.89%	0.30%	77.81%	22.19%	601,522,511	468,044,665	133,477,845
2018	78.27%	21.73%	0.30%	77.97%	22.03%	620,632,333	483,907,030	136,725,303
2019	78.34%	21.66%	0.30%	78.04%	21.96%	641,586,122	500,693,810	140,892,312
2020	78.42%	21.58%	0.30%	78.12%	21.88%	665,513,291	519,898,983	145,614,308
2021	78.50%	21.50%	0.30%	78.20%	21.80%	688,366,572	538,302,659	150,063,913
2022	78.58%	21.42%	0.30%	78.28%	21.72%	713,206,500	558,298,048	154,908,452
2023	78.66%	21.34%	0.30%	78.36%	21.64%	739,561,298	579,520,233	160,041,065
2024	78.74%	21.26%	0.30%	78.44%	21.56%	766,056,796	600,894,951	165,161,845
2025	78.81%	21.19%	0.30%	78.51%	21.49%	793,279,140	622,803,453	170,475,687

5. Employee Premium Refunds

In general, salaried employees contribute EI premiums on their total insurable earnings in a given tax year up to the annual MIE limit. However, when filing their tax returns, employees will receive a refund if they have exceeded the maximum contribution due to multiple employments in the same year or if their insurable earnings were below $2,000. The insurable earnings that are subject to any subsequent premium refund must be excluded from the earnings base. The data from T4 slips that are used for projection purposes include insurable earnings for which premiums may later be refunded. Therefore, an adjustment must be made to reduce the earnings base. In addition, since the employer does not receive a refund, only the employee’s portion of the total earnings base is adjusted.

The annual employee refunds provided by CRA reflect the net impact of total EI premiums paid and the employee adjustment payments between the Government of Canada and the Government of Québec to account for employees who reside in Québec and work outside of Québec and vice-versa.

For example, the information provided for a resident outside of Québec who is working in Québec for the same employer throughout the year will include a refund equal to the difference between the premium paid to the QPIP and the premium owed for EI MP coverage. However, the total insurable earnings should not be adjusted to reflect this refund.

Another example is the case of a Québec resident who is working outside of Québec and who has exceeded the maximum EI contribution due to multiple employments in the year. In this case, the refund provided by CRA is net of the QPIP premium payable. The insurable earnings base should be adjusted for the refund related to the EI premium overpayment rather than the EI premium overpayment minus the QPIP premium payable.

The refunds provided by CRA must therefore be adjusted to reflect only refunds that relate to multiple employment and insurable earnings below $2,000. They should be decreased by any refund that relates to QPIP premiums paid by out-of-Québec residents who worked in Québec, and increased by any QPIP premiums payable by Québec residents who had multiple employments and worked outside of Québec. Given that the latter is not as common, the adjusted premium refunds will be lower than the refunds provided by CRA.

The adjusted premium refunds are estimated such that the net assessed premiums shown in Table 32 remain unchanged after taking into account the split of insurable earnings based on province of residence. In the reconciliation of the net assessed premiums using the province of residence (Table 38), the net adjustment payments (QPIP) shown in Table 32 are re-allocated between two items: the gross premium revenues and the premium refunds. Consequently, Table 38 shows net adjustment payments (QPIP) of $0.

The portion of the net adjustment payments that is re-allocated to the gross premium revenues is calculated by taking the difference between the gross premiums calculated using the weighted-average premium rate on a province of residence basis and the gross premiums calculated using the weighted-average premium rate on a province of employment basis. Given that the proportion of Québec insurable earnings is higher under the province of residence basis and that Québec residents have a lower premium rate, the gross premium revenues on a province of residence basis are lower than those on a province of employment basis.

The portion of the net adjustment payments that has not been allocated to the change in gross premium revenues to reflect the province of residence is allocated to the premium refunds. The resulting adjusted premium refunds relate only to multiple employment and insurable earnings below $2,000 and do not reflect any other adjustments due to the province of employment being different than the province of residence.

Table 38 shows the reconciliation of the net premiums and the inherent calculation of the adjusted premium refunds for the years 2011 to 2016. By comparing this table to Table 32 for the year 2016, it can be seen that the adjustment payments of $7.4 million are reflected in Table 38 through gross premiums that are $14.1 million lower ($25,053.0 – $25,038.9) and in Table 39 through premium refunds that are $6.6 million lower ($235.3 – $228.8), with no resulting effect on the total net premium.

Table 38 Calculation of the Adjusted Premium Refunds ($ millions)

	2011	2012	2013	2014	2015	2016
Total Insurable Earnings	488,248	513,328	533,682	553,812	566,606	579,486
Split of Insurable Earnings (Province of Residence):						
Outside Québec	77.3%	77.5%	77.7%	77.9%	78.1%	77.9%
Québec	22.7%	22.5%	22.3%	22.1%	21.9%	22.1%
EI Premium Rate:						
Outside Québec	1.78%	1.83%	1.88%	1.88%	1.88%	1.88%
Québec	1.41%	1.47%	1.52%	1.53%	1.54%	1.52%
Weighted Average Premium Rate	1.70%	1.75%	1.80%	1.80%	1.81%	1.80%
Gross Premium Revenues	19,874.2	21,546.1	23,049.6	23,960.3	24,551.3	25,038.9
Adjusted Premium Refunds	**217.0**	**237.5**	**247.5**	**259.4**	**246.9**	**228.8**
Overage	3.4	3.1	3.1	3.0	3.1	2.7
Wage-Loss Premium Reduction	877.0	920.0	909.0	854.0	837.4	867.8
Net Adjustment Payments (QPIP)	0.0	0.0	0.0	0.0	0.0	0.0
Other Accounting Adjustments	5.3	6.1	8.8	5.7	5.0	21.7
Net Premium Assessed	18,771.6	20,379.4	21,881.2	22,838.3	23,459.0	23,918.0

The adjusted premium refunds divided by the average premium rate are used to estimate the total insurable earnings subject to a subsequent employee refund. Based on historical data provided by CRA, the total insurable earnings subject to a subsequent employee refund as a percentage of total insurable earnings is relatively stable from year to year. Table 39 shows that from 2012 to 2016, this percentage was about 2.50%. It is assumed to remain constant at 2.50% until 2025.

Table 39 Total Insurable Earnings Subject to a Subsequent Premium Refund ($ millions)

	2011	2012	2013	2014	2015	2016
Total Insurable Earnings (TIE)	488,248	513,328	533,682	553,812	566,606	579,486
Adjusted Premium Refunds	217.0	237.5	247.5	259.4	246.9	228.8
Average Premium Rate	1.70%	1.75%	1.80%	1.80%	1.81%	1.80%
TIE Subject to Refund	12,792	13,577	13,754	14,388	13,674	12,706
TIE Subject to Refund (% of TIE)	2.62%	2.64%	2.58%	2.60%	2.41%	2.19%

6. Self-Employed Earnings

Pursuant to the *Fairness for the Self-Employed Act*, starting 31 January 2010, self-employed persons can enter into a voluntary agreement with the Canada Employment Insurance Commission (Commission) through Service Canada to participate in the EI program, contribute EI premiums at the employee rate and have access to special benefits. Self-employed residents of Québec will continue to receive MPA benefits through the QPIP, however they are able to access sickness, compassionate care and Family Caregiver Benefits through the EI program. As such, the earnings base used in calculating the 7-year forecast break-even rate must take into account the covered earnings of self-employed individuals who opt into the EI program.

Participants in the self-employed EI program contribute premiums on their covered earnings, (i.e. their self-employed earnings up to the annual MIE), at the employee rate which corresponds to their province of residence, and there are no employer premium contributions. Therefore, as with the insurable earnings of salaried employees, self-employed covered earnings must be split between the covered earnings of residents of Québec and the covered earnings of residents out-of-Québec.

The expected increase in self-employed covered earnings reflects the expected increase in the number of participants, and the expected increase in average earnings of self-employed individuals.

Projected Number of Participants

ESDC tracks the number of weekly self-employed enrolments for the EI program by province and provided the available enrolment data for each week up to mid-July 2018. The enrolment data also includes adjustments for individuals who have opted out of the program in each week. Table 40 shows the evolution of the number of participants starting with the cumulative number as at 31 December 2010, with a split between Québec and out-of-Québec residents.

The projection of enrolments from 2019 to 2025 is based on the average weekly enrolments over the last 3 years (2015-2017), while the assumption to complete year 2018 is based on the 3-year average of weekly enrolments during the last 6 months of the year. The number of enrolments is projected independently for Québec and out-of-Québec residents and reflects the slower pace of enrolment of Québec residents.

Using the cumulative enrolments as of the end of June 2018 and the projected enrolments, Table 40 shows the historical and projected number of self-employed participants from 2010 to 2025.

Table 40 Projected Self-Employed EI Participants

Cumulative Participants as of the last week of:	Out-of-Québec Residents	Québec Residents	Total
2010	4,443	1,367	5,810
2011	7,114	2,482	9,596
2012	9,059	3,092	12,151
2013	10,574	3,358	13,932
2014	11,893	3,482	15,375
2015	13,422	3,656	17,078
2016	14,997	3,824	18,821
2017	16,708	3,978	20,686
2018	18,444	4,182	22,625
2019	20,018	4,344	24,362
2020	21,654	4,512	26,166
2021	23,259	4,678	27,936
2022	24,895	4,846	29,741
2023	26,500	5,012	31,511
2024	28,105	5,177	33,281
2025	29,710	5,342	35,052

Increase in Average Earnings

Historical data on the evolution of average earnings of self-employed individuals who opted into the EI program as compared to average earnings of all self-employed individuals or of salaried employees are either not available or incomplete. As such, it is assumed that the average earnings of self-employed individuals who have opted into the EI program will increase at the same pace as the average earnings of salaried employees from 2018 to 2025.

The most recent year for which complete data is available with regards to self-employed EI premiums and inherent covered earnings is the tax year 2016. The projected increase in average employment earnings, combined with the increase in the number of self-employed participants are used to determine the self-employed covered earnings for the years 2018 to 2025. It is important to note that regardless of the timing of enrolment during the year, premiums are paid on the total covered earnings in that year. Table 41 shows the projected self-employed covered earnings for Québec residents and out-of-Québec residents for the years 2017 to 2025.

Table 41 Projected Covered Earnings for Self-Employed EI Participants ($ thousands)

	Out-of-Québec Residents				Québec Residents				Canada
Year	Increase in Average Earnings	Increase in Number of Participants	Increase in Covered Earnings	Total Covered Earnings	Increase in Average Earnings	Increase in Number of Participants	Increase in Covered Earnings	Total Covered Earnings	Total Covered Earnings
2017				155,059				18,140	173,199
2018	4.45%	10.4%	15.3%	178,784	4.45%	5.1%	9.8%	19,917	198,701
2019	3.39%	8.5%	12.2%	200,621	3.39%	3.9%	7.4%	21,391	222,012
2020	3.66%	8.2%	12.1%	224,959	3.66%	3.9%	7.7%	23,034	247,993
2021	3.18%	7.4%	10.8%	249,317	3.18%	3.7%	7.0%	24,637	273,954
2022	3.45%	7.0%	10.7%	276,059	3.45%	3.6%	7.2%	26,406	302,464
2023	3.39%	6.4%	10.1%	303,818	3.39%	3.4%	6.9%	28,232	332,051
2024	2.58%	6.1%	8.8%	330,533	2.58%	3.3%	6.0%	29,916	360,449
2025	2.58%	5.7%	8.4%	358,424	2.58%	3.2%	5.9%	31,668	390,092

C. Expenditures

EI expenditures include Part I and Part II (Employment Benefits and Support Measures) benefit payments, administration costs and doubtful debts. EI benefits also include temporary spending initiatives, such as pilot projects or special measures announced by the Government of Canada.

EI benefits paid under Part I of the EI Act include:

- Regular benefits, which provide temporary income support for unemployed persons;
- Fishing benefits, for self-employed fishers;
- Work-sharing benefits, for workers willing to work a temporarily reduced work week to avoid lay-offs;
- Special benefits, for those who are sick (sickness benefits), pregnant or caring for a newborn or adopted child (maternity and parental benefits),

for those caring for a seriously ill family member (compassionate care benefits), or for those providing care or support to a critically ill or injured family member (Family Caregiver benefits).

To project EI expenditures, in addition to demographic and economic forecasts, a number of assumptions are required, namely average weekly benefits, number of potential claimants and recipiency rate. Those three assumptions are discussed below, as well as additional information on pilot projects, special measures and new program changes. Formulas for the projections of regular, fishing, work-sharing and special benefits are then presented. Details on benefit repayments, Part II benefits, administration costs, bad debt expenses, and penalties and interest on overdue accounts receivable are also included in this section.

1. Average Weekly Benefits

The average weekly benefits (AWB) are equal to benefit payments divided by the number of benefit weeks paid for Part I benefits.

Weekly benefits are generally equal to 55% of the claimant's variable best weeks over the qualifying period (generally 52 weeks). The number of best weeks taken into account is determined by the regional unemployment rate and varies between 14 and 22 insurable earnings weeks.

The maximum amount payable is determined by the MIE. For 2019, the maximum weekly benefit is 55% of the $53,100 annual MIE divided by 52, or $562.

The AWB are determined by the sum of the change in the MIE and the average weekly earnings, weighted by the proportion of benefit weeks for claimants with insurable earnings above and below the annual MIE and the prior year AWB for claimants with insurable earnings above and below the annual MIE.

$$\mathbf{AWB_T = AWB_{above(T-1)} \times (\%_{above(T)}) \times \frac{MIE_T}{MIE_{T-1}} + AWB_{below(T-1)} \times (\%_{below(T)}) \times \frac{AWE_T}{AWE_{T-1}}}$$

$$\mathbf{AWB_{growth} = AWB_T / AWB_{T-1} - 1}$$

Where: AWB = average weekly benefits;
AWB_{above} = AWB for claimants with insurable earnings above the MIE;
AWB_{below} = AWB for claimants with insurable earnings below the MIE;
MIE = maximum insurable earnings;
AWE = average weekly earnings;
$\%_{above}$ = percentage of benefit weeks for claimants with earnings above the MIE; and
$\%_{below}$ = percentage of benefit weeks for claimants with earnings below the MIE.

The percentage of benefit weeks for claimants with insurable earnings above the annual MIE is based on an analysis of administrative data provided by ESDC.

The proportion of benefit weeks for claimants with insurable earnings above the MIE increased in 2013, 2014 and 2015 following the introduction of the variable best weeks, that is, a change in the benefit rate calculation. A further increase was observed in 2016 and is attributable in part to the temporary extension of EI regular benefits in regions affected by commodities downturn since some regions with higher earnings than the average normal EI claimants were selected. The proportion of benefit weeks for claimants with earnings above the MIE decreased slightly to 46.5% in 2017. Based on partial data, this proportion will be 47.1% in 2018. It is assumed to remain at 47.1% for 2019 to 2025.

Table 42 Percentage of Benefit Weeks for Claimants with IE above the MIE

Year	% Above MIE
2012	40.2%
2013	41.9%
2014	44.6%
2015	47.2%
2016	48.0%
2017	46.5%
2018	47.1%
2019-2025	47.1%

The 2017 AWB for claimants with insurable earnings above and below the MIE was $543 and $370 respectively.

Based on the growth in average weekly earnings and the MIE, and on the proportion of benefit weeks for claimants with earnings above the MIE, the annual average weekly benefits growth rates are forecasted at 2.1% and 2.8% for 2018 and 2019 respectively. The average annual increase for years 2020 to 2025 is 3.1%. These AWB growth rates generally apply to all benefit types for 2019 and onwards.

Table 43 Average Weekly Benefits Growth Factors

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Average Weekly Earnings ($)	976	1,007	1,036	1,065	1,098	1,134	1,171	1,208	1,246
% Change	2.0%	3.2%	2.9%	2.8%	3.1%	3.3%	3.3%	3.2%	3.1%
MIE ($)	51,300	51,700	53,100	54,700	56,300	57,900	59,700	61,700	63,700
% Change	1.0%	0.8%	2.7%	3.0%	2.9%	2.8%	3.1%	3.4%	3.2%
Proportion Above MIE	46.5%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%	47.1%
Proportion Below MIE	53.5%	52.9%	52.9%	52.9%	52.9%	52.9%	52.9%	52.9%	52.9%
AWB Growth	**1.0%**	**2.1%**	**2.8%**	**2.9%**	**3.0%**	**3.0%**	**3.2%**	**3.3%**	**3.2%**

2. Potential Claimants

The EI Program is designed to provide temporary income support to eligible insured persons who have lost their jobs through no fault of their own, such as due to a shortage of work, or as a result of seasonal or mass lay-offs, and are available for work.

Hence, to receive EI regular benefits, an individual needs to:

1. be insured, that is, have paid EI premiums in the qualifying period, usually the 52 weeks preceding the claim for benefits;
2. have lost their employment;
3. have had a valid job separation; and
4. be available for work.

The number of potential claimants is therefore estimated[1] as the sum of:

- The number of unemployed individuals provided by the Minister of Finance from which we subtract:
    - The number of unemployed individuals without insurable earnings (IE) in the last 52 weeks, that is, self-employed, unpaid family workers and individuals who have not worked in the last 52 weeks;
    - The number of unemployed individuals with an invalid job separation[2]; and
- The average number of EI regular beneficiaries currently employed, that is, individuals receiving regular benefits, but excluded from the unemployed statistics (beneficiaries Working While on Claim). These individuals need to be added since they are not accounted for in the definition of the unemployed.

The following table shows the development of the historical number of potential claimants.

[1] In theory EI regular beneficiaries outside the labour force (inactive) should also be added to the number of potential claimants since they receive benefits but are not counted as unemployed in the Labour Force Survey. Due to the lack of availability of data, those EI regular beneficiaries are ignored in the analysis, which results in an implicit assumption of constant proportion as a percentage of unemployed.

[2] The number of unemployed individuals with an invalid job separation is obtained by multiplying the number of unemployed individuals by the percentage of unemployed with an invalid job separation. This percentage is determined using the EI Monitoring and Assessment report, which is based on Statistics Canada's EI Coverage Survey. Invalid job separations include: voluntarily leaving employment without just cause or to go to school; being dismissed for misconduct; or being unemployed because of a direct participation in a labour dispute (https://www.canada.ca/en/employment-social-development/programs/ei/ei-list/reports/regular-benefits/apply.html).

Table 44 Historical Number of Potential Claimants (thousands)

Calendar Year	Number of Unemployed (U)	No Insurable Earnings in Last 52 Weeks		Invalid Job Separation*		Working Beneficiaries		Potential Claimants	
		Number	As a % of U	Number	As a % of U	Number	As a % of U	Number	As a % of U
2008	1,112	336	30.2%	198	17.8%	68	6.1%	646	58.0%
2009	1,523	440	28.9%	190	12.5%	102	6.7%	995	65.3%
2010	1,486	532	35.8%	175	11.8%	110	7.4%	888	59.8%
2011	1,399	546	39.0%	178	12.7%	96	6.9%	771	55.1%
2012	1,372	535	39.0%	188	13.7%	92	6.7%	740	54.0%
2013	1,347	516	38.3%	201	14.9%	85	6.3%	715	53.1%
2014	1,322	508	38.4%	197	14.9%	83	6.3%	701	53.0%
2015	1,331	492	36.9%	165	12.4%	86	6.5%	761	57.2%
2016	1,360	507	37.3%	162	11.9%	88	6.5%	779	57.3%
2017	1,239	502	40.5%	149	12.0%	88	7.1%	676	54.6%

* The invalid job separation statistic for calendar year 2017 is estimated.

The number of unemployed individuals is provided by the Minister of Finance. Assumptions for the evolution of the number of unemployed individuals without insurable earnings in the last 52 weeks, the number of unemployed individuals with an invalid job separation and the number of working beneficiaries as a percentage of the number of unemployed are made as follows:

- The percentage of unemployed without insurable earnings in the last 52 weeks has increased following the economic downturn of 2008-2009. It reached 39.0% in 2011 and 2012 before decreasing in the next three years to 36.9% in 2015. The percentage then increased to reach 40.5% in 2017. While the number of individuals without insurable earnings in the last 52 weeks decreased from 507,000 in 2016 to 502,000 in 2017, the proportion over the number of unemployed increased since the number of unemployed showed a significant decrease. Based on the experience observed for the first six months of 2018, the proportion of individuals with no insurable earnings in the last 52 weeks is expected to slightly decrease to 40.0%. It is expected to gradually decline to 35% of unemployed by 2023.

- The percentage of unemployed individuals with an invalid job separation is highly behaviour driven and fluctuates with the economic situation. For 2016, the percentage decreased to 11.9%. It is expected to gradually increase thereafter and remain constant at 12.5% from 2022.

- The ratio of working beneficiaries to unemployed is projected based on the last 5-year average, corresponding to 6.5% from 2018.

The resulting projected proportion and number of potential claimants are presented in the following table.

Table 45 Projected Number of Potential Claimants

Calendar Year	Number of Unemployed (U) (thousands)	No Insurable Earnings in Last 52 Weeks	Invalid Job Separation	Working Beneficiaries	Potential Claimants	
		As a % of U	As a % of U	As a % of U	As a % of U	Number (thousands)
2018	1,141	40.0%	12.1%	6.5%	54.4%	621
2019	1,151	39.0%	12.2%	6.5%	55.3%	637
2020	1,177	38.0%	12.3%	6.5%	56.2%	662
2021	1,203	37.0%	12.4%	6.5%	57.1%	687
2022	1,209	36.0%	12.5%	6.5%	58.0%	702
2023	1,215	35.0%	12.5%	6.5%	59.0%	718
2024	1,222	35.0%	12.5%	6.5%	59.0%	722
2025	1,230	35.0%	12.5%	6.5%	59.0%	726

The number of potential claimants as a percentage of unemployed is expected to increase from 54.4% in 2018 to 59.0% in 2023.

3. Recipiency Rate *(Share of potential claimants receiving benefits)*

Beneficiaries, as reported by Statistics Canada, refers to the number of active regular claimants in a given month who received EI regular benefits during the reference week of the labour force survey, usually the week containing the 15th day of the month. The recipiency rate represents the proportion of potential claimants in a given period who are receiving EI regular benefits and ignores individuals outside the target population of the EI program, such as the long-term unemployed and those who did not contribute to the program in the previous year. The recipiency rate is thus directly linked to the target population of the EI program (i.e. potential claimants).

The recipiency rate is lower than 100% for multiple reasons including:

1. Some potential claimants have not accumulated the required number of insurable hours, which varies between 420 and 700 hours depending on the economic region in which they reside;
2. Some potential claimants do not apply for benefits; and
3. Some potential claimants are waiting to receive their benefits, or have received benefits in the past but have exhausted the number of weeks they were entitled to receive regular benefits and remain unemployed.

For the purposes of forecasting regular benefit payments, historical recipiency rates shown in the following table are calculated based on the number of beneficiaries as reported by Statistics Canada and the number of potential claimants as discussed in the previous section.

Table 46 Historical Recipiency Rate

Calendar Year	Number of Potential Claimants (thousands)	Regular Beneficiaries (thousands)	Recipiency Rate
2008	646	511	79.2%
2009	995	770	77.4%
2010	888	718	80.9%
2011	771	608	78.8%
2012	740	555	75.0%
2013	715	523	73.2%
2014	701	508	72.5%
2015	761	535	70.2%
2016	779	564	72.4%
2017	676	530	78.5%

While the recipiency rate has decreased from 80.9% in 2010 to 70.2% in 2015, it then increased to 72.4% in 2016 and 78.5% in 2017 due to the temporary and permanent measures (extension of number of weeks of benefits in selected regions affected by commodities downturn, elimination of the category of claimants who are new entrants and re-entrants and the change in the waiting period from two to one week in 2017). The preliminary estimate for 2018 is 76.8% and it is assumed to maintain at 77% thereafter.

4. Number of Weeks

EI expenditures are reported in the EI Operating Account on an accrual basis, that is, they are recorded in the period for which they should have been paid, without regards to the delay in processing the payment. For example, if a claimant is eligible to receive benefits starting the first week of December 2017, but receives his first benefit payment only in February 2018, the portion of the benefits that relates to December will be recorded in the EI Operating Account for the year 2017.

Furthermore, EI benefits are paid on a weekly basis, but only weekdays that belong to a particular period are reported in that period. For example, if December 31st is a Thursday then for every benefit week that should have been paid for the week of December 31st, four days will be reported in the current calendar year and one will be reported in the following calendar year.

The number of weeks affects Part I expenditures as benefits are payable for every weekday of the year, regardless of holidays. The number of workdays in a year ranges from 260 days to 262 days, resulting in a number of weeks ranging from 52.0 to 52.4 as shown in the following table.

Table 47 Number of Weeks

Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Weeks	52.0	52.2	52.2	52.4	52.2	52.0	52.0	52.4	52.2

5. Pilot Projects, Special Measures and New Program Changes

EI pilot projects allow the Government to test whether possible changes to the EI program would make it more consistent with current industry employment practices, trends or patterns or would improve service to the public. A summary of the costs associated with pilot projects, special measures and new program changes (prescribed information provided by ESDC) is shown in Table 23.

Working While on Claim

The EI Working While on Claim pilot project helped claimants to stay connected to the labour market and earn some additional income while on claim. The most recent pilot was for the period from August 7, 2016 to August 11, 2018 for those collecting regular, fishing, parental, compassionate care or Family caregiver benefits for children or adults. Two options were offered: claimants could keep 50 cents of their EI benefits for every dollar they earn, up to a maximum of 90 per cent of the weekly insurable earnings used to calculate their EI benefit amount, or they could revert to the rules of an earlier pilot in effect in 2012 (an earnings allowance of $75 or 40% of their weekly EI benefits).

The *Budget Implementation Act 2018, No. 1* made the Working While on Claim pilot project permanent, effective August 12, 2018. The Working While on Claim provisions are also extended to maternity and sickness benefits so that mothers and those dealing with an illness or injury have greater flexibility to stage their return to work and keep more of their EI benefits.

Special Measures

Budget 2016 provided eligible unemployed workers in 15 regions hardest hit by the downturn in commodity prices with additional weeks of EI regular benefits. Five additional weeks were available for all eligible unemployed workers in specified regions, up to a maximum of 50 weeks, and up to an additional 20 weeks were available to eligible unemployed long-tenured workers, in specified regions, up to a maximum of 70 weeks. Extended benefits came into effect on 3 July 2016, and were available to anyone who started a claim for regular benefits between 4 January 2015 and 8 July 2017, and was still unemployed.

Budget 2016 extended the maximum duration of work-sharing agreements that begin or end between 1 April 2016 and 31 March 2017, from 38 weeks to 76 weeks. The Softwood Lumber Action Plan announced in June 2017 extended the maximum duration of work-sharing agreements that begin between 30 July 2017 and 28 March 2020 to support workers affected by the downturn in the Forestry sector. In June 2018, the Government of Canada also announced the extension to the maximum duration of work-sharing agreements from 5 August 2018 to 28 March 2020 to support workers who may be affected by the recent U.S. tariffs imposed on Canadian steel and aluminium shipments.

Budget 2017 expanded the LMDAs over six years starting in 2017-18 to provide more opportunities to Canadians to upgrade their skills, gain experience or get help to start their own business.

The Softwood Lumber Action Plan announced in June 2017 also provides additional investment for training and employment supports to workers affected by adjustments in the forest industry through LMDAs for 2017-18 and 2018-19. In addition, over the same period, there will be a partnership with the most affected provinces in order to implement Target Earnings Supplements (TES) along with complementary employment supports.

Further amendments to the LMDAs were announced through Budget 2018 to support unemployed workers in seasonal industries and in June 2018 to support unemployed workers in steel and aluminium industries.

New Program Changes

The following changes were introduced in the *Budget Implementation Act 2017, No. 1 (An Act to implement certain provisions of the budget tabled in Parliament on March 22, 2017 and other measures)* and are effective 3 December 2017:

- Providing parents a choice of their EI parental benefit and leave period, effective 3 December 2017. Claimants can choose between 35 weeks paid at 55% of their weekly insurable earnings or the new 61 weeks paid at 33% of their weekly insurable earnings, up to a maximum.
- Expanding the flexibility of the EI maternity benefit and leave commencement date. Women are allowed to claim EI maternity leave benefits earlier, up to 12 weeks before their due date (up from eight weeks prior). The maximum amount of benefit weeks is unchanged.
- Expanding EI benefits to incorporate a new Family Caregiver Benefit for Adults. Claimants are granted up to 15 weeks per period of 52 weeks to support an adult family member who is critically ill or injured. Benefits for Parents of critically ill children (PCIC) have been enhanced and replaced by the Family Caregiver Benefit for Children. This benefit still gives access to up to 35 weeks of benefits with additional flexibility to share the benefits with other family members, not just parents.

Budget 2018 introduced a new EI Parental Sharing Benefit to promote greater gender equality, which would add five weeks to the existing standard parental benefits when parents agree to share parental leave. It would also apply to the extended parental benefit, providing eight extended parental benefit weeks. This new benefit would be available to eligible two-parent families, including adoptive and same-sex couples and is expected to become available in June 2019.

6. Regular Benefits

EI regular benefits provide temporary income support to eligible insured persons who have lost their jobs through no fault of their own, such as due to shortage of work, or seasonal or mass lay-offs, and are available to work.

Regular benefit payments are equal to the average weekly benefits multiplied by the number of weeks paid, as determined by the number of potential claimants multiplied by the recipiency rate and by the number of weeks in the year.

$$\textbf{Regular Benefits} = \underbrace{PC \times RR \times W}_{\text{Number of weeks paid}} \times \underbrace{AWB}_{\text{Average weekly benefits}}$$

Where: PC = number of potential claimants;
RR = recipiency rate;
W = number of weeks in the year; and
AWB = average weekly benefits.

For projection purposes, the above formula is modified such that the increase in each variable is applied to the previous year's EI regular benefits paid. As the actual regular benefit expenditures in the base year include expenditures attributed to pilot projects and special measures, they are first subtracted before the growth factors are applied.

The base year on which the projected growth factors are applied is 2017, that is, the latest year of known actual regular EI income benefits. Regular benefits are therefore projected as follows, starting from the base year.

$$\textbf{Regular Benefits}_T = \underbrace{\frac{PC_T}{PC_{T-1}}}_{\text{Yearly growth in potential claimants}} \times \underbrace{\frac{W_T}{W_{T-1}} \times \frac{AWB_T}{AWB_{T-1}}}_{\text{Yearly growth in annual average benefits}} \times \underbrace{\frac{RR_T}{RR_{T-1}}}_{\text{Yearly growth in the ratio of potential claimants receiving benefits}} \times \textbf{Regular Benefits}_{T-1}$$

Where: PC = number of potential claimants;
W = number of weeks in a year;
AWB = average weekly benefits; and
RR = recipiency rate.

Pilot projects, special measures and the impact of new program changes to the EI program are then added to the regular benefits projection as shown in Table 48.

Table 48 Regular Benefits ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Regular Benefits (Base)	11,038	10,773	11,722	12,585	13,409	14,053	14,821	15,513	16,048
Pilot Project - Working While on Claim	78	46	0	0	0	0	0	0	0
Measure - Affected regions extension	1,074	343	0	0	0	0	0	0	0
Permanent - Working While on Claim	0	25	64	65	66	68	69	71	73
Expanding existing flexibilities to encourage lifelong learning among long-tenured workers	0	11	34	35	36	37	38	40	41
Total Regular Benefits	**12,190**	**11,197**	**11,819**	**12,685**	**13,512**	**14,158**	**14,929**	**15,624**	**16,161**

7. Fishing Benefits

As with regular benefits, fishing benefits are equal to the number of benefit weeks multiplied by the average weekly benefits. Fishing benefits can be projected from the base year using the expected change in the number of benefit weeks and average weekly benefits. However, as the number of fishing claimants and the average duration of fishing claims are relatively stable, only the expected change in average weekly benefits is used in forecasting fishing benefits.

$$FB_T = \underbrace{(W_T/W_{T-1}) \text{ x } (AWB_T/AWB_{T-1})}_{\text{Yearly increase in average benefits}} \text{ x } \underbrace{FB_{T-1}}_{\text{Prior year's benefits}}$$

Where: FB = fishing benefits;
W = number of weeks in the year; and
AWB = average weekly benefits.

The fishing benefits projection is shown in Table 49.

Table 49 Fishing Benefits ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fishing Benefits	326	334	343	354	364	373	385	401	412

8. Work-Sharing Benefits

To avoid temporary lay-offs due to a reduction in the normal level of business activity caused by factors that are beyond the control of the employer, employers and employees can enter into a work-sharing agreement with the Commission through Service Canada to provide EI income benefits to eligible workers willing to work a temporarily reduced work week. This enables employers to retain staff and adjust their work activity during temporary work shortages, as well as avoid the expenses of hiring and training new staff once business levels return to normal. Employees are able to retain their skills and jobs while receiving EI benefits for the days that they do not work.

Work-sharing benefits are projected using the expected 2018 base work-sharing expenditures, multiplied by the expected change in the number of employees and the average weekly benefits rate. In addition, the first six months of 2018 show a significant decrease in work-sharing benefit expenditures compared to 2017.

$$\mathbf{WSB_T} = \underbrace{(EE_T/EE_{T-1})}_{\text{Change in the number of employees}} \times \underbrace{(W_T/W_{T-1}) \times (AWB_T/AWB_{T-1})}_{\text{Yearly increase in average benefits}} \times \underbrace{WSB_{T-1}}_{\text{Prior year's benefits}}$$

Where: WSB = work-sharing benefits;
EE = employees;
W = number of weeks in a year; and
AWB = average weekly benefits.

Table 50 shows the actual 2017 work-sharing benefits as well as the projection until 2025.

Table 50 Work-Sharing Benefits ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Work-Sharing Benefits (Base)	15	5	5	5	5	5	5	6	6
Extending the Maximum Duration	4	4	11	11	3	0	0	0	0
Total Work-Sharing Benefits	**19**	**8**	**15**	**16**	**8**	**5**	**5**	**6**	**6**

9. Special Benefits

Special benefits include MP benefits, for those who are pregnant or caring for a newborn or adopted child, sickness benefits for those who are unable to work due to sickness, injury or quarantine, compassionate care benefits for those who take a temporary leave from work to give care or support to a family member who is gravely ill at risk of dying within 26 weeks, and benefits for those who take leave from work to provide care or support to a critically ill or injured family member (Family Caregiver benefits for children and adults).

Salaried

Each special benefit for salaried employees is forecasted using the expected change in the number of employees and in the average weekly benefits, applied to the base year 2017.

$$SB_T = \underbrace{(EE_T/EE_{T-1})}_{\text{Change in the number of employees}} \times \underbrace{(W_T/W_{T-1}) \times (AWB_T/AWB_{T-1})}_{\text{Yearly increase in average benefits}} \times \underbrace{SB_{T-1}}_{\text{Prior year's benefits}}$$

Where: SB = special benefits;
EE = employees;
W = number of weeks in a year; and
AWB = average weekly benefits.

For 2018, the total increase applied to previous year's benefits corresponds to 3.2%. After analysing claims data for the first six months of 2018, it is assumed that sickness benefits will rather increase by 4.3% in 2018 compared to 2017, while the MP benefits will increase by 1.4%.

For projection purposes, expenditures attributed to and recent measures and changes to the program are excluded from the base year before the growth factors are applied. Expenditures attributed to pilot projects and recent changes to the program are subsequently added separately to obtain the total special benefits.

Self-employed

Starting 31 January 2010, self-employed persons can enter into a voluntary agreement with the Commission through Service Canada to participate in the EI program.

Self-employed benefits are forecasted to increase in line with covered earnings, that is, in line with the self-employed covered population and related insured earnings growth.

It is expected that in 2019, self-employed participants enrolling in the EI Program will receive $12.0 million in MP benefits, $0.6 million in sickness benefits, $15 thousand in compassionate care benefits, and $36 thousand in Family Caregiver benefits.

Table 51 Special Benefits

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Salaried Employees ($ millions)									
MP Benefits	4,009	4,064	4,194	4,353	4,486	4,629	4,800	5,023	5,195
Sickness Benefits	1,594	1,662	1,715	1,780	1,835	1,893	1,963	2,054	2,125
Compassionate Care Benefits	61	63	65	68	70	72	75	78	81
Family Caregiver Benefit for Children	23	24	24	25	26	27	28	29	30
Sub-total	5,687	5,813	5,999	6,227	6,416	6,622	6,866	7,185	7,431
Self-Employed ($ thousands)									
MP Benefits	9,333	10,749	12,010	13,467	14,819	16,299	17,893	19,573	21,102
Sickness Benefits	474	546	610	684	753	828	909	995	1,072
Compassionate Care Benefits	12	14	15	17	19	21	23	25	27
Family Caregiver Benefit for Children	28	33	36	41	45	49	54	59	64
Sub-total	9,848	11,341	12,672	14,209	15,636	17,197	18,880	20,652	22,265
Recent Changes ($ millions)									
Measure - Affected Regions Extension									
MP Benefits	11	4	-	-	-	-	-	-	-
Sickness Benefits	25	9	-	-	-	-	-	-	-
Applying Working While on Claim Provisions to Sickness and Maternity Claimants	-	3	7	8	8	8	8	8	9
Family Caregiver Benefit for Adults	0	139	146	153	161	169	177	186	195
Earlier access to Maternity Benefits	0	5	5	5	5	5	5	6	6
Extending Parental Leave Benefits	-	24	24	24	24	24	24	24	24
Parents Sharing Benefits	-	-	168	266	289	301	313	326	339
Total ($ millions)									
MP Benefits	4,030	4,108	4,403	4,661	4,818	4,975	5,160	5,398	5,585
Sickness Benefits	1,620	1,674	1,723	1,789	1,843	1,902	1,972	2,064	2,134
Compassionate Care Benefits	61	63	65	68	70	72	75	78	81
Family Caregiver Benefit for Children	23	24	24	25	26	27	28	29	30
Family Caregiver Benefit for Adults	0	139	146	153	161	169	177	186	195
Total Special Benefits	**5,734**	**6,007**	**6,361**	**6,696**	**6,918**	**7,145**	**7,412**	**7,755**	**8,026**

10. Benefit Repayments

If a claimant's income for a tax year exceeds 1.25 times the annual MIE, the claimant may be required to repay a portion of EI regular or fishing benefits received. Benefit repayments, as reported in the EI Operating Account, include an estimate for the current tax year, based on regular and fishing benefit payments, and a reconciliation between actual and estimated benefit repayments for the previous tax year.

The current year forecast is projected from the prior year actual based on the expected increase/decrease in regular and fishing benefits. The estimate for the forecast 2018 prior year actual is based on the actual first 6 months of benefit repayments and the historical average completion ratio after 6 months.

Table 52 EI Benefit Repayments ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Current Year Forecast	329	284	299	321	341	358	377	394	408
Prior Year									
Actual	263	308	284	299	321	341	358	377	394
Forecast	(299)	(329)	(284)	(299)	(321)	(341)	(358)	(377)	(394)
Sub-Total (Adjustment for prior year)	(35)	(21)	0	0	0	0	0	0	0
Refunds	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Total	**286**	**255**	**292**	**313**	**334**	**350**	**369**	**387**	**400**

11. EI Part II Benefits

The programs delivered under Part II of the EI Act are called Employment Benefits and Support Measures (EBSM). The expected annual estimates for EBSM are provided by ESDC on a fiscal year basis and included in the calendar year expenditures based on 25% of the current fiscal year and 75% of the next fiscal year.

Amounts presented in Table 53 include LMDAs investment of $1.8 billion announced in Budget 2017 as well as softwood lumber workforce adjustment measures of $80 million announced in June 2017, Budget 2018 announcement of $230 million to better support unemployed workers in seasonal industries, as well as $50 million in additional LMDA funding announced in June 2018 to support workers impacted by steel and aluminium tariffs.

Table 53 Employment Benefits and Support Measures ($ millions)

	Actual	Forecast							
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
EBSM (Fiscal Year)	2,168	2,481	2,501	2,426	2,501	2,501	2,076	2,076	2,076
	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
EBSM (Calendar Year)	**2,180**	**2,295**	**2,496**	**2,445**	**2,483**	**2,501**	**2,183**	**2,076**	**2,076**

12. Administration Costs

As with Part II benefits, the expected annual estimates for EI administration costs are provided by ESDC on a fiscal year basis and included in the calendar year expenditures based on 25% of the current fiscal year and 75% of the next fiscal year.

Table 54 Administration Costs ($ millions)

	Actual	Forecast							
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Administration Costs (Fiscal Year)	1,878	1,710	1,667	1,666	1,665	1,661	1,661	1,661	1,661
	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Administration Costs (Calendar Year)	**1,852**	**1,752**	**1,678**	**1,666**	**1,665**	**1,662**	**1,661**	**1,661**	**1,661**

As mentioned previously, the calculation of the reduction related to the savings to the EI program due to the Québec Parental Insurance Plan includes the variable administration costs (VAC). The VAC represents the direct operating costs incurred by the EI program associated with the administration of MP benefits outside Québec.

These costs represent the savings to the EI program if it ceased to provide EI MP benefits. The responsibility of determining the VAC each year lies with ESDC. It should be noted that under the Canada-Québec Final Agreement, the Government of Canada provided assurance that the VAC multiplied by the ratio of the insurable earnings in Québec to the insurable earnings outside Québec would not be less than $5 million. The 2018 to 2025 VAC are projected from actual costs incurred in 2017 as a constant percentage of MP benefits. When applicable, VAC are increased to reflect the minimum under the Canada-Québec Final Agreement.

Table 55 Variable Administrative Costs ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Variable Administration Costs	**17.5**	**17.7**	**17.8**	**17.9**	**17.9**	**18.0**	**18.1**	**18.2**	**18.3**

13. Bad Debt

Bad debt expenses relate to overpayments and penalties owed and are equal to the amount written off during the year and the change in the annual allowance for doubtful debts. The allowance is calculated on the outstanding balance in the accounts at the end of the fiscal year and is based on the collection policy, the age of the accounts and the amounts written off.

The calendar year bad debt expense included in the closing balance of the EI Operating Account as of 31 December 2017 was equal to 25% of the 2016-2017 expense and 75% of the 2017-2018 expense.

Based on fiscal year 2017-2018, the allowance for doubtful debts is forecasted as 1.9% of total projected Part I benefits. The write-offs for 2018-2019 and following fiscal years are forecasted based on the proportion of the write-offs over the opening allowance for doubtful debts for 2017-2018 as well as the expected increase in benefit payments.

The bad debt expense for a given year corresponds to the difference between the allowance calculated for the year and the net allowance of the previous year (i.e. allowance at the end of the previous year reduced by the write-offs that occurred during the year).

Table 56 Bad Debt Expense ($ millions)

	Actual	Forecast							
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Allowance for Doubtful Accounts (Current Year)	337	350	373	393	410	429	449	465	482
Net Allowance (Prior Year)									
Allowance for Doubtful Accounts (Prior Year)	307	337	350	373	393	410	429	449	465
Write-Offs	(40)	(46)	(48)	(50)	(53)	(55)	(58)	(60)	(62)
Total	268	291	303	323	340	354	372	389	402
Bad Debt Expense (Fiscal Year)	69	60	70	70	70	75	77	76	80
	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Bad Debt Expense (Calendar Year)	**60**	**62**	**68**	**70**	**70**	**74**	**77**	**76**	**79**

14. Penalties

The Commission may impose a penalty on a claimant, any person acting on behalf of a claimant or an employer under sections 38 and 39 of the EI Act should it become aware that they knowingly provided false or misleading information.

Penalties are correlated with benefit overpayments and are forecasted from the base year using the expected annual change in Part I benefits.

Table 57 Penalties ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Penalties	**66**	**60**	**63**	**67**	**71**	**74**	**77**	**81**	**84**

15. Interest

Interest is charged on outstanding EI debts caused through misrepresentation. This includes overpayments and penalties. As per the *Interest and Administrative Charges Regulations*, the rate of interest charged to EI claimants, employers or third parties on outstanding debts is equal to 3% above the average Bank of Canada discount rate from the previous month[1].

After keeping the overnight rate at 1.00% since 8 September 2010, the Bank of Canada lowered the rate to 0.75% on 21 January 2015 and to 0.50% on 15 July 2015. The overnight rate was then increased to 0.75% on 12 July 2017, 1.00% on 6 September 2017, 1.25% on 17 January 2018 and 1.50% on 11 July 2018. The corresponding discount rate (Bank Rate) starting in July 2018 is 1.75% (1.50% + 0.25%). The overnight rate is projected for 2018 to 2022 based on the 3-month T-Bill forecast from the December 2017 Department of Finance private sector survey. It is then expected to increase further in 2023 and 2024 to reach 3.0% with a corresponding discount rate of 3.25%. The rate of interest charged on overdue accounts is thus projected at 6.25% (3.25% + 3.00%) starting in 2024.

As the interest earned is correlated with the amount of outstanding benefit overpayments, it is forecasted using the expected annual change in Part I benefits and the 12-month average of the interest rate. Expected interest for 2018 is based on interest in 2017, increased for changes in Part I benefits and average interest rate from 2017 to 2018.

Table 58 Interest on Overdue Accounts Receivable ($ millions)

	Actual	Forecast							
	2017	2018	2019	2020	2021	2022	2023	2024	2025
Average Interest Rate	3.91%	4.61%	5.20%	5.50%	5.75%	5.75%	6.00%	6.25%	6.25%
Interest	**15**	**18**	**21**	**24**	**26**	**28**	**30**	**33**	**34**

[1] Interest rates can be found at http://www.tpsgc-pwgsc.gc.ca/recgen/txt/tipp-ppir-eng.html

Appendix V. Reduction in Employer Premiums Due to Qualified Wage-Loss Plans

This appendix describes the data, methodology and assumptions that underlie the calculation of the 2019 reduction in employer premiums due to qualified wage-loss plans included in this report.

A. Background and Legislation on the Premium Reduction Program

Under subsection 69(1) of the *Employment Insurance Act* ("EI Act"), the Commission shall, with the approval of the Governor in Council, make regulations to provide a system for reducing employer premiums when employees are covered by a qualified wage-loss plan which reduce EI special benefits otherwise payable, provided that at least 5/12 of the reduction is passed on to employees.

Under subsection 69(3) of the EI Act the Commission makes regulations for the operation of a premium reduction system, including the method for determining the amount of reduction, the use of actuarial calculations and estimates, and the specific details related to the administration of the program such as minimum qualification criteria and other registration conditions.

The Premium Reduction Program (PRP) was introduced in 1971 at the same time that sickness benefits were introduced to the Unemployment Insurance Program. At the time, many workers were already covered against loss of wages due to illness through employer sponsored plans. It was recognized that the introduction of EI sickness benefits could cause a duplication of costs to both employers and employees. As stated in the *1970 White Paper on Unemployment Insurance*, cost concerns and a desire to recognize the role of existing wage-loss plans contributed to the decision to supplement rather than pre-empt those plans. With the exception of benefits paid from registered Supplemental Unemployment Benefit (SUB[1]) plans, it was therefore decided that benefits payable from employer sponsored wage-loss plans would be deducted from EI sickness benefits. In other words, the EI program would adopt a second payer position relative to employer sponsored wage-loss plans that are not registered SUB plans. This implies that employees who become ill and who are not covered by a registered SUB plan first make use of their employer's plan and only make use of EI sickness benefits if they have no employer plan, or if they have exhausted the benefits from their employer's plan.

[1] A SUB is a supplemental payment to an employee who is receiving EI benefits during a period of unemployment due to temporary stoppage of work, training, illness, injury or quarantine. These payments are made according to the terms of a SUB plan financed by the employer. Payments from a registered SUB plan that meets the requirements of section 37 of the Employment Insurance Regulations are not deducted from the employee's EI benefits.

Employers who have a wage-loss plan that meets specific qualification requirements may apply for a reduction of EI premiums under the PRP. In addition to meeting the qualification requirements, participation in the PRP is conditional upon the employer passing on at least 5/12 of the premium reduction to the employees. For administrative simplicity, the full premium reduction is provided to the employer who is then responsible for returning the employees' portion of the reduction to them through cash or fringe benefits.

In accordance with sections 63, 64, 65 and 66 of the *Employment Insurance Regulations* ("EI Regulations"), there are four categories of qualified wage-loss plans, which correspond to the main types of wage-loss plans offered to workers. A summary of each category is shown below:

Category 1:	*<u>Cumulative paid sick leave plans</u> that allow for a minimum monthly accumulation of at least one day and for a maximum accumulation of at least 75 days.*
Category 2:	*<u>Enhanced cumulative paid sick leave plans</u> that allow for a minimum monthly accumulation of at least one day and two thirds and for a maximum accumulation of at least 125 days.*
Category 3:	*<u>Weekly indemnity plans</u> with a maximum benefit period of at least 15 weeks.*
Category 4:	*<u>Special weekly indemnity plans</u> provided by certain public and parapublic employers of a province with a maximum benefit period of at least 52 weeks.*

For each category, a rate of reduction, expressed as a percentage of insurable earnings, is calculated annually. These rates of reduction are then converted into reduced employer multipliers for each category and applicable premium rate.

The principle in determining the rates of reduction is that the EI program is paying lower sickness benefits due to the presence of qualified wage-loss plans, and that these savings to the EI program should be passed on to the employers who sponsor these plans and their employees. As it would not be practical to do this on an individual employer basis nor even possible to make the calculation for new employers or small firms, the rates of reduction compensate employers (and their employees) for the average rate of EI benefit savings that are generated by qualified plans in each category. Given that EI sickness benefits paid to employees who are covered by a qualified wage-loss plan depend on the category, the savings generated, and therefore the rates of reduction, vary by category.

The methodology to calculate the rates of reduction is prescribed in section 62 of the EI Regulations. Pursuant to this section, the employer's premium shall be reduced by the percentage by which the first payer cost ratio in respect of all insured persons exceeds the experience cost ratio in respect of insured persons covered by a qualified wage-loss plan of that employer's category.

Both the first payer cost ratio and the experience cost ratio are based on averages from the three years ending with the second year preceding the year for which the calculation is made. Accordingly, for 2019, the years 2015, 2016 and 2017 are used to calculate the first payer cost ratio and the experience cost ratio. The detailed formula for calculating the rates of reduction is presented in Appendix II of this report.

More information on the first payer cost ratio and the experience cost ratio is presented in the following subsections, as well as the resulting rates of reduction, reduced employer multipliers and estimated amount of premium reduction for 2019.

B. First Payer Cost Ratio

The first payer cost ratio represents the average hypothetical job-attached[1] EI sickness benefits that would have been paid if benefits payable under a group sickness or disability wage-loss indemnity plan or paid sick leave plan were disregarded for purposes of determining benefits otherwise payable to persons under the EI Act. It is expressed as a percentage of average insurable earnings for all insured persons. This produces a uniform first payer cost ratio reflecting the national average usage for all EI contributors and is consistent with the fact that EI contributors are charged a uniform premium rate in accordance with the pooling of risk principle.

For the purposes of calculating the 2019 rates of reduction, the first payer cost ratio is equal to the average of the first payer cost for the years 2015 to 2017, divided by the average insurable earnings of all insured persons for the years 2015 to 2017.

The first payer cost for each year is determined by multiplying the hypothetical number of first payer job-attached EI sickness benefit weeks (namely, those that would have been paid if benefits under a group sickness or disability wage-loss indemnity plan or paid sick leave plan were disregarded for EI benefit purposes) by the average weekly sickness benefits that would apply in such circumstances.

The first payer cost was not revised for previously calculated years (i.e. 2015 and 2016). More information on the 2015 and 2016 first payer cost can be found in the 2018 Actuarial Report.

[1] A sickness claim is considered job-attached if the interruption of earnings with the employer was by reason of illness, injury or quarantine.

1. First payer job-attached EI sickness benefit weeks

The hypothetical number of first payer job-attached EI sickness benefit weeks is equal to the product of the hypothetical number of first payer job-attached EI sickness claims and the average duration in weeks of these claims. The hypothetical number of first payer job-attached EI sickness claims is based on the number of individuals with insurable earnings and on an assumed job-attached EI sickness usage rate. This assumed job-attached EI sickness usage rate depends on a number of factors such as the probability of being sick for more than one week (EI sickness incidence rate), the probability of being eligible and applying for EI benefits and the probability of being job-attached at the time of illness.

Employer and employee-wide data on sickness incidences and their duration are not readily available. The most exhaustive and complete data that are available is through the combination of the EI administrative data file and the Canada Revenue Agency T4 data file. The EI sickness incidence rate is therefore estimated based on an analysis of administrative EI and T4 data. Given that the EI claims data are incomplete for employees covered by a qualified wage-loss plan (i.e. only residual claims are paid from the EI program), the EI sickness usage rate of individuals that are not covered by a qualified wage-loss plan was used as a basis for developing the overall EI sickness incidence rate of the entire insured population.

This overall EI sickness incidence rate is adjusted to reflect the estimated impact on incidence rates of different age, sector of employment and salary profiles between individuals with and without a qualified wage-loss plan. The job-attached EI sickness usage rate differs by sector of employment and depending on whether or not an individual is covered by a qualified wage-loss plan due to different EI eligibility/benefit application rates and varying degrees of job attachment. Individuals who are covered by a qualified wage-loss plan have more stable full-time employment and are more likely to meet the EI eligibility requirements and be job-attached at the time of the illness. Furthermore, they are more likely to apply for EI benefits given that under the hypothetical first payer scenario, employers sponsoring a qualified wage-loss plan are assumed to adopt a second payer position rather than eliminating sickness coverage altogether.

Based on quantitative and qualitative analysis, assumptions were developed to estimate the job-attached EI sickness usage rate of all insured persons under a hypothetical first payer scenario and the resulting hypothetical number of first payer EI sickness claims. The hypothetical number of first payer job-attached EI sickness benefit weeks is calculated by multiplying the hypothetical number of first payer EI sickness claims by the estimated average duration in weeks. To obtain the average duration of claims, the wage-loss status of individuals was taken into account. This is because employees with a wage-loss plan tend to have stronger labour force attachment and that individuals with strong labour force attachment have slightly longer claim durations based on administrative claims data.

Consequently, the 2017 hypothetical number of first payer job-attached EI sickness claims is 628,190 and the assumed average duration of these claims is 8.9 weeks. The resulting hypothetical number of first payer job-attached EI sickness benefit weeks for 2017 is 5,591,763.

The hypothetical number of first payer job-attached EI sickness benefit weeks for 2015 and 2016 is 5,317,928 and 5,395,202 respectively. More information is provided in the 2018 Actuarial Report.

2. Average Weekly Sickness Benefits

The average weekly benefits can be calculated by multiplying the following elements:

- Benefit rate (i.e. 55%);
- Weekly insurable earnings of all EI contributors; and
- Ratio of insurable earnings used to calculate the benefits of claimants to the insurable earnings of all EI contributors ("Ratio"). This Ratio captures the effect of the formula used to determine EI weekly benefits and any structural differences between insurable earnings of contributors and claimants.

The average weekly sickness benefits of individuals that are not covered by a qualified wage-loss plan were analysed and broken down into these separate elements. It was observed that the Ratio for individuals with a strong labour force attachment is significantly lower than the Ratio for all individuals. In addition, the Ratio for individuals with insurable earnings at the maximum insurable earnings is close to 1. Based on this analysis, an assumption was developed for the Ratio that would be applicable under a hypothetical first payer scenario. This Ratio was then applied to the benefit rate and weekly insurable earnings to derive the average weekly sickness benefits under a hypothetical first payer scenario.

The resulting average weekly sickness benefits under a hypothetical first payer scenario is $435.14 for 2017. The average weekly sickness benefits under a hypothetical first payer scenario for 2015 and 2016 are $420.90 and $430.31 respectively, as calculated in the 2018 Actuarial Report.

3. Resulting First Payer Cost and First Payer Cost Ratio

Based on the foregoing, the first payer cost ratio used for the calculation of the 2019 rates of reduction is 0.3997%. Table 59 shows more details on how this first payer cost ratio is determined.

Table 59 First Payer Cost Ratio for Calculating 2019 Rates of Reduction

	2015*	2016*	2017	Average for 2019 Rates of Reduction
First Payer EI Sickness Benefit Weeks (A)	5,317,928	5,395,202	5,591,763	N/A
First Payer Average EI Sickness Benefits (B) ($)	420.90	430.31	435.14	N/A
First Payer Cost (A x B) ($)	2,238,312,000	2,321,584,000	2,433,215,000	2,331,037,000
Total Insurable Earnings (TIE) ($)	567,614,146,928	580,645,988,996	601,522,510,514	583,260,882,146
First Payer Cost Ratio (% of TIE)	0.3943%	0.3998%	0.4045%	**0.3997%**

* More information on the 2015 and 2016 numbers can be found in the 2018 Actuarial Report.

C. Experience Cost Ratio

Under certain circumstances, EI sickness benefits are paid to individuals covered by a qualified wage-loss plan. The costs to the EI program of these benefits are deducted from the premium reduction granted through the experience cost ratio, which is subtracted from the first payer cost ratio for purposes of calculating the rates of reduction.

The experience cost ratio, which is different for each category, reflects the actual average job-attached EI sickness benefits paid for each category. It is expressed as a percentage of average insurable earnings for the insured persons in that category. In accordance with the EI Regulations, EI sickness benefits paid to individuals who were not job-attached at the time of the claim are not included in the experience cost ratio.

The allocations of annual job-attached EI sickness benefits paid and of insurable earnings among each category are based on an analysis of administrative data and reports provided by Service Canada and ESDC. For 2015, 2016 and 2017, the total cost of job-attached EI sickness benefits for each category is shown in Table 60, and the insurable earnings for each category are shown in Table 61; the amounts shown for 2017 are based on preliminary data.

Table 60 Job-Attached EI Sickness Benefits per Category of Wage-Loss Plan ($)

	2015	2016	2017	Average for 2019 Rates of Reduction
Category 1	85,448,762	82,795,840	91,717,891	86,654,164
Category 2	7,968,115	9,119,038	10,471,109	9,186,087
Category 3	77,867,976	81,654,336	90,160,920	83,227,744
Category 4	2,215,882	2,487,689	2,562,627	2,422,066
Total	173,500,735	176,056,902	194,912,548	181,490,062

Table 61 Allocation of Insurable Earnings for Employers With a Qualified Wage-Loss Plan ($)

	2015	2016	2017	Average for 2019 Rates of Reduction
Category 1	45,238,847,510	45,871,033,131	47,640,582,833	46,250,154,491
Category 2	23,896,555,586	23,690,356,351	23,699,986,914	23,762,299,617
Category 3	181,466,242,773	186,387,362,468	189,720,199,816	185,857,935,019
Category 4	20,831,439,192	20,961,320,203	22,075,876,136	21,289,545,177
Total	271,433,085,061	276,910,072,152	283,136,645,699	277,159,934,304

The experience cost ratio used in the calculation of the 2019 rates of reduction for each category is shown in Table 62.

Table 62 Experience Cost Ratio per Category

	Average EI Sickness Costs (A) ($)	Average Insurable Earnings (B) ($)	Experience Cost Ratio (A/B)
Category 1	86,654,164	46,250,154,491	0.1874%
Category 2	9,186,087	23,762,299,617	0.0387%
Category 3	83,227,744	185,857,935,019	0.0448%
Category 4	2,422,066	21,289,545,177	0.0114%

D. Rates of Reduction

Pursuant to section 62 of the EI Regulations and section 68 of the EI Act, the employer's premium shall be reduced by the percentage by which the first payer cost ratio in respect of all insured persons exceeds the experience cost ratio in respect of insured persons covered by a qualified wage-loss plan of that employer's category. The premium reduction is therefore granted by reducing the employer multiple below 1.4 to a value rounded to 3 decimals.

Table 63 shows the 2019 rates of reduction for each category of qualified wage-loss plan, along with the corresponding reduced employer multiplier for out-of-Québec and Québec employers. The employer multipliers presented in the table are calculated with the 7-year forecast break-even rate of 1.62% for residents of all provinces except Québec. The corresponding premium rate that applies to residents of Québec is 1.25%. Pursuant to section 62 of the EI Regulations and section 68 of the EI Act, the employer multiplier is calculated from the unrounded rates of reduction and the rounded rates of reduction are shown for illustration purposes only.

Table 63 2019 Rates of Reduction

	First Payer Cost Ratio	Experience Cost Ratio	Unrounded Rate of Reduction	Rounded Rate of Reduction	Employer Multiplier (Out-of-Québec)	Employer Multiplier (Québec)
Category 1	0.3997%	0.1874%	0.2123%	0.21%	1.269	1.230
Category 2	0.3997%	0.0387%	0.3610%	0.36%	1.177	1.111
Category 3	0.3997%	0.0448%	0.3549%	0.35%	1.181	1.116
Category 4	0.3997%	0.0114%	0.3883%	0.39%	1.160	1.089

The Commission will notify each registered employer of the applicable 2019 rate of reduction and employer multiplier. Pro-rated rates apply for plans that do not qualify for a reduction for the full twelve months in the calendar year. In addition, adjusted rates may apply for employers who deduct QPIP premiums for a portion but not all of their employees.

E. Amount of Premium Reduction

Table 64 shows the estimated amount of premium reduction to be granted in 2019. The estimates are based on the historical distribution of insurable earnings by category, which was derived from Canada Revenue Agency T4 data.

Table 64 2019 Estimated Amount of Premium Reduction

	Estimated Number of Qualified Employers	2019 Insurable Earnings ($ millions)	Rates of Reduction	Premium Reduction ($ millions)
Category 1	2,500	50,814	0.2123%	108
Category 2	600	25,278	0.3610%	91
Category 3	25,900	202,356	0.3549%	718
Category 4	400	23,546	0.3883%	91
Total	29,400	301,995	N/A	1,009

Appendix VI. Acknowledgements

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