FRASER RESEARCH BULLETIN

January 2018

Why the Unemployment Rate is No Longer a Reliable Gauge of Labour Market Performance

by Jason Clemens and Milagros Palacios

Summary

- The unemployment rate has long been the single measure most used by the media, policymakers, and politicians to gauge overall labour market performance.

- However, the unemployment rate can decrease for two reasons that imply very different performance: 1) people are finding work, which is positive; or 2) potential workers are dropping out of the labour force and not looking for work anymore, which is usually negative.

- Prior to 2008, it was not a great concern that the media and others relied on the unemployment rate as a single measure of labour market performance because its results mirrored those of other measures, particularly the employment rate.

- But since peaking in 2008, the labour force participation rate has declined from 67.6 percent to 65.7 percent. It is expected to decline further, to roughly 61.0 percent by mid-century, due largely to our aging population.

- The decline in labour market participation rates since 2008 means that the unemployment and employment rates are now telling two very different stories about the state of Canada's labour market.

- The employment rate, the share of the labour force that is employed, has fallen from 63.4 percent in 2008 to 61.1 percent in 2016. At the same time, however, because of falling labour market participation, the unemployment rate also fell—from 8.3 percent in 2009 to 7.0 percent in 2016.

- Given the falling rates of labour market participation, it is increasingly clear that the employment rate rather than the unemployment rate is a better barometer of the state of the labour market.

Introduction

The traditional, single measure of the labour market that the media, policymakers, and Canadians more broadly have relied upon to get a general sense of the state of that market is the unemployment rate. The unemployment rate is the share of people actively looking for work that were unable to secure employment relative to the total labour force. Higher unemployment rates were seen as a sign of a struggling economy while lower rates were interpreted as a sign of a stronger economy. As this essay will explain, changes in the labour force have reduced the relevance of the unemployment rate as a gauge for the health of the overall labour market and continuing to rely on the unemployment rate as a single measure of labour market performance could distort economic assessments.[1]

This bulletin aims to explain why the *employment* rate rather than the *unemployment* rate is a better single measure of labour market performance.[2] It begins by giving a number of labour market statistic definitions to ensure that readers have a clear sense of the different measures available. The second part of the bulletin explains how Canada's aging population and the ensuing decline in labour force participation has reduced the accuracy of the unemployment rate as a single measure of labour market performance.

Definitions[3]

Before analyzing why the unemployment rate is becoming less helpful as an overall indicator of the state of the country's labour market, or even regional and provincial markets, it is worthwhile to review the definitions of various labour market indicators.

First, the **population** in question is not the total population, but the number of persons of working age, 15 years and over, in Canada during the reference period.[4]

The **labour force** is the number of civilian, non-institutionalized persons 15 years of age and over who, during the reference week, were employed or unemployed. In other words, the labour force is the sum of those deemed employed and unemployed during the reference period (normally a week).

The **participation rate** is the number of labour force participants (both those employed and unemployed) expressed as a percentage of the population 15 years of age and over.

Employment refers to the number of people who worked for pay or profit (including self-

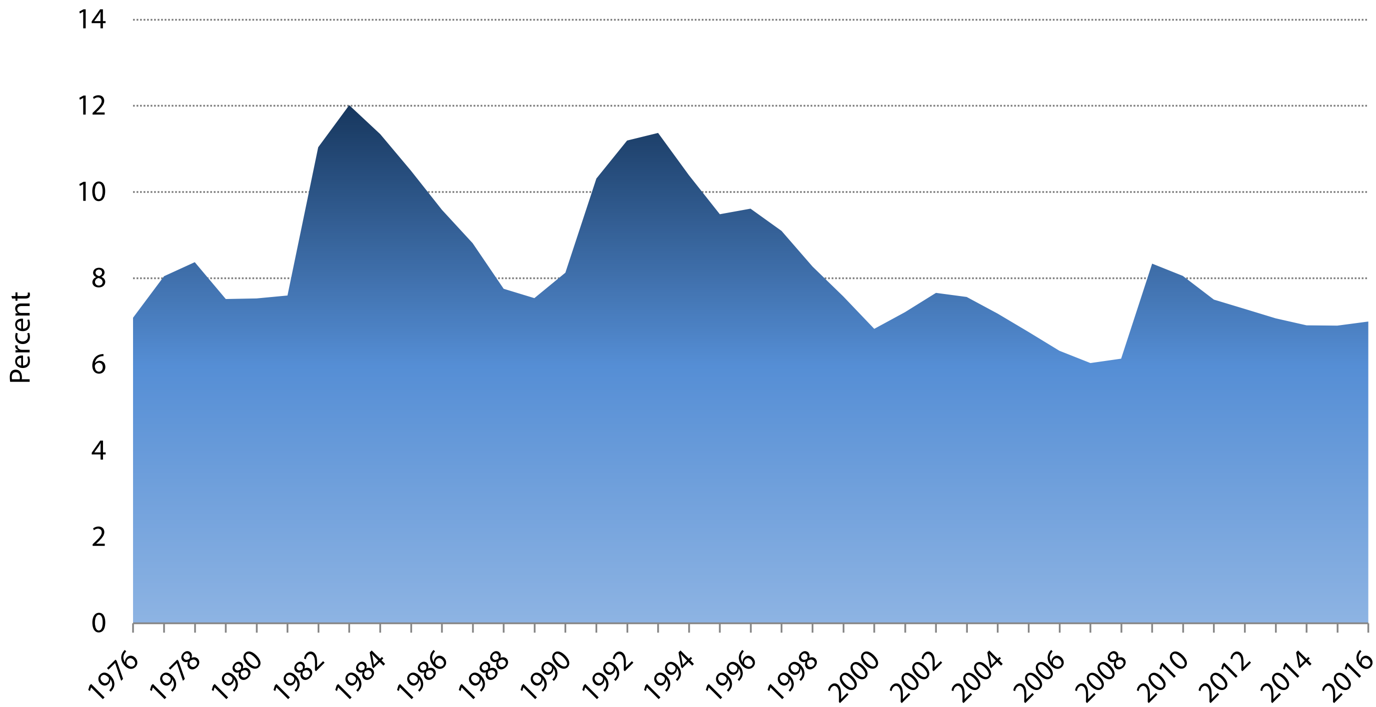
[1] This is by no means an exclusively Canadian phenomenon. In many ways, the effect is stronger and more pronounced in the United States. See for instance, Lazear (2017), and, for more scholarly work on the issue, Mulligan (2013).

[2] A composite measure including both labour force participation and employment would be an even better measure of labour market performance. Indeed, given the complexities of any labour market, relying on a single measure will always present difficulties, though a composite measure would mitigate this to some extent.

[3] All the labour force statistic definitions are taken from Statistics Canada's 2017 *Guide to the Labour Force Survey*.

[4] Statistics Canada notes that "from December 2000 to January 2001 there is a slight level shift in the population series. This is due to the 2015 population rebasing, which was revised back to 2001. This level shift is evident for certain age groups and in two provinces (Manitoba and Saskatchewan). These shifts are minor for labour force estimates and rates" (Statistics Canada, CANSIM *Table* 282-0001, note 12).

Figure 1: Canada's Unemployment Rate, 1976-2016



Note: The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Source: Statistics Canada, CANSIM Table 282-0002.

employed), or performed unpaid family work, or had a job but were not at work due to their own illness or disability, personal or family responsibilities, a labour dispute, vacation, or other reason during the reference period. Those persons on layoff and those without work but who had a job lined up with a definite future start date are not considered employed. The employment rate is the number of persons employed expressed as a percentage of the population 15 years of age and over.

Alternatively, **unemployment** refers to the number of people who were without work but who had looked for work in the past four weeks and were available for work during the reference period. Those persons on layoff and those who had secured a new job with a start date four weeks away or less are considered unemployed. The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Employment and unemployment rates diverge

Over the last few decades, there has been a clear link between the national unemployment rate (figure 1) and the state of both the labour market and the overall economy. The unemployment rate has traditionally lagged the state of the economy by anywhere between 6 and 12 months. That is, it normally takes somewhere between 6 and 12 months for the unemployment rate to increase in response to an economic slowdown.

The peaks in the unemployment rate depicted in figure 1 clearly show the effects of the 1982–83, 1991–92, and 2008–09 recessions. This link, albeit slightly lagged, combined with the ease of understanding what the unemployment rate measures, are the key explanations as to why the rate has been a central barometer of both the labour market and the broader economy.

Figure 2a shows both the unemployment rate and the employment rate for 1976 to 2008. Given the nature of the two measures as described previously, it is not at all surprising that they move in opposite directions. Throughout this period, as the employment rate rises, the unemployment rate declines, and vice versa. It wouldn't have mattered which measure of the labour market was used to describe its performance over this 30-plus year period since both measures reflected similar results.

For example, the unemployment rate peaked after the 2000-01 economic slowdown at 7.7 percent in 2002. It then consistently declined to 6.0 percent by 2007 before starting to increase due to the effects of the 2008-09 recession. During the same period, the employment rate rose from a low of 61.1 percent in 2001 to a high of 63.4 percent in 2007 and 2008. Again, both measures—employment and unemployment—told the same story about labour market performance.

After the 2008-09 recession, however, there is a breakdown in the pattern whereby the unemployment and employment rates both indicate similar performance in the labour market. As figure 2b illustrates, the unemployment and employment rates both start to decline after the 2008-09 recession.[5] Specifically, the unemployment rate declined from its peak of 8.3 percent in 2009 to its 2016 level of 7.0 percent, which reflects positive labour market performance. However, the employment rate indicated something quite different. It declined from its peak of 63.4 percent in 2008 to 61.1 percent in 2016, indicating declining employment levels.

The challenge with the unemployment rate has always been that changes in the rate can result from two very different effects. First, the unemployment rate will decline (or increase) when individuals move from unemployment to employment (or vice versa), which is a positive sign of labour market performance. However, the unemployment rate can also decline when individuals drop out of the labour force by ending their active search for employment. In other words, when individuals leave the labour force for any of a number of reasons, including retirement, going back to school, etc., the labour force becomes smaller, so the same amount of employment will now result in a lower unemployment rate. This is not necessarily a sign of a well-functioning, positive labour market.

Explaining the divergence

This divergence between the unemployment and employment rates may seem odd, but it is grounded in changes in the labour force participation rate. Figure 3 shows both the absolute growth in the labour force and the percentage of Canadians participating in the labour force. As the figure clearly illustrates, the labour force has grown uninterrupted since 1976, increasing from 10.5 million people in 1976 to 19.4 million

[5] For those interested in statistics, the correlation between the unemployment and employment rate between 1976 and 2008 was -0.7208. It changes markedly from 2009 to 2016: 0.2704.

Unemployment Rate No Longer a Reliable Gauge

Figure 2a: Employment & Unemployment Rates, 1976–2008

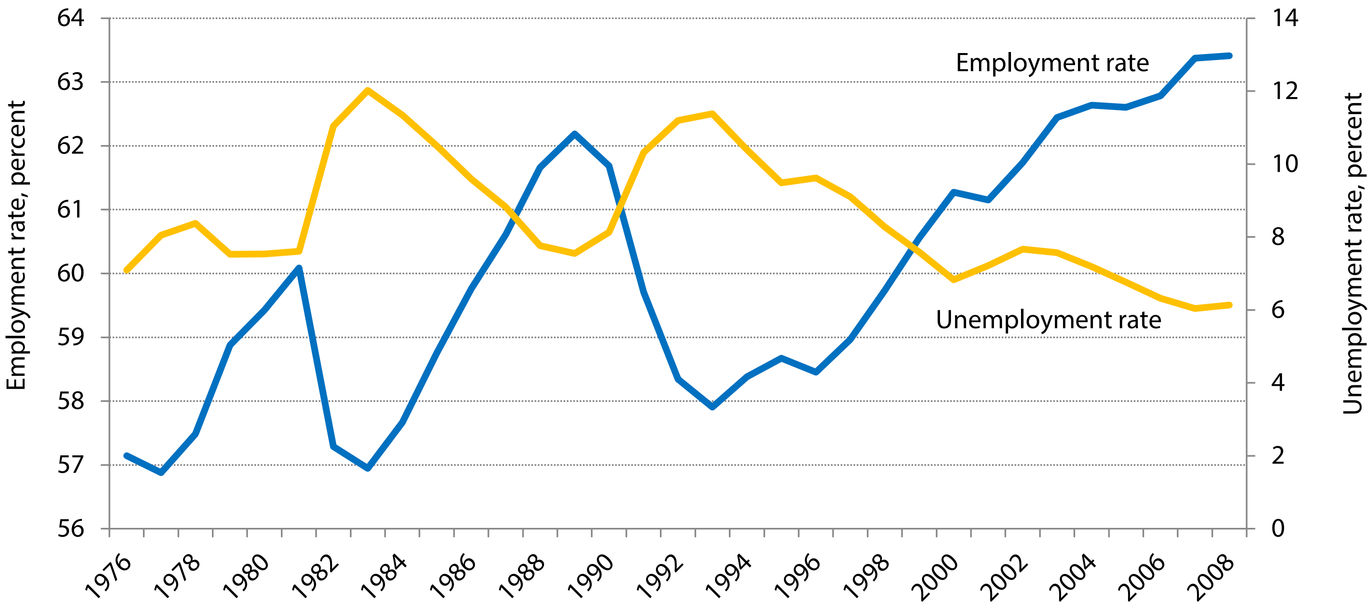
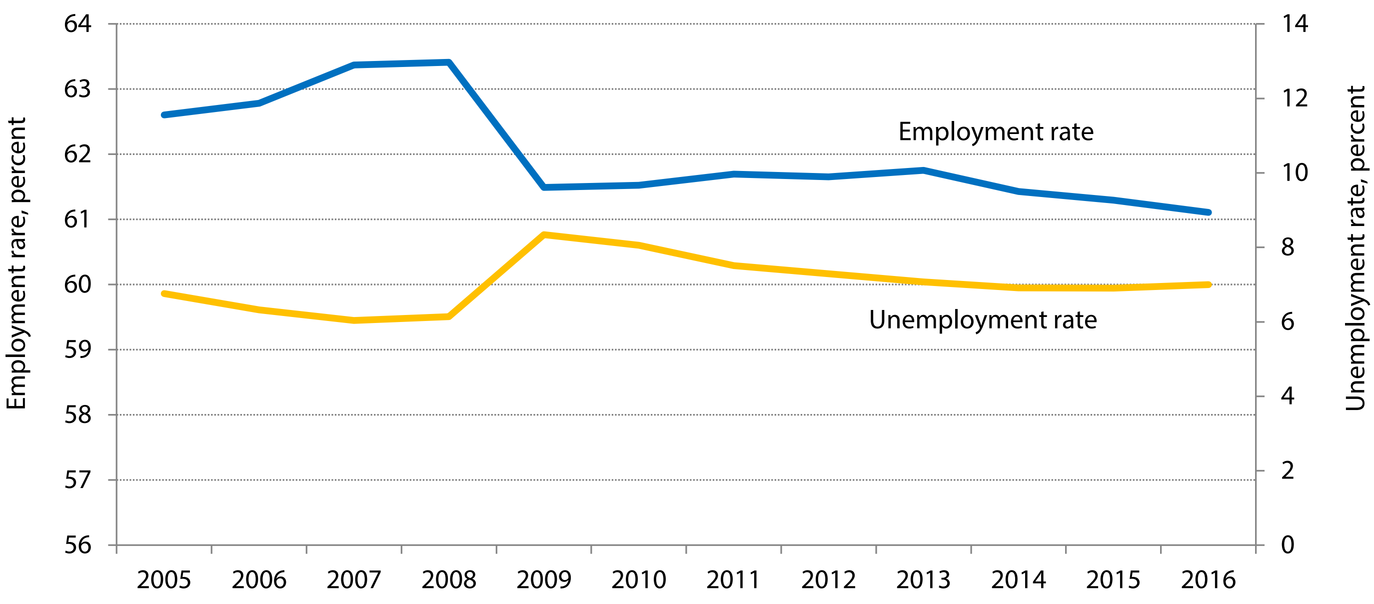


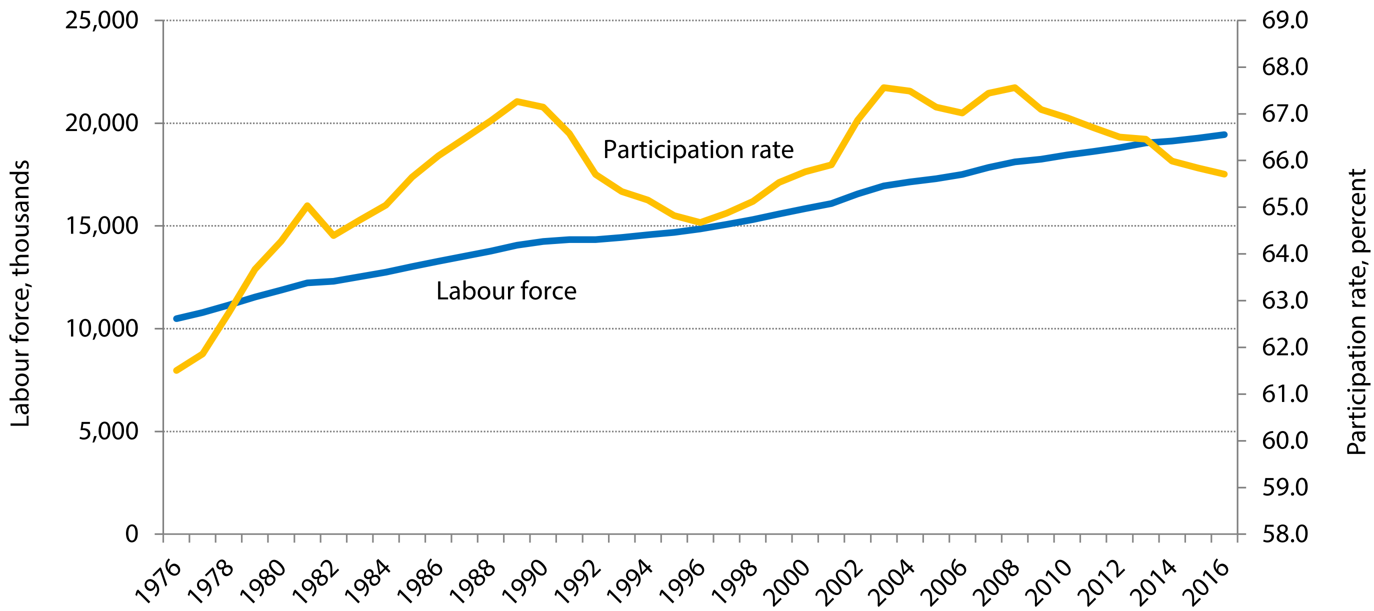
Figure 2b: Employment & Unemployment Rates, 2005–2016



Notes:
The employment rate is the number of persons employed expressed as a percentage of the population age 15 and over.
The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Source: Statistics Canada, CANSIM Table 282-0002.

Figure 3: Labour Force Participation, 1976-2016



Note: The participation rate is the number of labour force participants expressed as a percentage of the population 15 years of age and over.

Source: Statistics Canada, CANSIM Table 282-0002.

in 2016, the most recent year for which comparable data are available.

However, during that same period, labour force participation has varied. The labour force participation rate grew steadily to 67.3 percent in 1989 before declining for several years, reaching 64.7 percent in 1996. It then stabilized or grew every year until 2008, reaching 67.6 percent in 2008. It has since declined each year, reaching 65.7 percent in 2016.

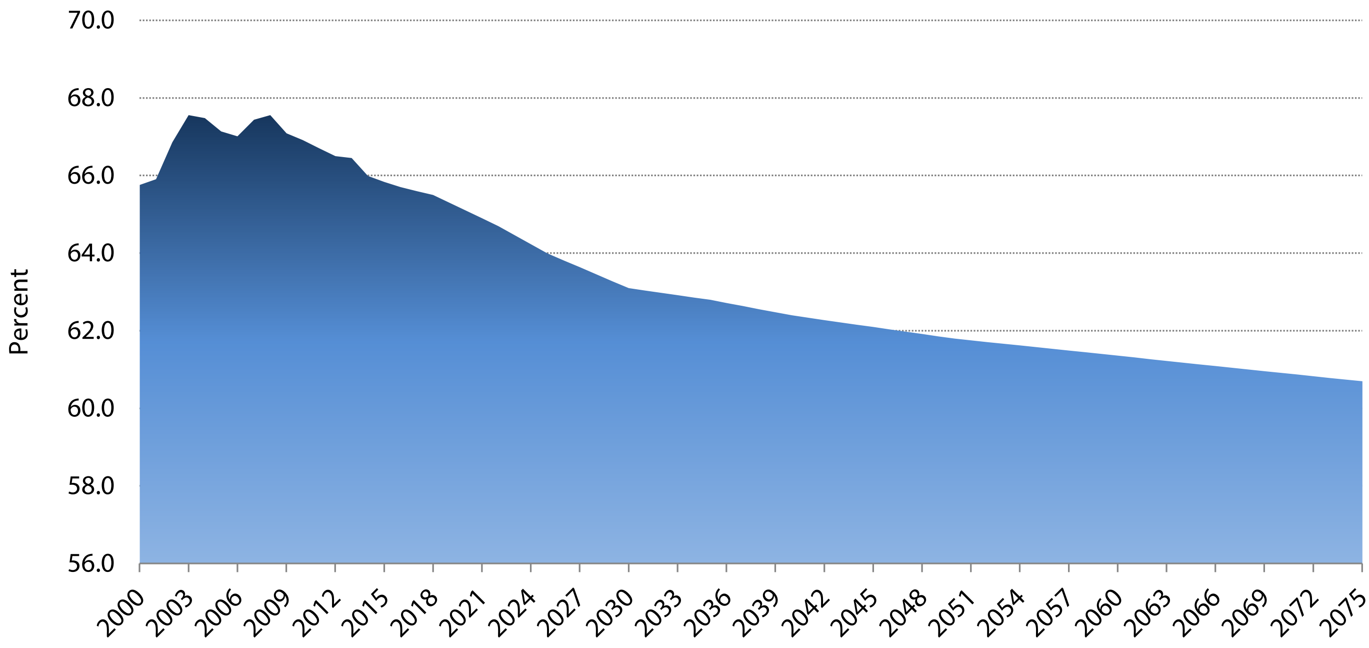
Further, Statistics Canada and other forecasting organizations[6] expect the labour force participation rate to decline further. Specifically, the Office of the Chief Actuary (OSFI) projects that Canada's labour force participation rate will decline from its 2016 level of 65.7 percent to roughly 61.0 percent by 2060 (see figure 4) (Office of the Chief Actuary, 2016).

The driving force behind the decline in the labour force participation rate is demographics, more specifically, the aging of Canadian society.[7] Figure 5 shows the share of the population between the ages of 15 and 64, both historically and anticipated. Clearly, the working age population of Canada, which peaked at 69.5 percent in 2008, is declining (now down to 67.1 per-

[6] See, for example, the federal Department of Finance's long-term economic and fiscal projects (Canada, Department of Finance, 2016).

[7] For a specific discussion and analysis of how aging affects labour market participation rates, see Fields, Uppal, and LaRochelle-Cote (2017).

Figure 4: Labour Force Participation, 2000-2075



Note: Data from 2017 to 2061 are a projection from OSFI (2016).

Sources: Statistics Canada, CANSIM 282-0002; OSFI (2016); calculations by authors.

cent), and is expected to continue to drop. In fact, Statistics Canada expects the share of the total population represented by the working-age population to decline to 59.2 percent by 2060. The reason for this decline is the marked increase in the share of the population represented by seniors, those over the age of 65.[8]

As seniors represent a growing share of the total population, labour market participation will almost inevitably decline. Figure 6 illustrates the average labour force participation rates by age group. Participation rates clearly begin to fall once people reach 55 years of age, and then drop dramatically once people reach age 65.

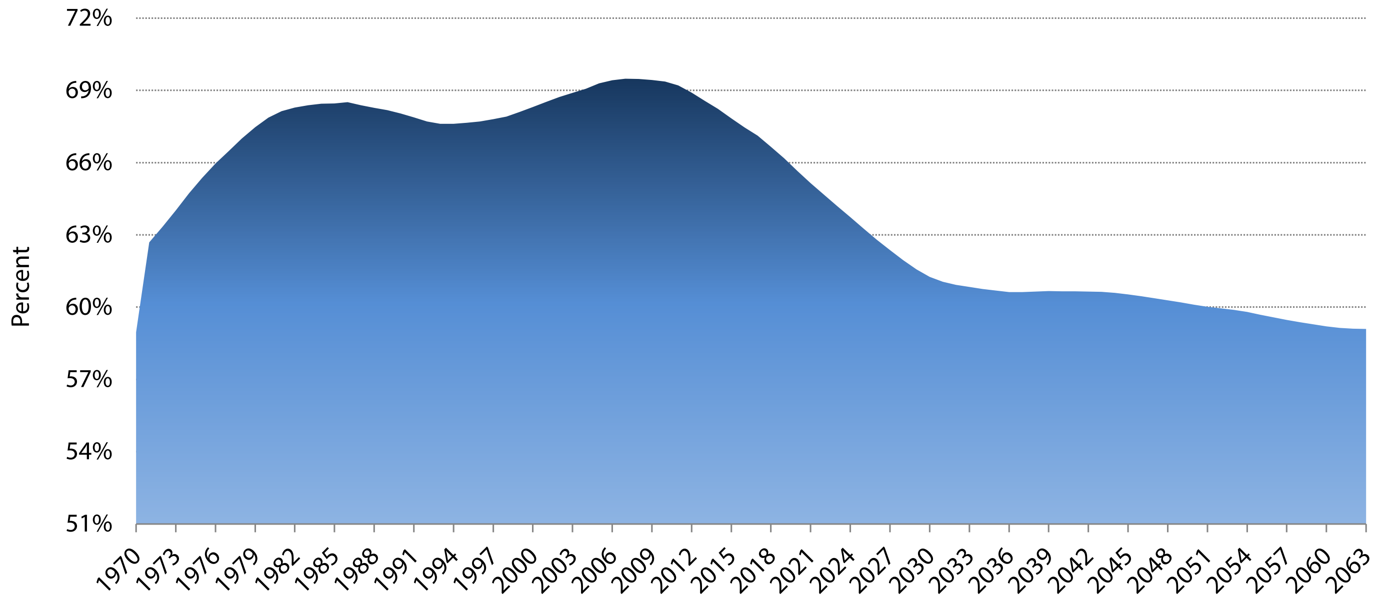
[8] For further information on the implications of an aging population see Jackson, Clemens, and Palacios (2017).

For instance, in 2016, the average labour force participation rate for those aged 25 to 54 was 86.5 percent. For those over age 65, the average labour force participation rate was 13.7 percent that same year. In recent years, there have been observed increases in the labour force participation rate for those over age 65 (Fields, Uppal, and LaRochelle-Cote, 2017; and Statistics Canada, 2017b). But even with that change, the increasing share of seniors relative to the total population will mean lower overall labour market participation rates.

Conclusion

The reality of ongoing declines in labour market participation due largely from an aging population mean that the unemployment rate is less reflective of overall labour market per-

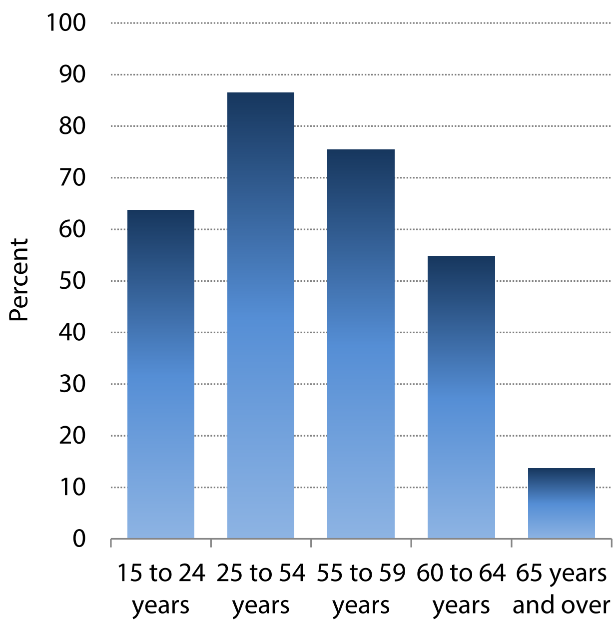
Figure 5: Share of the Population 15-64 Years of Age, 1970-2063



Note: Data from 2017 to 2061 are projections using the medium-growth scenario.

Sources: Statistics Canada, CANSIM 051-0001, 051-0026, and 052-0005; calculations by authors.

Figure 6: Labour Force Participation, by Age Group, 2016



Source: Statistics Canada, CANSIM Table 282-0002.

formance than it has been in the past. Indeed, there is now a divergence in what the unemployment rate and employment rate are saying about the state of the country's labour market. It is quite clear that if participation rates were stable rather than declining, the unemployment rate would be higher today than it currently is, indicating that at least part of the decline in the unemployment rate is due to declining labour force participation rather than job creation.[9] Given these challenges, the employment rate is a better single measure of labour market performance than the unemployment rate.

[9] A rough calculation suggests that the 2016 unemployment rate would have been 7.3 percent rather than 7.0 percent if labour force participation rates were reflective of the higher rates experienced in the 2007 to 2009 period.

References

Canada, Department of Finance (2016). *Update of Long-Term Economic and Fiscal Projections*. Government of Canada. <https://www.fin.gc.ca/pub/ltefp-peblt/pdf/ltefp-peblt-eng.pdf>, as of December 27, 2017.

Fields, Andrew, Sharanjit Uppal, and Sebastien LaRochelle-Cote (2017). *The Impact of Aging on Labour Market Participation Rates*. Statistics Canada. <http://www.statcan.gc.ca/pub/75-006-x/2017001/article/14826-eng.pdf>, as of December 27, 2017.

Jackson, Taylor, Jason Clemens, and Milagros Palacios (2017). *Canada's Aging Population and Implications for Government Finances*. The Fraser Institute. <https://www.fraserinstitute.org/sites/default/files/canadas-aging-population-and-implications-for-government-finances.pdf>, as of December 27, 2017.

Lazear Edward (2017, December 7). The Incredible Shrinking Workforce. *Wall Street Journal*. <https://www.wsj.com/articles/the-incredible-shrinking-workforce-1512692004?mg=prod/accounts-wsj>, as of December 27, 2017.

Mulligan, Casey (2013). *Work Incentives, the Recovery Act, and the Economy*. University of Chicago. <http://www.policyuncertainty.com/app/Mulligan-Testimony.pdf>, as of December 27, 2017.

Office of the Chief Actuary (2016). *Actuarial Report (27th) on the Canada Pension Plan as at December 31, 2015*. Office of the Superintendent of Financial Institutions Canada, Government of Canada. <http://www.osfi-bsif.gc.ca/Eng/Docs/cpp27.pdf>, as of December 27, 2017.

Statistics Canada (annual). CANSIM *Table 282-0001: Labour Force Survey Estimates* (LFS), *by Sex and Detailed Age Group, Unadjusted for Seasonality*. Government of Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2820001>, as of December 27, 2017.

Statistics Canada (2017a). *Guide to the Labour Force Survey*. Statistics Canada. <http://www.statcan.gc.ca/pub/71-543-g/71-543-g2017001-eng.htm>, as of December 27, 2017.

Statistics Canada (2017b). *Working Seniors in Canada: Census in Brief*. Statistics Canada. <http://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016027/98-200-x2016027-eng.cfm>, as of December 27, 2017.

Data sources

Statistics Canada (annual). CANSIM *Table* 282-0002: *Labour Force Survey Estimates* (LFS), *by Sex and Detailed Age Group*. Government of Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2820002>, as of December 27, 2017.

Statistics Canada (annual). CANSIM *Table* 051-0001: *Estimates of Population, by Age Group and Sex for July 1, Canada, Provinces and Territories*. Government of Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=0510001>, as of December 27, 2017.

Statistics Canada (annual). CANSIM *Table* 051-0026: Estimates of Population, by Age Group and Sex, Canada, Provinces and Territories, Archived. Government of Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=0510026>, as of December 27, 2017.

Statistics Canada (annual). CANSIM *Table* 052-0005: *Projected Population, by Projection Scenario, Age and Sex, as of July 1, Canada, Provinces and Territories*. Government of Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=0520005>, as of December 27, 2017.

Acknowledgments

The authors wish to thank the anonymous reviewers for their suggestions and feedback. 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 paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

ISSN 2291-8620

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

Jason Clemens *is the Executive Vice President of the Fraser Institute. He has an Honors Bachelors Degree of Commerce and a Master's Degree in Business Administration from the University of Windsor as well as a Post Baccalaureate Degree in Economics from Simon Fraser University. He has published over 70 major studies on a wide range of topics, including taxation and entrepreneurship. He has published over 300 shorter articles in US, Canadian, and international newspapers.*

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.*