

# Fiscal Policy and Recessions: A Primer on Automatic Stabilizers

by Jake Fuss and  
Milagros Palacios



## SUMMARY

■ In the event of a recession, the federal government will be faced with determining the proper course of action to deal with the resulting lower economic output, rising unemployment, and deteriorating fiscal situation. Perhaps its most important decision will be whether to enact new policies to “stimulate” the economy or rely solely on existing policies designed to respond to both economic slowdowns and expansions, commonly referred to as “automatic stabilizers.”

■ Automatic stabilizers are mechanisms of fiscal policy that help mitigate fluctuations in the economy, without any change in policy or direct government action.

■ Employment insurance (EI) benefits automatically increase when unemployment increases and decrease when unemployment drops. This stabilizer was especially strong in the 2009 recession when EI premium revenues decreased by \$126 million while regular EI ben-

efits increased by nearly \$5.0 billion (or 43.4 percent) in 2009.

■ Payroll tax revenues automatically decline when wages and salaries decrease and the opposite is true when they increase. For example, growth in payroll tax revenues declined in 2009 and still felt the effects of the recession a year later when they only grew at a meagre rate of 0.5 percent.

■ The progressive nature of the personal income tax (PIT) system combined with a loss of income and rising unemployment during an economic downturn result in a decline in PIT revenues. This is best demonstrated by the marked 9.9 percent drop in PIT revenues during the 2009 recession.

■ Whenever the next economic downturn occurs, the federal government must take automatic stabilizers into account before deciding whether to use any discretionary tools to attempt to stimulate the economy.

# A Primer on Automatic Stabilizers

## Introduction

There has been a lot of discussion recently about a possible economic slowdown or even a recession in Canada in the near future (McKenna, 2019; Vomiero, 2019). An important part of the discussion is that the country's economic growth has been positive every year since the last national recession a decade ago. The lengthy nature of the current business cycle suggests that there is an increasing likelihood of a downturn happening relatively soon.<sup>1</sup>

In the event of a recession, the federal government will be faced with determining the proper course of action to deal with the resulting lower economic output, rising unemployment, and deteriorating fiscal situation. Perhaps its most important decision will be whether to enact new policies to “stimulate” the economy or rely solely on existing but little-known measures designed to respond to both economic slowdowns and expansions, commonly referred to as “automatic stabilizers.” The choice will be between taking proactive, discretionary measures, such as increasing spending and/or cutting taxes, versus relying solely on automatic stabilizers as a response to a slowdown.<sup>2</sup>

Governments are tempted to use discretionary tools in an attempt to appease anxious citizens who demand politicians act affirmatively

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<sup>1</sup> The business cycle is the process of expansion and contraction in the economy that occurs over time. There is, however, no consensus on the definition of an economic recession. One standard method for defining economic expansions and contractions is the National Bureau of Economic Research's approach (<https://www.nber.org/cycles/recessions.html>) and, for Canada, see Cross and Bergevin (2012).

<sup>2</sup> For an assessment of the size and role of automatic fiscal stabilizers in the 1990s in OECD countries, see Van Den Noord, 2000.

to address deteriorating economic conditions. In doing so, governments typically downplay or even ignore the existence of automatic stabilizers. Automatic stabilizers are mechanisms of fiscal policy that help mitigate fluctuations in the economy; they do not rely on any change in policy or direct government action. In other words, these programs automatically spend more when the economy slows and spend less when the economy is growing without the government taking any additional action. One of the main goals of automatic stabilizers is to smooth household income over the business cycle and by doing so, temper the effects of economic fluctuations (Elmendorf and Furman, 2008).

This bulletin is the first in a series examining different aspects of fiscal policy related to recessions or economic slowdowns. This study is designed to give readers basic information and an understanding of the automatic fiscal policies, or automatic stabilizers, that take effect when the economy slows.

By their design, automatic stabilizers exist in both the tax and transfer systems. This bulletin examines three categories of automatic stabilizers: employment insurance benefits, payroll taxes, and personal income taxes.<sup>3</sup>

This report aims to describe how automatic stabilizers work and explain what happens to federal finances during a recession prior to any discretionary government action. Each section provides an overview on a different category of automatic stabilizer and describes the effect that past recessions and/or economic slow-

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<sup>3</sup> Other revenues are also affected by fluctuations in the economy, but to a lesser extent. For example, corporate income tax (CIT) revenues and sales tax revenues (GST/HST) respond to changes in economic activity (i.e., business profits) and consumption.

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downs have had on various revenue and spending sources.

## 1) Employment Insurance benefits

When the economy slows, there is an automatic rise in government spending related to benefit programs. Conversely, there is an automatic decline in such spending when the economy is growing. The best illustration of this process is Canada's Employment Insurance (EI) program.

Government spending on EI benefits automatically responds to changes in unemployment. Unemployment and EI transfers are positively related, meaning that as unemployment rises, so too does spending on EI benefits.

As unemployment increases during a recession or slowdown, more workers are eligible for EI benefits than when the economy is expanding and unemployment is lower. As a result, government spending for this transfer program will automatically rise in a slowing economy or recession as unemployment increases. Put differently, unemployed Canadians are provided with income without requiring the government to draft any new legislation. EI premium revenues decline during periods of slowdown or recession, but simultaneously, spending on EI benefits will automatically increase.

When the economy begins to expand again and there are fewer unemployed workers, the transfer payments from EI benefits automatically decline while the revenues from EI premiums automatically increase.<sup>4</sup> This phenomenon

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<sup>4</sup> The current employment insurance system does not operate like a true insurance system where premiums are adjusted for the risk of making a claim. Moreover, the revenues from EI go directly to the federal government's general revenues, instead of a separate fund.

was in evidence during past economic recessions or slowdowns in Canada.

Employment insurance benefits involve both cyclical and non-cyclical components. Specifically, additional benefit programs, such as maternity and paternity leave and compassionate care leave, have been added to the EI system and are unrelated to insuring Canadians against income changes during periods of unemployment. This section analyzes only regular EI benefits to properly isolate the cyclical aspect of those benefits.

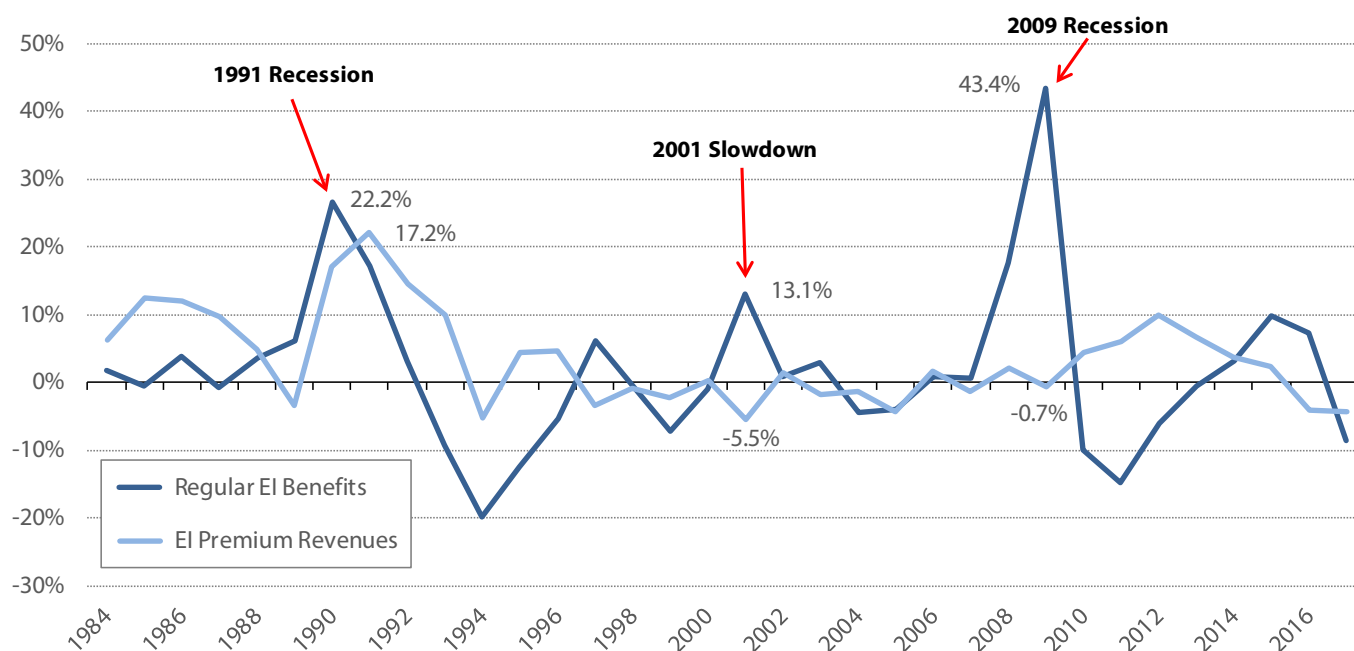
The employment insurance benefits story is similar in the three recessions or slowdowns presented in Figure 1. However, the 2009 global recession provides one of the best illustrations of how the automatic stabilizer works in practice.

The 2009 recession caused a pronounced increase in Canada's unemployment rate, which rose from 6.1 percent to 8.3 percent (Statistics Canada, 2019c). As a consequence, EI benefits spending would be expected to increase—which is exactly what the data demonstrates. The surge in unemployment triggered a 43.4 percent increase in regular EI benefits spending (figure 1). To further illustrate the cyclical nature of employment insurance, EI premium revenues moved in the opposite direction and declined by 0.7 percent at the same time as transfer payments were dramatically increasing. In dollar terms, EI premium revenues decreased by \$126 million while regular EI benefits increased by nearly \$5.0 billion in 2009.

When the economy rebounded significantly in 2010, this trend reversed and EI transfers dropped by approximately 10 percent once unemployment began to decline. At the same time, EI premium revenues increased by 4.4 percent.

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Figure 1: Annual Growth in Regular EI Benefits vs. EI Revenues, 1984–2017



Note: The increase in EI revenues in 1991 is largely due to the increase in EI premium rates from 2.25 to 2.80 per cent between 1990 and 1991.

Sources: Canada, Department of Finance (2018); Statistics Canada (2019a and 2019b); calculations by authors.

## 2) Payroll tax revenues

Payroll taxes are compulsory payments made by employees and/or employers, based on a specific share of an individual's salary or wage. Payroll taxes in Canada commonly include employment insurance premiums—which are paid by both employees and employers and are different from EI benefits—and the Canada Pension Plan (CPP) or the Quebec Pension Plan (QPP) (Ebrahimi and Vaillancourt, 2016).<sup>5</sup>

<sup>5</sup> The burden of payroll taxes largely falls on employees because contributions are part of their overall compensation package. Empirical evidence suggests that the employer portion of payroll taxes is ultimately paid for by the employee through lower wages (Ebrahimi and Vaillancourt, 2016; McKenzie and Ferde, 2017).

Payroll tax revenues are directly related and are strongly responsive to changes in wages and salaries. Revenues automatically decline when wages and salaries decrease and the opposite is true when wages and salaries increase.

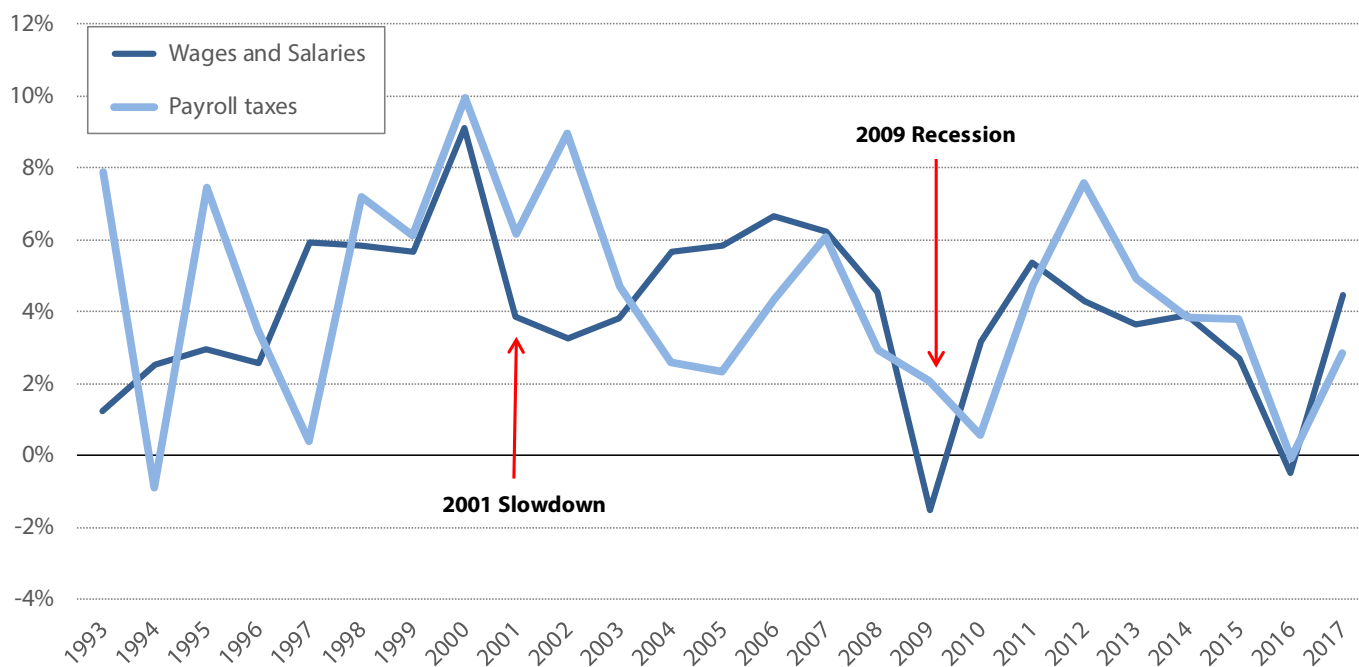
A recession causes a reduction in wages and higher unemployment. Accordingly, growth in EI premiums and CPP revenues will decrease because there are fewer people working and some workers will have reduced hours and/or wages, leading to lower payments being made.<sup>6</sup>

<sup>6</sup> CPP revenues are affected during economic fluctuations, but have only a mild stabilizer effect. On the spending side, the CPP does not experience any changes since the payouts are independent of the business cycle and do not respond to the state of the economy.



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Figure 2: Annual Growth in Wages and Salaries vs. Payroll Tax Revenues, 1993–2017



Sources: Canada, Department of Finance (2018); Statistics Canada (2019e and 2019f); calculations by authors.

In other words, a weak economy will automatically reduce the pool of workers paying into the system and thus the total money contributed. Once the economy begins to recover and wages increase, EI premiums and CPP revenues will increase as well.

For instance, in the 2009 recession, Canada experienced a 2.9 percent decline in its GDP (Statistics Canada, 2019d). Figure 2 shows the changes in the wages and salaries versus the growth in payroll tax revenues from 1993 to 2017. Prior to the recession, wages and salaries had been growing by an average annual rate of 5.5 percent between 2003 and 2008. Wages and salaries then declined by 1.5 percent in 2009.

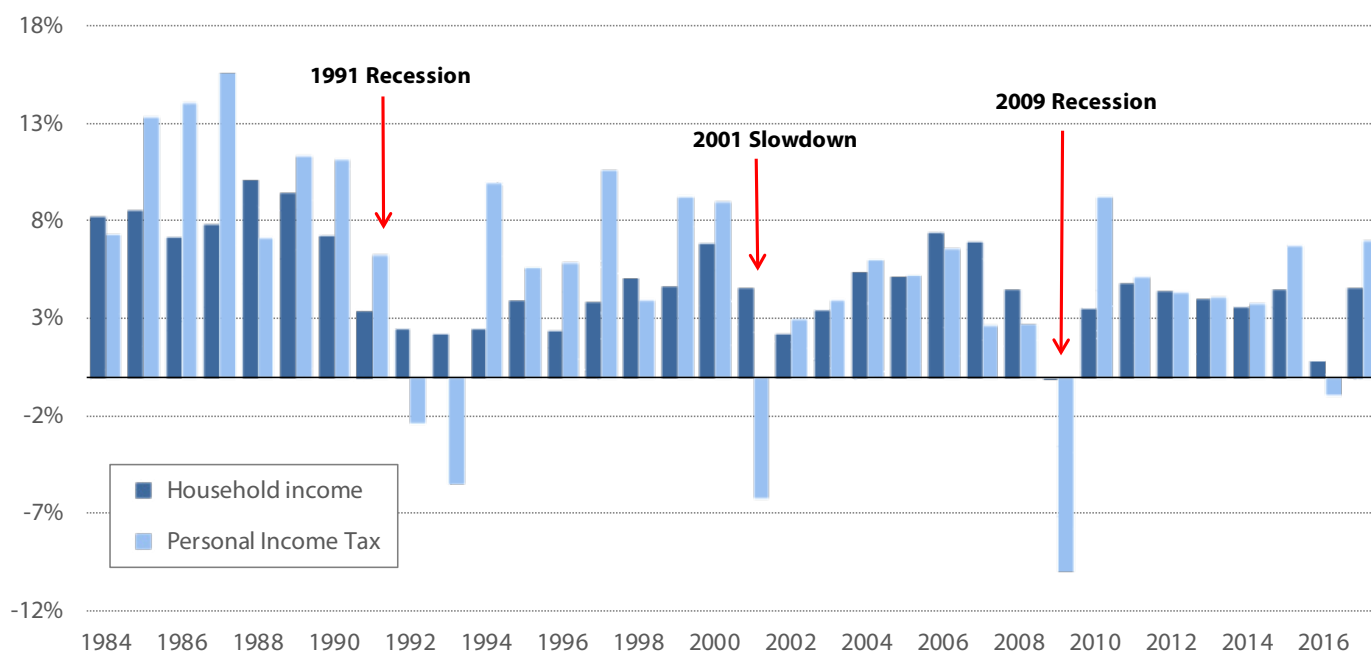
Growth in payroll tax revenues subsequently fell to 2.1 percent in 2009, a four percentage-

point decline compared to 2007.<sup>7</sup> The average annual growth rate for payroll tax revenues had previously been 4.0 percent between 2003 and 2007. Although wages and salaries began to increase in 2010, payroll tax revenues still felt the effects of the recession and growth was only a meagre 0.5 percent. Growth in payroll tax revenues eventually increased one year later (4.7 percent).

<sup>7</sup> EI premium rates dropped between 2007 and 2008 from 1.80 to 1.73 percent (Canada Revenue Agency, 2018a). However, the maximum annual premiums paid only declined by approximately \$10 for employers and employees. But, during the 2009 recession, EI rates remained constant at 1.73 percent until 2010. CPP rates stayed at 4.95 percent between 2003 and 2018, indicating that revenues in 2009 would not have been affected by a shift in discretionary CPP rates (Canada Revenue Agency, 2018b).

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Figure 3: Annual Growth in PIT Revenues and Household income, 1984-2017



Sources: Canada, Department of Finance (2018); Statistics Canada (2019g); calculations by authors.

### 3) Personal income tax revenues

Household income is quite sensitive to changes in the economy and most government tax revenues automatically decline when wages drop and unemployment rises. During a recession, there is an increased likelihood that one or more members of a household will experience a reduction in their wage or be laid off from their job. This means that household income will fall as there are fewer people working, hours of work have been reduced, and some workers are earning lower wages.

As an individual's income falls, they may pay a lower marginal tax rate due to the progressive nature of the personal income tax (PIT) system and depending on their level of income. The progressive nature of PIT also means that rev-

enues decline by more than personal income during a recession.

The drop in revenue means the existing budgetary deficit will grow, or the surplus will decline, depending on the state of government finances at the time. Government spending outside of automatic stabilizers remains relatively constant (or even grows), which means the government fills the difference with borrowing when revenues decline. In other words, government programs are maintained during times of economic slowdown or recession even though the revenues needed to finance that spending have declined.<sup>8</sup> The difference

<sup>8</sup> Refundable tax credits and child benefits help stabilize household incomes for low income families over the business cycle. For example, when house-

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between the regular spending by government and the decline in revenues from an economic slowdown or recession are financed by additional government borrowing.

Conversely, PIT revenues will grow if wages increase and unemployment drops. An economic expansion enables household income to grow again, so the average tax rate rises and government revenues disproportionately increase. This process unfolds in the period following the recession.

Figure 3 displays the percentage change in personal income tax revenues and household income since 1984 (in nominal terms). In particular, the figure shows the effects of the 1991 and 2009 recessions, and the 2001 slowdown. The 2009 recession provides perhaps the best example of how PIT revenues respond to changes in household income.

From 2002 to 2008, household income grew at an annual average rate of 5.0 percent. However, the 2009 recession brought this expansionary period to an abrupt end. Household income did not grow at all in 2009.<sup>9</sup>

The stagnation in household income also caused the annual growth rate in PIT revenues to decrease. In fact, personal income tax revenues fell by 9.9 percent in 2009. To put this in perspective, the federal government had ob-

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hold income decreases, individuals or families might become eligible for certain tax credits or benefits for which they weren't previously eligible. However, this effect on household income is lagged because these tax credits and benefits are based on the previous year's income tax calculations.

<sup>9</sup> In real terms, household income grew at an annual average rate of 2.8 percent from 2002 to 2008. In 2009, inflation-adjusted household income dropped by 0.3 percent.

served an average growth rate of 4.3 percent for PIT revenues in the years following the 2001 slowdown. In nominal terms, the 9.9 percent decline in PIT revenue represents a drop of nearly \$11.6 billion. At the same time, program spending (excluding EI benefits) grew by \$28.5 billion.

Recall that the spending financed by PIT revenues does not change automatically during a slowdown or recession, meaning that the drop in PIT revenues is financed by additional borrowing (assuming the government is already in deficit as most Canadian governments currently are).<sup>10</sup>

Household income subsequently increased by 3.5 percent in 2010 once the economy began to grow again. This increase in income meant that PIT revenues automatically rose as well. Indeed, revenues grew markedly by 9.2 percent to match the trend in household income. In other words, growth in PIT revenues was nearly three times greater than household income.

## Conclusion

This bulletin has examined the automatic changes to revenues and spending brought on by changes in household income, wages, and unemployment during economic slowdowns and recessions. Before the government makes any discretionary spending or tax cuts, these stabilizers adjust federal finances to help mitigate the loss in household income experienced during a recession. Any discretionary "stimulus" measures are added on top of the existing stabilizers. Automatic stabilizers act to increase the budgetary deficit (or reduce the surplus) during a recession prior to any government action.

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<sup>10</sup> In the fiscal year 2018/19, the federal and five provincial governments ran operating deficits.

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Employment insurance benefits automatically increase when unemployment increases and decrease when unemployment drops. This stabilizer was especially strong in the 2009 recession when regular EI benefits surged by 43.4 percent in a single year. Conversely, if wages and salaries decline or stagnate, then growth in payroll tax revenues automatically decreases as well. For example, growth in payroll tax revenues declined in 2009 and the effects of the recession were still being felt a year later when they grew at only a meagre 0.5 percent.

The progressive nature of the PIT system combined with a loss of income and rising unemployment during an economic downturn result in a decline in PIT revenues. This is best demonstrated by the marked 9.9 percent drop in PIT revenues during the 2009 recession.

Automatic stabilizers are important mechanisms in Canadian fiscal policy. Regardless of when the next economic downturn occurs, it is crucial that the federal government takes automatic stabilizers into account before deciding whether to use any discretionary tools to attempt to stimulate the economy.

## References

- Canada, Department of Finance (2003). *Regarding a New EI Rate-Setting Process*. Government of Canada. <[https://www.fin.gc.ca/consultresp/eiratesresp\\_3-eng.asp](https://www.fin.gc.ca/consultresp/eiratesresp_3-eng.asp)>, as of July 17, 2019.
- Canada, Department of Finance (2018). *Fiscal Reference Tables October 2018*. Government of Canada <<https://www.fin.gc.ca/frt-trf/2018/frt-trf-18-eng.pdf>>, as of July 2, 2019.
- Canada Revenue Agency (2018a). *EI Premium Rates and Maximums*. Government of Canada. <<https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/payroll/payroll-deductions-contributions/employment-insurance-ei/ei-premium-rates-maximums.html>>, as of July 8, 2019.
- Canada Revenue Agency (2018b). *CPP Contribution Rates, Maximums and Exemptions*. Government of Canada. <<https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/payroll/payroll-deductions-contributions/canada-pension-plan-cpp/cpp-contribution-rates-maximums-exemptions.html>>, as of July 8, 2019.
- Cross, Philip and Philippe Bergevin (2012). *Turning Points: Business Cycles in Canada since 1926*. Commentary No. 366. CD Howe Institute. <[https://www.cdhowe.org/sites/default/files/attachments/research\\_papers/mixed/Commentary\\_366\\_0.pdf](https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/Commentary_366_0.pdf)>, as of August 5, 2019.
- Ebrahimi, Pouya, and Francois Vaillancourt (2016). *The Effect of Corporate Income and Payroll Taxes on the Wages of Canadian Workers*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/effect-of-corporate-income-and-payroll-taxes-on-wages-of-canadian-workers.pdf>>, as of July 2, 2019.
- Elmendorf, Douglas W., and Jason Furman (2008). *If, When, How: A Primer on Fiscal Stimulus*. The Hamilton Project. Brookings Institution. <<https://www.urban.org/sites/default/files/publication/31076/1001127-If-When-How-A-Primer-on-Fiscal-Stimulus.PDF>>, as of August 15, 2019.
- McKenna, Barrie (2019, May 16). *Possibility of Recession, Spike in Risky Borrowing Threaten Canada's Financial System*. *Globe and Mail*. <<https://www.theglobeandmail.com/business/article-household-debt-housing-worries-easing-but-other-concerns-persist/>>, as of July 8, 2019.
- McKenzie, Kenneth J., and Ergete Ferede (2017). *Who Pays the Corporate Tax? Insights from the Literature and Evidence for Canadian Provinces*. SPP Research Papers 10, 6. University of Calgary, School of Public Policy. <<https://www.policyschool.ca/wp-content/uploads/2017/04/Corporate-Tax-McKenzie-Ferede1.pdf>>, as of July 12, 2019.
- Statistics Canada (2019a). *Table 14-10-0007-01: Employment Insurance Benefit Characteristics by Class of Worker, Monthly, Unadjusted for Seasonality*. Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410000701>>, as of July 16, 2019.



# A Primer on Automatic Stabilizers

Statistics Canada (2019b). Table 14-10-0170-01: Archived – Employment Insurance Program (E.I.), Benefit Payments by Province and Type of Benefit. Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410017001>>, as of July 16, 2019.

Statistics Canada (2019c). Table 14-10-0018-01: Labour Force Characteristics by Sex and Detailed Age Group, annual (x 1,000). Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?=>>, as of July 2, 2019.

Statistics Canada (2019d). Table 36-10-0104-01: Gross Domestic Product, Expenditure-Based, Canada, Quarterly (x 1,000,000). Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610010401>>, as of July 2, 2019.

Statistics Canada (2019e). Table 36-10-0205-01: Wages, Salaries, and Employers' Social Contributions (x 1,000). Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610020501>>, as of July 22, 2019.

Statistics Canada (2019f). Table 36-10-0477-01: Revenue, Expenditure and Budgetary Balance – General Governments (x 1,000,000). Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.?pid=3610047701>>, as of July 2, 2019.

Statistics Canada (2019g). Table 36-10-0112-01: Current and Capital Accounts – Households, Canada, Quarterly. Government of Canada. <<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610>>, as of July 2, 2019.

Van den Noord, Paul (2000). *The Size and Role of Automatic Fiscal Stabilizers in the 1990s and Beyond*. OECD Economics Department Working Paper No. 230. OECD. <[https://www.oecd-ilibrary.org/economics/the-size-and-role-of-automatic-fiscal-stabilizers-in-the-1990s-and-beyond\\_816628410134?jsessionid=nNWd3QpjQ6eGNhf-vVUY2pEk.ip-10-240-5-10](https://www.oecd-ilibrary.org/economics/the-size-and-role-of-automatic-fiscal-stabilizers-in-the-1990s-and-beyond_816628410134?jsessionid=nNWd3QpjQ6eGNhf-vVUY2pEk.ip-10-240-5-10)>, as of August 16, 2019.

Vomiero, Jessica (2019, July 5). Model that Predicted 2008 Financial Crisis Suggests Another Recession is Coming: Expert. *Global News*. <<https://globalnews.ca/news/5459969/financial-crisis-2008-recession-coming/>>, as of July 8, 2019.



**Jake Fuss** is a Policy Analyst at the Fraser Institute. He holds a Bachelor of Commerce and a Master's Degree in Public Policy from the University of Calgary.



**Milagros Palacios** is the Associate Director of the Addington Centre for Measurement at the Fraser Institute. She holds a BSc in Industrial Engineering from the Pontifical Catholic University of Peru and an MSc in Economics from the University of Concepción, Chile. She has published or co-published over 100 research studies and over 80 commentaries on a wide range of public policy issues.

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