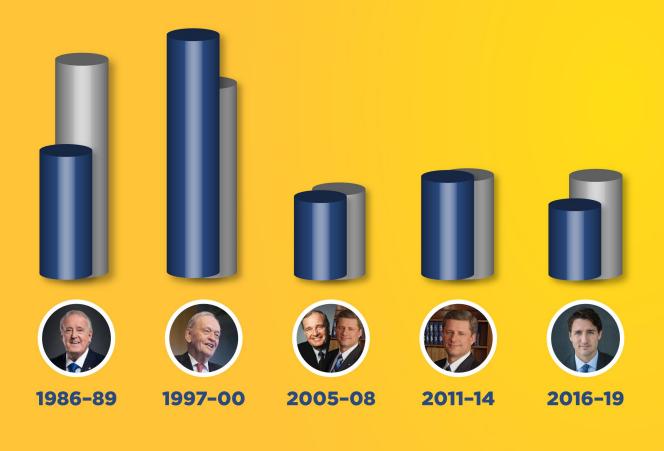


COMPARING ECONOMIC PERFORMANCE IN FIVE PRE-RECESSION PERIODS

Jason Clemens, Milagros Palacios, and Niels Veldhuis



2021 Fraser Institute

Comparing Economic Performance in Five Pre-Recession Periods

by Jason Clemens, Milagros Palacios, and Niels Veldhuis

Contents

Executive Summary / i

Introduction / 1

1 Income / 3

2 Labour Markets / 11

3 Business Investment / 15

Notes and References / 18

About the Authors / 22 Publishing Information / 24 About the Fraser Institute / 25 Purpose, Funding, and Independence / 25 Peer review—validating the accuracy of our research / 26 Editorial Advisory Board / 26

Executive Summary

This study contrasts the economic performance in the last five pre-recession periods: 1986–1989 (Mulroney), 1997–2000 (Chrétien), 2005–2008 (Martin-Harper), 2011–2014 (Harper), and 2016–2019 (Trudeau). It includes multiple measures for income, labour, and business investment and focuses on comparisons between the most recent performance during the Trudeau period (2016–2019) and the previous four periods given the dramatic changes in fiscal and regulatory policies introduced by the Trudeau government. This is not, however, meant to imply that all variations in economic performance are caused by federal policies. Indeed, provincial and local government policies are also of great importance as are exogenous factors outside the direct control of government.

(1) Income

The broadest measure of income is gross domestic product (GDP). The Chrétien period experienced the highest average annual rates (adjusted for inflation) of both overall GDP growth (4.6%) and per-person GDP growth (3.7%). The Trudeau period recorded the lowest rates for both: 2.1% for overall GDP growth and 0.8% for per-person GDP growth. To put this in perspective, inflation-adjusted average annual GDP growth was 2.2 times greater during the Chrétien era than in the Trudeau era, and 4.8 times greater when comparing per-person (inflation-adjusted) GDP growth.

Three narrower measures of income (market income, total income, and after-tax income) were also examined for families and individuals. The Chrétien period records the highest average annual increases for all three categories of income for both families and individuals. In contrast, the Trudeau period records the lowest average annual rates of growth in three of the six measures and ties for the lowest in another. Average growth in after-tax income for families and individuals are the only measures for which a lower average annual growth rate is recorded during a different period, specifically during the Mulroney period. (The Trudeau period ranks second lowest for both measures).

(2) Labour

Unemployment rates are the most commonly cited measure for labour-market performance. It is the ratio or percentage of unemployed people compared to the labour force, which is the population 15 years of age and over who were either employed or unemployed during the reference period. Part of the challenge in comparing unemployment rates across time is that the ratio of people active in the labour market (labour force participation rate) changes. After peaking in 2003 at 67.6%, the labour force participation rate has fallen rather consistently to 65.7% in 2019. In other words, there is a smaller share of the population over the age of 15 active in the labour market.

Understanding this dynamic is important because it explains the apparent contradiction between the comparatively low unemployment rates during the Martin-Harper and Trudeau periods with the relatively low rates of private-sector job creation during these same periods. The average annual growth in private-sector employment during the Martin-Harper (1.3%), Harper (1.5%), and Trudeau (1.5%) periods is less than half that of the Mulroney period (3.3%), which is the highest of the five periods.

The average labour force participation rate during the Trudeau period (2016–2019) was 65.7% compared to 67.3% during the Martin-Harper period. Had the Trudeau period maintained a labour force participation rate similar to that of the Martin-Harper period, an extra 448,000 to 576,000 workers would have been employed or looking for work. But as already presented, the Trudeau period experienced comparatively weak growth in private-sector employment. Assuming the growth in private-and public-sector employment remained the same, the revised average unemployment rate for the Trudeau period would have been 8.5% instead of the actual reported 6.2%, which is higher than the average unemployment rate in any of the other periods.

The comparative results for the labour section are less decisive than those for income and business investment, in part because of the effect of the changes in labour force participation over the periods. In sum, however, the Trudeau, Harper, and Martin-Harper periods experienced lower rates of private-sector job creation than the Mulroney and Chrétien periods. This was somewhat offset by the lower average unemployment rates enjoyed during both the Martin-Harper and Trudeau periods. However, as noted previously, part of the explanation for the lower unemployment rate in the Trudeau period is the decline in labour force participation.

(3) Business Investment

The third area of analysis is business investment. The broadest measure of business investment includes residential and non-residential structures (e.g., factories and commercial space), machinery and equipment, and intellectual property. The highest average annual rate of growth is recorded during the Mulroney period (8.1%) though the average rate of growth during the Chrétien era is fairly close (7.5%). On average, total business investment declined by 0.2% during the Trudeau period.

It is important to recognize that the decline in business investment, broadly measured, extends well beyond the energy sector. Indeed, an analysis in 2018 of business investment in Canada between 2014 and 2017 found that roughly two thirds of Canada's 15 main industries experienced declines in business investment.

Canada, like many industrialized countries, has experienced a boom in residential construction. The highest rate of average growth in business investment excluding residential construction is recorded during the Chrétien era (9.2%) though the rates experienced during the Mulroney (8.0%), Martin-Harper (7.0%), and Harper (6.8%) eras are comparable. On average, business investment (minus residential construction and adjusted for inflation) declined during the Trudeau period (2016–2019) by 0.9%.

The final measure for business investment includes only non-residential structures like factories, machinery, and equipment. The highest average annual rate of growth in this measure of business investment is recorded during the Chrétien period (9.3%) but the rates experienced during the Mulroney (8.2%), Martin-Harper (7.7%), and Harper (7.9%) periods are comparable. On average, business investment declined by 1.5% per year during the Trudeau period.

Of the three areas of economic performance evaluated in this essay, business investment is by far the weakest for the Trudeau period both in absolute terms (recorded declines) and compared to the previous four periods of Harper, Martin-Harper, Chrétien, and Mulroney.

Conclusion

While there are a number of factors to consider when comparing economic performance, particularly with respect to those factors within the control of governments (that is, policy) and those beyond the control of governments, it is fairly clear from the data presented that the economic performance of Canada was weakest during the 2016–2019 period compared to the previous pre-recession periods. The rates of income growth are clearly lower during the 2016–2019 period and business investment has actually declined. And while unemployment rates were lower during the 2016–2019 period, the explanation for this positive performance at least partially depends more on declining levels of labour force participation than it does to private-sector job creation. Indeed, private-sector job growth during the Trudeau period was decidedly lower than the rates experienced during either the Mulroney or Chrétien periods. Simply put, of the five pre-recession periods covering the governments of Mulroney, Chrétien, Martin, Harper, and Trudeau, it is the latter that records the weakest in terms of income growth, labour market performance, and business investment.

Introduction

By most accounts, the federal government is poised to introduce major new deficit-financed spending initiatives and transformative economic policies in the next budget¹ and perhaps in a federal election.² These proposals are premised on the efficacy of such reforms as well as their future contributions to the country's prosperity. Since its election in 2015, the current federal government has dramatically changed fiscal and regulatory policies put in place by its predecessors, both the Tories and previous Liberal governments.³ It is, therefore, instructive to compare the economic performance of the current government with that of previous governments to gauge the degree to which the economy has improved, or not, in response to the markedly different policies of the current federal government.

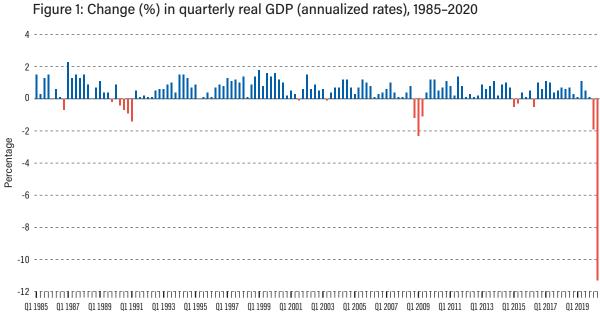
This is not, however, meant to infer that any changes in economic performance are entirely and exclusively explained by changes in the federal government's policies. Indeed, provincial and local government policies are also important. Moreover, there are larger exogenous factors and trends that also need to be accounted for when considering why economies fluctuate over time, both in absolute and comparative terms.⁴

Scope of the study

This analysis covers five pre-recession periods under five prime ministers. **Figure 1** shows the change in quarterly (annualized rates) gross domestic product (GDP), adjusted for inflation, from 1985 to 2020. The recessions of 1990/91, 2008/09, 2015, and 2020 are fairly easy to see in the data. And, while not technically a recession, the last quarter of 2000 through the entirety of 2001 was a period of comparatively weak GDP growth, often referred to as the "2001 slowdown". Indeed, the average quarterly rate of annualized growth over this period was just 0.3% and the economy actually contracted in the third quarter of 2001.

These four periods of economic contraction or recession, coupled with the economic slowdown in 2001 provide an opportunity to compare the economic performance of the country in the periods preceding them. **Table 1** shows the five periods examined in the study and the prime ministers linked with each period. In each case, the study evaluates economic performance in the four-year period preceding the recession.

There are two important caveats for the period from 2005 to 2008 that preceded the 2008/09 recession. First, the decline in economic growth began in the fourth quarter of 2008. However, in analyzing the periods before the recession, it was deemed more appropriate to include 2008 in its entirety rather than end the period of analysis in 2007.



Quarters (Q1 1985 - Q2 2020)

Sources: Statistics Canada, table 36-10-0104-01: Gross domestic product, expenditure-based, Canada, quarterly (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610010401; calculations by authors.

Second, Paul Martin was the prime minister in 2005 with Stephen Harper winning power, albeit in a minority government, in early 2006. Throughout the analysis, this period is referred to as the Martin-Harper period to distinguish it from the next period of analysis (2011–2014), which was exclusively under Prime Minister Harper.

Four-year period	Prime Minister
1986–1989	Brian Mulroney
1997–2000	Jean Chrétien
2005–2008	Paul Martin / Stephen Harper
2011-2014	Stephen Harper
2016-2019	Justin Trudeau

Table 1: Periods and governments analyzed in this study

Three broad areas of economic performance are evaluated: (1) income, (2) labour, and (3) business investment. In each section, multiple measures are provided to ensure a comprehensive assessment of performance. Please note that more emphasis is placed on comparing the most recent period, 2016–2019 (Trudeau), with the four previous periods, given both the changes in federal policy starting in 2015 and the potentially dramatic changes being contemplated currently.

1 Income

Gross domestic product (GDP)

The broadest measure of income, and the one most frequently reported in the news is gross domestic product (GDP). **Figure 2a** illustrates the average annual change in GDP (adjusted for inflation) for the five periods. The Chrétien period clearly experienced the highest average annual rate of GDP growth (4.6%) compared to other periods. Indeed, the second-highest average annual rate of increase in GDP was during the Mulroney period but it was over 30% lower than the rate in the Chrétien period. The lowest average annual rate of increase in GDP was recorded during the Trudeau period (2.1%), though the rate was only slightly less than the Martin-Harper period (2.2%). For perspective, the average annual growth rate in GDP during the Chrétien era was 2.2 times greater than the comparable rate during the Trudeau era.

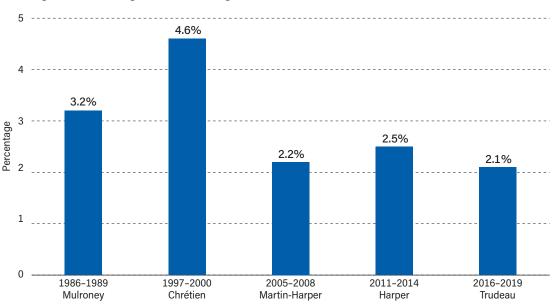


Figure 2a: Average annual change (%) in real GDP

Sources: Statistics Canada, table 36-10-0104-01: Gross domestic product, expenditure-based, Canada, quarterly (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610010401; calculations by authors.

The results for changes in GDP are even more stark when changes in population are accounted for. **Figure 2b** illustrates the average annual change in GDP per person (adjusted for inflation) for the comparable pre-recession periods outlined in table 1. The Chrétien period again records the highest average annual rate of growth: GDP per person (adjusted for inflation) was 3.7%. And, the Trudeau period again records the lowest average annual rate of growth: GDP per person grew only 0.8%.

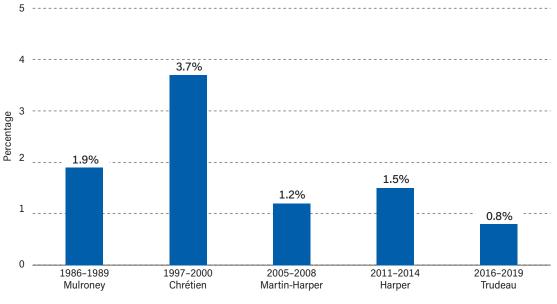


Figure 2b: Average annual change (%) in real GDP per person

Sources: Statistics Canada, table 36-10-0104-01: Gross domestic product, expenditure-based, Canada, quarterly (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610010401; calculations by authors.

The gap between the average rate during the Chrétien period and the other four periods observed in figure 2a increases in figure 2b. In other words, the increases in GDP *per person* were comparatively greater during the Chrétien period than when average changes in GDP were compared. Consider, for instance, that the gap between the Chrétien era and the Trudeau era increases from 2.2 times for the average change in GDP to 4.8 times for the average change in per-person GDP.

The difference between figures 2a and 2b is that the latter accounts for changes in population. In other words, the poorer performance of the Trudeau period for average annual growth in per-person GDP compared to the other periods is rooted in the fact that the Trudeau period experienced higher rates of population growth. **Figure 3** illustrates the average annual rates of total population growth as well as population growth for those over the age of 15, understood as the working-age population. The Trudeau period experienced higher rates of population growth (annual averages) than any other period except for the Mulroney period. Higher rates of population growth, ***** however, as illustrated in figure 2a, the Trudeau period recorded the weakest economic growth as measured by changes in GDP, on average, compared to the other four periods.

Income of economic families and individuals

A second set of income measures is also presented that more narrowly look at the income of families and individuals, based on data from Statistics Canada.⁶ According to Statistics Canada, an "economic family is a group of two or more persons who live

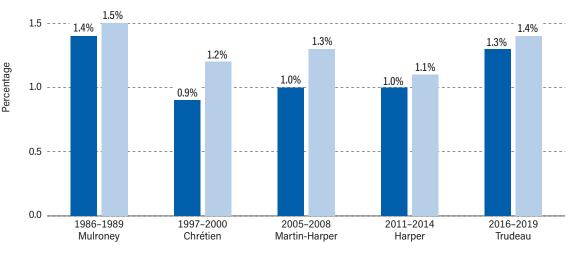


Figure 3: Average annual growth (%) in total population and population over 15 years of age

Sources: Statistics Canada, table 17-10-0005-01: Population estimates on July 1st, by age and sex. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501; calculations by authors.

in the same dwelling and are related to each other by blood, marriage, common-law, adoption or a foster relationship".⁷ Alternatively, a person not living in an economic family is either single and living alone, or single and living in a situation with other people who are not related by blood, marriage, common-law, and so on, like, for example, those who are roommates.⁸

There are three measures of income for both economic families and individuals (persons not living in an economic family). The first is *market income*, which includes earnings (from employment and net self-employment), net investment income, private retirement income, and the items under other income. This is also referred to as income before taxes and government transfers. The second measure is *total income* and includes income from all sources including government transfers. In other words, total income combines market income with transfers from government. The third measure adjusts for income taxes and is referred to as *after-tax income*. It is calculated using total income minus income taxes. All these measures are presented after adjusting for inflation. Unfortunately, data for 2019 were not available at the time of writing. The analysis was, therefore, adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).⁹

Income of economic families

2.0

Figure 4a depicts the average annual change in market income for economic families for the five periods of analysis. The pattern is quite similar to those observed when changes in GDP were measured (figures 2a and 2b). The average annual increase in

5

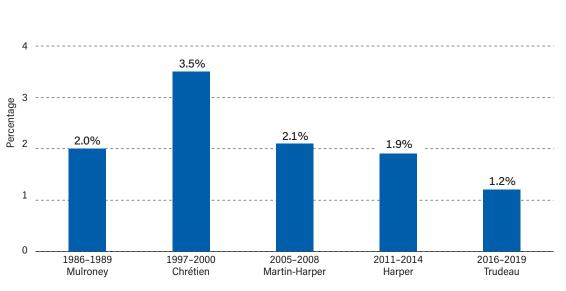


Figure 4a: Average annual change (%) in the market income of economic families

Note: Since data for 2019 were not available, the analysis was adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).

Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001</u>>; calculations by authors.

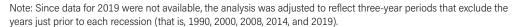
market income for economic families is highest during the Chrétien period (3.5%) and lowest during the Trudeau period (1.2%). The average annual rate of growth during the Chrétien era exceeds the average annual rate during the Trudeau era by 2.9 times (3.5% compared to 1.2%).

Similar patterns are observed when we measure total income and after-tax income. **Figure 4b** illustrates the average annual change in total income (market income plus government transfers) for economic families for the four periods of analysis. Again, the average annual rates of increase in total income for families is greatest during the Chrétien period and weakest during the Trudeau period. The average growth rate during the Chrétien era is 2.3 times greater than the average rate recorded during the Trudeau era.

The Trudeau period compares poorly to the other periods with a comparatively low average annual increase in total income for economic families (1.2%), which is important to note given the increase in federal government transfers introduced by the Trudeau government.¹⁰ In other words, despite the marked increases in transfers to families with children by the Trudeau government, its comparative rate of average growth (annual) in total income for economic families remains weak compared to the Mulroney, Chrétien, Martin-Harper, and Harper periods.

5 3 2.8% Percentage 2.1% 2 1.9% 1.7% 1.2% 1 0 1986-1989 1997-2000 2005-2008 2011-2014 2016-2019 Mulroney Chrétien Martin-Harper Harper Trudeau

Figure 4b: Average annual change (%) in the total income of economic families



Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001</u>>; calculations by authors.

Finally, **figure 4c** shows the average annual change in after-tax income, calculated by deducting income taxes from total income (market income plus government transfers). The pattern is generally similar to previous analyses. The average annual increase in after-tax income experienced during the Chrétien era (3.1%) exceeds the rates for the other periods. The lowest average annual increase in after-tax income for economic families occurs during the Mulroney period, though the Trudeau period (2016–2018) is only marginally higher (1.2% compared to 1.0%).

Income of individuals

The results when individuals rather than economic families are analyzed are basically the same as those for economic families. In general, the annual average rates of growth of income are highest during the Chrétien period (1997–1999) and lowest during the Trudeau period (2016–2018), though the Mulroney period is also decidedly weak.

Figure 5a illustrates the average annual change in market income for individuals for the five respective periods. The average rate of growth in market income for individuals is greatest during the Chrétien period (4.5%) and weakest during the Trudeau period (0.6%), though the average rate during the Mulroney period (0.7%) is roughly the same as during the Trudeau period. The rate of growth during the Chrétien period is

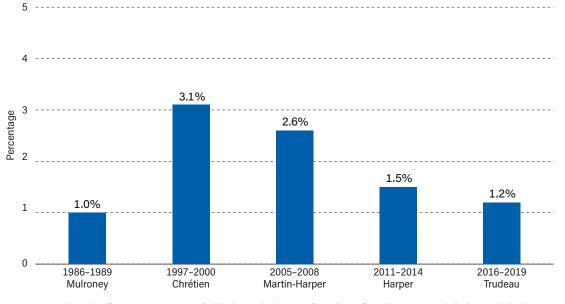


Figure 4c: Average annual change (%) in the after-tax income of economic families

Note: Since data for 2019 were not available, the analysis was adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).

Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001</u>>; calculations by authors.

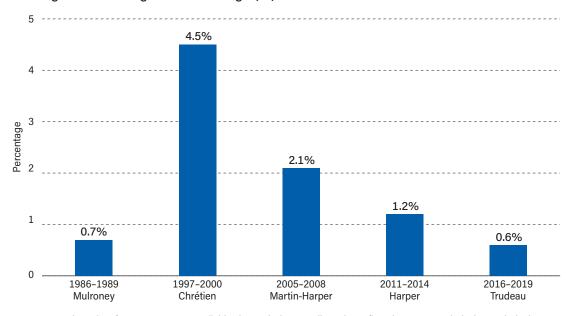


Figure 5a: Average annual change (%) in the market income of individuals

Note: Since data for 2019 were not available, the analysis was adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).

Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001; calculations by authors.

8.0 times greater than the rate during the Trudeau period (4.5% compared to 0.6%). Indeed, the growth experienced during the Chrétien era is substantially above the rates recorded in all the other periods.

Figure 5b shows the average annual change in total income, which includes government transfers for individuals during the five periods. While the pattern remains basically the same—highest average annual growth during the Chrétien era—the Mulroney, Harper, and Trudeau periods all record the same average annual change in total income for individuals, 0.9%, the lowest average rate. The gap between the highest average annual growth rates (Chrétien) and the lowest narrows when government transfers are included. Specifically, the average annual growth in total income during the Chrétien period is 3.4 times that of the Mulroney, Harper, and Trudeau periods.

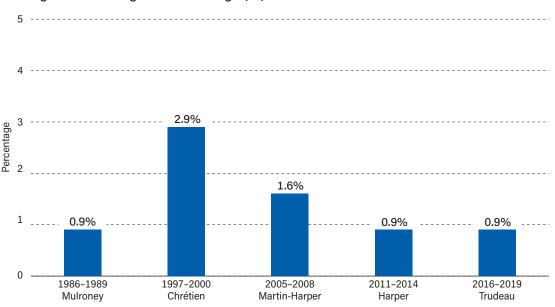
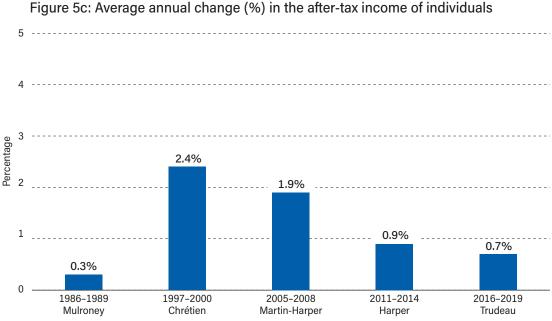


Figure 5b: Average annual change (%) in the total income of individuals

Note: Since data for 2019 were not available, the analysis was adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).

Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001>;</u> calculations by authors.

Finally, **figure 5c** illustrates the average annual change in after-tax income for individuals. As in figure 4c, the lowest average annual rate of growth in after-tax income for individuals occurs during the Mulroney period. The average annual change in after-tax income for individuals during the Trudeau period was 0.7%, some 2.3 times greater than the rate recorded during the Mulroney period. However, the Trudeau period's annual average rate of change in after-tax income (0.7%) is well below the rates from either the Chrétien period (2.4%) or the Martin-Harper period (1.9%).



Note: Since data for 2019 were not available, the analysis was adjusted to reflect three-year periods that exclude the years just prior to each recession (that is, 1990, 2000, 2008, 2014, and 2019).

Sources: Statistics Canada, table 11-10-0190-01: Market income, government transfers, total income, income tax and after-tax income by economic family type, <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110019001</u>>; calculations by authors.

Indeed, the average annual increase experienced during the Chrétien period, which is again the highest of the periods analyzed, is 3.3 times greater than the comparable rate during the Trudeau period.

Regardless of which measure of income is used, whether it is a broad measure such as GDP or more narrow measures such as market income for economic families, several results hold when comparing the five periods. First, the growth rates are always highest during the Chrétien period (1997–2000 or 1997–1999). Second, the growth rates are generally lowest during the Trudeau period (2016–2019 or 2016–2018) except for the average annual growth in after-tax income for families and individuals. And three, the gap between the Trudeau and Chrétien periods is often times quite sizeable.

2 Labour Markets

Several measures are used to gauge the health and performance of Canada's labour market during the five periods of analysis. The first measure is unemployment, which is the most widely reported and discussed labour-market measure. The unemployment rate, as defined by Statistics Canada, is the number of unemployed persons expressed as a percentage of the labour force.¹¹ An unemployed person is defined as someone who is (1) temporarily laid off with an expectation of a recall and available for work; (2) without work and actively looking for work; and (3) had a new job within four weeks of the reference week and were available for work.¹²

Figure 6 shows the average unemployment rate for the five reference periods. The Trudeau period records the lowest average annual unemployment rate of 6.2%, though it is essentially the same as the average annual rate from the Martin-Harper period (6.3%). Both the average Martin-Harper and Trudeau rates are materially below the average unemployment rates of the Mulroney (8.4%) and Chrétien (8.0%) periods.

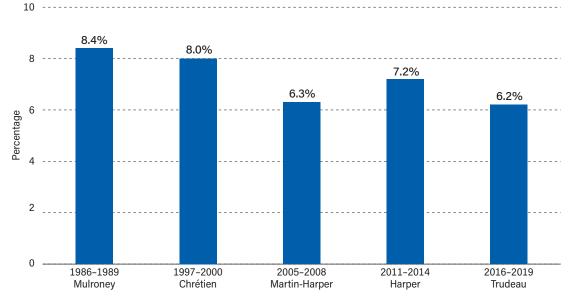


Figure 6: Average unemployment rate (%)

Note: The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force. Estimates are percentages, rounded to the nearest tenth.

Sources: Statistics Canada, table 14-10-0018-01: Labour force characteristics by sex and detailed age group, annual (x 1,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410001801; calculations by authors.

There is, however, a question about the degree to which the unemployment rate alone is an accurate barometer of the overall labour market or the broader economy.¹³ A critical consideration in answering this question is understanding how the

unemployment rate is measured. As noted above, the unemployment rate is the ratio or percentage of unemployed people compared to the labour force. Statistics Canada defines the labour force as the civilian population 15 years of age and over who were either employed or unemployed during the reference week.

Part of the challenge in comparing unemployment rates across time is that the ratio of people active in the labour market—what is referred to as the labour force participation rate—is changing. More specifically, the labour force participation rate is the ratio of people employed or unemployed relative to the total population 15 years and older. **Figure 7** shows the labour force participation rate starting in 1990 through to 2019. After peaking in 2003 at 67.6%, it fell rather consistently to 65.7% in 2019. In other words, there is a smaller share of the population over the age of 15 active in the labour market.

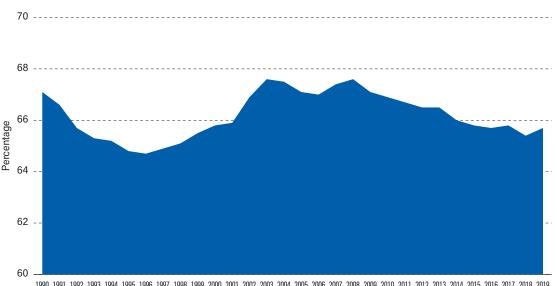


Figure 7: Labour force participation rate, 1990-2019

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 Sources: Statistics Canada, table 14-10-0023-01: Labour force characteristics by industry, annual (x 1,000). <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002301>; calculations by authors.

Understanding this dynamic is important because it explains the apparent contradiction between the unemployment rates (figure 6) and the private-sector job creation rates depicted in **figure 8**. While Canadians enjoyed lower unemployment rates in the Martin-Harper and Trudeau periods compared to the Mulroney, Harper, and Chrétien periods, exactly the opposite result emerges for average annual rates of private-sector job creation. The average annual growth in private-sector employment during the Martin-Harper (1.3%), Harper (1.5%) and Trudeau (1.5%) periods is less than half that of the Mulroney period (3.3%), which is the highest of the five periods. The average annual growth rate for private-sector employment during the Martin-Harper era (1.3%) is less than half the rate of the Chrétien era (2.9%), while

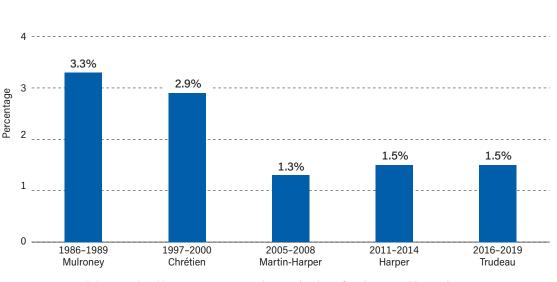


Figure 8: Average annual growth (%) in private-sector employment

5 ---

Sources: Statistics Canada, table 14-10-0027-01: Employment by class of worker, annual (x 1,000), <<u>https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002701</u>>; calculations by authors.

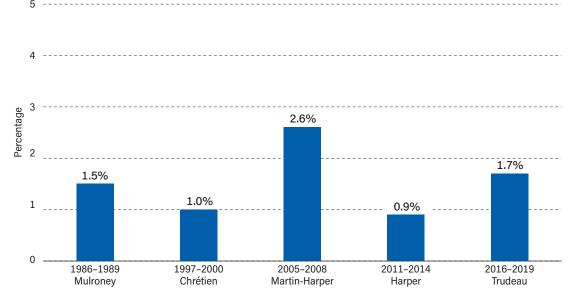
the corresponding rate during the Trudeau era (1.5%) is slightly more than half the rate of the Chrétien era. One of the reconciling explanations for this apparent contradiction is the change in the labour force illustrated in figure 7.

The effect of the falling labour force participation rate can be better explained using the Trudeau period as an example. The average labour force participation rate during the Trudeau period (2016-2019) was 65.7% compared to 67.3% during the Martin-Harper period. This means the labour force would have been 1.6 percentage points larger during the Trudeau period had it maintained a labour force participation rate similar to that of the Martin-Harper period. This translates to between 448,000 and 576,000 extra workers either employed or looking for work. But, as already presented, the Trudeau period experienced comparatively weak growth in private-sector employment (figure 8). Thus, unless gains in private-sector employment were stronger or the increases in public-sector employment even higher (figure 9), the unemployment rate during the Trudeau period would have been higher given the extra workers implied by a higher labour force participation rate. More specifically, assuming the growth in private- and public-sector employment was not affected by the larger number of workers, the revised average unemployment rate for the Trudeau period would have been 8.5% instead of the actual reported 6.2%, which is higher than the average unemployment rate in any of the other periods (figure 6).

Thus, part of the reason for the lower unemployment rate during the Trudeau era is simply that fewer people over the age of 15 were active in the labour market, meaning that less job creation was required (for any given level of the unemployment rate) relative to the population than in previous periods when more people (as a share of the population) were active in the labour market. Another important explanation—one that relates to the nature of the jobs being created—is employment in government, or what is referred to as public-sector employment.

In 2019, roughly one-in-five jobs in Canada were in the public or government sector. This includes all three levels of government (federal, provincial, and local) as well as government agencies, crown corporations, and government-funded institutions such as universities and hospitals. **Figure 9** illustrates the average annual change in public-sector employment for the periods of analysis. Public-sector employment, again broadly defined, grew strongest during the Martin-Harper era (2.6%) and was lowest during the Harper period (0.9%), though the average annual rate of growth was comparable to the Chrétien period (1.0%).¹⁴

Figure 9: Average annual growth (%) in public-sector employment (federal, provincial, and local)



Sources: Statistics Canada, table 14-10-0027-01: Employment by class of worker, annual (x 1,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002701; calculations by authors.

The comparative results from our discussion of labour markets are less decisive than those for income (section 1) and business investment (section 3), in part because of the effect of the changes in labour force participation over the periods. In sum, however, the Trudeau, Harper, and Martin-Harper periods experienced lower rates of private-sector job creation compared to the Mulroney and Chrétien periods. This was somewhat offset by the lower average unemployment rates enjoyed during both the Martin-Harper and Trudeau periods. However, as noted previously, part of the explanation for the lower unemployment rate in the Trudeau period is the decline in labour force participation.

3 Business Investment

The third area of analysis is business investment, which most economists agree is critically important to both short- and longer-term economic growth and prosperity.¹⁵ It is in business investment that the differences in economic performance between the recent Trudeau period (2016–2019) and the other four periods of comparison are greatest.¹⁶

Figure 10a illustrates the average annual change in total business investment (adjusted for inflation) for the five periods. This measure, the broadest available, includes investments in residential and non-residential structures (e.g., factories and commercial space), machinery and equipment, and intellectual property. The highest average annual rate of growth is recorded during the Mulroney period (8.1%) though the average rate of growth during the Chrétien period is fairly close (7.5%). On average, total business investment *declined* by 0.2% during the Trudeau period.¹⁷

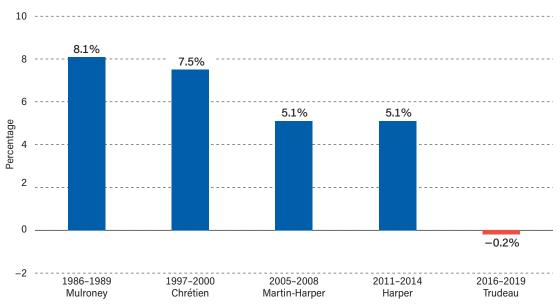


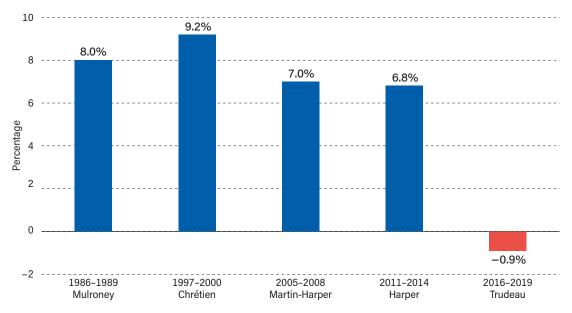
Figure 10a: Average annual change (%) in total business investment

Sources: Statistics Canada, table 36-10-0222-01: Gross domestic product, expenditure-based, provincial and territorial, annual (x 1,000,000), https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=3610022201; calculations by authors.

It is important to recognize that the decline in business investment, broadly measured, extends well beyond the energy sector. Indeed, an analysis in 2018 of business investment in Canada between 2014 and 2017 found that roughly two thirds of Canada's 15 main industries experienced declines in business investment, including mining, and oil and gas extraction, wholesale trade, accommodation and food services, utilities, professional services, and manufacturing.¹⁸

Canada, like many industrialized countries, has experienced a boom in residential construction. **Figure 10b** illustrates the average annual change in business investment when investment in residential structures is excluded. The highest rate of average growth is recorded during the Chrétien era (9.2%) though the rates experienced during the Mulroney (8.0%), Martin-Harper (7.0%), and Harper (6.8%) eras are comparable. On average, business investment (minus residential construction and adjusted for inflation) declined during the Trudeau period. Specifically, business investment (excluding residential construction) *declined*, on average, by 0.9% per year during the Trudeau era (2016–2019).

Figure 10b: Average annual change (%) in business investment excluding residential construction



Sources: Statistics Canada, table 36-10-0222-01: Gross domestic product, expenditure-based, provincial and territorial, annual (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610022201; calculations by authors.

Finally, **Figure 10c** focuses more narrowly on business investment in non-residential structures and machinery and equipment. The pattern is similar to that observed previously in figure 10b: the highest average annual rate of growth in business investment when only investment in non-residential structures, machinery, and equipment are included is recorded during the Chrétien period (9.3%) but the rates experienced during the Mulroney (8.2%), Martin-Harper (7.7%), and Harper (7.9%) periods are comparable. During the Trudeau period, on average business investment *declined* by 1.5% per year.

Of the three areas of economic performance evaluated in this essay, business investment is by far the weakest for the Trudeau period both in absolute terms (recorded declines) and compared to the previous four periods of Harper, Martin-Harper, Chrétien, and Mulroney.

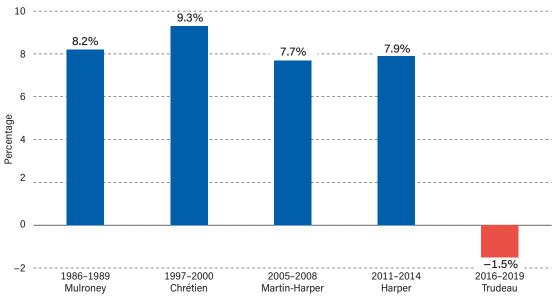


Figure 10c: Average annual change (%) in business investment in non-residential structures and machinery and equipment

Conclusion

While there are a number of factors to consider when comparing economic performance, particularly those factors within the control of governments (that is, policy) and those beyond the control of governments, it is fairly clear from the data presented that the economic performance of Canada was weakest during the period from 2016 to 2019 compared to the previous pre-recession periods.¹⁹ The rates of income growth are clearly lower during the 2016–2019 period and business investment has actually declined. And, while unemployment rates were lower during the 2016–2019 period, this positive performance owes more to declining levels of labour force participation and public-sector job growth than it does to private-sector job creation.²⁰ Indeed, private-sector job growth during the Trudeau period was decidedly lower than the rates during either the Mulroney or Chrétien periods. Simply put, of the five pre-recession periods covering the governments of Mulroney, Chrétien, Martin, Harper, and Trudeau, it is the latter that the data show to be weakest for income growth, labour-market performance, and business investment.

Sources: Statistics Canada, table 36-10-0222-01: Gross domestic product, expenditure-based, provincial and territorial, annual (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610022201; calculations by authors.

Notes and References

1 The Economic Update released in the fall of 2020 included a number of announcements and measures related to new programs and expanding existing programs. For instance, it included "stimulus spending" of between \$70 and \$100 billion over three years, monies for child care, which potentially lay the foundation for a national program, and significant spending on "green" initiatives. See Canada, Department of Finance (2020), *Supporting Canadians and Fighting COVID-19: Fall Economic Statement 2020*, https://budget.gc.ca/fes-eea/2020/home-accueil-en.html. Also, see Chapter 3: Building Back Better: A Plan to Fight the COVID-19 Recession, https://budget.gc.ca/fes-eea/2020/themes/building-back-better-rebatirmieux-en.html, for details on several initiatives included in the *Fall Economic Statement 2020*.

2 For instance, the federal Throne Speech (2020) included commitments to a national pharmacare program, federal support for day care, including perhaps a national program, investments in clean and alternative energy, and over 100 other initiatives (Government of Canada, 2020, *Speech from the Throne*, https://www.canada.ca/en/privy-council/campaigns/speech-throne/2020/speech-from-the-throne.html. For an analysis of the Throne Speech, see Jason Clemens and Jake Fuss (2020), Insights from the Text of the Throne Speech, *Fraser Forum* (blog post, September 24), https://www.fraserinstitute.org/blogs/insights-from-the-text-of-the-throne-speech. Moreover, the federal government recently announced that the national carbon tax will be increased from its previous ceiling of \$50 per tonne to \$170 per tonne by 2030. For details, see Elmira Aliakbari and Jason Clemens (2020), Higher Federal Carbon Tax Will Imperil Canadian Competitiveness, *Fraser Forum* (blog post, December 14), https://www.fraserinstitute.org/blogs/highe-federal-carbon-tax-will-imperil-canadian-competitiveness.

3 For an analysis and discussion contrasting the fiscal policies of the Chrétien and Trudeau governments, please see the following: Jason Clemens, Jake Fuss and David Henderson (2020), Contrasting the Budget Rules of Chrétien and Trudeau: Part 1, *Fraser Forum* (blog post, April 8), <<u>https://www.fraserinstitute.org/blogs/contrasting-the-budget-rules-of-chretien-and-trudeau-part-1>;</u> Jake Fuss, Milagros Palacios, and Jason Clemens (2020). What would Chrétien's Budget Rules Have Meant for Trudeau: Part 2, *Fraser Forum* (blog post, April 15, 2020), <<u>https://www.fraserinstitute.org/blogs/what-would-chretiens-budget-rules-have-meant-for-trudeau-part-2>;</u> Jason Clemens and Niels Veldhuis (2020), Trudeau Government Rejects Almost Every Principle of Historic 1995 Liberal Budget (op-ed, appeared in the *Winnipeg Free Press*, March 6), <<u>https://www.fraserinstitute.org/article/trudeau-government-rejects-almost-every-principle-of-historic-1995-liberal-budget>;</u> and Jason Clemens, Milagros Palacios and Niels Veldhuis (2017), *End of the Chrétien Consensus*? Fraser Institute, <<u>https://www.fraserinstitute.org/studies/end-of-the-chretien-consensus></u>.

4 For example, Northwestern University economist Robert Gordon has argued, as have others, that industrialized countries are experiencing a secular decline in economic growth (Robert Gordon (2015), Secular Stagnation: A Supply-Side View, *American Economic Review*, 105, 5

(May): 54–59, <https://www.aeaweb-.org/articles?id=10.1257/aer.p20151102>. Moreover, most industrialized countries have an aging population, which economists agree will dampen economic growth as a larger share of the population retires or reduces their engagement in the labour market. The federal Department of Finance's long-term economic and fiscal projections has consistently found that the aging of Canada's population, which is well underway, will reduce rates of economic growth. See, for instance, Canada, Department of Finance (2018), *Update of Long-Term Economic and Fiscal Projections 2018*, <https://www.canada.ca/en/department-finance/services/publications/long-term-projections/2018.html>. These results were recently corroborated by independent analysis: Jake Fuss and Steven Globerman (2020), *Canada's Aging Population and Long-Term Projections for Federal Finances*, <http://www.fraserinstitute.org/studies/canadas-aging-population-and-long-term-projections-for-federal-finances>.

5 See, for instance, E. Wesley F. Peterson (2017), The Role of Population in Economic Growth, *Sage Open Journal*, https://journals.sagepub.com/doi/full/10.1177/2158244017736094>.

6 Estimates are based on data from the following surveys: *Survey of Consumer Finances* (SCF) from 1976 to 1992; a combination of the SCF and the *Survey of Labour and Income Dynamics* (SLID) from 1993 to 1997; the SLID from 1998 to 2011; and the *Canadian Income Survey* (CIS) beginning in 2012. For more information, see Statistics Canada (2015), *Revisions to 2006 to 2011 Income Data*, Income Research Paper Series, Cat. no. 75F0002MIE - No. 003. Also, two previous revisions of income data are described in Cathy Cotton (2000), *Bridging Two Surveys: An Integrated Series of Income Data from SCF and SLID 1989-1997*, Statistics Canada, Cat. No. 75F0002MIE - No. 002, and Heather Lathe (2005), *Survey of Labour and Income Dynamics: 2003 Historical Revision*, Statistics Canada, Cat. No. 75F0002MIE - No. 009. Note that the estimates from the *Survey of Consumer Finances* include income data for persons aged 15 years and over while the estimates from the *Survey of Labour and Income Dynamics* and the *Canadian Income Survey* include income data for persons aged 16 years and over.

7 Statistics Canada (2019), *Economic Family* (approved November 16, 2015), <https://www23. statcan.gc.ca/imdb/p3Var.pl?Function=Unit&Id=33863&>.

8 Statistics Canada (2019), *Person Not in Economic Family* (approved March 21, 2016), <<u>https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=Unit&Id=103387></u>.

9 Please note that for economic families the reduction to a three-year period of analysis affected the annual average rates of change in a range from -0.3 percentage point to 0.3 percentage point. Moving to a three-year period of analysis had a larger effect on the annual average rates of change for individual income, ranging from -0.8 percentage point to 1.0 percentage point.

10 There have been a number of analyses of changes in federal spending since 2015. See, for example, Tegan Hill, Nathaniel Li, Milagros Palacios and Jason Clemens (2020), *Explaining the Growth in Federal Program Spending since 2015*, Fraser Institute, <<u>http://www.fraserinstitute.org/studies/explaining-the-growth-in-federal-program-spending-since-2015</u>. This analysis shows that

increases in the Canada Child Benefit (CCB) represent the single largest increase in federal program spending since 2015, 13.9% of the total increase in spending. Moreover, several essays have been published about the nature of the increased spending in the Canada Child Benefit. See Christopher Sarlo (2020), *The Distribution of the Canada Child Benefit by Family Type and Income Level*, Fraser Institute, <<u>http://www.fraserinstitute.org/studies/distribution-of-the-canada-child-benefit-by-family-type-and-income-level>;</u> and Christopher Sarlo, Jason Clemens, and Milagros Palacios (2020), *Is the Canada Child Benefit Targeted to Those Most in Need?* Fraser Institute, <<u>http://www.fraserinstitute.org/studies/is-the-canada-child-benefit-targeted-to-those-most-in-need></u>, an analysis of how the Canada Child Benefit fails to target those in need. In addition, see Jason Clemens and Milagros Palacios (2020), *Financing the Canada Child Benefit*, Fraser Institute, <<u>http://www.fraserinstitute.org/studies/financing-the-canada-child-benefit></u>, an analysis showing that the increase in the CCB was financed by debt rather than current taxes.

11 See Statistics Canada (2015), Section 3: Dictionary of Concepts and Definitions, *Guide to the Labour Force Survey*, https://www150.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie3-eng.htm> for various labour market definitions.

12 See Statistics Canada (2015), Section 2: Determining Labour Force Status, *Guide to the Labour Force Survey*, https://www150.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www150.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www150.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www150.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng. https://www.statcan.gc.ca/n1/pub/71-543-g/2012001/part-partie2-eng.

13 See Jason Clemens and Milagros Palacios (2018), *Why the Unemployment Rate Is No Longer a Reliable Gauge of Labour Market Performance*, Fraser Institute, https://www.fraserinstitute.org/studies/why-the-unemployment-rate-is-no-longer-a-reliable-gauge-of-labour-market-performance>.

14 Another important consideration related to public-sector employment is the state of government finances during each period. In general, it is worth noting that the expansion of public-sector employment during the Mulroney and Trudeau eras, and to a lesser extent the Harper period, were largely financed by borrowing while the much lower expansion of the public sector observed during the Chrétien period was financed by current taxes.

15 For a general overview of the importance of business investment, see the Fraser Research Bulletin by Steven Globerman and Trevor Press (2018), *Capital Investment in Canada: Recent Behaviour and Implications*, Fraser Institute, https://www.fraserinstitute.org/studies/capital-investment-in-canada-recent-behaviour-and-implications>.

16 In addition to the data on business investment, there were also similar signals from the international flow of investment funds that indicated problems in Canada. For instance, between 2013 and 2017, investment outside the country by Canadians increased by 73.7% while investment in Canada by foreigners declined by 55.1%. See Steven Globerman (2019), *Canadian Foreign Direct Investment: Recent Patterns and Interpretations*, Fraser Institute, https://www.fraserinstitute.org/studies/canadian-foreign-direct-investment-recent-patterns-and-interpretation>. 17 It is worth noting that the former Minister of Finance, Bill Morneau repeatedly rejected the concerns about the state of business investment in Canada over the period from 2016 to 2019. See, for instance, Steven Globerman (2018), Here's the Evidence Foreign Investors Are Seriously Avoiding Canada – Despite Morneau's denialism, *Financial Post* (September 6), <<u>https://financialpost.com/opinion/heres-the-evidence-foreign-investors-are-</u> seriously-avoiding-canada-despite-morneaus-denialism>; and Jason Clemens and Niels Veldhuis (2019), What Happens When Canada Ignores Incentives and Competitiveness (op-ed, appeared in the *Winnipeg Free Press*, February 5), <<u>https://www.fraserinstitute.org/article/</u> what-happens-when-canada-ignores-incentives-and-competitiveness>.

18 See Steven Globerman and Joel Emes (2018), *Private Sector Capital Expenditures in Canada: An Industry-Level Analysis.* Fraser Institute, https://www.fraserinstitute.org/studies/ private-sector-capital-expenditures-in-canada-an-industry-level-analysis>.

19 It is important to recognize that there are explanations for weaker growth during the Trudeau era that are largely beyond the control of both federal and provincial governments, such as the aging of the population. Repeated analyses, including by the federal Department of Finance, have shown that the aging of the population is expected to reduce rates of economic growth. For instance, see Canada, Department of Finance (2018), *Update of Long-Term Economic and Financial Projections 2018*, https://www.canada.ca/en/department-finance/services/publications/long-term-projections/2018.html; and the more recent Jake Fuss and Steven Globerman (2020), *Canada's Aging Population and Long-Term Projections for Federal Finances*, http://www.fraserinstitute.org/studies/canadas-aging-population-and-long-term-projections-for-federal-finances. At the same time, however, it is also important to assess the degree to which a government's policies, which are entirely within its control, have improved or worsened economic performance despite outside factors such as an aging population.

20 For a discussion of this issue, see Jason Clemens and Milagros Palacios (2020), Trudeau Government Should Pivot Away from Morneau-Era Policies of Weakness (oped, appeared in the *Vancouver Sun*, August 24), https://www.fraserinstitute.org/article/trudeau-government-should-pivot-away-from-morneau-era-policies-of-weakness>.

About the Authors

Jason Clemens

Jason Clemens is the Executive Vice President of the Fraser Institute and the President of the Fraser Institute Foundation. He has an Honors Bachelors Degree of Commerce and a Masters Degree in Business Administration from the University of Windsor as well as a post-Baccalaureate Degree in Economics from Simon Fraser University. Before rejoining the Fraser Institute in 2012, he was the director of research and managing editor at the Ottawa-based Macdonald-Laurier Institute; prior to joining the MLI, Mr. Clemens spent a little



over three years in the United States with the San Francisco-based Pacific Research Institute. He has published over 70 major studies on a wide range of topics, including taxation, government spending, labor market regulation, banking, welfare reform, health care, productivity, and entrepreneurship. He has published over 300 shorter articles, which have appeared in such newspapers as the *Wall Street Journal, Investors Business Daily, Washington Post, Globe and Mail, National Post,* and a host of US, Canadian, and international newspapers. Mr. Clemens has been a guest on numerous radio and television programs across Canada and the United States. He has appeared before committees of both the House of Commons and the Senate in Canada as an expert witness and briefed state legislators in California. In 2006, he received the coveted Canada's Top 40 Under 40 award presented by Caldwell Partners as well as an Odyssey Award from the University of Windsor. In 2011, he was awarded (along with his co-authors) the prestigious Sir Antony Fisher International Memorial Award for the best-selling book, *The Canadian Century*. In 2012, the Governor General of Canada on behalf of Her Majesty the Queen, presented Mr. Clemens with the Queen Elizabeth II Diamond Jubilee Medal in recognition of his contributions to the country.

Milagros Palacios

Milagros Palacios is the Associate Director for the Addington Centre for Measurement at the Fraser Institute. She holds a B.S. in Industrial Engineering from the Pontifical Catholic University of Peru and a M.Sc. in Economics from the University of Concepcion, Chile. Ms. Palacios has studied public policy involving taxation, government finances, investment, productivity, labour markets, and charitable giving for nearly 10 years. Since joining the Fraser Institute, Ms. Palacios has authored or co-authored over 150 com-



prehensive research studies, 100 commentaries, and four books. Her recent commentaries have appeared in major Canadian newspapers such as the *National Post*, *Toronto Sun*, *Windsor Star*, and *Vancouver Sun*.

Niels Veldhuis

Niels Veldhuis is President of the Fraser Institute, Canada's topranked think-tank and among the top 20 globally, according to the University of Pennsylvania's *Global Go To Think Tanks Report*. Mr. Veldhuis has written six books and more than 50 peer-reviewed studies on a wide range of economic topics. In 2011, he was awarded (along with his co-authors) the prestigious Sir Antony Fisher International Memorial Award for the best-selling book, *The Canadian Century*. Mr. Veldhuis is in high demand for his opinions and perspectives on major



economic and social issues, appearing regularly on radio and television programs across Canada and in the United States. He has written more than 200 articles that have appeared in over 50 newspapers including the *Globe and Mail, Wall Street Journal, National Post,* and the *Economist*. He is best known for his ability to explain matters of government policy in a down-to-earth manner, making them easily understandable. He travels widely across North America, speaking to business groups, corporate gatherings, voluntary organizations, and students. In 2011, Niels led a discussion between former US presidents Bill Clinton and George W. Bush at the Surrey Economic Forum. Mr. Veldhuis holds a Bachelor's Degree in Business Administration, with joint majors in business and economics, and a Master's Degree in Economics from Simon Fraser University. In 2010, he was named one of Vancouver's Top 40 Under 40 by *Business in Vancouver*.

Acknowledgments

The authors wish to thank the two anonymous reviewers for their helpful comments. Any remaining errors or oversights are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this study do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

Publishing Information

Distribution

These publications are available from <http://www.fraserinstitute.org> in Portable Document Format (PDF) and can be read with Adobe Acrobat[®] or Adobe Reader[®], versions 7 or later. Adobe Acrobat Reader[®] DC, the most recent version, is available free of charge from Adobe Systems Inc. at <get.adobe.com/reader/>. Readers having trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Reader[®] or Acrobat[®].

Ordering publications

To order printed publications from the Fraser Institute, please contact us via e-mail: sales@ fraserinstitute.org; telephone: 604.688.0221, ext. 580 or, toll free, 1.800.665.3558, ext. 580; or fax: 604.688.8539.

Media

For media enquiries, please contact our communications department via e-mail: communications@fraserinstitute.org; telephone: 604.714.4582.

Copyright

Copyright © 2021 by the Fraser Institute. All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

ISBN

978-0-88975-637-3.

Citation

Jason Clemens, Milagros Palacios, and Niels Veldhuis (2021). *Comparing Economic Performance in Five Pre-Recession Periods*. Fraser Institute. http://www.fraserinstitute.org.

Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact us via post: Development Department, Fraser Institute, Fourth Floor, 1770 Burrard Street, Vancouver, British Columbia, V6J 3G7, Canada; telephone: toll-free to 1.800.665.3558, ext. 548; e-mail: development@fraserinstitute.org; or visit our webpage: <www.fraserinstitute.org/support-us/overview.aspx>.

About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families and future generations by studying, measuring and broadly communicating the effects of government policies, entrepreneurship and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

Purpose, Funding, and Independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Directors and its donors.

The opinions expressed by authors are their own, and do not necessarily reflect those of the Institute, its Board of Directors, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its directors, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

Editorial Advisory Board

Members

Prof. Terry L. Anderson Prof. Robert Barro Prof. Jean-Pierre Centi Prof. John Chant Prof. Bev Dahlby Prof. Erwin Diewert Prof. Stephen Easton Prof. J.C. Herbert Emery Prof. Jack L. Granatstein

Past members

Prof. Armen Alchian* Prof. Michael Bliss* Prof. James M. Buchanan*† Prof. Friedrich A. Hayek*† Prof. H.G. Johnson* Prof. Herbert G. Grubel Prof. James Gwartney Prof. Ronald W. Jones Dr. Jerry Jordan Prof. Ross McKitrick Prof. Michael Parkin Prof. Friedrich Schneider Prof. Lawrence B. Smith Dr. Vito Tanzi

Prof. F.G. Pennance* Prof. George Stigler*† Sir Alan Walters* Prof. Edwin G. West*

* deceased; [†] Nobel Laureate