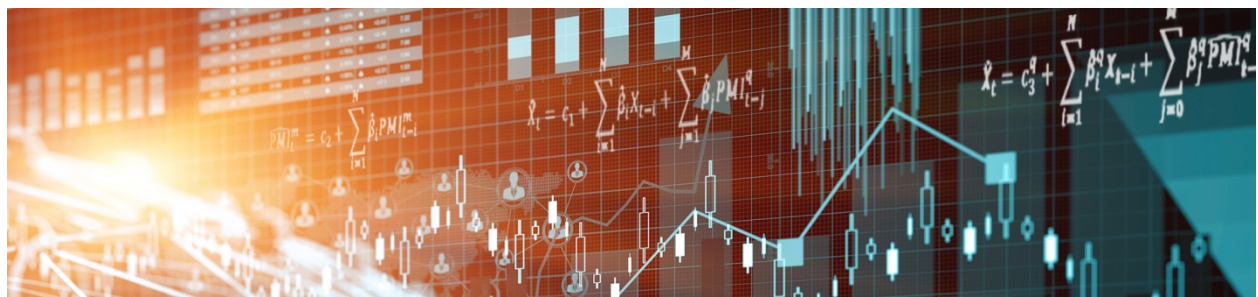


Staff Analytical Note/Note analytique du personnel 2017-4

A Canada-US Comparison of Labour Market Conditions



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Abstract

In this note, we provide a brief comparison of the recent developments in the labour markets in Canada and the United States. Our analysis indicates that slack remains in the Canadian labour market, while the US labour market is close to full employment. Canada's negative labour input gap reflects weak average hours worked, whereas aggregate employment is getting close to its trend. In the United States, in contrast to Canada, both the level of employment and average hours worked are currently estimated to be at trend. The decomposition of the growth of average hours worked for Canada suggests that its overall decline is broad-based within each type of work (full-time/part-time), worker characteristics (region/age/sex) and sector (goods/services).

Bank topics: Labour markets; Recent economic and financial developments

JEL codes: E; E2; E24; J; J2; J21; J22; J23

Résumé

Dans cette note, nous faisons une brève comparaison de l'évolution récente des marchés du travail au Canada et aux États-Unis. Notre analyse indique qu'il reste encore des ressources inutilisées sur le marché du travail canadien, alors que le marché du travail américain est proche du plein emploi. L'écart du facteur travail négatif au Canada reflète la faiblesse du nombre moyen d'heures travaillées, tandis que l'emploi total se rapproche de sa tendance. Aux États-Unis, contrairement au Canada, le niveau de l'emploi et le nombre moyen d'heures travaillées sont estimés correspondre à la tendance. La décomposition de la croissance du nombre moyen d'heures travaillées pour le Canada indique que son déclin est généralisé par catégorie de travail (temps plein / temps partiel), par caractéristiques des travailleurs (région/âge/sexe) et par secteur (biens/services).

Sujets : Marchés du travail ; Évolution économique et financière récente

Codes JEL : E ; E2 ; E24 ; J ; J2 ; J21 ; J22 ; J23

1 Summary

This note provides a brief comparison of the recent developments in labour markets in Canada and the United States. The key take-aways are:

- Several indicators, including earnings growth and job vacancy rates, suggest the presence of greater labour market slack in Canada than in the United States.
- Our estimate of labour market slack—the labour input gap—remains negative in Canada as of February 2017. By contrast, in the United States, the labour input gap is now estimated to be closed.
- Canada's negative labour input gap reflects weak average hours worked (AHW)—the last six-month average of 33.6 hours is below the average of 33.9 hours in 2016—whereas both aggregate employment levels and the employment rate are approaching their trends. In the United States, in contrast to Canada, both the level of employment and AHW are currently estimated to be at trend.
 - For Canada, weak AHW appears to be largely consistent with the ongoing cyclical weakness of labour demand, as the overall decline in AHW is found to be broad-based within each type of work (full-time/part-time), worker characteristics (region/age/sex) and sector (goods/services).
 - The role of structural factors explaining weak AHW seems limited. Only a small fraction of the monthly year-over-year decline in Canadian AHW since mid-2016 reflects shifts in the structure of the labour market, such as from full-time to part-time jobs (about 15 per cent) and from goods to service-sector jobs (about 5 per cent).

2 Overview of the Slack in the Canadian and US Labour Markets

In Canada, while national employment growth has remained firm over the past year, other indicators remain muted and suggest the presence of labour market slack. For instance, the Bank's comprehensive labour market indicator (LMI) for Canada has not moved much since 2012 and points to greater labour market slack than the national unemployment rate would suggest (**Chart 1**).¹ In addition, wage growth and labour income growth in Canada have remained subdued (**Chart 2** and **Chart 3**).^{2,3}

Chart 1: The Canadian LMI suggests more slack than the unemployment rate

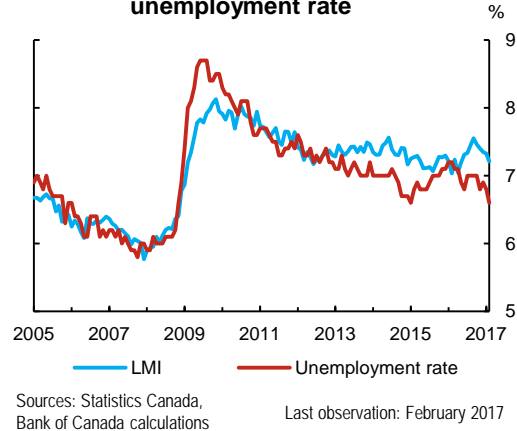


Chart 2: Wage growth is below its average in Canada and near its average in the United States

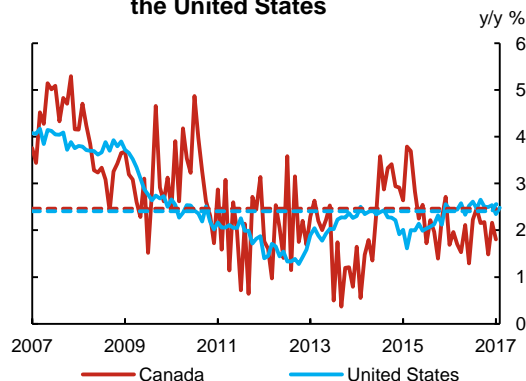
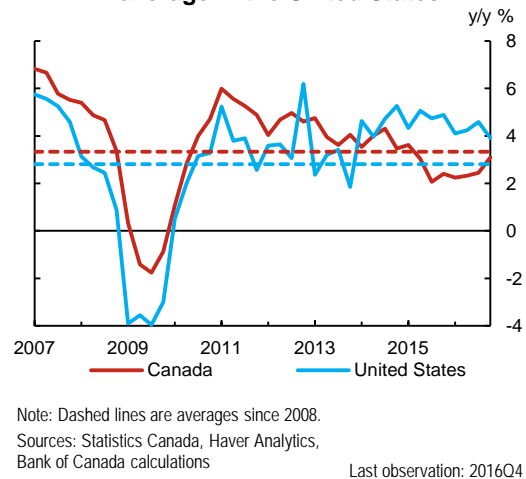


Chart 3: Labour income growth is below average in Canada and above average in the United States



These developments contrast with the United States, where the labour market indicator (LMI-US) has declined considerably since the Great Recession and is now close to the

¹ For more details on the Canadian and US labour market indicators see Zmitrowicz and Khan (2014).

² Subdued wage growth in Canada, however, was found to be in line with fundamentals. See Brouillette and Savoie-Chabot (2016).

³ In this note, quarterly data for 2017Q1 are based on the Labour Force Survey and include data for January and February 2017.

unemployment rate after adjusting for structural trends (**Appendix 1**). Moreover, US wage growth has risen steadily since 2013 (**Chart 2** and **Chart 3**).

In addition, US firms are reporting that it is increasingly difficult to fill open positions, leading to a near-all-time-high job openings rate and a near-all-time-low layoff rate—both signals of labour market tightness.⁴ In contrast, the job vacancy rate⁵ in Canada has not reported much improvement and has continued to deteriorate in energy-intensive regions (Alberta, Saskatchewan and Newfoundland and Labrador), which is in line with the view that slack remains and that the economy is still adjusting to the oil price shock.

Our estimates suggest that slack remains in the Canadian labour market in 2017Q1, whereas the United States is close to full employment. Our preferred indicator of slack in the labour market is the deviation of labour input (i.e., aggregate hours worked) from its estimated potential level—referred to as the labour input (LI) gap. Based on this measure, the LI gap remains largely negative in Canada (around -2 per cent in 2017Q1) (**Chart 4**). In contrast, the US labour market is estimated to be near full employment, as the LI gap is estimated to be closed as of 2017Q1 (**Chart 5**).^{6,7}

Chart 4: The labour gap is large and negative in Canada...

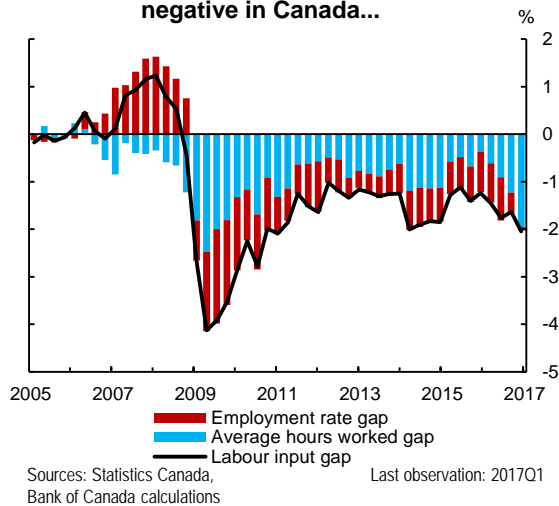
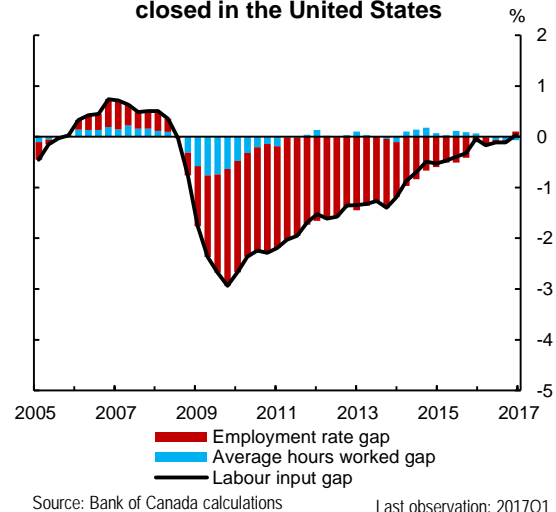


Chart 5: ...while the labour gap is currently closed in the United States



⁴ The job openings rate is defined as the job openings level as a percentage of total employment plus the job openings level. The layoff rate is defined as the layoff level as a percentage of total employment. It is also notable that, while the layoff rate is near its all-time low, the quit rate (i.e., the level of quits as a percentage of total employment) has risen back to pre-recession levels. This indicates that workers feel confident about current job opportunities, which is also a signal of labour market tightness.

⁵ The job vacancy rate is defined as the share of vacant positions in the total number of occupied and unoccupied positions.

⁶ Note that because of data and methodological differences, the labour gaps in Canada and the United States are not quantitatively comparable. Only the dynamics are discussed for each country in isolation.

⁷ See Agopsowicz et al. (2017) and Alexander et al. (2017) for more details on the estimation of the Canadian and US labour gaps.

Labour input is a function of the aggregate employment rate and average hours worked (AHW); as such, the LI gap can be decomposed into an aggregate employment rate (ER) gap and an AHW gap. **Chart 4** and **Chart 5** suggest that aggregate employment levels in both countries are back in line with their respective trends, as the ER gaps are currently estimated to be zero. This is consistent with the fact that job growth has remained solid (over the past year in Canada and for a longer period in the United States), and unemployment rates continue to decline in both countries (**Chart 1** and **Chart A1.1**). The story is quite different for the AHW gap: while it has not been a major contributor to the US LI gap since late 2010, it remains significant and negative in Canada, explaining on average about half of the LI gap since 2009.⁸ For 2017Q1, the Canadian AHW gap is expected to account for almost the entire LI gap (**Chart 4**).⁹

The level of labour input in Canada has remained roughly unchanged since mid-2015 despite robust job gains.¹⁰ This is due to the significant drag of AHW, which dropped sharply over the same period (**Chart 6**). In contrast, labour input in the United States has grown at around a 1 per cent pace over the last year, supported by strong employment growth. US AHW exerts only a small drag on labour input growth over this time period (**Chart 7**). The next section explores the driving forces behind the recent decline in AHW specific to Canada.

Chart 6: Labour input growth has been weak in Canada...

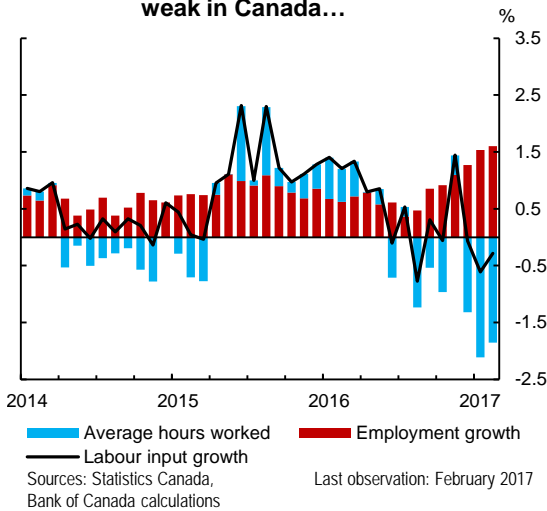
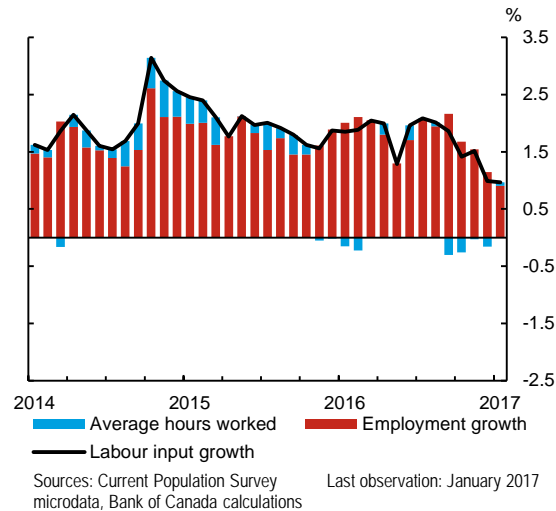


Chart 7: ...but healthy in the United States



⁸ Data from both the Labour Force Survey (LFS) and the Survey of Employment, Payrolls and Hours (SEPH) show that the growth of AHW is weak.

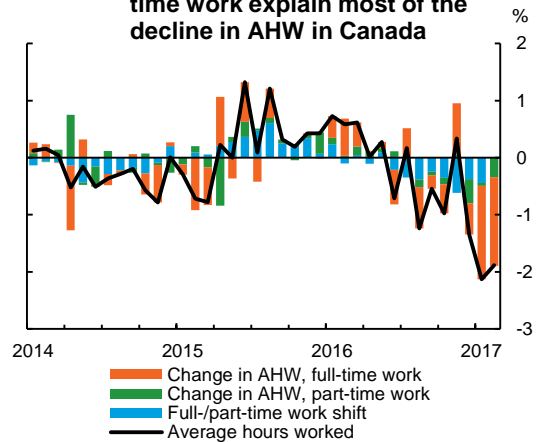
⁹ March 2017 labour market data are not included in this analysis. Therefore, 2017Q1 labour input consists of two months of data (January and February) and one month of monitoring (March).

¹⁰ Employment gains in Canada average 29,000 jobs since mid-2016, above trend employment of 12,000 jobs. SEPH data also support strong employment growth in Canada.

3 Shift-Share Analysis of Average Hours Worked in Canada

To delve into the reasons for the decline of AHW in Canada, the contribution to growth of AHW from **Chart 6** (blue bars) is further decomposed into three parts in **Chart 8**: a shift effect capturing the impact of the shift between full- and part-time employment (blue bars); a “within” effect measuring the impact of the change in AHW among full-time workers (orange bars); and a within effect capturing the change in AHW among part-time workers (green bars).¹¹ The role of full- and part-time employment is explored, as employment growth was mostly fuelled by part-time employment in late 2016.¹²

Chart 8: Weaker average hours within full-time work explain most of the decline in AHW in Canada



Sources: Statistics Canada, Bank of Canada calculations

Last observation: February 2017

The two within effects are the key factors dragging down the growth of labour input in Canada since mid-2016. **Chart 8** shows AHW declined within both full- and part-time work, but mostly among full-time workers: the within effect for full-time workers accounts for about two-thirds of the decline of AHW growth in the last three months, while the within effect for part-time workers accounts for about 15 per cent.¹³ The fact that the within effect dominates the weakness in hours worked could be consistent with the current cyclical weakness of labour demand. However, we cannot rule out that supply factors or some measurement error in the data could be at play.¹⁴

The shift effect between full- and part-time employment has contributed to the decline in AHW since mid-2016, mainly reflecting the recent increase in the share of part-time

¹¹ The decompositions are dynamic in the sense that for month T , the reference period is $T-12$ and not a fixed month (e.g., $T^* = \text{January 2007}$). This exercise allows us to better capture the recent short-term dynamics.

¹² Part-time employment contributed about 88 per cent of the year-over-year increase in employment in December 2016 (three-month moving average).

¹³ The within effect for full-time workers accounts for a large portion of the weakness in hours for two reasons: decline in their AHW and a large number of full-time workers in total (about 80 per cent). For example, in December 2016, the AHW of full-time workers declined by less year-over-year than that of part-time workers, but the contribution of full-time hours to the weakness in total hours worked was larger than that of part-time workers because of their much larger number.

¹⁴ While there is information on voluntary and involuntary part-time employment, comparable information is not available for full-time employment; therefore, we cannot distinguish between voluntary and involuntary reasons for changes in AHW of full-time workers.

employment. Since AHW is lower for part-time than for full-time workers, this shift in composition is putting downward pressure on labour input growth (see **Appendix 2** for more details on part-time work). However, the shift effect is small and accounts for about 15 per cent of the decline in AHW growth over the last three months. The impact from that shift, however, becomes negligible as of February 2017, given the sharp decline in part-time employment.

Looking at the decomposition by sector—goods versus services—the key take-away remains similar: while the shift effect is small, nearly all the decline in AHW is due to the decline in AHW in both the goods-producing and service sectors. Yet the contribution of the goods sector to the decline of AHW is about twice that of the service sector. Over the same period, the shift effect—arising from the higher share of employment towards the service sector—remains modestly negative (accounting for about 5 per cent of the decline in AHW) and consistent with Bank staff’s 2017 assessment of trend AHW.¹⁵

Finally, decompositions by region, gender and age group do not alter our conclusion on the dynamics of AHW in Canada: the shift effect for age and sex is negligible, and the drop in AHW is broad-based across gender, region and age groups.¹⁶

4 Conclusion

Our assessment of the state of the labour market based on different labour market indicators, including LMI, wage growth, job vacancy rate and labour input gap, suggests that slack remains in Canada, whereas the United States is near full employment.

In Canada, the negative LI gap is mostly due to weak AHW growth since mid-2016. Despite the small contribution of increased voluntary part-time work and the continued shift of employment towards the service sector, our assessment is that as of 2017Q1, the Canadian labour market gap, caused by weak AHW, most likely reflects current cyclical weakness of labour demand. Also consistent with this conjecture is the fact that the decline in AHW is broad-based—across type of work, sector, region, gender and age groups.

¹⁵ See Agopsowicz et al. (2017).

¹⁶ Decomposition by education group to control for the quality of labour would be the premise of future work.

5 References

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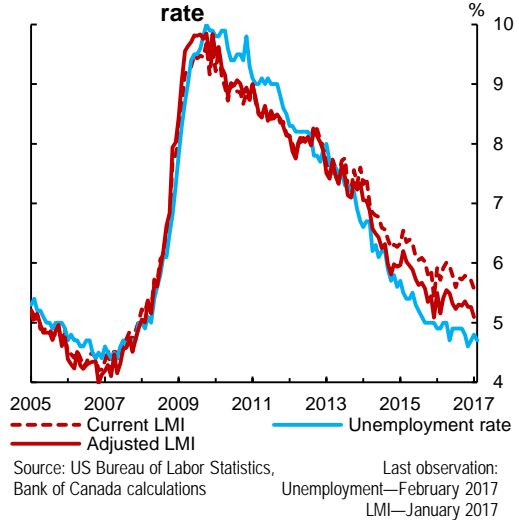
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Appendix 1. Adjusting the US and Canadian LMI to Account for Structural Trends

Despite unemployment at the non-accelerating-inflation rate of unemployment and a closed labour input (LI) gap, the US labour market indicator (LMI) continues to remain elevated relative to the US unemployment rate, suggesting additional slack in the US labour market (**Chart A1.1**). The persistently elevated LMI primarily reflects trend declines in two key LMI components: the prime-age participation rate and average hours worked (AHW) (e.g., owing to the movement of workers from the manufacturing to the services sector) (**Chart A1.2**).¹⁷ By treating the trend decline in these variables as cyclical developments,

the LMI likely overstates the amount of slack left in the US economy.¹⁸ To address this issue, we make two modifications to the LMI. First, the prime-age participation rate is replaced with the deviations from trend of the total participation rate included in our projection. Second, AHW is replaced with the deviations from our trend estimate. These modifications reduce the current gap between the LMI and the unemployment rate by more than half (**Chart A1.1**—solid vs. dashed red line).¹⁹ However, the remaining gap still points to slightly more labour market slack in the United States than the unemployment rate would suggest. This reflects historically elevated shares of people working part-time for economic reasons and long-term unemployment (**Chart A1.3**).

Chart A1.1: US LMI and unemployment rate

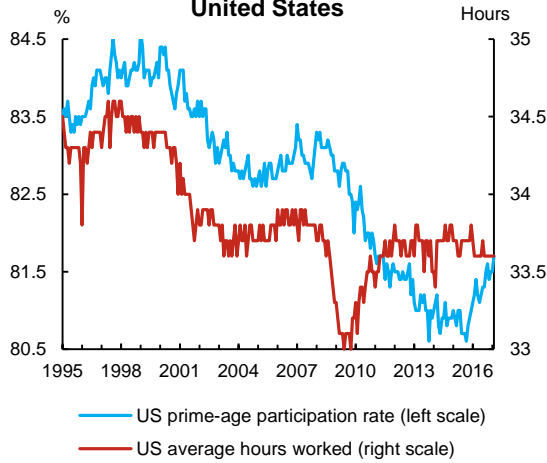


¹⁷ See Alexander et al. (2017) for more details.

¹⁸ In Zmitrowicz and Khan (2014), the authors find that prime-age participation exhibits a downward trend. At the time of writing, correcting for this trend did not materially affect the results; however, since that time these trend developments have grown in importance.

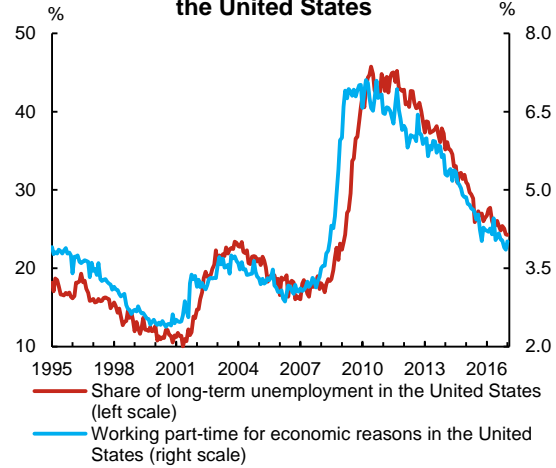
¹⁹ Using the cyclical component of the prime-age participation rate instead of that of total participation does not alter our adjusted LMI-US results.

Chart A1.2: Participation rate and AHW are trending down in the United States



Source: US Bureau of Labor Statistics Last observation: February 2017

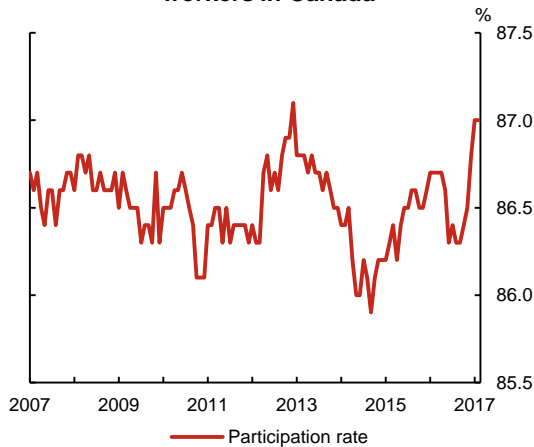
Chart A1.3: Alternative measures of slack remain historically elevated in the United States



Source: US Bureau of Labor Statistics Last observation: February 2017

Accounting for these structural changes in Canada bears modest implications for Canada’s LMI. Throughout its history, AHW has been characterized by a structural decline; therefore, it is more relevant to use the AHW gap than the AHW level. However, the prime-age participation rate has not fallen structurally; it has actually reported recent improvement (**Chart A1.4**). Overall, LMI with de-trended AHW behaves quite similarly to LMI (**Chart A1.5**).

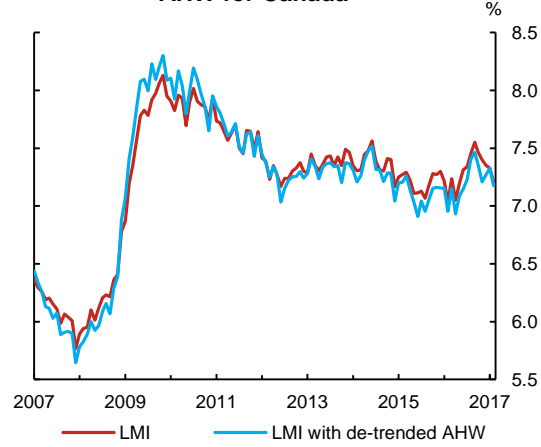
Chart A1.4: Participation rate of prime-age workers in Canada



Sources: Statistics Canada

Last observation: February 2017

Chart A1.5: LMI and LMI with de-trended AHW for Canada



Sources: Statistics Canada, Bank of Canada calculations

Last observation: February 2017

Appendix 2. What's Up with Part-Time?

Part-time employment has become more prominent in Canada since mid-2015, while its share has continued to decline in the United States (**Chart A2.1**). We take a look at the reasons for part-time employment to understand whether workers faced any constraints in their choice of hours.

To some extent, the dynamics of part-time employment might have been driven by labour supply, as almost all of the recent increase came from voluntary part-time employment (**Chart A2.2**).²⁰ The increase in voluntary part-time employment is not unique to Canada: it has also been observed in the United States (**Chart A2.3**). Voluntary part-time employment also accounts for most of the within effect for part-time hours (green bars in **Chart 8**) since mid-2016.²¹ Moreover, the number of involuntary part-time workers who had a part-time job as a result of business conditions has been declining since early 2015 in both countries (**Chart A2.4**).

Chart A2.1: Share of part-time employment rising in Canada and declining in the United States

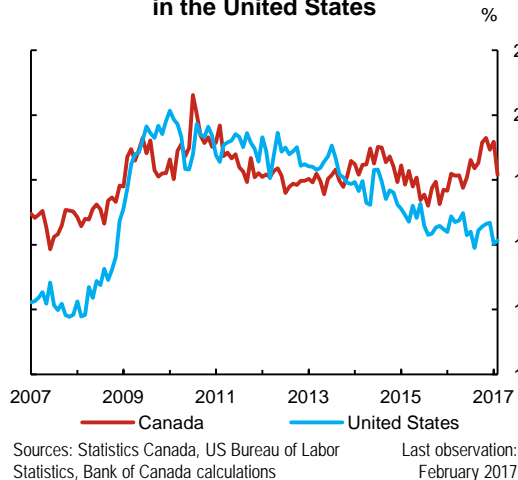
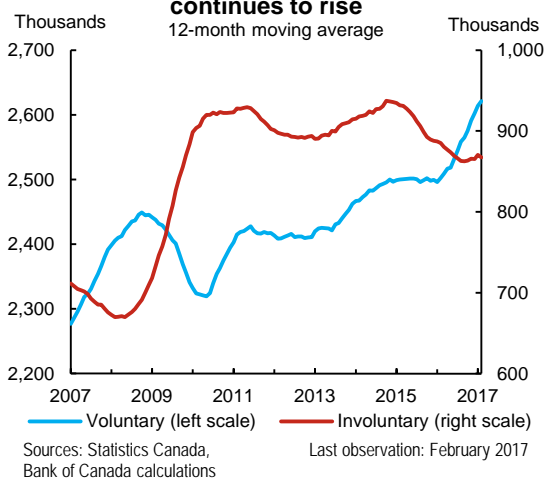


Chart A2.2: Voluntary part-time employment in Canada continues to rise



About half of the rise in voluntary part-time employment in 2016 is attributable to prime-age workers and one-fifth to youth. For prime-age workers, some of the increase in voluntary part-time employment comes from people caring for children. The proportion of women who reported working part-time in order to care for their children increased in 2015; this proportion also increased for men starting in early 2016. The retroactive payments of the enhanced Universal Child Care Benefit in July 2015 and its

²⁰ Voluntary part-time employment is also affected by the aging population, as the share of workers aged 55 and older has been steadily increasing in the past 10 years.

²¹ Voluntary part-time employees worked on average 16 hours per week, whereas involuntary part-time workers reported an average of 20 hours per week in 2016. As such, the shift towards voluntary part-time work also contributes marginally to downward pressures on total hours worked.

subsequent replacement with the Canada Child Benefit in July 2016 may have played a role.²² Increased school attendance is the main reason for the rise in voluntary part-time employment of youth.

Nevertheless, the impact of these supply-side factors on labour input growth is likely to be small because only a small portion of the recent decline in Canadian AHW reflects the shift from full-time to part-time jobs (**Chart 8**).

Chart A2.3: Voluntary part-time employment is also rising in the United States

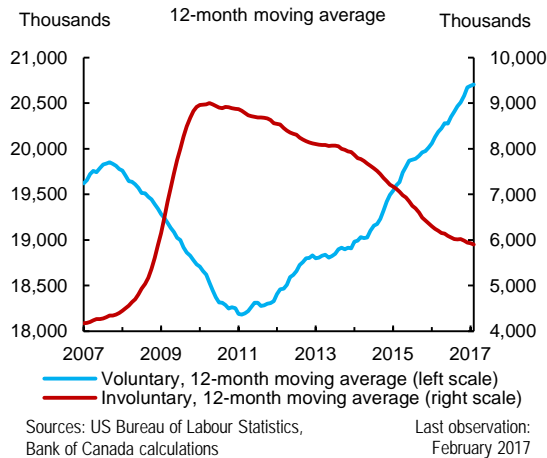
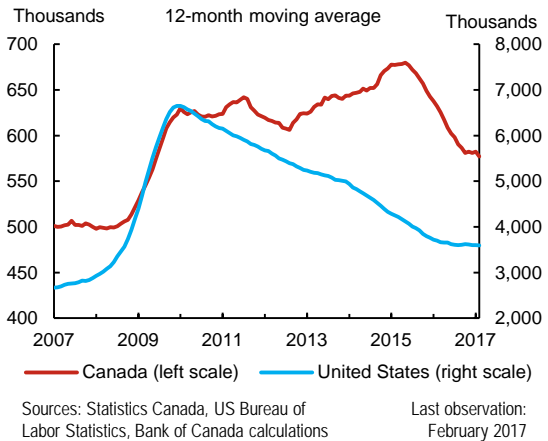


Chart A2.4: Involuntary part-time employment due to business conditions declined in both



²² The enhanced Universal Child Care Benefit (UCCB) provided an increased benefit of \$160 per month for children under the age of 6 (previously \$100) and a new benefit of \$60 per month for children aged 6 through 17. UCCB was subsequently replaced by the Canada Child Benefit in July 2016.