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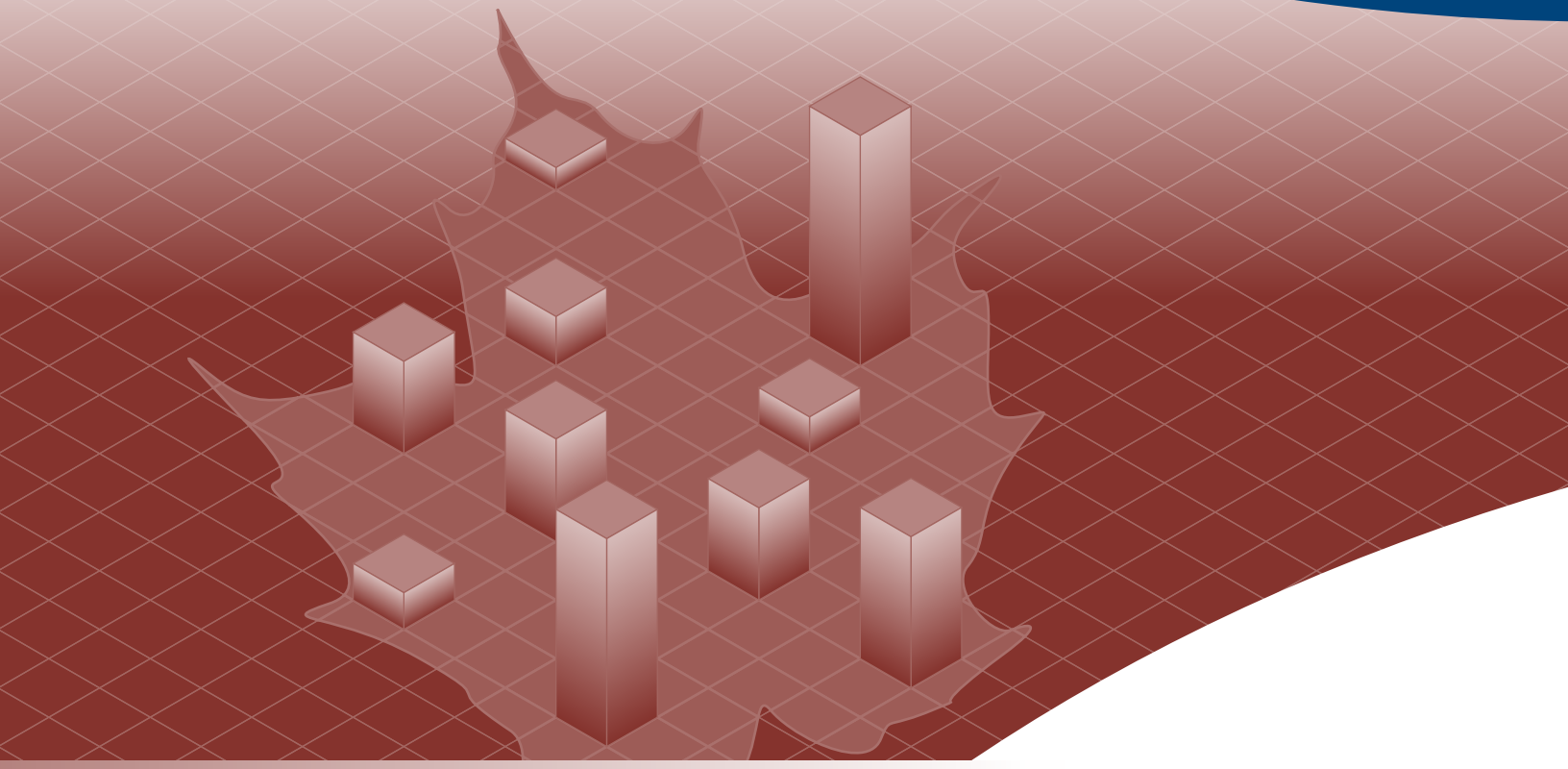

2017 ACTUARIAL REPORT

on the

EMPLOYMENT INSURANCE PREMIUM RATE

Canada

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Cat. No. CC536-3E-PDF
ISSN 2291-7950

22 August 2016

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 2017 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 2016.

Yours sincerely,

Michel Millette, F.C.I.A., F.S.A.
Chief Actuary, Employment Insurance Premium Rate-Setting
Office of the Chief Actuary
Office of the Superintendent of Financial Institutions Canada

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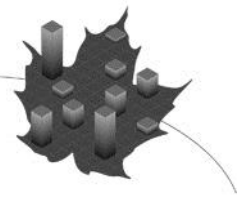


I. Executive Summary

A. Purpose of the Report

This Actuarial Report prepared by the Chief Actuary, Employment Insurance Premium Rate-Setting ("Chief Actuary"), is the fourth one 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 the provisions of the *Economic Action Plan 2013, No.2 (A second act to implement certain provisions of the budget tabled in Parliament on March 21, 2013 and other measures)*, which introduced a new rate-setting mechanism that came into force on 1 April 2016 and which affects how premium rates are set for years 2017 and after.

In addition, this report reflects other changes that were brought forth in the *Budget Implementation Act 2016, No. 1 (An Act to implement certain provisions of the budget tabled in Parliament on March 22, 2016 and other measures)*, which are discussed in more details throughout the report.

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

B. Overview of Methodology

Starting in 2017, in accordance with subsection 66(1) of the EI Act and based on the new rate-setting mechanism, the Commission will 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 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.

For 2017, the 7-year forecast break-even rate is determined such that the projected balance in the EI Operating Account as at 31 December 2023 is $0. This rate is expected to generate sufficient premium revenue during the 2017-2023 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 2016.

Since 2017 is the first year in which the 7-year break-even rate is set, there is no limit on how much the 2017 EI premium rate can decline. After 2017, annual adjustment to the premium rate will be limited to five cents. 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 Employment and Social Development (ESD) and Finance, if it is considered to be in the public interest.

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 Chief Actuary and take into account prescribed information provided by the Ministers of 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 2017 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 2017 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 Chief Actuary.

Quebec is currently the only province that has established a provincial plan through the Quebec Parental Insurance Plan (QPIP) which has been providing maternity, parental and adoption (MPA) benefits to Quebec 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 Quebec residents and their employers was introduced. The 2017 reduction for Quebec residents and their employers is determined in accordance with legislation and based on a methodology and assumptions developed by the Chief Actuary. The reduction is granted through a reduced premium rate. For 2017, this reduction is referred to as the 2017 QPIP reduction.

C. Main Findings

The following estimates are based on the EI provisions as of 22 July 2016, on the information provided on or before 22 July 2016 by the Minister of ESD and the Minister of Finance, and on the methodology and assumptions developed by the Chief Actuary.

In 2017, insured employees and their employers will pay EI premiums on their earnings up to the 2017 MIE of **$51,300**, an increase of $500 or 1.0%, from the 2016 MIE of $50,800.

The 2017 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 2023, is **1.63%**.

The 2017 estimated cost savings to the EI program that are generated by employer sponsored qualified wage-loss plans are $955 million. In 2017, this amount compensates employers who sponsor a qualified wage-loss plan through reduced employer multipliers for out-of-Quebec employers of 1.274, 1.178, 1.183 and 1.163 for categories 1 through 4 respectively, assuming a premium rate of 1.63% (1.238, 1.115, 1.121 and 1.096 for Quebec employers). This translates into a premium reduction of about 0.21%, 0.36%, 0.35% and 0.39% of insurable earnings for categories 1 through 4 respectively.

The 2017 QPIP reduction is **0.36%** and represents the estimated savings to the EI program due to the existence of the Quebec Parental Insurance Plan, which provides MPA benefits to residents of Quebec.

Should the Commission set the 2017 premium rate at the 7-year forecast break-even rate, the premium rate applicable to residents of all provinces except Quebec would be **1.63%** and the premium rate applicable to residents of Quebec would be **1.27%**. With the exception of employers who sponsor a qualified wage-loss plan, employers will pay 1.4 times the employees' premiums.

Table 1 shows the status of the EI Operating Account for 2015, as well as its projected evolution until 2023. Using a premium rate corresponding to the 7-year forecast break-even rate (1.63%) from 2017 to 2023, the EI Operating Account is expected to balance out at the end of 2023. The cumulative balance in the EI Operating Account at the end of 2023 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	Premium Rate	Premium Revenue	Expenditures	Annual Surplus (Deficit)	Cumulative Surplus (Deficit) 31 December
2015					867
2016	1.88%*	23,564	22,415	1,149	**2,016**
2017	1.63%	21,174	23,258	(2,084)	(68)
2018	1.63%	21,947	22,751	(804)	(872)
2019	1.63%	22,790	22,955	(165)	(1,037)
2020	1.63%	23,598	23,600	(2)	(1,040)
2021	1.63%	24,528	24,410	118	(922)
2022	1.63%	25,373	25,129	244	(678)
2023	1.63%	26,241	25,867	374	**(304)**

*Legislated

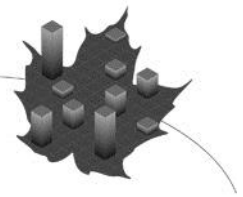
It is important to note that the figures included in this report are projections, and eventual differences between future experience and these projections will be analyzed and taken into account in subsequent reports.

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 Chief 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 2017-2023 would result in an increase/decrease of about 0.07% in the 2017 EI 7-year forecast break-even rate;
- a variation in the average recipiency rate of five percentage points (5%) over the period 2017-2023 would result in an increase/decrease of about 0.05% in the 2017 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 $1,116 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 Chief 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 2017 MIE is **$51,300**.

Should the Commission set the 2017 premium rate at the 7-year forecast break-even rate, the 2017 premium rate would be equal to:

- **1.63% of insurable earnings for residents of all provinces except Quebec; and**
- **1.27% of insurable earnings for residents of Quebec, after taking into account the QPIP reduction of 0.36%.**

The 2017 premium reduction for employers who sponsor qualified wage-loss plans is estimated at $955 million.

II. Introduction

A. Purpose of the Report

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

The Chief 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 Chief 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.

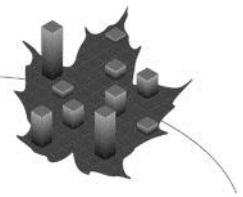
The purpose of this report is to provide the Commission with all the information prescribed under section 66.3 of the EI Act. The Commission will make available to the public this report along with its summary. More information on the rate setting process along with the inherent deadlines can be found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

B. Recent Legislative Changes

Economic Action Plan 2013, No.2 (A second act to implement certain provisions of the budget tabled in Parliament on March 21, 2013 and other measures) introduced a new rate-setting mechanism that came into force 1 April 2016 and which affects how premium rates are set for years 2017 and after.

Starting in 2017, in accordance with subsection 66(1) of the EI Act and based on the new rate-setting mechanism, the Commission will 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 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.

In addition, there have been other legislative changes since the 2016 Actuarial Report on the Employment Insurance Premium Rate was prepared in August 2015, which have an impact on the calculations included in this report.



The following changes were introduced in the *Budget Implementation Act 2016, No. 1 (An Act to implement certain provisions of the budget tabled in Parliament on March 22, 2016 and other measures)*:

- Effective 3 July, 2016, expanding access to EI for new entrants and re-entrants such that they will face the same eligibility criteria as other claimants in the region where they live;
- Reducing the EI waiting period from two weeks to one week. This change is expected to take effect on 1 January 2017;
- A new Working While on Claim pilot project starting 7 August 2016. This pilot project will be offered until August 2018 and will allow claimants a choice between two options of pilot rules, depending on what is more favourable for the individual;
- Temporarily extending EI regular benefits in the 15 EI economic regions that have experienced the sharpest and most severe increases in unemployment; and
- Temporarily extending the maximum duration of work-sharing agreements.

In addition, EI operational policy guidance will be revised to comply with a decision of the Federal Court of Appeal and new jurisprudence.

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 Quebec, 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 2016. 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 2017 EI 7-year forecast break-even rate, the 2017 reduction in employer premiums due to qualified wage-loss plans, the 2017 QPIP reduction, which is the premium reduction applicable to residents of Quebec 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.

Concluding remarks and the actuarial opinion are presented in Section VII and Section VIII. 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 MIE is presented in Appendix III.

III. Methodology

Starting in 2017, in accordance with subsection 66(1) of the EI Act and based on the new rate-setting mechanism, the Commission will 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 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.

Since 2017 is the first year in which the 7-year break-even rate is set, there is no limit on how much the 2017 EI premium rate can decline. After 2017, annual adjustment to the premium rate will be limited to five cents. 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.

Based on relevant assumptions, the 2017 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 2023 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 2016 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 2014, which is the most recent year for which fully assessed T4 slips (Statement of Remuneration Paid) data are available. However, for certain assumptions, the 2015 partially assessed information is used. Complete data for 2015 will not become available until January 2017. The base year for EI benefits is calendar year 2015.

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, ESDC, and the Canada Revenue Agency (CRA); and
- Methodology and assumptions developed by the Chief 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 2017 premium reductions for those employers are determined in accordance with subsection 69(1) of the EI Act and related regulation, and are based on the methodology and assumptions developed by the Chief Actuary.

Quebec is currently the only province that has established a provincial plan through the Quebec Parental Insurance Plan (QPIP) which has been providing maternity, parental and adoption (MPA) benefits to Quebec 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 Quebec residents and their employers was introduced. The 2017 reduction for Quebec residents and their employers is determined in accordance with legislation and based on a methodology and on assumptions developed by the Chief Actuary. The reduction is granted through a reduced premium rate. For 2017, this reduction is referred to as the 2017 QPIP reduction.

More information on the methodology used for calculating the 7-year forecast break-even rate and the premium reductions for 2017 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

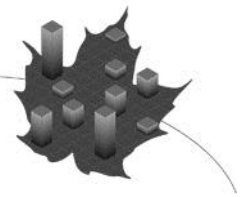
The earnings base is detailed in the denominator of the formula for the 7-year forecast break-even rate and the QPIP reduction developed in Appendix II. The earnings base is comprised of:

- the total insurable earnings on which employers pay EI premiums prior to any adjustment for wage-loss plans, provincial 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.

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

Table 2 - Assumptions for Earnings Base

	2015	2016	2017	2018	2019	2020	2021	2022	2023
Increase in Maximum Insurable Earnings	1.85%	2.63%	0.98%	1.75%	2.87%	2.79%	2.90%	2.64%	2.92%
Increase in Number of Earners	0.67%	0.53%	1.03%	1.22%	0.80%	0.63%	0.45%	0.51%	0.53%
Increase in Average Employment Income	1.91%	1.14%	3.73%	3.22%	3.33%	3.17%	4.06%	3.24%	2.79%
Increase in Total Employment Income	2.59%	1.68%	4.80%	4.47%	4.16%	3.82%	4.53%	3.77%	3.33%
Increase in Total Insurable Earnings	2.51%	2.52%	3.23%	3.62%	3.89%	3.59%	3.84%	3.42%	3.40%
Net Transfer of Insurable Earnings to Quebec Reflecting the Province of Residence	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%
Adjustment Due to Employee Premium Refunds (% of Total Insurable Earnings)	2.59%	2.59%	2.59%	2.59%	2.59%	2.59%	2.59%	2.59%	2.59%
Increase in Covered Self-Employed Earnings:									
Total	14%	11%	13%	12%	11%	11%	11%	10%	9%
Out-of-Quebec Residents	14%	12%	14%	12%	12%	11%	11%	10%	9%
Quebec Residents	17%	5%	9%	8%	8%	8%	8%	7%	7%



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 2017 MIE is equal to $51,300, which represent a 1.0% increase to the 2016 MIE of $50,800. The projected MIE for years 2018 to 2023 are calculated based on estimates of the average weekly earnings provided by the Minister of Finance. Detailed explanations and calculations of the 2017 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 2015 is set such that the resulting insurable earnings are in line with the expected assessed premiums for 2015, which are derived from the 2015 year-to-date assessed premiums and the 2015 increase in average employment income provided by the Minister of Finance. The projected number of earners from 2016 to 2023 is derived from a regression analysis.

The number of earners is expected to increase by 0.67% and 0.53% in 2015 and 2016 respectively. The average annual increase for the following seven year, from 2017 to 2023, is 0.74%. 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 2014 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 2014 distribution of the total employment income across income ranges is used to determine the future distribution of total employment income.

The increase in average employment income is provided by the Minister of Finance and is expected to be 1.91% and 1.14% in 2015 and 2016 respectively. The average annual increase for the following seven year, from 2017 to 2023, is 3.36%. 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 2.59% and 1.68% in 2015 and 2016 respectively. The average annual increase for the following seven year, from 2017 to 2023, is 4.12%.

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 to the earnings base to reflect multiple employments is captured in the employee premium refund section below.

The expected total employment income capped at the annual MIE for 2015 to 2023 is derived from the 2014 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 2.51% and 2.52% in 2015 and 2016 respectively. The average annual increase for the following seven year, from 2017 to 2023, is 3.57%. For 2015, the resulting insurable earnings reflect the year-to-date assessed premiums and related total expected assessed premiums for 2015.

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 Quebec. Therefore, the earnings base for salaried employees must be split based on the province of residence (between out-of-Quebec residents and Quebec 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 Quebec has been decreasing. It is expected that this decreasing trend will continue, but at a slower pace than the recent past. The proportion of insurable earnings that relates to employment in Quebec is expected to decrease from 21.69% in 2015 to 21.62% in 2017, and to 21.11% in 2023.

The information on historical assessed premiums provided by CRA includes adjustment payments made between the Government of Canada and the Government of Quebec 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 Quebec.

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 0.31% of total insurable earnings for the last three years of available data, 2012 to 2014, with the transfer of insurable earnings on a T4 basis going to Quebec from the rest of Canada. It is assumed to remain at 0.31% of total insurable earnings until 2023.

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. multiple employers in the same year, 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.

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. This percentage was on average 2.59% for the last three years of available data, 2012 to 2014, and is assumed to remain constant at 2.59% until 2023.

7. Self-Employed Earnings

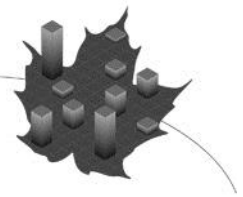
Since 31 January 2010, under *The Fairness for the Self-Employed Act*, self-employed workers may elect to voluntarily opt into the EI program to receive EI special benefits for those who are sick, pregnant or caring for a newborn or adopted child, for those caring for a seriously ill family member, or for parents of critically ill children. Although self-employed residents of Quebec are able to access MPA benefits through their provincial plan, they may voluntarily opt into the EI program to access other special benefits, including sickness and compassionate care. 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-Quebec residents and Quebec 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 information regarding historical enrolments, adjusted to reflect expected future changes in enrolment. The increase in average earnings is assumed to be the same increase in average earnings as for salaried employees.

Based on this methodology, the covered earnings of all self-employed individuals are expected to increase on average by 11% from 2017 to 2023.



B. Expenditures

EI Part I benefits are projected from actual 2015 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

	2015	2016	2017	2018	2019	2020	2021	2022	2023
Increase in Labour Force	0.8%	0.7%	0.8%	0.9%	0.7%	0.6%	0.5%	0.5%	0.5%
Unemployment Rate	6.9%	7.0%	6.8%	6.4%	6.2%	6.2%	6.2%	6.2%	6.2%
Increase in Average Weekly Earnings	1.8%	1.4%	2.7%	2.8%	2.8%	2.8%	2.8%	2.8%	2.7%
Increase in Average Weekly Benefits	3.6%	2.2%	1.7%	2.2%	2.9%	2.8%	2.8%	2.7%	2.8%
Potential Claimants (as a % of Unemployed)	54.7%	55.4%	55.7%	56.0%	56.3%	56.7%	57.1%	57.5%	57.5%
Recipiency Rate (as a % of Potential Claimants)	73.4%	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%	73.5%
Number of Weeks	52.2	52.2	52.0	52.2	52.2	52.4	52.2	52.0	52.0
Percentage of Benefit Weeks for Claimants with Insurable Earnings above the MIE	47.2%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%

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 19.3 million in 2015 to 20.3 million in 2023. This represents an annual average increase of 0.7%. 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 6.9% in 2015, and is expected to reach 7.0% in 2016 before decreasing to a stable unemployment rate of 6.2% starting in 2019. 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 1.4% in 2016 and increases to 2.7% in 2017 and to 2.8% from 2018 to 2023. 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 2.2% for 2016 and 1.7% for 2017. The average annual increase for years 2018 to 2023 is 2.7%. The growth rates are generally the same for all benefit types. However, after further analysing claims data for the first 6 months of 2016, the assumed average weekly benefits growth for sickness benefits in 2016 and for work-sharing benefits in 2016 and 2017 were 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 is expected to increase from 54.7% in 2015 to 57.5% 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 a better coverage measure of the EI program than the beneficiary-to-unemployed ratio (B/U ratio) used in prior reports. Unlike the B/U ratio, which includes 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 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 that some potential claimants have not accumulated the required number of insurable hours, while other potential claimants do not apply for benefits, or have exhausted the number of weeks they were entitled to receive and remain unemployed. The recipiency rate is assumed to remain at 73.5% until 2023.

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 2015 to 2023 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 Employment and Social Development Canada (ESDC), 47.2% of benefit weeks for claims that accrued in 2015 were based on insurable earnings above the MIE compared to 44.5% in 2014. The increase that occurred in 2015 is related to the introduction of the variable best weeks, that is, a change in the benefit rate calculation. Based on partial data for 2016, the proportion of benefit weeks for claimants with insurable earnings above the MIE is assumed to increase slightly in 2016 to reach 47.5%. It is assumed to remain constant 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 2016, on the information provided on or before 22 July 2016 by the Ministers of ESD and Finance, and on the methodology and assumptions developed by the Chief Actuary. The key findings are as follows:

- The 2017 MIE is equal to $51,300, which represents a 1.0% increase to the 2016 MIE of $50,800.
- The 2017 EI 7-year forecast break-even rate is 1.63% of insurable earnings.
- The 2017 estimated cost savings to the EI program that are generated by employer sponsored qualified wage-loss plans are $955 million. In 2017, this amount compensates employers who sponsor a qualified wage-loss plan through reduced employer multipliers for out-of-Quebec employers of 1.274, 1.178, 1.183 and 1.163 for categories 1 through 4 respectively, assuming a premium rate of 1.63% (1.238, 1.115, 1.121 and 1.096 for Quebec employers). This translates into a premium reduction of about 0.21%, 0.36%, 0.35% and 0.39% of insurable earnings for categories 1 through 4 respectively.
- The 2017 premium reduction for residents of Quebec due to its provincial plan is 0.36%.
- The total earnings base is expected to grow from $1,348 billion in 2015 to $1,766 billion in 2023.
- Total expenditures are expected to increase from $20.7 billion in 2015 to $25.9 billion in 2023.
- The EI Operating Account is expected to have a cumulative surplus of $2.0 billion as of 31 December 2016.
- Should the Commission set the 2017 premium rate at the 7-year forecast break-even rate, the premium rate applicable to residents of all provinces except Quebec would be 1.63% and the premium rate applicable to residents of Quebec would be 1.27%.

B. Earnings Base

EI premiums prior to any adjustment for wage-loss plans or the small business job credit, 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 Quebec is the only province offering a provincial plan, the earnings base is split between Quebec and out-of-Quebec residents.

Based on the methodology and assumptions developed in Section IV, Table 4 shows the earnings base for Quebec and out-of-Quebec 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-Quebec	Quebec	Total	
2014	1,024,567	290,428	1,314,996	18,645
2015	1,051,190	296,526	1,347,716	18,769
2016	1,078,710	303,046	1,381,755	18,869
2017	1,114,735	311,702	1,426,437	19,065
2018	1,156,144	321,954	1,478,097	19,296
2019	1,202,158	333,390	1,535,548	19,450
2020	1,246,652	344,101	1,590,754	19,573
2021	1,295,639	356,144	1,651,782	19,662
2022	1,341,186	367,136	1,708,322	19,762
2023	1,388,081	378,395	1,766,476	19,866

These results are used in the calculation of the 2017 EI 7-year forecast break-even rate and the 2017 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 2015 EI expenditures, as well as a projection up to 2023.

Table 5 - Expenditures ($ million)								
Calendar Year	Part I	Part II	Admin. Costs	Benefit Repayments	Bad Debt	Penalties	Interest	Total
2015	17,190	2,050	1,654	(248)	103	(44)	(11)	20,696
2016	18,722	2,164	1,784	(269)	73	(48)	(11)	22,415
2017	19,704	2,108	1,733	(298)	73	(50)	(12)	23,258
2018	19,296	2,077	1,663	(286)	66	(49)	(15)	22,751
2019	19,516	2,077	1,647	(287)	70	(50)	(18)	22,955
2020	20,161	2,077	1,649	(296)	79	(51)	(19)	23,600
2021	20,978	2,077	1,653	(309)	85	(53)	(20)	24,410
2022	21,707	2,077	1,655	(321)	87	(55)	(21)	25,129
2023	22,452	2,077	1,659	(332)	90	(57)	(22)	25,867

Table 6 shows the breakdown of Part I EI expenditures.

Table 6 - Part I Expenditures ($ million)									
				Special Benefits					
Calendar Year	Regular	Fishing	Work-Sharing	MPA	Sickness	Compas-sionate	PCIC*	Sub-Total	Total
2015	11,683	283	34	3,730	1,429	13	18	5,191	17,190
2016	12,949	289	73	3,838	1,503	51	19	5,410	18,722
2017	13,575	293	120	4,007	1,633	56	20	5,716	19,704
2018	13,043	301	59	4,121	1,693	58	21	5,894	19,296
2019	13,056	309	38	4,275	1,754	61	22	6,113	19,516
2020	13,452	319	40	4,442	1,822	64	23	6,350	20,161
2021	14,069	327	41	4,575	1,877	66	23	6,541	20,978
2022	14,597	335	42	4,708	1,932	70	24	6,734	21,707
2023	15,099	344	44	4,870	1,998	73	25	6,965	22,452

*Parents of critically ill children.

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, parental and adoption (MPA) 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.

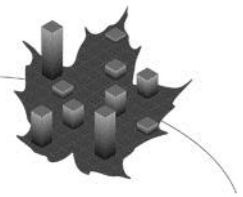


Table 7 shows the projection of the expected premium reductions up to 2023 taken into account in the determination of the 7-year forecast break-even rate.

Table 7 - Premium Reductions ($ million)		
Calendar Year	Qualified Wage-Loss Plans	Provincial Plans
2017	955	1,122
2018	987	1,159
2019	1,039	1,200
2020	1,093	1,239
2021	1,150	1,247
2022	1,188	1,285
2023	1,228	1,324

E. Seven-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 EI Operating Account as of 31 December 2016.

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.

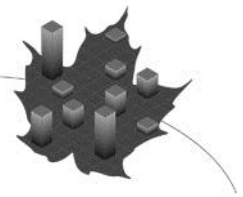
Table 8 - Calculation of the 7-Year Forecast Break-Even Rate ($ million)							
	Expenditures Covered by the 7-Year Forecast Break-Even Rate						
Calendar Year	EI Expenditures	Reduction for WLP	Reduction for PP	Total Expenditures Before Reduction for WLP and PP	Surplus (Deficit) in the EIOA as at 31 December 2016	Earnings Base	Annual PayGo Rate / 7-Year Forecast Break-Even Rate
2017	23,258	955	1,122	25,335		1,426,437	1.78%
2018	22,751	987	1,159	24,897		1,478,097	1.68%
2019	22,955	1,039	1,200	25,195		1,535,548	1.64%
2020	23,600	1,093	1,239	25,932		1,590,754	1.63%
2021	24,410	1,150	1,247	26,806		1,651,782	1.62%
2022	25,129	1,188	1,285	27,602		1,708,322	1.62%
2023	25,867	1,228	1,324	28,419		1,766,476	1.61%
2017-2023	**167,971**	**7,640**	**8,576**	**184,186**	**2,016**	**11,157,416**	**1.63%**

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	SBJC*	Other Adj.**	Net Premiums	Expenditures	Annual Surplus (Deficit)	Cumulative Surplus (Deficit) 31 December
2015	1.88%	25,337	(841)	(1,008)	(319)	127	23,296	20,696	2,601	867
2016	1.88%	25,977	(886)	(1,091)	(319)	(117)	23,564	22,415	1,149	2,016
2017	1.63%	23,251	(955)	(1,122)	0	0	21,174	23,258	(2,084)	(68)
2018	1.63%	24,093	(987)	(1,159)	0	0	21,947	22,751	(804)	(872)
2019	1.63%	25,029	(1,039)	(1,200)	0	0	22,790	22,955	(165)	(1,037)
2020	1.63%	25,929	(1,093)	(1,239)	0	0	23,598	23,600	(2)	(1,040)
2021	1.63%	26,924	(1,150)	(1,247)	0	0	24,528	24,410	118	(922)
2022	1.63%	27,846	(1,188)	(1,285)	0	0	25,373	25,129	244	(678)
2023	1.63%	28,794	(1,228)	(1,324)	0	0	26,241	25,867	374	(304)

*Small business job credit
**Adjustments for the timing of premium assessment.

The 2017 EI 7-year forecast break-even rate is 1.63%. This rate is expected to generate just enough premium revenue to ensure that, at the end of 2023, 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 2023 is not exactly $0 since the 7-year forecast break-even rate is rounded to the nearest cent.



F. Quebec Parental Insurance Plan (QPIP) Reduction for 2017

EI MPA benefits included in Part I special benefits, as well as direct EI administrative costs incurred to provide MPA 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 MPA benefits outside Quebec. They are determined each year by ESDC in accordance with the agreement between Canada and Quebec which stipulates a minimum VAC amount.

EI MPA benefits are projected from the base year (2015) and reflect the impacts of any program changes and pilot projects. The projected EI MPA expenditures used to determine the 2017 QPIP reduction are shown in Table 10.

Table 10 - EI MPA Expenditures ($ million)

	Actual	Forecast	
	2015	2016	2017
EI MPA Benefits	3,730	3,838	4,007
Variable Administration Costs	18	18	18
MPA Expenditures	**3,748**	**3,855**	**4,025**

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

Table 11 shows the estimates of the variables that are required in the calculation of the 2017 QPIP reduction, as well as the resulting 2017 QPIP reduction.

Table 11 - Calculation of the QPIP Reduction ($ million)

	Forecast 2017
MPA Expenditures	**4,025**
MPA Earnings Base (Out-of-Quebec residents)	**1,114,735**
Unrounded QPIP Reduction	0.3611%
QPIP Reduction	**0.36%**

G. Qualified Wage-Loss Plan Reductions for 2017

Based on the methodology developed in Appendix II and on the 2017 projected insurable earnings of employees covered by a qualified wage-loss plan, the 2017 estimated reduction in employer premiums due to qualified wage-loss plans is $955 million, compared to $886 million in 2016. 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 Quebec)	Employer Multiplier (Quebec)	2017 Insurable Earnings ($ million)	2017 Premium Reduction ($ million)
Category 1	0.2060%	0.21%	1.274	1.238	47,880	99
Category 2	0.3614%	0.36%	1.178	1.115	25,292	91
Category 3	0.3541%	0.35%	1.183	1.121	192,062	680
Category 4	0.3860%	0.39%	1.163	1.096	22,048	85
Total	N/A	N/A	N/A	N/A	287,282	955

VI. Sensitivity of Projections

While a change in the value of any one of the various assumptions used in the preparation of the actuarial estimates presented in this report would have an impact on the 7-year forecast break-even rate, two particular assumptions, the unemployment rate and the recipiency rate, are analysed more closely. The impact of a variation in the premium rate on the EI Operating Account (EIOA) is also examined.

1. Unemployment Rate

As shown in the following table, assuming all other assumptions remain constant, a variation in the average unemployment rate of five-tenths of a percentage point (0.5%) over the period 2017-2023 would result in an increase/decrease of about 0.07% in the 2017 EI 7-year forecast break-even rate.

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

Variation in Average UR (2017-2023)	Average UR (2017-2023)	Resulting 7-Year Break-Even Rate
(1.0%)	5.3%	1.50%
(0.5%)	5.8%	1.56%
Base	**6.3%**	**1.63%**
0.5%	6.8%	1.70%
1.0%	7.3%	1.77%

2. Recipiency Rate

As shown in the following table, a variation in the average recipiency rate of five percentage points (5%) over the period 2017-2023 would result in an increase/decrease of about 0.05% in the 2017 EI 7-year forecast break-even rate.

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

Variation in average RR (2017-2023)	Average RR (2017-2023)	Resulting 7-Year Break-Even Rate
(10.0%)	63.5%	1.53%
(5.0%)	68.5%	1.58%
Base	**73.5%**	**1.63%**
5.0%	78.5%	1.69%
10.0%	83.5%	1.74%

3. 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 $1,116 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 7-Year Forecast Break-Even Rate	Resulting 7-Year forecast Break-Even Rate	Cumulative EIOA Balance as at 31 Dec. 2023 ($ million)	Variation in EIOA Cumulative Balance as at 31 Dec. 2023 ($ million)
(0.05%)	1.58%	(5,883)	(5,579)
(0.01%)	1.62%	(1,420)	(1,116)
Base	**1.63%**	**(304)**	**0**
0.01%	1.64%	812	1,116
0.05%	1.68%	5,275	5,579

VII. Conclusion

This report was prepared by the Chief 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 Quebec residents and their employers) of the EI Act.

In accordance with the methodology detailed in the EI Act and the relevant economic data, the 2017 MIE is **$51,300**. In addition, the 2017 estimated employer premium reduction due to qualified wage-loss plans is $955 million, and the 2017 QPIP reduction is **0.36%**.

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 Chief Actuary, it is the opinion of the Chief Actuary that 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 2017-2023 and eliminate the projected $2.0 billion cumulative surplus in the EI Operating Account as of 31 December 2016, is:

- **1.63% of insurable earnings for residents of all provinces except Quebec; and**
- **1.27% of insurable earnings for residents of Quebec, after taking into account the QPIP reduction.**

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.

VIII. 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 2017-2023 and eliminate the projected cumulative surplus in the EI Operating Account as of 31 December 2016, is 1.63% 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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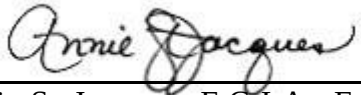

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22 August 2016

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 work 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

Part I of the EI program provides temporary income support to workers who have lost their job through no fault of their own while they look for work or upgrade their skills.

EI benefits paid under Part I of the *Employment Insurance Act* ("EI Act") include regular benefits, which provide temporary income support for unemployed persons, fishing benefits for self-employed fishers and work-sharing benefits for workers willing to work a temporarily reduced work week to avoid lay-offs. Part I benefits also include special benefits for those who are sick, pregnant or caring for a newborn or adopted child, or caring for a seriously ill family member, or providing care or support to their critically ill or injured child.

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). 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).

1. 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 a shortage of work, or seasonal or mass lay-offs, and are available 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. In addition, an insured person must have worked at least the minimum required number of insurable hours, between 420 and 700 hours, as determined by the regional unemployment rate, in the 52-week qualifying period. Prior to 3 July 2016, a minimum of 910 hours was required for new entrants to the work force or those re-entering the work force after a two-year absence. The number of hours required to qualify may increase as a result of a violation (fraudulent overpayment) on a previous EI claim.

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.

The family supplement provides additional benefits to low-income families with children, based on 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, but cannot exceed the maximum benefit rate.

2. Fishing Benefits

EI fishing benefits are paid to self-employed fishers who are temporarily not earning money from fishing. Eligibility for fishing benefits is determined by the claimant's insurable fishing earnings accumulated during the qualifying period, rather than 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. Prior to July 2016, for new fishers or fishers returning after an absence of at least one year, a minimum of $5,500 of fishing earnings was required.

3. 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 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

Special benefits include maternity and parental 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, and benefits for parents of critically ill children (PCIC) who take leave from work to provide care or support to their critically ill or injured child. Since 2006, the Province of Quebec has been responsible for providing maternity, parental and adoption (MPA) benefits to residents of Quebec through the Quebec Parental Insurance Plan (QPIP).

To be eligible 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 insured earnings in the 52-week qualifying period. Self-employed fishers can also qualify for special benefits with fishing earnings of $3,760. In addition, self-employed individuals who opt in for special benefits can qualify if their self-employment earnings meet the minimum self-employment eligibility threshold in the calendar year preceding the claim.

Maternity benefits can be paid for a maximum of 15 weeks while parental benefits, which may be divided between both parents, can be paid for a maximum of 35 weeks for a combined maximum duration of 50 weeks. The maximum duration for sickness, compassionate care, and PCIC benefits is 15 weeks, 26 weeks, and 35 weeks respectively.

As of 31 January 2010, self-employed persons can voluntarily enter into an agreement with the Commission through Service Canada to participate in the EI program to contribute premiums and access EI special benefits. Self-employed residents of Quebec entering into an agreement with the Commission cannot access EI MPA benefits, as MPA benefits are already payable through QPIP, but can access sickness, compassionate care and PCIC benefits. Self-employed persons must be registered for at least one year prior to claiming benefits.

B. EI Part II Benefits

Part II of the EI Act includes Employment Benefits and Support Measures (EBSM) that provide financial assistance to eligible persons to help them re-integrate the labour market and give employment assistance services to unemployed workers and employed persons if they are facing a loss of their employment. These expenses include the direct costs of financial and employment assistance programs and related measures provided to eligible persons and third parties.

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 Quebec residents and their employers was introduced. The reduced premium rate reflects the savings to the EI program due to the existence of the QPIP.

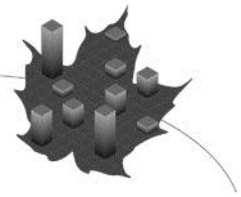
Since 31 January 2010, self-employed individuals may voluntarily opt into the EI program to receive EI special benefits. Self-employed individuals pay the same EI premium rate as salaried employees but are not required to pay the employer portion of premiums, as they do not have access to EI regular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

Employers pay premiums at the rate of 1.4 times those of employees. When the system was designed, it was based on the principle that employers have more control over layoffs and, therefore, should bear a higher overall share of program costs.

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 Chief 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 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.

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

On or before 14 September in a year, 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.

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 2017 is the premium rate that is expected to generate sufficient premium revenue to ensure that at the end of 2023 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 2016 and the projection over a period of seven years of both the earnings base and EI expenditures.

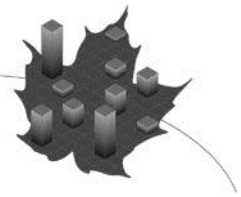
The earnings base represents the total insurable earnings on which salaried employees and their employers pay EI premiums, and the earnings on which self-employed individuals that opted into the EI program pay EI premiums. The employer portion of the earnings base for salaried employees is equal to 1.4 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 2017 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 2014, which is the most recent year for which fully assessed T4 data are available. However, for certain assumptions, the 2015 partially assessed information is used. Complete data for 2015 will not become available until January 2017. The base year for EI benefits is calendar year 2015.

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 Chief 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 2016 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 2016, the 7-year forecast break-even rate could either increase or decrease. For 2017, given that the projected EI Operating Account as of 31 December 2016 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 2016

Direct Program Expenditures + R_{WLP} + R_{PP} = 1.4 x Rate x TIE + Rate x TIE x (1 – PR%) + Rate x TSEE + EIOA

- 1.4 x Rate x TIE: Employer premiums paid on behalf of salaried employees, prior to reductions for wage-loss plans and provincial plans
- Rate x TIE x (1 – PR%): Salaried employee premiums net of employee refunds prior to reductions for provincial plans
- Rate x TSEE: Employee premiums for self-employed prior to reductions for provincial plans

7-Year forecast break-even rate = $\frac{\text{Direct Program Expenditures} + R_{WLP} + R_{PP} - \text{EIOA}}{1.4 \times TIE + TIE \times (1 - PR\%) + TSEE}$

- $1.4 \times TIE + TIE \times (1 - PR\%) + TSEE$: Earnings base for residents of all provinces over the next 7 years

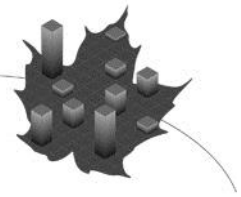
Where:

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 2016;
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 2017. The remainder of this subsection provides summarized information on this.

The methodology to calculate the rates of reduction applicable for 2017 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 2017 rates of reduction, the FPC ratio is equal to the average of the FPC for the years 2013 to 2015, divided by the average insurable earnings of all insured persons for the years 2013 to 2015. The formula used in determining the FPC ratio is provided below:

$$\textbf{FPC ratio} = \frac{\textbf{FPC (2015) + FPC (2014) + FPC (2013)}}{\textbf{TIE (2015) + TIE (2014) + TIE (2013)}}$$

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.

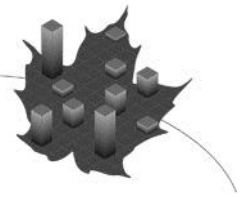
The EC for each year and category, as well as the allocation of insurable earnings amongst categories are based on an analysis of administrative data provided by Service Canada and ESDC.

Similarly to the calculation of the FPC ratio, for the purposes of calculating the 2017 rates of reduction, the EC ratio of each category is based on the years 2013 to 2015. The formula used in determining the EC ratio of each category is provided below:

$$\textbf{EC ratio}_{(x)} = \frac{\textbf{EC}_{(x)}\textbf{ (2015) + EC}_{(x)}\textbf{ (2014) + EC}_{(x)}\textbf{ (2013)}}{\textbf{TIE}_{(x)}\textbf{ (2015) + TIE}_{(x)}\textbf{ (2014) + TIE}_{(x)}\textbf{ (2013)}}$$

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.

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



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 2017 rates of reduction per category. The 2017 estimated insurable earnings per category are then used to estimate the 2017 employer premium reduction due to qualified wage-loss plans.

The estimated employer premium reduction due to qualified wage-loss plans for years 2018 to 2023 are projected assuming that the 2015 FPC and EC ratios remain constant throughout the projection. An adjustment is also made to reflect the reduction in the waiting period from two weeks to one week starting in 2017.

Additional supporting information on the calculation of the 2017 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, parental and adoption (MPA) 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 MPA 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 2017. The remainder of this subsection provides more information on this.

Since 1 January 2006, the province of Quebec has been responsible for providing MPA benefits to the residents of Quebec through the Quebec Parental Insurance Plan (QPIP). Pursuant to subsection 69(2) of the EI Act and related regulations, a mechanism to reduce EI premiums paid by Quebec 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 Quebec and in accordance with Part III.1 of EI Regulations, the 2017 premium reduction for the MPA provincial plan in the province of Quebec,

also referred to as the QPIP reduction, is equal to the ratio of the 2017 EI MPA expenditures, including EI MPA benefits and the variable administrative costs related to administering EI MPA benefits, to the 2017 earnings base of residents outside the province of Quebec. Accordingly, the formula for the QPIP reduction is as follows:

$$\textbf{2017 QPIP Reduction} = \frac{\textbf{2017 EI MPA Expenditures}}{\underbrace{\textbf{1.4 x TIE}_{(2017\ OQ)} + \textbf{TIE}_{(2017\ OQ)}\ \textbf{x (1 – PR\%) + TSEE}_{(2017\ OQ)}}_{\text{2017 earnings base for out-of-Quebec residents}}}$$

Where:

$TIE_{(2017\ OQ)}$ = 2017 total insurable earnings for out-of-Quebec resident salaried employees, prior to adjustments for employee premium refunds;

PR% = adjustment to reflect 2017 employee premium refunds (as a percentage of TIE);

$TSEE_{(2017\ OQ)}$ = 2017 total self-employed earnings for out-of-Quebec 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 is exceeded is for 2007. The revised unrounded MIE for 2007 is $40,070.90[2].

The unrounded MIE for 2017 is equal to the unrounded MIE from 2007 ($40,070.90) multiplied by the average of the AWE for each month for the twelve month period ending 30 April 2016 ($952.9092) divided by the average of the AWE for each month for the twelve month period ending 30 April 2006 ($743.5492).

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[1] The AWE series has been revised by Statistics Canada since the 2016 Actuarial Report

[2] $52 \times AWE_{2006} \times \frac{AWE_{2006}}{AWE_{2005}} = 52 \times \$743.5492 \times \frac{\$743.5492}{\$717.4533}$

$$MIE_{2017} = MIE_{2007} \times \frac{AWE_{2016}}{AWE_{2006}}$$

$$= \$40{,}070.90 \times \frac{\$952.9092}{\$743.5492} = \$51{,}353.60$$

Rounded down to the nearest multiple of $100, the MIE is **$51,300** for 2017. This is an increase of $500 or 1.0% from the 2016 MIE of $50,800.

Table 16 - Maximum Insurable Earnings ($)

Year	12-Month AWE Average as of 30 April	Revised Unrounded MIE	Applicable MIE	% change in Applicable MIE
2005	717.4533	37,254.28	39,000	
2006	743.5492	38,374.05	39,000	-
2007	764.8483	40,070.90	40,000	2.56%
2008	796.6400	41,218.74	41,100	2.75%
2009	814.8692	42,932.04	42,300	2.92%
2010	830.2083	43,914.43	43,200	2.13%
2011	862.2917	44,741.08	44,200	2.31%
2012	878.4658	46,470.10	45,900	3.85%
2013	901.4300	47,341.74	47,400	3.27%
2014	919.3200	48,579.31	48,600	2.53%
2015	943.4992	49,543.43	49,500	1.85%
2016	952.9092	50,846.48	50,800	2.63%
2017	N/A	51,353.60	**51,300**	0.98%

The MIE for the years prior to 2017 are not revised and are based on the legislation that applied at the time they were determined. However the 2017 MIE reflects retroactive adjustments to the calculation in accordance with current legislation.

2017 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 2016, in accordance with subsection 11.1 of the EI Regulations, the unrounded MSEE of 2016 was $6,820.86 and 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.

$$MSEE_{2017} = MSEE_{2016} \times \frac{AWE_{2016}}{AWE_{2015}} = \$6{,}820.86 \times \frac{\$952.9092}{\$943.4992} = \$6{,}888.89$$

The MSEE for claims filed in 2017 is therefore set at $6,888 of self-employed earnings in 2016.

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

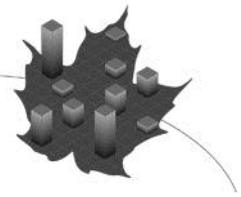
Under subsection 66.1(1) of the *Employment Insurance Act* ("EI Act"), the Minister of Employment and Social Development (ESD) shall provide the actuary, on or before 22 July of each year, with:

- 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 2017 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 17 - Prescribed Information Provided by the Minister of ESD ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Pilot Projects/Special Measures									
Working While on Claim	53	64	78	46	-	-	-	-	-
Small Business Job Credit	319	319	-	-	-	-	-	-	-
Extending EI Regular Benefits for Regions Affected by Commodities Downturn	-	380	370	126	-	-	-	-	-
Extending the Maximum Duration of Work-Sharing Agreements	-	24	77	22	-	-	-	-	-
Sub-Total	**372**	**787**	**525**	**194**	**-**	**-**	**-**	**-**	**-**
New Program Changes									
Compassionate Care Benefits (CCB) Extension	-	37	39	41	43	45	47	50	52
Expanding Access to EI for New Entrants and Re-Entrants (NERE)	-	175	305	310	315	320	325	330	335
New Operational Policy Guidance	-	-	21	22	23	23	24	25	25
Reducing the EI Waiting Period from Two Weeks to One									
Regular	-	-	601	476	480	495	515	534	553
Fishing	-	-	14	11	11	11	12	12	13
Sickness	-	-	92	92	93	96	100	104	108
Maternity, Parental and Adoption	-	-	74	32	32	33	34	36	37
Compassionate Care	-	-	3	3	3	3	3	3	3
PCIC	-	-	1	1	1	1	1	1	2
Total Costs Related to Reducing the Waiting Period	-	-	785	615	620	640	665	690	715
Sub-Total	**-**	**212**	**1,150**	**988**	**1,001**	**1,028**	**1,061**	**1,095**	**1,127**
Total	**372**	**999**	**1,675**	**1,182**	**1,001**	**1,028**	**1,061**	**1,095**	**1,127**
	Actual	**Forecast**							
	2015-2016	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**
Employment Benefits and Support Measures	2,050	2,202	2,077	2,077	2,077	2,077	2,077	2,077	2,077
Administration Costs	1,653	1,827	1,702	1,649	1,646	1,650	1,654	1,655	1,660

In addition, the Minister of ESD provided an EI Operating Account summary that shows a preliminary cumulative surplus of $2.9 billion as of 31 March 2016, 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 2017 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 18 - Prescribed Information Provided by the Minister of Finance (thousands)

	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Population (15+)	29,280	29,543	29,786	30,058	30,332	30,603	30,876	31,153	31,433
Labour Force	19,280	19,418	19,578	19,760	19,891	20,005	20,113	20,219	20,326
Employment	17,949	18,057	18,256	18,493	18,648	18,772	18,862	18,958	19,057
Employees	15,188	15,287	15,458	15,661	15,796	15,903	15,981	16,069	16,160
Self-Employed	2,761	2,770	2,798	2,832	2,852	2,869	2,881	2,889	2,897
Unemployed	1,331	1,361	1,322	1,267	1,243	1,233	1,251	1,261	1,269
Unemployment Rate	6.9%	7.0%	6.8%	6.4%	6.2%	6.2%	6.2%	6.2%	6.2%
Average Weekly Earnings ($)	952	965	991	1,019	1,048	1,077	1,107	1,138	1,169
Average Employment Income Growth	1.9%	1.1%	3.7%	3.2%	3.3%	3.2%	4.1%	3.2%	2.8%

The information for 2015 is based on actual data from the Labour Force Survey whereas the information from 2016 to 2023 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 19. The preliminary number of earners for the year 2015 is set such that the resulting insurable earnings are in line with the expected assessed premiums for 2015, which are derived from the 2015 year-to-date assessed premiums and the 2015 increase in average employment income provided by the Minister of Finance.

Table 19 - Historical Comparison of the Number of Employees and Number of Earners (thousands)

Year	Number of Employees (Statistics Canada LFS)	Increase in Number of Employees	Number of Earners (CRA T4 Data)	Increase in Number of Earners	Difference in Annual Increases (%)
2009	14,038		17,724		
2010	14,287	1.77%	17,737	0.07%	(1.70%)
2011	14,562	1.92%	18,028	1.65%	(0.28%)
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	15,188	0.77%	18,769	0.67%	(0.11%)

The projected number of earners is obtained by a regression based on a correlated historical relationship from 1988 to 2015 between the number of earners and the number of employees.

Table 20 shows projected number of employees as provided by the Minister of Finance as well as the projected number of earners for the years 2016 to 2023.

Table 20 - Projected Number of Earners (thousands unless stated otherwise)				
Year	Projected Number of Employees	Increase in Number of Employees	Projected Number of Earners	Increase in Number of Earners
2016	15,287	0.66%	18,869	0.53%
2017	15,458	1.12%	19,065	1.03%
2018	15,661	1.31%	19,296	1.22%
2019	15,796	0.86%	19,450	0.80%
2020	15,903	0.68%	19,573	0.63%
2021	15,981	0.49%	19,662	0.45%
2022	16,069	0.55%	19,762	0.51%
2023	16,160	0.57%	19,866	0.53%

As shown in Table 21, 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 21 - 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 %
2009	40,113	22.7%	14.6%	12.4%	11.9%	10.0%	28.3%
2010	41,310	22.3%	14.7%	12.6%	12.1%	10.0%	28.2%
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	46,419	21.8%	14.7%	13.1%	12.4%	9.9%	28.1%

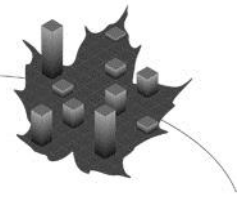
The 2014 distribution of the number of earners as a percentage of average employment income is used to determine the proportion of earners with employment income below and above the MIE for the years 2015 to 2023. Table 22 shows the resulting split of the number of earners between those with employment income below the MIE and those with employment income above the MIE. Actual data is also shown for the years 2009 to 2014.

Table 22 - Number of Earners Below and Above the MIE						
				Thousands		
Year	MIE ($)	MIE as a Proportion of Average Employment Income	Proportion of Earners Below MIE	Total Number of Earners	Number of Earners Below MIE	Number of Earners Above MIE
2009	42,300	1.0545	64.1%	17,724	11,367	6,358
2010	43,200	1.0458	63.8%	17,737	11,315	6,422
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	1.0470	64.2%	18,645	11,962	6,683
2015	49,500	1.0464	64.1%	18,769	12,035	6,734
2016	50,800	1.0618	64.8%	18,869	12,224	6,646
2017	51,300	1.0337	63.5%	19,065	12,116	6,949
2018	52,200	1.0190	62.9%	19,296	12,135	7,161
2019	53,700	1.0145	62.7%	19,450	12,193	7,257
2020	55,200	1.0108	62.5%	19,573	12,237	7,336
2021	56,800	0.9995	62.0%	19,662	12,193	7,469
2022	58,300	0.9937	61.8%	19,762	12,203	7,559
2023	60,000	0.9949	61.8%	19,866	12,278	7,588

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 2015 to 2023. Table 23 shows the derivation of the projected total employment income for the years 2015 to 2023, as well as actual data provided by CRA for the years 2009 to 2014.

Table 23 - 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)
2009	17,724		40,113			710,978,270
2010	17,737	0.07%	41,310	2.98%	3.06%	732,700,098
2011	18,028	1.65%	42,784	3.57%	5.27%	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%	46,419	2.64%	3.86%	865,466,280
2015	N/A	0.67%	N/A	1.91%	2.59%	887,879,604
2016	N/A	0.53%	N/A	1.14%	1.68%	902,798,309
2017	N/A	1.03%	N/A	3.73%	4.80%	946,160,432
2018	N/A	1.22%	N/A	3.22%	4.47%	988,497,777
2019	N/A	0.80%	N/A	3.33%	4.16%	1,029,572,134
2020	N/A	0.63%	N/A	3.17%	3.82%	1,068,880,005
2021	N/A	0.45%	N/A	4.06%	4.53%	1,117,336,514
2022	N/A	0.51%	N/A	3.24%	3.77%	1,159,431,874
2023	N/A	0.53%	N/A	2.79%	3.33%	1,198,044,639



As shown in Table 24, 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 24 - Historical Distribution of Employment Income 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%
2009	40,113	2.4%	5.4%	7.7%	10.4%	11.2%	62.8%
2010	41,310	2.4%	5.4%	7.9%	10.6%	11.2%	62.5%
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	46,419	2.4%	5.4%	8.2%	10.8%	11.1%	62.2%

The 2014 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 2015 to 2023. Table 25 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 2015 to 2023. Actual data is also shown for the years 2009 to 2014.

Table 25 - Distribution of Employment Income for Earners Below and Above the MIE

				($ thousands)		
Year	MIE ($)	MIE as a Proportion of Average Employment Income	Proportion of Employment Income for Earners Below MIE	Total Employment Income	Total Employment Income for Earners Below MIE	Total Employment Income for Earners Above MIE
2009	42,300	1.0545	28.6%	710,978,270	203,193,972	507,784,299
2010	43,200	1.0458	28.4%	732,700,098	208,125,406	524,574,692
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	1.0470	28.9%	865,466,280	250,470,009	614,996,271
2015	49,500	1.0464	28.9%	887,879,604	256,703,978	631,175,626
2016	50,800	1.0618	29.6%	902,798,309	267,329,605	635,468,704
2017	51,300	1.0337	28.3%	946,160,432	268,000,574	678,159,858
2018	52,200	1.0190	27.6%	988,497,777	273,302,338	715,195,440
2019	53,700	1.0145	27.4%	1,029,572,134	282,521,624	747,050,510
2020	55,200	1.0108	27.3%	1,068,880,005	291,482,154	777,397,851
2021	56,800	0.9995	26.8%	1,117,336,514	298,893,794	818,442,719
2022	58,300	0.9937	26.5%	1,159,431,874	307,180,189	852,251,685
2023	60,000	0.9949	26.5%	1,198,044,639	318,055,407	879,989,232

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.

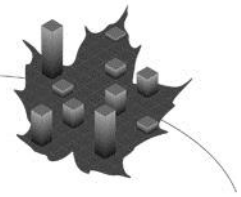
Historical information regarding total insurable earnings is derived from aggregate assessed EI premiums gathered from T4 slips of all salaried employees, and is provided by CRA. The insurable earnings can be calculated by dividing the gross EI premium revenues by 2.4 times the weighted-average premium 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 Quebec residents working outside of Quebec 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 Quebec for Quebec residents working outside of Quebec 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 Quebec and out-of-Quebec 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 2009 to 2014 from the CRA statement of premium revenue is shown in Table 26. The net premiums assessed shown in the table are prior to the reduction in premiums due to the hiring credit for small businesses.

Table 26 - Derived Insurable Earnings from Assessed Premiums ($ million)

	2009	2010	2011	2012	2013	2014
Net Premiums Assessed	16,852.8	17,337.2	18,771.6	20,379.4	21,881.2	22,840.3
Unadjusted Employee Premium Refunds	177.7	195.1	222.5	243.5	253.8	261.0
Overage	4.0	3.4	3.4	3.1	3.1	3.0
Wage-Loss Premium Reduction	839.4	863.0	877.0	920.0	909.0	854.0
Net Adjustment Payments (QPIP)	8.8	9.3	8.8	8.1	8.4	7.2
Other Accounting Adjustments	9.3	7.3	5.3	6.1	8.8	5.7
Gross EI Premium Revenues	17,892.1	18,415.3	19,888.5	21,560.3	23,064.4	23,971.2
Distribution of Insurable Earnings (Province of Employment):						
Out-of-Quebec	77.7%	77.6%	77.6%	77.8%	78.0%	78.2%
Quebec	22.4%	22.4%	22.4%	22.2%	22.0%	21.8%
EI Premium Rate:						
Out-of-Quebec	1.73%	1.73%	1.78%	1.83%	1.88%	1.88%
Quebec	1.38%	1.36%	1.41%	1.47%	1.52%	1.53%
Weighted Average Premium Rate	1.65%	1.65%	1.70%	1.75%	1.80%	1.80%
Total Insurable Earnings	**451,334**	**465,835**	**488,248**	**513,328**	**533,682**	**553,740**



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 2014 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 2015 to 2023. 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 2015 to 2023, the adjustment is assumed to be 96.2%, which is the three-year average of the ratio of insurable earnings to capped employment income from 2012 to 2014. Table 27 shows details of the calculation of the projected total insurable earnings for the years 2015 to 2023, as well as the actual data for 2009 to 2014. For 2015, the resulting insurable earnings reflect the year-to-date assessed premiums and related total expected assessed premiums for 2015.

Table 27 - 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
2009	42,300	203,193,972	6,358	268,927,689	472,121,661	451,334,479	
2010	43,200	208,125,406	6,422	277,422,658	485,548,064	465,835,495	3.21%
2011	44,200	215,792,198	6,607	292,023,971	507,816,169	488,248,436	4.81%
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	324,804,200	575,274,210	553,740,114	3.76%
2015	49,500	256,703,978	6,734	333,331,517	590,035,496	567,614,147	2.51%
2016	50,800	267,329,605	6,646	337,602,955	604,932,560	581,945,123	2.52%
2017	51,300	268,000,574	6,949	356,486,446	624,487,020	600,756,513	3.23%
2018	52,200	273,302,338	7,161	373,795,082	647,097,419	622,507,717	3.62%
2019	53,700	282,521,624	7,257	389,720,676	672,242,300	646,697,093	3.89%
2020	55,200	291,482,154	7,336	404,921,389	696,403,544	669,940,209	3.59%
2021	56,800	298,893,794	7,469	424,219,282	723,113,076	695,634,779	3.84%
2022	58,300	307,180,189	7,559	440,676,863	747,857,052	719,438,484	3.42%
2023	60,000	318,055,407	7,588	455,252,756	773,308,163	743,922,452	3.40%

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 Quebec which gave the Government of Quebec the means to set up, starting 1 January 2006, the Quebec Parental Insurance Plan (QPIP). Under the QPIP, Quebec is responsible for MPA benefits claimed by residents of

Quebec. The final agreement between the Governments of Canada and Quebec includes a financial mechanism whereby the Government of Canada reduces EI premiums paid by Quebec residents and their employers so that the Government of Quebec can collect premiums for its own program. The premium reduction reflects the savings to the EI Account realized as a result of Quebec's program, including MPA 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 Quebec 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 Quebec to the rest of Canada 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 Quebec has been decreasing. It is expected that this decreasing trend will continue, but at a slower pace than the recent past. Based on preliminary data from CRA, the 2015 proportion of insurable earnings that relates to employment in Quebec is 21.69%. This proportion is expected to decrease to 21.62% in 2016 and to 21.11% in 2023. This is highlighted in Table 28.

Table 28 - Split of Insurable Earnings Between Quebec and Out-of-Quebec, Based on Province of Employment (T4 data)

Year	Proportion of Insurable Earnings for Employment in Quebec	Proportion of Insurable Earnings for Employment Out-of-Quebec
2009	22.35%	77.65%
2010	22.39%	77.61%
2011	22.36%	77.64%
2012	22.21%	77.79%
2013	22.02%	77.98%
2014	21.79%	78.21%
2015	21.69%	78.31%
2016	21.62%	78.38%
2017	21.54%	78.46%
2018	21.47%	78.53%
2019	21.40%	78.60%
2020	21.32%	78.68%
2021	21.25%	78.75%
2022	21.18%	78.82%
2023	21.11%	78.89%

The proportions shown in the table above are used to split the insurable earnings between Quebec and out-of-Quebec 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-Quebec 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 MPA 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 Quebec 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 Quebec. 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 Quebec and vice-versa is provided. Table 29 shows the detailed adjustment payments between both parties for the calendar years 2009 to 2014. The adjustment payments for calendar years 2013 and 2014 are preliminary.

Table 29 - Historical Adjustment Payments Between the Government of Canada and the Government of Quebec to Reflect the Province of Residence ($ thousands)

	2009	2010	2011	2012	2013	2014
Adjustment Payments from Government of Canada to Government of Quebec (i.e. for Quebec residents working outside of Quebec):						
Employee Portion	10,299	11,091	11,587	11,773	12,060	11,662
Employer Portion	13,479	14,554	15,094	15,197	15,738	15,382
Total	23,779	25,646	26,681	26,970	27,799	27,045
Adjustment Payments from Government of Quebec to Government of Canada (for non-Quebec residents working in Quebec):						
Employee Portion	8,796	9,463	10,599	11,412	11,607	12,030
Employer Portion	6,205	6,836	7,288	7,456	7,744	7,799
Total	15,001	16,299	17,887	18,868	19,351	19,830
Net Adjustment Payment from Government of Canada to Government of Quebec:						
Employee Portion	1,503	1,628	988	361	454	(368)
Employer Portion	7,275	7,718	7,806	7,742	7,994	7,583
Total	8,777	9,346	8,794	8,103	8,448	7,215

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 Quebec residents working outside of Quebec 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 Quebec to the rest of Canada and vice-versa to reflect the province of residence.

Based on information provided by CRA, insurable earnings for employees who reside in Quebec and work outside of Quebec correspond to 0.62% of total insurable earnings on average for the last three years of available data, 2012 to 2014. Insurable earnings for employees who reside outside of Quebec and work in Quebec correspond to 0.31% 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 0.31% of total insurable earnings from the rest of Canada to Quebec occurs to reflect the province of residence. This is outlined in Table 30.

Table 30 - Adjustment to Insurable Earnings Split to Reflect Province of Residence ($ thousands)

	2009	2010	2011	2012	2013	2014
Total Insurable Earnings	451,334,479	465,835,495	488,248,436	513,327,874	533,682,404	553,740,114
QPIP Reduction	0.35%	0.37%	0.37%	0.36%	0.36%	0.35%
Average Employer Multiplier:						
Out-of-Quebec Employers	1.28	1.28	1.29	1.29	1.30	1.31
Quebec Employers	1.25	1.26	1.27	1.28	1.29	1.30
Employer Adjustment Payments:						
From Government of Canada to Government of Quebec	13,479	14,554	15,094	15,197	15,738	15,382
From Government of Quebec to Government of Canada	6,205	6,836	7,288	7,456	7,744	7,799
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 Quebec	3,003,389	3,074,372	3,171,612	3,278,659	3,365,149	3,351,902
From Government of Quebec to Government of Canada	1,420,818	1,464,203	1,547,541	1,616,684	1,663,509	1,708,104
Net Transfer (from Canada to Quebec)	1,582,571	1,610,169	1,624,071	1,661,975	1,701,640	1,643,798
Estimated Transfer of Insurable Earnings to Reflect Province of Residence as a % of Total Insurable Earnings						
From Government of Canada to Government of Quebec	0.67%	0.66%	0.65%	0.64%	0.63%	0.61%
From Government of Quebec to Government of Canada	0.31%	0.31%	0.32%	0.31%	0.31%	0.31%
Net From Government of Canada to Government of Quebec	0.35%	0.35%	0.33%	0.32%	0.32%	0.30%

The information included in the administrative files that are exchanged between CRA and Revenu Quebec 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 Quebec residents and work outside of Quebec and vice-versa. The actual insurable earnings of Quebec residents

working outside of Quebec (115,000 in 2014) and of non-Quebec residents working in Quebec (75,000 in 2014) were almost identical 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 2015 to 2023 will be equal to the average transfer for the years 2012 to 2014, that is 0.31%. The resulting insurable earnings on a province of residence basis are outlined in Table 31.

Table 31 - Split of Salaried Insurable Earnings Based on Province of Residence

Year	Proportion of Insurable Earnings - Province of Work (T4 Basis)		Net Transfer to Quebec	Proportion of Insurable Earnings - Province of Residence		Total Insurable Earnings - Province of Residence ($ thousands)		
	Out-of-Quebec	Quebec		Out-of-Quebec	Quebec	Canada	Out-of-Quebec	Quebec
2014	78.21%	21.79%	0.30%	77.91%	22.09%	553,740,114	431,436,345	122,303,769
2015	78.31%	21.69%	0.31%	78.00%	22.00%	567,614,147	442,721,122	124,893,025
2016	78.38%	21.62%	0.31%	78.07%	21.93%	581,945,123	454,306,192	127,638,930
2017	78.46%	21.54%	0.31%	78.15%	21.85%	600,756,513	469,472,256	131,284,257
2018	78.53%	21.47%	0.31%	78.22%	21.78%	622,507,717	486,905,891	135,601,826
2019	78.60%	21.40%	0.31%	78.29%	21.71%	646,697,093	506,278,745	140,418,347
2020	78.68%	21.32%	0.31%	78.37%	21.63%	669,940,209	525,011,000	144,929,209
2021	78.75%	21.25%	0.31%	78.44%	21.56%	695,634,779	545,633,968	150,000,811
2022	78.82%	21.18%	0.31%	78.51%	21.49%	719,438,484	564,808,450	154,630,034
2023	78.89%	21.11%	0.31%	78.58%	21.42%	743,922,452	584,550,786	159,371,666

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 Quebec to account for employees who reside in Quebec and work outside of Quebec and vice-versa.

For example, the information provided for a resident outside of Quebec who is working in Quebec 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 MPA coverage. However, the total insurable earnings should not be adjusted to reflect this refund.

Another example is the case of a Quebec resident who is working outside of Quebec 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 overpayment rather than the EI 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-Quebec residents who worked in Quebec, and increased by any QPIP premiums payable by Quebec residents who had multiple employments and worked outside of Quebec. 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 26 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 32), the net adjustment payments (QPIP) shown in Table 26 are re-allocated between two items: the gross premium revenues and the premium refunds. Consequently, Table 32 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 Quebec insurable earnings is higher under the province of residence basis and that Quebec 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 32 shows the reconciliation of the net premiums and the inherent calculation of the adjusted premium refunds for the years 2009 to 2014. By comparing this table to Table 26 for the year 2014, it can be seen that the adjustment payments of $7.2 million are reflected in Table 32 through gross premiums that are $13.9 million lower ($23,971.2 – $23,957.3) and through premium refunds that are $6.7 million lower ($261.0 – $254.3), with no resulting effect on the total net premium.

Table 32 - Calculation of the Adjusted Premium Refunds ($ million)						
	2009	2010	2011	2012	2013	2014
Total Insurable Earnings	451,334	465,835	488,248	513,328	533,682	553,740
Split of Insurable Earnings (Province of Residence):						
Outside Quebec	77.3%	77.3%	77.3%	77.5%	77.7%	77.9%
Quebec	22.7%	22.7%	22.7%	22.5%	22.3%	22.1%
EI Premium Rate:						
Outside Quebec	1.73%	1.73%	1.78%	1.83%	1.88%	1.88%
Quebec	1.38%	1.36%	1.41%	1.47%	1.52%	1.53%
Weighted Average Premium Rate	1.65%	1.65%	1.70%	1.75%	1.80%	1.80%
Gross Premium Revenues	17,878.8	18,400.8	19,874.2	21,546.1	23,049.6	23,957.3
Adjusted Premium Refunds	**173.3**	**189.9**	**217.0**	**237.5**	**247.5**	**254.3**
Overage	4.0	3.4	3.4	3.1	3.1	3.0
Wage-Loss Premium Reduction	839.4	863.0	877.0	920.0	909.0	854.0
Net Adjustment Payments (QPIP)	0.0	0.0	0.0	0.0	0.0	0.0
Other Accounting Adjustments	9.3	7.3	5.3	6.1	8.8	5.7
Net Premium Assessed	16,852.8	17,337.2	18,771.6	20,379.4	21,881.2	22,840.3

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 33 shows that from 2012 to 2014, this percentage was on average 2.59%. It is assumed to remain constant at 2.59% until 2023.

Table 33 - Total Insurable Earnings Subject to a Subsequent Premium Refund ($ million)						
	2009	2010	2011	2012	2013	2014
Total Insurable Earnings (TIE)	451,334	465,835	488,248	513,328	533,682	553,740
Adjusted Premium Refunds	173.3	189.9	217.0	237.5	247.5	254.3
Average Premium Rate	1.65%	1.65%	1.70%	1.75%	1.80%	1.80%
TIE Subject to Refund	10,497	11,539	12,792	13,577	13,754	14,105
TIE Subject to Refund (% of TIE)	2.33%	2.48%	2.62%	2.64%	2.58%	2.55%

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 Quebec will continue to receive MPA benefits through the QPIP, however they are able to access sickness, compassionate care and PCIC 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 Quebec and the covered earnings of residents of the rest of Canada.

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.

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 2014. Partially assessed premiums as of 30 June 2016 are available for the tax year 2015. Table 34 shows the derived underlying covered earnings for 2015 based on the assessed premiums as of 30 June 2016 and assuming that 88% of self-employed EI premiums have been assessed as of that date. This is consistent with the analysis of partially assessed data as of 30 June 2015 and fully assessed data for the tax year 2014.

Table 34 - 2015 Covered Earnings for Self-Employed EI Participants ($)

	Out-of-Quebec Residents	Quebec Residents	Total
2015 Self-Employed Assessed Premiums as of 30 June 2016	2,067,646	230,456	2,298,102
2015 Projected Total Self-Employed Premiums	2,348,913	261,806	2,610,719
Premium Rate	1.88%	1.54%	N/A
2015 Covered Earnings (Premium Revenue divided by Premium Rate)	124,942,195	17,000,359	141,942,555

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 2016. The enrolment data also includes adjustments for individuals who have opted out of the program in each week. Table 35 shows the evolution of the number of participants starting with the cumulative number as at 31 December 2010, with a split between Quebec and out-of-Quebec residents.

The projection of enrolments from 2017 to 2023 is based on the average weekly enrolments over the last 3 years (2013-2015), while the assumption to complete year 2016 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 Quebec and out-of-Quebec residents and reflects the slower pace of enrolment of Quebec residents.

Using the cumulative enrolments as of the end of June 2016 and the projected enrolments, Table 35 shows the historical and projected number of self-employed participants from 2010 to 2023.

Table 35 - Historical and Projected Self-Employed EI Participants			
Cumulative Participants as of the last week of:	Out-of-Quebec Residents	Quebec 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	14,882	3,805	18,687
2017	16,337	3,993	20,330
2018	17,791	4,181	21,972
2019	19,217	4,366	23,583
2020	20,700	4,557	25,257
2021	22,154	4,745	26,899
2022	23,636	4,937	28,573
2023	25,091	5,125	30,215

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 2016 to 2023.

The 2015 self-employed covered earnings are calculated from assessed premiums as of 30 June 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 2016 to 2023. 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 36 shows the projected self-employed covered earnings for Quebec residents and out-of-Quebec residents for the years 2015 to 2023.

Table 36 - Projected Covered Earnings for Self-Employed EI Participants ($ thousands)									
	Out-of-Quebec Residents				Quebec 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
2015				124,942				17,000	141,943
2016	1.14%	10.9%	12.1%	140,114	1.14%	4.1%	5.3%	17,896	158,010
2017	3.73%	9.8%	13.9%	159,544	3.73%	4.9%	8.9%	19,481	179,024
2018	3.22%	8.9%	12.4%	179,342	3.22%	4.7%	8.1%	21,055	200,396
2019	3.33%	8.0%	11.6%	200,171	3.33%	4.4%	7.9%	22,715	222,886
2020	3.17%	7.7%	11.1%	222,446	3.17%	4.4%	7.7%	24,464	246,910
2021	4.06%	7.0%	11.4%	247,740	4.06%	4.1%	8.4%	26,507	274,248
2022	3.24%	6.7%	10.1%	272,880	3.24%	4.0%	7.4%	28,471	301,352
2023	2.79%	6.2%	9.1%	297,753	2.79%	3.8%	6.7%	30,380	328,132

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 and work-sharing benefits for workers willing to work a temporarily reduced work week to avoid lay-offs. Part I benefits also include special benefits for those who are sick, pregnant or caring for a newborn or adopted child, for those caring for a seriously ill family member, or for those providing care or support to their critically ill or injured child.

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, recipiency rate and the number of weeks. Additional information on pilot projects, special measures and new program changes are also required. Those four assumptions and additional information are discussed below, followed by discussions on regular, fishing, work-sharing and special benefits. Benefit repayments, Part II benefits, administration costs and bad debt expenditures are also discussed in this section.

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. The assumptions underlying their projections are described at the end of this section.

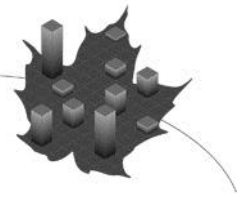
1. Average Weekly Benefits

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

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 2017, the maximum weekly benefit is 55% of the $51,300 annual MIE divided by 52, or $543.

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.

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

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

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. Based on partial data for 2016, the proportion of benefit weeks for claimants with earnings above the MIE is assumed to increase slightly in 2016. The proportion of benefit weeks for claimants with earnings above the MIE is assumed to remain constant at 47.5% for the full projection period.

Table 37 - Percentage of Benefit Weeks for Claimants with IE above the MIE

Year	% Above MIE
2011	40.6%
2012	40.2%
2013	41.9%
2014	44.5%
2015	47.2%
Average 2011-2015	**42.9%**
2016	47.5%
2017	47.5%
2018	47.5%
2019	47.5%
2020	47.5%
2021	47.5%
2022	47.5%
2023	47.5%

The 2015 AWB for claimants with insurable earnings above and below the MIE was $524 and $354 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 2.2% and 1.7% for

2016 and 2017 respectively. The average annual increase for years 2017 to 2023 is 2.6%. These AWB growth rates generally apply to all benefit types.

Table 38 - Average Weekly Benefits Growth Factors									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Average Weekly Earnings ($)	952	965	991	1,019	1,048	1,077	1,107	1,138	1,169
% Change	1.8%	1.4%	2.7%	2.8%	2.8%	2.8%	2.8%	2.8%	2.7%
MIE ($)	49,500	50,800	51,300	52,200	53,700	55,200	56,800	58,300	60,000
% Change	1.9%	2.6%	1.0%	1.8%	2.9%	2.8%	2.9%	2.6%	2.9%
Proportion Above MIE	47.2%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Proportion Below MIE	52.8%	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%
AWB Growth	**3.6%**	**2.2%**	**1.7%**	**2.2%**	**2.9%**	**2.8%**	**2.8%**	**2.7%**	**2.8%**

However, after further analysing claims data for the first 6 months of 2016, the assumed 2016 AWB growth for sickness benefits was reduced to 0.47% and the assumed 2016 and 2017 AWB growth for work-sharing benefits was increased to 4.25% and 2.73% respectively.

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.

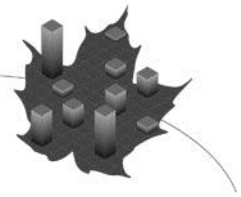
Hence, to receive EI regular benefits, an individual needs to:

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 to 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;

[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.



- The number of unemployed individuals with an invalid[1] job separation; 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.

Table 39 - 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%	198	14.9%	86	6.5%	728	54.7%

* The invalid job separation statistic for calendar year 2015 is estimated.

The projection of 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 follow:

- The percentage of unemployed without insurable earnings in the last 52 weeks has increased following the economic downturn of 2008-2009 and is expected to gradually decline from 36.9% in 2015 toward a long term value of 34.0% of unemployed by 2023. This is slightly higher than observed in the years leading up to the great recession to take into account that the job market has changed and that although the proportion of long-term unemployed has slightly decreased over the last 5 years, it is still high.

[1] 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 (http://www.esdc.gc.ca/en/reports/ei/regular_benefits/apply.page).

- The percentage of unemployed individuals with an invalid job separation tends to increase when the unemployment rate is low and decrease when the unemployment rate increases because there are fewer jobs available. Hence, the higher unemployment rate in 2016 is expected to yield to a reduction in the percentage of unemployed with an invalid job separation in 2016. However, considering the unemployment rate projection from 2017 to 2023, it is assumed that this percentage will be higher compared to the average of the last eight years, increasing slightly at 15% in 2019.

- The ratio of working beneficiaries to unemployed has been relatively stable over the last four years (period covered by Working While on Claim pilot projects) and is projected based on that 4-year average.

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

Table 40 - 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)
2016	1,361	36.4%	14.7%	6.5%	55.4%	754
2017	1,322	36.0%	14.8%	6.5%	55.7%	736
2018	1,267	35.6%	14.9%	6.5%	56.0%	709
2019	1,243	35.2%	15.0%	6.5%	56.3%	700
2020	1,233	34.8%	15.0%	6.5%	56.7%	699
2021	1,251	34.4%	15.0%	6.5%	57.1%	714
2022	1,261	34.0%	15.0%	6.5%	57.5%	724
2023	1,269	34.0%	15.0%	6.5%	57.5%	729

The number of potential claimants as a percentage of unemployed is expected to increase from 54.7% in 2015 to 57.5% 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. It is a better coverage measure of the EI program than the beneficiary-to-unemployed ratio (B/U ratio) used in prior reports. Unlike the B/U ratio, which includes 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 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 received benefits in the past, 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 41 - 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	728	535	73.4%

The recipiency rate has decreased over the last eight years and seems to have somewhat stabilized with the preliminary estimate for 2015 slightly higher than 2014. For the purpose of this report, it is assumed that the recipiency rate will stay constant at 73.5% over the projection period, its average over the last four years.

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 2015, but receives his first benefit payment only in February 2016, the portion of the benefits that relates to December will be recorded in the EI Operating Account for the year 2015.

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, 31 December 2015 is a Thursday and for every benefit week that should have been paid for the week of 31 December 2015, four days will be reported in calendar year 2015 and one will be reported in calendar year 2016.

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 42 - Number of Weeks

Calendar Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of Weeks	52.2	52.2	52.0	52.2	52.2	52.4	52.2	52.0	52.0

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 17.

Pilot Project

A new national Working While on Claim pilot project has been introduced for two years, from 7 August 2016 to 11 August 2018. Under this pilot project, claimants will have a choice of what rules better support their job prospects. Every eligible client will be able to choose to 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 have the option to revert to the rules of an earlier pilot in effect in 2012 (an earnings allowance of $75 or 40% of their weekly EI benefits).

Special Measures

On 11 September 2014, the Government of Canada introduced the Small Business Job Credit. Any firm that pays employer EI premiums equal to or less than $15,000 in 2015 and/or 2016 will be eligible for the credit in those years.

The credit is equivalent to a reduction of 39 cents per $100 of insurable earnings in EI premiums paid by small employers.

Budget 2016 provides that eligible unemployed workers in 15 regions hardest hit by the downturn in commodity prices may receive additional weeks of EI regular benefits. Five additional weeks will be available for all eligible unemployed workers in specified regions, up to a maximum of 50 weeks, and up to an additional 20 weeks will be available to eligible unemployed long-tenured workers, in specified regions, up to a maximum of 70 weeks. Extended benefits will be available for a period of one year from 3 July 2016, with the measure applied to all eligible claims as of 4 January 2015.

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. In addition, employers with work-sharing agreements that ended between 12 July 2015 and 31 March 2016 can enter into a new agreement with a maximum duration of 76 weeks.

New Program Changes

Effective 3 January 2016, the duration for Compassionate Care Benefits increased from six weeks to twenty-six weeks. The period of time during which claimants will be able to access these benefits will be expanded from twenty-six weeks to fifty-two weeks. Claimants whose benefit period ended on or after 3 January 2016, were able to request to receive additional weeks of benefits under the new provisions.

Effective 3 July 2016, new entrants and re-entrants are no longer required to accumulate 910 hours of insurable employment to qualify for regular EI benefits. All regular claimants are now required to meet their regional variable entrance requirement (which varies between 420 and 700 hours) to be eligible for EI regular benefits. Self-employed fishers will need to reach their regional insurable earnings entrance requirement for fishers (which varies between $2,500 and $4,200) to qualify for EI fishing benefits.

Effective 1 January 2017, the waiting period that claimants must serve prior to benefits being payable will be reduced from two weeks to one week.

EI operational policy guidance will be revised to comply with a decision of the Federal Court of Appeal and new jurisprudence.

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.

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

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 2015, that is, the latest year of known actual regular EI income benefits. Regular benefits are therefore projected as follows, starting from the base year.

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

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 43.

Table 43 - Regular Benefits ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Regular Benefits (Base)	11,630	12,330	12,201	12,063	12,238	12,614	13,205	13,708	14,186
Pilot Project - Working While on Claim	53	64	78	46	0	0	0	0	0
Measure - Affected regions extension	0	380	370	126	0	0	0	0	0
Program - Lower threshold for NERE	0	175	305	310	315	320	325	330	335
Program - Reducing the waiting period	0	0	601	476	480	495	515	534	553
Program - New Policy on Absence from Canada	0	0	21	22	23	23	24	25	25
Total Regular Benefits	**11,683**	**12,949**	**13,575**	**13,043**	**13,056**	**13,452**	**14,069**	**14,597**	**15,099**

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. The base year on which the projected growth factors are applied is 2015.

$$FB_T = (W_T/W_{T-1}) \times (AWB_T/AWB_{T-1}) \times FB_{T-1}$$

Yearly increase in average benefits

Prior year's benefits

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

The impact of new program changes to the EI program is then added to the fishing benefits projection as shown in the next table.

Table 44 - Fishing Benefits ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing Benefits (Base)	283	289	293	301	309	319	327	335	344
Reducing the EI Waiting Period	0	0	14	11	11	11	12	12	13
Total Fishing Benefits	**283**	**289**	**307**	**312**	**320**	**330**	**339**	**347**	**357**

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 2015 base work-sharing expenditures, multiplied by the expected change in the number of employees and the average weekly benefits rate. In addition, after further analysing claims data for the first 6 months of 2016, a temporary increase of 40% in 2016 and 20% in 2017 in the number of weeks is assumed, as well as a temporary additional 2.0% increase in the average weekly benefits. The cost related to the temporary special measure extending the maximum duration from 38 weeks to 76 weeks is also added to the base work-sharing expenditures.

$$WSB_T = (EE_T/EE_{T-1}) \times (W_T/W_{T-1}) \times (AWB_T/AWB_{T-1}) \times WSB_{T-1}$$

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

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

Table 45 shows the actual 2015 work-sharing benefits as well as the projection until 2023.

Table 45 - Work-Sharing Benefits ($ million)

	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Work-Sharing Benefits (Base)	34	49	43	37	38	40	41	42	44
Extending the Maximum Duration	0	24	77	22	0	0	0	0	0
Total Work-Sharing Benefits	**34**	**73**	**120**	**59**	**38**	**40**	**41**	**42**	**44**

9. Special Benefits

Special benefits include MPA 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 PCIC who take leave from work to provide care or support their critically ill or injured child.

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 2015.

$$SB_T = (EE_T/EE_{T-1}) \times (W_T/W_{T-1}) \times (AWB_T/AWB_{T-1}) \times SB_{T-1}$$

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

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

After analysing claims data for the first 6 months of 2016, it is assumed that the number of weeks of sickness benefits will increase by 4.68%, which is more than implied by the change in the number of employees of 0.65% in 2016. In addition, the average weekly benefits for sickness benefits is expected to increase by 0.47% in 2016, which is less than the assumed increase of 2.20% for other types of benefit in 2016.

For projection purposes, expenditures attributed to pilot projects and recent 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 self-employed covered population and related insured earnings growth.

It is expected that in 2017, self-employed participants enrolling in the EI Program will receive $10.9 million in MPA benefits, $0.4 million in sickness benefits, $14 thousand in compassionate care benefits, and $35 thousand in PCIC benefits.

Table 46 - Special Benefits									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Salaried Employees ($ million)									
MPA Benefits	3,721	3,828	3,922	4,077	4,230	4,394	4,524	4,654	4,813
Sickness Benefits	1,429	1,503	1,540	1,601	1,661	1,725	1,776	1,827	1,890
Compassionate Care Benefits	13	14	14	15	15	16	16	17	17
Parents of Critically ill Children Benefits	18	19	19	20	21	21	22	23	23
Sub-total	5,182	5,363	5,495	5,712	5,926	6,156	6,338	6,521	6,743
Self-Employed ($ thousands)									
MPA Benefits	8,675	9,657	10,899	12,247	13,622	15,148	16,761	18,346	19,977
Sickness Benefits	281	313	353	396	441	490	542	594	647
Compassionate Care Benefits	1	12	14	16	18	19	22	24	26
Parents of Critically ill Children Benefits	28	31	35	39	44	49	54	59	64
Sub-total	8,984	10,013	11,301	12,698	14,124	15,706	17,378	19,023	20,713
Pilot Projects and Recent Changes ($ million)									
Compassionate Care benefits (CCB) extension	0	37	39	41	43	45	47	50	52
Reducing the Waiting Period									
MPA Benefits	0	0	74	32	32	33	34	36	37
Sickness Benefits	0	0	92	92	93	96	100	104	108
Compassionate Care Benefits	0	0	3	3	3	3	3	3	3
Parents of Critically ill Children Benefits	0	0	1	1	1	1	1	1	2
Total ($ million)									
MPA Benefits	3,730	3,838	4,007	4,121	4,275	4,442	4,575	4,708	4,870
Sickness Benefits	1,429	1,503	1,633	1,693	1,754	1,822	1,877	1,932	1,998
Compassionate Care Benefits	13	51	56	58	61	64	66	70	73
Parents of Critically ill Children Benefits	18	19	20	21	22	23	23	24	25
Total Special Benefits	**5,191**	**5,410**	**5,716**	**5,894**	**6,113**	**6,350**	**6,541**	**6,734**	**6,965**

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 2016 prior year actual is based on the actual first 6 months of benefit repayments and the historical average completion ratio after 6 months.

Table 47 - EI Benefit Repayments ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Current Year Forecast	277	290	303	292	292	301	315	327	338
Prior Year									
Actual	236	262	290	303	292	292	301	315	327
Forecast	(259)	(277)	(290)	(303)	(292)	(292)	(301)	(315)	(327)
Sub-Total (Adjustment for prior year)	(23)	(15)	0	0	0	0	0	0	0
Refunds	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
Total	**248**	**269**	**298**	**286**	**287**	**296**	**309**	**321**	**332**

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.

Table 48 - Employment Benefits and Support Measures ($ million)									
	Actual	Forecast							
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
EBSM (Fiscal Year)	2,050	2,202	2,077	2,077	2,077	2,077	2,077	2,077	2,077
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
EBSM (Calendar Year)	**2,050**	**2,164**	**2,108**	**2,077**	**2,077**	**2,077**	**2,077**	**2,077**	**2,077**

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 49 - Administration Costs ($ million)									
	Actual	Forecast							
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Administration Costs (Fiscal Year)	1,653	1,827	1,702	1,649	1,646	1,650	1,654	1,655	1,660
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Administration Costs (Calendar Year)	**1,654**	**1,784**	**1,733**	**1,663**	**1,647**	**1,649**	**1,653**	**1,655**	**1,659**

As mentioned previously, the calculation of the MPA reduction related to the savings to the EI program due to the Quebec 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 MPA benefits outside Quebec.

These costs represent the savings to the EI program if it ceased to provide EI MPA benefits. The responsibility of determining the VAC each year lies with ESDC. It should be noted that under the Canada-Quebec Final Agreement, the Government of Canada provided assurance that the VAC multiplied by the ratio of the insurable earnings in Quebec to the insurable earnings outside Quebec would not be less than $5 million. The 2016 to 2023 VAC are projected from actual costs incurred in 2015 as a constant percentage of MPA benefits. When applicable, VAC are increased to reflect the minimum under the Canada-Quebec Final Agreement.

Table 50 - Variable Administrative Costs ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Variable Administration Costs	**17.7**	**17.8**	**17.9**	**18.0**	**18.0**	**18.1**	**18.2**	**18.3**	**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 2015 was equal to 25% of the 2014-2015 expense and 75% of the 2015-2016 expense.

The bad debt expense and the write-offs for 2016-2017 are forecasted using a moving average based on a seven-year economic cycle. The projection for the subsequent years takes into account the expected increase in benefit payments.

Table 51 - Bad Debt Expense ($ million)									
	Actual	Forecast							
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Allowance for Doubtful Accounts (Current Year)	337	329	340	335	341	353	367	379	393
Net Allowance (Prior Year)									
Allowance for Doubtful Accounts (Prior Year)	322	337	329	340	335	341	353	367	379
Write-Offs	(106)	(65)	(67)	(66)	(67)	(69)	(72)	(75)	(77)
Total	216	272	262	274	268	271	281	292	302
Bad Debt Expense (Fiscal Year)	121	57	78	62	73	81	86	87	91
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Bad Debt Expense (Calendar Year)	**103**	**73**	**73**	**66**	**70**	**79**	**85**	**87**	**90**

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 52 - Penalties ($ million)									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Penalties	**44**	**48**	**50**	**49**	**50**	**51**	**53**	**55**	**57**

15. Interest

Interest is charged on outstanding EI debts caused through misrepresentation. This includes overpayments and penalties. 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, calculated daily and compounded monthly[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 corresponding discount rate starting in September 2015 is 0.75%. The forecasted interest rate to be charged on overdue accounts receivable is based on the 3-month T-Bill forecast from the February 2016 Department of Finance private sector survey.

As the interest earned is correlated to the amount of outstanding benefit overpayments, it is forecasted from the base year using the expected annual change in Part I benefits and the 12-month average of the interest rate.

Table 53 - Interest on Overdue Accounts Receivable									
	Actual	Forecast							
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Average Interest Rate	3.94%	3.75%	3.94%	4.85%	5.63%	5.94%	6.00%	6.00%	6.00%
Interest ($ million)	**11**	**11**	**12**	**15**	**18**	**19**	**20**	**21**	**22**

[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 2017 reduction in employer premiums due to qualified wage-loss plans included in this report.

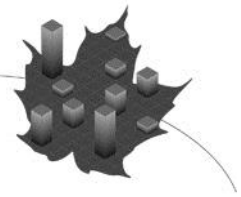
A. Background and Legislation on the Premium Reduction Program

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:	*Cumulative paid sick leave plans that allow for a minimum monthly accumulation of at least one day and for a maximum accumulation of at least 75 days.*
Category 2:	*Enhanced cumulative paid sick leave plans 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:	*Weekly indemnity plans with a maximum benefit period of at least 15 weeks.*
Category 4:	*Special weekly indemnity plans 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 2017, the years 2013, 2014 and 2015 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 2017.

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 2017 rates of reduction, the first payer cost ratio is equal to the average of the first payer cost for the years 2013 to 2015, divided by the average insurable earnings of all insured persons for the years 2013 to 2015.

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 circumstance.

The first payer cost was not revised for previously calculated years (i.e. 2013 and 2014). More information on the 2013 and 2014 first payer cost can be found in the 2016 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 two weeks (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 2015 hypothetical number of first payer job-attached EI sickness claims is 596,489 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 2015 is 5,317,928.

The hypothetical number of first payer job-attached EI sickness benefit weeks for 2013 and 2014 is 5,543,015 and 5,356,224 respectively. More information is provided in the 2016 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 are $420.90 for 2015. The average weekly sickness benefits under a hypothetical first payer scenario for 2013 and 2014 are $383.38 and $410.93 respectively, as calculated in the 2016 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 2017 rates of reduction is 0.3967%. Table 54 shows more details on how this first payer cost ratio is determined.

Table 54 - First Payer Cost Ratio for Calculating 2017 Rates of Reduction

	2013*	2014*	2015	Average for 2017 Rates of Reduction
First Payer EI Sickness Benefit Weeks (A)	5,543,015	5,356,224	5,317,928	N/A
First Payer Average EI Sickness Benefits (B) ($)	383.38	410.93	420.90	N/A
First Payer Cost (A x B) ($)	2,125,107,000	2,201,048,000	2,238,312,000	2,188,155,667
Total Insurable Earnings (TIE) ($)	532,849,893,047	554,133,484,277	567,614,146,928	551,532,508,084
First Payer Cost Ratio (% of TIE)	0.3988%	0.3972%	0.3943%	**0.3967%**

* More information on the 2013 and 2014 numbers can be found in the 2016 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 2013, 2014 and 2015, the total cost of job-attached EI sickness benefits for each category is shown in Table 55, and the insurable earnings for each category are shown in Table 56; the amounts shown for 2015 are based on preliminary data.

Table 55 - Job-Attached EI Sickness Benefits per Category of Wage-Loss Plan ($)

	2013	2014	2015	Average for 2017 Rates of Reduction
Category 1	85,142,804	83,890,800	85,448,762	84,827,455
Category 2	8,521,363	8,516,047	7,968,115	8,335,175
Category 3	72,711,394	76,973,787	77,867,976	75,851,053
Category 4	2,103,453	2,152,343	2,215,882	2,157,226
Total	168,479,014	171,532,977	173,500,735	171,170,909

Table 56 - Allocation of Insurable Earnings for Employers With a Qualified Wage-Loss Plan ($)				
	2013	2014	2015	Average for 2017 Rates of Reduction
Category 1	43,857,204,121	44,330,678,742	45,238,847,510	44,475,576,791
Category 2	22,944,160,682	23,827,739,824	23,896,555,586	23,556,152,031
Category 3	172,636,013,002	178,985,115,421	181,466,242,773	177,695,790,399
Category 4	19,515,968,103	19,948,805,434	20,831,439,192	20,098,737,576
Total	258,953,345,908	267,092,339,421	271,433,085,061	265,826,256,797

The experience cost ratio used in the calculation of the 2017 rates of reduction for each category is shown in Table 57.

Table 57 - Experience Cost Ratio per Category			
	Average EI Sickness Costs (A) ($)	Average Insurable Earnings (B) ($)	Experience Cost Ratio (A/B)
Category 1	84,827,455	44,475,576,791	0.1907%
Category 2	8,335,175	23,556,152,031	0.0354%
Category 3	75,851,053	177,695,790,399	0.0427%
Category 4	2,157,226	20,098,737,576	0.0107%

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 58 shows the 2017 rates of reduction for each category of qualified wage-loss plan, along with the corresponding reduced employer multiplier for out-of-Quebec and Quebec employers. The employer multipliers presented in the table are calculated with the 7-year forecast break-even rate of 1.63% for residents of all provinces except Quebec. The corresponding premium rate that applies to residents of Quebec is 1.27%. 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 58 - 2017 Rates of Reduction						
	First Payer Cost Ratio	Experience Cost Ratio	Unrounded Rate of Reduction	Rounded Rate of Reduction	Employer Multiplier (Out of Quebec)	Employer Multiplier (Quebec)
Category 1	0.3967%	0.1907%	0.2060%	0.21%	1.274	1.238
Category 2	0.3967%	0.0354%	0.3614%	0.36%	1.178	1.115
Category 3	0.3967%	0.0427%	0.3541%	0.35%	1.183	1.121
Category 4	0.3967%	0.0107%	0.3860%	0.39%	1.163	1.096

The Commission will notify each registered employer of the applicable 2017 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.

In 2016, the rounded rates of reduction for each category were 0.20%, 0.35%, 0.34% and 0.37% of insurable earnings for categories 1 through 4 respectively.

E. Amount of Premium Reduction

Table 59 shows the estimated amount of premium reduction to be granted in 2017. The estimates are based on the historical distribution of insurable earnings by category, which was derived from Canada Revenue Agency T4 data.

Table 59 - 2017 Estimated Amount of Premium Reduction

	Projected Number of Qualified Employers	2017 Insurable Earnings ($ million)	Rates of Reduction	Premium Reduction ($ million)
Category 1	2,700	47,880	0.2060%	99
Category 2	600	25,292	0.3614%	91
Category 3	27,600	192,062	0.3541%	680
Category 4	400	22,048	0.3860%	85
Total	31,300	287,282	N/A	955

Appendix VI. Acknowledgements

We would like to thank the staff at Employment and Social Development Canada, Canada Revenue Agency, Finance Canada and Service Canada who provided the relevant data used in this report. Without their useful assistance, we would not have been able to produce this report.

The following people assisted in the preparation of this report:

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