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The State of Labour Market Churn in Canada

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Abstract

The literature highlights that labour market churn, including job-to-job transitions, is a key element of wage growth. Using microdata from the Labour Force Survey, we compute measures of labour market churn and compare these with pre-crisis averages to assess implications for wage growth. Overall, while it has improved in Canada, labour market churn broadly remains below pre-crisis averages. This relatively subdued level of churn is consistent with modest slack remaining in the Canadian labour market and thus helps explain the modest wage growth over the past few years.

Bank topics: Labour markets; Recent economic and financial developments
JEL codes: E, E2, E24, J2, J20, J3, J30, J6, J63

Résumé

La réallocation de la main-d'œuvre, notamment les transitions entre emplois, est présentée dans la littérature comme un facteur explicatif important de la progression des salaires. À partir des microdonnées de l'Enquête sur la population active, nous calculons des indicateurs de la réallocation de la main-d'œuvre, et comparons les résultats récents aux moyennes d'avant-crise afin d'en tirer les conséquences pour la croissance des salaires. Si, dans l'ensemble, on note une amélioration au chapitre de la réallocation de la main-d'œuvre au Canada, les indicateurs restent généralement en deçà de leurs moyennes d'avant-crise. Le niveau relativement modéré de la réallocation de la main-d'œuvre est compatible avec une faible marge de capacités inutilisées au sein du marché du travail canadien, ce qui contribuerait à expliquer la faible augmentation des salaires ces dernières années.

Sujets : Marchés du travail; Évolution économique et financière récente
Codes JEL : E, E2, E24, J2, J20, J3, J30, J6, J63

1. Motivation and summary

Wage growth remains below its pre-crisis average in Canada and likely continues to reflect the existence of modest labour market slack. The unemployment rate and net job gains provide some indications of the health of the labour market. However, an examination of the underlying labour market transitions that contribute to these provides a broader understanding of the cyclical position of labour markets, overall mobility and wage dynamics.

One of the key drivers of wage growth is job change, as employees move up the ladder into jobs better suited to their skills or experience.[1] Using microdata from the Canadian Labour Force Survey (LFS), we examine labour market churn and assess the implications for wage growth. The key results are as follows:

- Labour market churn has improved in Canada, but it remains below pre-crisis averages (**Table 1**).
    - Job-to-job transitions (job-changing rates) have neared pre-crisis averages, and job-loss rates are very low, consistent with a tightening labour market and improving labour market churn.
    - Job-to-job transitions remain below pre-crisis averages for youth workers and in regions most affected by the 2014 oil price shock, consistent with greater remaining slack for these segments of the labour market.
    - Moreover, other transition measures, such as job-finding rates and job-leaving rates,[2] remain below pre-crisis averages. Job-finding rates moderated in 2018, suggesting that underlying labour market churn is still somewhat muted.
- Overall, weaker churn relative to pre-crisis averages, on net across the broad range of indicators, is consistent with modest slack in the Canadian labour market. This therefore helps explain the modest wage growth over the past few years.

[1] See Poloz (2018).

[2] Job-finding rates measure the rate at which unemployed workers move into employment. Job-leaving rates (including dissatisfied job-leaving) measure the rate of voluntary movements from employment to unemployment. This tends to be procyclical, and higher levels likely indicate greater confidence in the labour market and in the ability to find a new job.

Table 1: Summary of indicators of labour market churn and implications for our assessment of slack and wage growth*

	Canada	
Churn component	Indicator(s) relative to pre-crisis average	Implications for wage pressures relative to pre-crisis
Job changers (job-changing rates)		
Job-to-job (JJ/EE)	Slightly below / in line	
Inflows into employment (job-finding rates)		
Unemployment to employment (UE/U)	Slightly below	
Not in the labour force to employment (NE/N)	Below	
Outflows from employment		
Employment to unemployment (EU/E: job-losing rate)**	Below	
Employment to unemployment (EU/E: job-leaving rate)**	Slightly below	
Employment to not in the labour force (EN/E)	Below	
Overall assessment (based on simple average)	Slightly below	

** Green implies potentially more wage pressures and less labour market slack than pre-crisis average, yellow is broadly in line with pre-crisis average and red is below.*

*** The implications for labour market slack and wage growth differ depending on the reason for unemployment. An increase in job-losers is negatively associated with measures of slack and wage growth, while the opposite is found for job leavers.*

2. Methodology and available measures of labour market churn

Our measure of churn focuses on worker transitions into and out of employment as well as between different jobs for those who are continuously employed.[3, 4] The advantage of using household-level data on worker flows is that the status of workers after a job separation and the previous labour market status of a new hire are known. This provides a richer understanding of labour market dynamics.

The LFS follows a rotating panel sample design, allowing individual labour market outcomes to be linked between two consecutive months. In the LFS, respondents are

[3] While worker flows into and out of employment would not be neutral on overall employment, the net change would be quite small compared with gross flows across various labour market states (into, out of and between jobs). These flows are therefore associated more with labour market churn. In Canada, flows between employment and unemployment and employment and not in labour force were more than 50 times the net change in employment on a monthly basis over the past year.

[4] Many job changes occur without any unemployment spells, which would neither add to nor subtract from total employment (Fallick and Fleischman 2004; Mattila 1974; and Bjelland et al. 2008). For example, Fallick and Fleischman (2004) find that two-fifths of new jobs started between 1994 and 2003 represented employer changes, and 2.6 per cent of employed persons in the United States over this period changed employers each month.

followed for six months, resulting in roughly five-sixths of the sample being common to any pair of months. These data movements can be tracked between various labour market states for individual workers. The transitions that are most relevant to churn are shown in the shaded boxes in **Table 2** below. We use standard naming conventions throughout this paper: employment is represented by E, unemployment by U and not in the labour force by N.[5] Workers transitioning from unemployment in the previous month to employment in the current month are denoted by UE. Workers transitioning from not in the labour force (NILF) to employment are denoted by NE.[6] Therefore, our measure of churn is represented by job changers (JJ), the transitions into employment (UE + NE) and outflows from employment (EU + EN).[7]

Table 2: Summary of gross labour force flows relevant to churn

Row and column category			Current month		
			Labour force status		
			E	U	N
Previous month	Labour force status	E	EE (JJ, JS)	EU	EN
		U	UE	UU	UN
		N	NE	NU	NN

Note: E denotes employment; U, unemployment; N, not in the labour force; JJ, job changer; JS, job stayer; and EE = JJ + JS.

In Canada, we define a job changer (JJ) as a worker who has a job tenure of less than one month and was employed in the previous month (LFS interviews are roughly one month apart). Alternatively, a worker who was employed in the previous and current month and has a job tenure greater than one month is considered a job stayer (JS).[8] Next we present

[5] The full range of worker transitions is shown in **Table A-1** in the Appendix.

[6] The sum of the constructed flows between states (e.g., EE + EU + EN) will not exactly equal the aggregate stocks (E) in each state, most importantly as a result of the ability of matching individuals from one month to the next, as people rotate into and out of the survey, and due to other outflows (see **Table A-1** in the Appendix). While all the transition rates presented in this paper are based on unadjusted flows, our aggregate unadjusted series are comparable to the adjusted series in Bourbeau (2019) using the methodology of Frazis et al. (2005). Therefore, conclusions in this paper are not likely to be affected by this lack of adjustment. Similar work has been conducted based on unadjusted flows for the United States (Frazis 2017).

[7] JJ is a subcomponent of the continuously employed (EE), with the other component being those who remained in the same job (JS).

[8] Morissette, Lu and Qiu (2013) also use this tenure variable from LFS to denote a new hire with a new employer. The resulting annual new hires series match the dynamics of alternative microdata estimates for

various measures or proxies of labour market flows that contribute to churn that are available for Canada and assess their likely implications on current wage dynamics. We focus on transition rates, calculated as the labour market transition in the current month (e.g. UE) as a share of the total number of people in the initial state in the previous month (e.g. U). Because a new LFS questionnaire was introduced in 1997 that included the collection of wage data, our analysis starts in 1997.[9] Also, to assess the strength of churn, we compare current levels with pre-crisis 10-year averages.[10]

3. Results

3.1 Job-to-job transitions (JJ/EE)

The job-changing rate (job-to-job transitions, JJ, as a share of the continuously employed, EE) in Canada oscillated between 0.5 and 1.0 per cent since 1997 and is procyclical (**Chart 1**). Job changing (more striking for transitions involving employees only) fell sharply during the crisis and, more recently, in 2015, following the oil price shock. The measure excluding self-employment shows a slightly stronger correlation with the output gap (than all job changers). For this measure, while a recovery has occurred since early 2016, its current level remains slightly below the average seen in the decade before the crisis.[11]

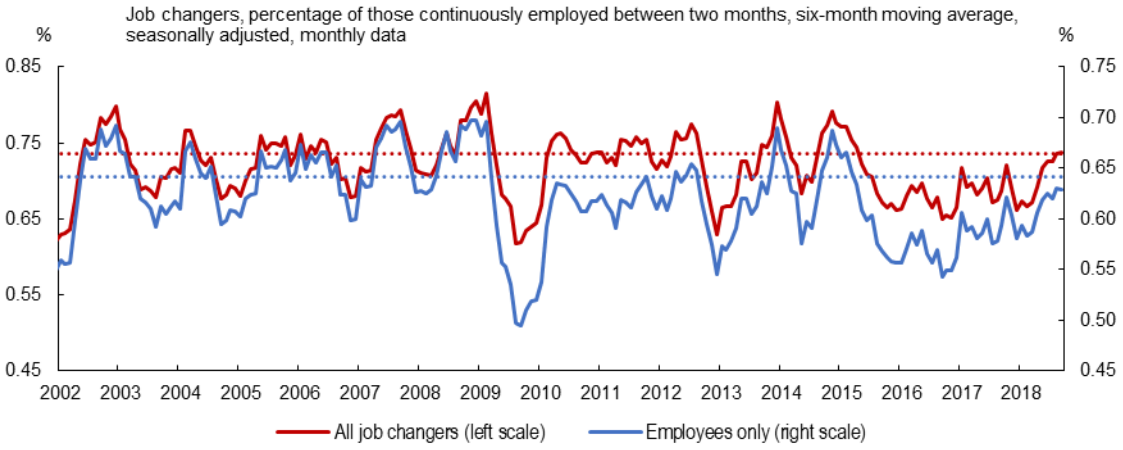
Canada using the Longitudinal Worker File (LWF), which provides a more accurate estimate of hires. That said, the advantage of using LFS is that it is timelier and is available at a higher frequency than the LWF.

[9] To focus on recent dynamics, charts presented in the note start in 2002.

[10] This benchmark is chosen because it would limit the effect of the cycle on our assessment and is long enough not to be unduly influenced by changes in the survey sample or idiosyncratic shocks.

[11] This is also the measure that is relevant for wages because the LFS does not include wages for the self-employed.

Chart 1: The likelihood of changing jobs in Canada has risen following the oil price shock



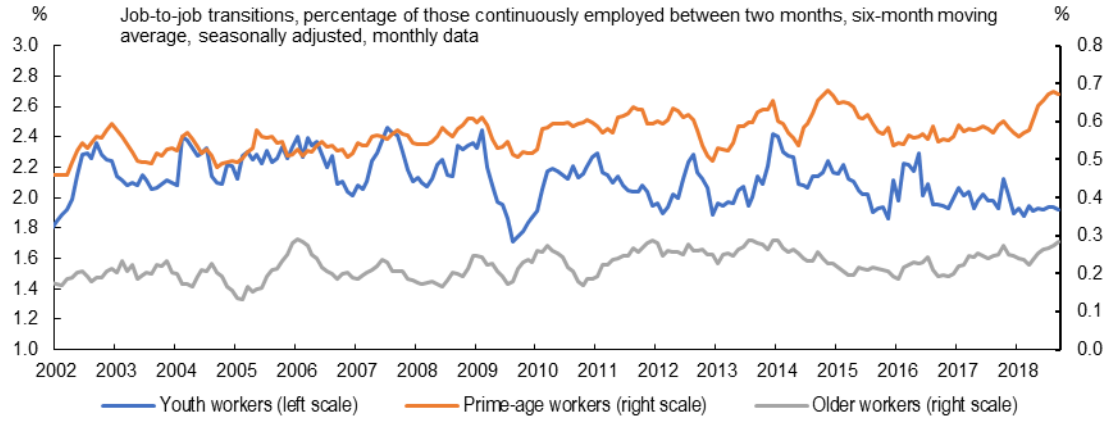
Note: Dotted lines represent pre-crisis 10-year average.
Sources: Statistics Canada and Bank of Canada calculations
Last observation: September 2018

Job-to-job transitions tend to slow as workers age. The probability of transitioning to another job is, on average, four times higher for Canadian youth than for the prime-age population (**Chart 2**).[12] Since the crisis, job-to-job transitions for prime-age and youth workers have diverged. While the former has been improving and is high by historical standards, the latter has not recovered. Moreover, youth job-to-job transitions appear to be more cyclical than other age groups. Meanwhile, prime-age and older workers groups have driven the recovery from 2015 lows in total job-to-job transitions. These transitions, which involve higher wages, have risen since the oil price shock (see **Box 1**).[13]

[12] Holding population shares constant at pre-crisis 10-year averages and allowing the age-specific job-to-job transition rate to evolve as in the actual data boosts the job-changing rate (based on all job changers) from 0.74 to 0.80 over the past 6 months. While a lower job-changing rate for older workers has dampened the aggregate job-changing rate, demographic change affects other churn-related transitions to a lesser extent.

[13] In Canada, job-to-job transitions tend to be higher for those with lower levels of education (high school and below and some college); however, those with higher levels of education are more likely to experience higher wages after changing jobs.

Chart 2: Job-to job transitions have risen for prime-age and older workers but remain weak for youth



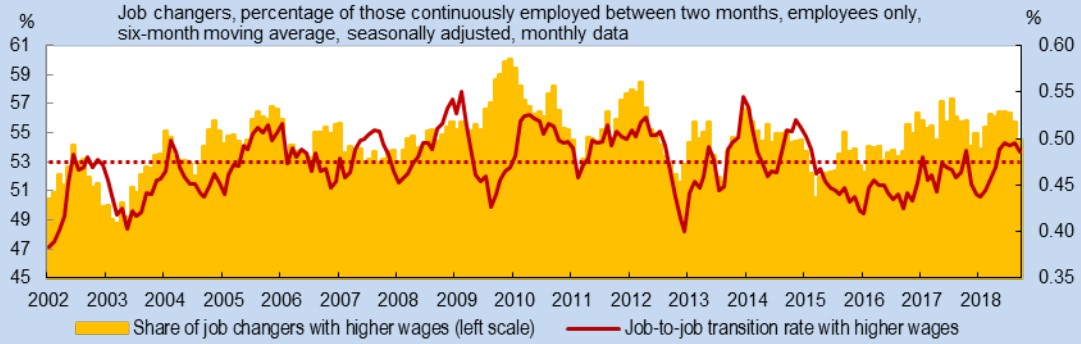
Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

Box 1: Are job changers moving up?

While the literature suggests that changing jobs may be a key source of wage growth over one's career, it is unclear whether individuals are better off after starting a new job and how this may vary over time. To address this, we look at job-to-job transitions that involve higher hourly wages. To remove some of the underlying volatility, we require the increase in hourly wages after changing jobs to be greater than one standard deviation.[1] In Canada, the job-to-job transition rates involving higher wages have risen since the oil price shock. They currently stand slightly above pre-crisis averages (**Chart 1-A**), representing just over half of all job changes over the past six months.

Chart 1-A: The likelihood of changing jobs and earning higher wages in Canada has recovered after the oil price shock



Note: Dotted lines represent pre-crisis 10-year average. One is considered to have higher wages if one's hourly wage was 4.36 per cent higher following a job change, which represents one standard deviation of the average month-over-month wage growth for job changers.

Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

[1] This is based on the standard deviation (4.36 per cent) of the average month-over-month wage change for job changers.

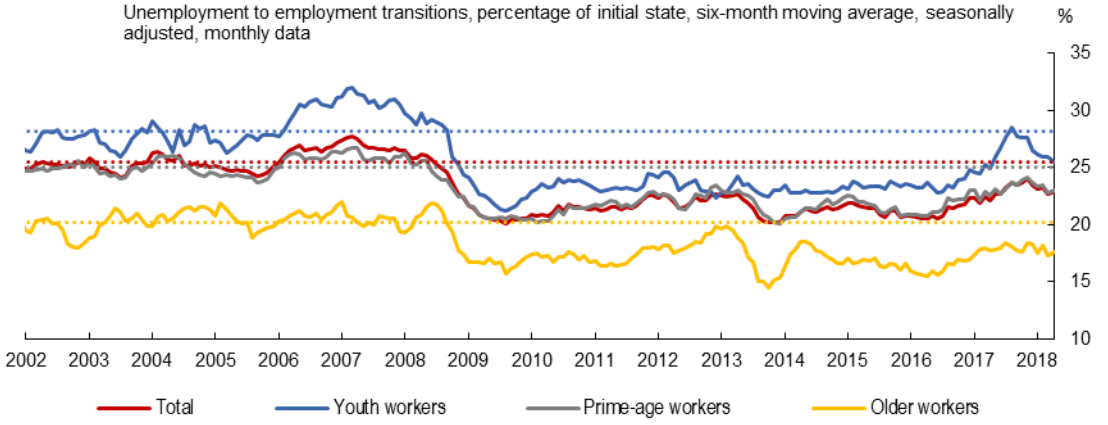
3.2 Transitions into employment (UE, NE)

Job-finding rates are constructed based on movements from unemployment to employment (also denoted as UE transitions) in two consecutive months as a share of those unemployed in the first month (UE/U). These rates (all age groups) fell sharply during the crisis and recovered somewhat between mid-2016 and 2017 (**Chart 3**). However, these rates have recently moderated in 2018 and stand below their pre-crisis 10-year averages.

Transitions from NILF to employment (NE/N) have trended down since the early 2000s across demographic groups (**Chart 4**).[14] Also, as workers age, the overall probability of transitioning into employment tends to slow because retirees are more likely to remain out of the labour market. While the trend decline has been common across demographic groups, it accelerated for youth during the crisis, consistent with the decline in their participation rate.

Chart 3: Job-finding rates recovered strongly between 2016–17 in Canada, but have recently moderated slightly

Unemployment to employment transitions, percentage of initial state, six-month moving average, seasonally adjusted, monthly data



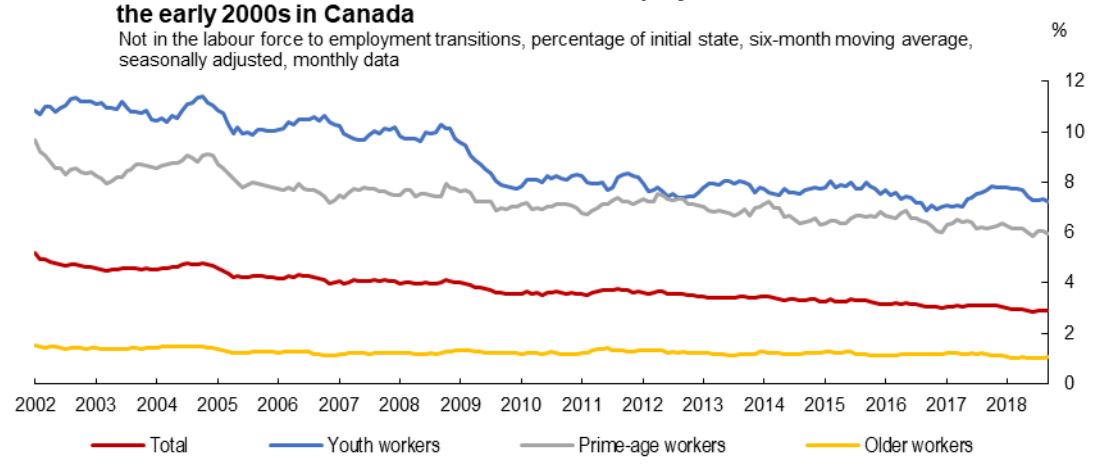
Note: Dotted lines represent pre-crisis 10-year average.
Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

[14] This decline has also been consistent across genders.

Chart 4: Movements from not in the labour force to employment have trended down since the early 2000s in Canada

Not in the labour force to employment transitions, percentage of initial state, six-month moving average, seasonally adjusted, monthly data



Sources: Statistics Canada and Bank of Canada calculations

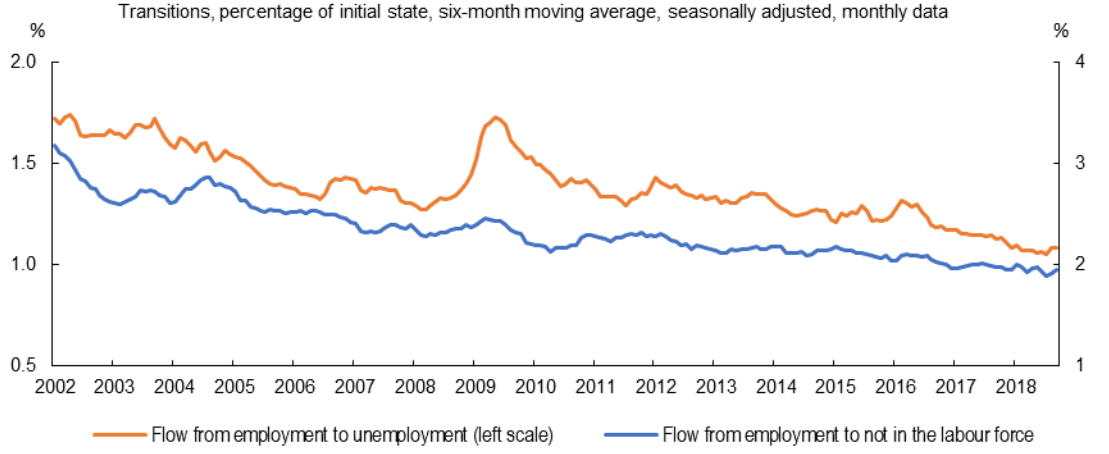
Last observation: September 2018

3.3 Job separations (EU, EN)

Job-separation rates in Canada have been trending downward since the early 2000s (**Chart 5**). Focusing on job separations into unemployment (EU/E), where increases tend to reflect weak labour market conditions, we see that rates spiked during the crisis but eased significantly since. They now stand at low levels consistent with low unemployment rates.[15] The separation rate into unemployment is much higher for youth than for prime-age workers.

Chart 5: Job separations have trended down in Canada

Transitions, percentage of initial state, six-month moving average, seasonally adjusted, monthly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

[15] **Chart A-1** in the Appendix shows the probability of workers finding themselves as involuntary part-time from full-time has remained at elevated levels in Canada since the crisis.

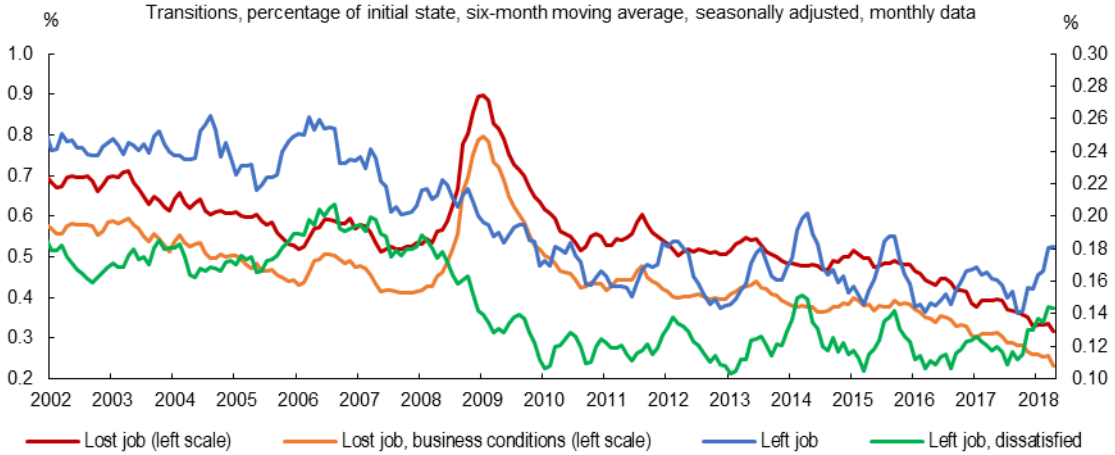
Disaggregating job separation rates by reason, however, provides a richer picture. Transitions into unemployment due to job loss (including those that result from business conditions) are at very low levels (**Chart 6**), as are aggregate separations. However, the proportion of those who have left their job and moved into unemployment voluntarily, including those who were dissatisfied, has increased slightly in the most recent data but remains below pre-crisis levels. This increase may suggest rising confidence in the labour market and the likelihood of finding a new job, but these job-leaving rates have been volatile and are weaker than pre-crisis averages.

Outflows from employment to NILF have trended down through time, suggesting that more labour supply has been made available than would otherwise have been the case. This decline points to more muted wage pressures from this channel. Similar to transitions into unemployment, the trend for those who separated from employment and moved out of the labour force (EN/N) has diverged between the job-loss rate, which is at very low levels, and the dissatisfied job-leaving rate, which has moved up slightly following the oil price shock (**Chart 7**). Meanwhile, given demographic changes, the monthly portion of workers moving out of the labour force due to retirement has risen since the early 2000s.

Overall, across the broad range of indicators reviewed, churn is weaker in Canada relative to the pre-crisis averages. This finding is consistent with modest remaining slack in the Canadian labour market, and thus more muted wage pressures than seen before the crisis.

Chart 6: Transitions from employment into unemployment by reason in Canada

Transitions, percentage of initial state, six-month moving average, seasonally adjusted, monthly data

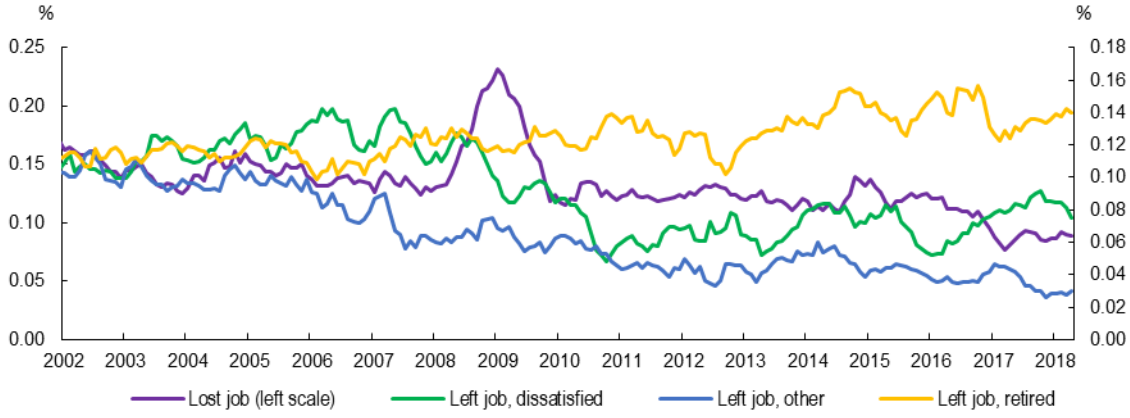


Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

Chart 7: Transitions from employment to not in the labour force by reason in Canada

Transitions, percentage of initial state, six-month moving average, seasonally adjusted, monthly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

4. Job-to-job transitions and wage growth

Job changers are likely a key element of wage growth over the cycle, given that a large share of them appear to make higher wages after changing jobs (**Chart 1-A**). In provinces where unemployment rates are high by historical standards, such as in oil-producing provinces, the pace of job-to-job transitions has been weaker. This has been associated with softer wage growth (**Box 2**).

We decompose the average hourly wages into those paid to job changers and job stayers and then look at how this average wage compares with levels from one year earlier (**Chart 8**).[16] Wage growth for job changers—which is near its peak—is quite volatile and has averaged somewhat higher than that for job stayers and aggregate average wages.[17, 18] The wage growth dynamics for job stayers mimics overall wage growth from LFS, given their large number.

It is also possible to construct average wage growth for an individual following a job change. In line with the literature, the monthly wage gain following a job change appears to be procyclical, with moderation around periods with negative real gross domestic product growth (**Chart 9**). Sizable monthly growth rates highlight that job change is likely a key element of wage growth in one's career in Canada.

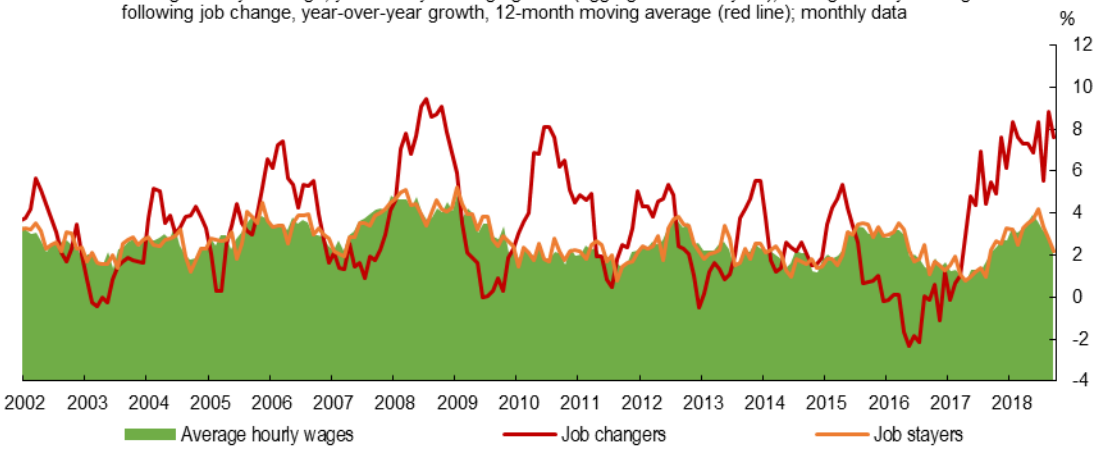
[16] Specifically, we look at the average hourly wage for those who changed jobs in a given month.

[17] The volatility likely reflects differences in the composition of job changers over the year, which shows up in the aggregate given the relatively small monthly share of job changers.

[18] This higher wage growth for job changers has added 0.1 percentage points to year-over-year wage growth on average over 2018Q1 to 2018Q3.

Chart 8: Wage growth for job changers tends to be higher than for job stayers in Canada

Average hourly earnings, year-over-year wage growth (aggregate and stayers); average hourly earnings following job change, year-over-year growth, 12-month moving average (red line); monthly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

Chart 9: Average hourly wage gains for job changers tend to be weak around periods of negative real GDP growth in Canada

12-month weighted average of monthly wage gains following a job change, monthly data, per cent

Note: Weights are based on the share of changers in a given month relative to the total changers in a 12-month period.

Sources: Statistics Canada and Bank of Canada calculations

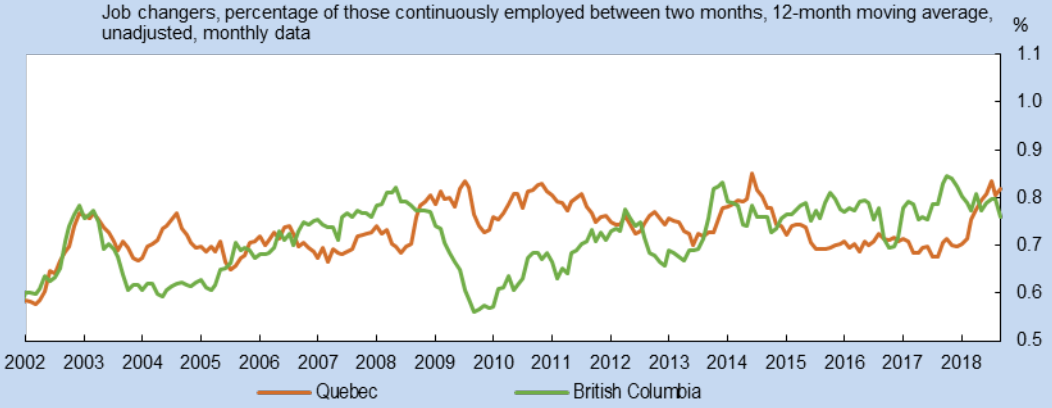
Last observation: September 2018

Box 2: Provincial-level churn and wage growth

The pace of job-to-job changes shows differing dynamics that are reflective of the underlying strength in provincial labour markets. In provinces where unemployment rates stand more firmly below pre-crisis 10-year averages, an increase or an upward trend in the share of job changers (relative to the continuously employed) has occurred, particularly in Quebec and British Columbia. Meanwhile, in provinces where unemployment rates are elevated by historical standards, such as in oil-producing provinces, the pace of job-to-job transitions has been weaker (**Chart 2-A** and **Chart 2-B**).[1] Moreover, a higher job-to-job transition rate is also associated with stronger wage growth in the province (**Chart 2-C**).

Chart 2-A: Job changers as a percentage of continuously employed, by province

Job changers, percentage of those continuously employed between two months, 12-month moving average, unadjusted, monthly data

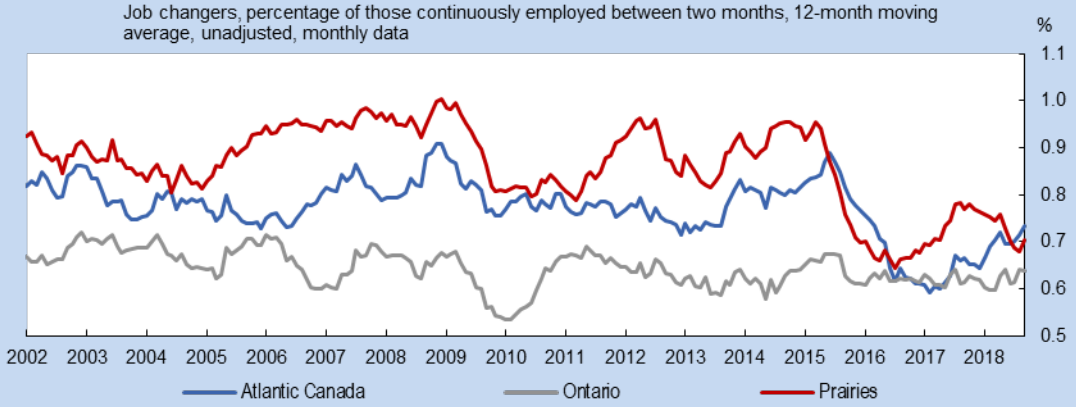


Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

Chart 2-B: Job changers as a percentage of continuously employed, by province

Job changers, percentage of those continuously employed between two months, 12-month moving average, unadjusted, monthly data

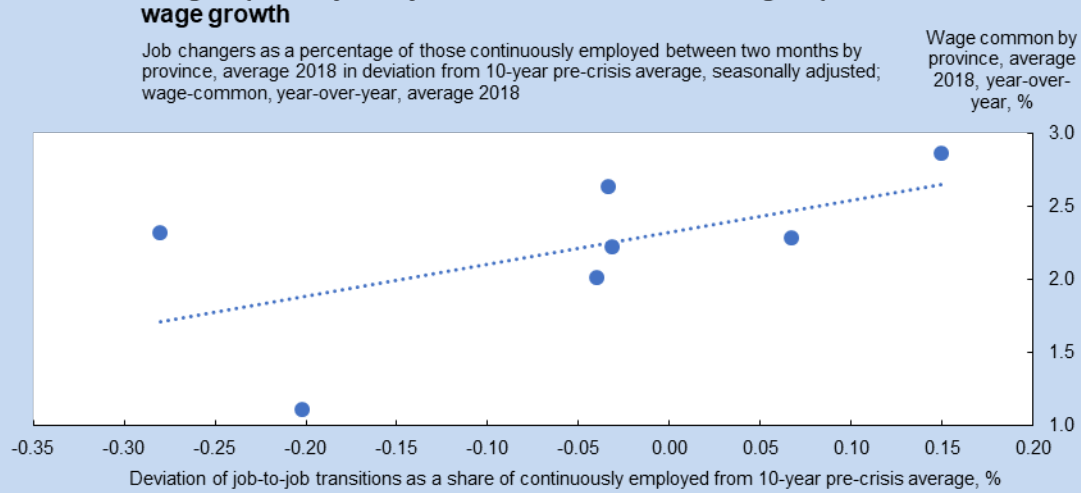


Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018

Chart 2-C: A higher pace of job-to-job churn is associated with higher provincial wage growth

Job changers as a percentage of those continuously employed between two months by province, average 2018 in deviation from 10-year pre-crisis average, seasonally adjusted; wage-common, year-over-year, average 2018



Note: For more details on the construction of wage-common by province see Lachine (2018).

Sources: Statistics Canada and Bank of Canada calculations

[1] These trends are little changed when assessed relative to total employment in t - 1 rather than those continuously employed in two consecutive periods.

5. Conclusion

As highlighted in the literature, one of the key drivers of wage growth is job change, as employees move up the job ladder into jobs better suited to their skills or experience. While indicators of churn have been improving in Canada, they broadly remain below pre-crisis averages. For instance, job-to-job transitions remain below pre-crisis averages for youth and in regions most affected by the 2014 oil price shock. Moreover, other transition measures, such as job-finding rates and job-leaving rates, remain below pre-crisis averages. Job-finding rates moderated in 2018, suggesting that underlying labour market churn is still somewhat muted. This relatively subdued level of churn is consistent with modest slack remaining in the Canadian labour market and thus likely contributes to the moderate wage growth over the past few years.

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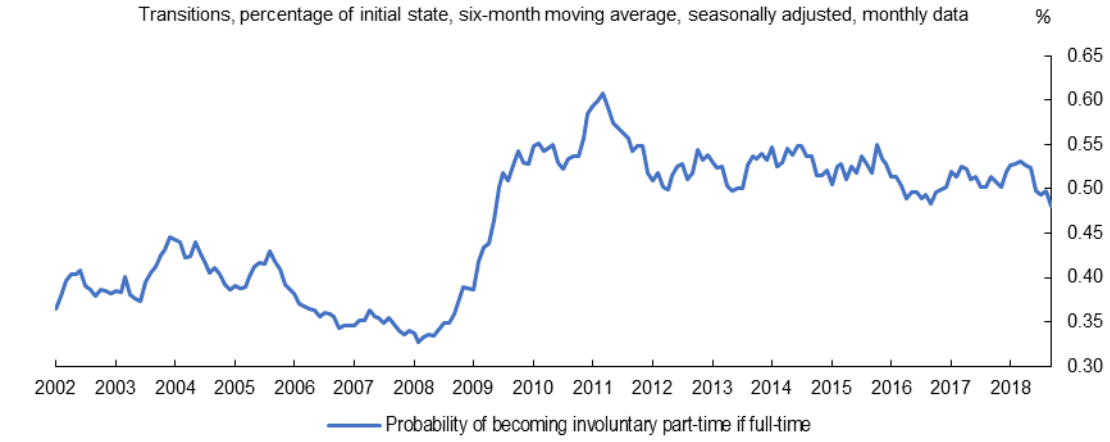
Appendix: Additional tables and charts

Table A-1: Summary of gross labour force flows

Row and column category			Current month					
			Labour force status			Other outflow		Row total (previous month levels)
			E	U	N	Deaths	Net other outflow	
Previous month	Labour force status	E	EE	EU	EN	ED	EO	EP
		U	UE	UU	UN	UD	UO	UP
		N	NE	NU	NN	ND	NO	NP
	Inflow	A (Just 15)	AE	AU	AN	0	AO	AP
		I (Net other inflow)	IE	IU	IN	0	0	IP
	Column total (current)		EC	UC	NC	DC	OC	Total

Note: E denotes employment; U, unemployment; N, not in the labour force; D, death; O, outflow; I, inflow; C, current; P, previous; and A, just turned 15 years old.

Chart A-1: The likelihood of becoming involuntarily part-time remains elevated in Canada



Sources: Statistics Canada and Bank of Canada calculations

Last observation: September 2018