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Labor market mobility and the early-career outcomes of immigrant men

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Abstract

We examine the role of between- and within-firm mobility in the early-career outcomes of immigrant men. Among Canadian workers with less than 10 years of potential experience, we find that visible minority immigrants were significantly less likely to have been promoted with their initial employers than similar white natives but were just as likely to have moved to new employers over the course of a year between interviews. White immigrants, on the other hand, were just as likely to be promoted as white natives but much more likely to move to new employers—suggesting that they enjoyed more overall mobility than white natives and other immigrants. We present tentative evidence linking these mobility patterns to differences in wage growth and occupational change between immigrants and natives. Overall, our findings suggest that the between- and within-firm mobility of white immigrants may play an important role in their relative economic success in Canada, while adding to growing evidence that visible minority immigrants experience frictions in the labor market that hinder their mobility and thus their economic prospects.

JEL Classification: J61, J71

Keywords: Promotions, Employer changes, Immigration, Visible minorities

1 Introduction

Integrating immigrants into the labor market is a key policy objective in countries with large and growing immigrant populations like Canada, which admitted over five million immigrants between 1995 and 2010 (Statistics Canada 2016) and where 20.6% of residents were born abroad (Chui 2013). Given that many immigrants experience a decline in occupational status when immigrating, studies such as Green (1999), Chiswick et al. (2005), and Abramitzky et al. (2014) have highlighted the importance for immigrants of (upward) occupational mobility.[1] In Canada, the first years following immigration have been shown to be particularly important for immigrants in moving to jobs in their preferred occupations (Grenier and Xue 2011).

In this study, we note that occupational mobility requires job mobility and investigate native-immigrant differences in job mobility early in the career through moves to new employers and within firms via promotions. We then assess the extent to which differences in within- and between-firm mobility contribute to differences in wage growth and occupational mobility between early-career immigrants and natives. To the best of our knowledge, ours is the first study of native-immigrant differences in both within- and between-firm mobility.[2] Furthermore,

while an extensive literature documents gender and race differences in promotion outcomes, we provide the first evidence of native-immigrant differences in the rates of and wage returns to promotions.

Our focus on the within- and between-firm mobility of early-career immigrants is further motivated by three important facts from the labor literature. First, there is evidence that immigrants in Canada may encounter search frictions that limit their between-firm mobility. Aydemir and Skuterud (2008) find that the native-immigrant pay gap in Canada can be largely explained by differences in employers as natives tend to be employed in higher wage firms. This suggests that immigrants may face barriers to mobility keeping them in jobs with low-paying firms.[3] Along these lines, Oreopoulos (2011) in a resume field experiment finds that the resumes of skilled immigrants in Canada were less likely to elicit contacts from potential employers than resumes from similar natives, while Bowlus et al. (2016) provide evidence of frictions faced by immigrants to Canada in a structural model of job search.

Second, search and matching models imply that all workers (natives and immigrants) benefit on average from early-career moves as they find better matches to their skills (Burdett 1978; Jovanovic 1979)—which is likely even more true for immigrants looking to upgrade their occupations to match their skills. Topel and Ward (1992) found that the average man in the USA has seven jobs in the first 10 years in the labor market and that these movements between jobs account for at least a third of early-career wage growth.[4] Thus, differences in mobility early in the career may translate into significant differences in earnings over time.

Finally, our interest in within-firm mobility via promotions follows from the observation that workers need not change employers to find better job matches, and an important avenue for changing jobs with an employer is through promotions—which also tend to be concentrated early in the career (Javdani and McGee 2017). Furthermore, promotions are important drivers of wage growth. Among many others, Pergamit and Veum (1999), Cobb-Clark (2001), Francesconi (2001), Blau and DeVaro (2007), and Kosteas (2009) find that promotions are associated with, on average, 5 to 12% increases in wage growth, while McCue (1996) finds that promotions account for 9% of total wage growth in the first 10 years of the career for white men. As a consequence, the failure of immigrants to keep pace with natives in climbing the corporate ladder via promotions early in the career may contribute to native-immigrant wage gaps.

Using a sample of male workers in Canada from 1999 to 2004 from the Workplace and Employee Survey (WES), we estimate the probabilities that natives and immigrants make different transitions over the course of a year between interviews. From one interview to the next, workers enter unemployment, remain with their initial employers without being promoted, remain with their initial employers having been promoted, or move to new employers. We find that visible minority immigrants are 15 percentage points less likely to have been promoted with their current employers but are just as likely to have moved to new employers as white natives. White immigrants, on the other hand, were just as likely to have been promoted with their initial employers as white natives but were as much as 12 percentage points more likely than white natives to move to new employers—suggesting that white immigrants are more mobile than both white natives and visible minority immigrants.

We then examine whether the greater between-firm mobility of white immigrants and lower within-firm mobility of visible minority immigrants translate into differences in wage growth relative to white natives. We note, however, that our analysis of the contributions of mobility to wage growth gaps is necessarily speculative given that the gaps themselves are not precisely estimated. In our sample, the wages of white (visible minority) immigrants grow by 9.5 (6.6) percent on average between interviews compared to 8.3% among white natives. Mobility is clearly related to wage growth in our sample as moves to new employers and promotions are associated with wage growth between interviews of 15 and 2.5%, respectively. Using Oaxaca-Blinder decompositions of the native-immigrant wage growth gaps, we find that—while imprecisely estimated—differences between white immigrants and natives in the rates of moves to new employers and promotions can account for a difference in wage growth equal to the whole wage growth gap—driven by white immigrants' higher likelihood of moving to new employers. By contrast, visible minority immigrants' slightly higher inter-firm mobility and the large wage gains to employer changes offset the negative effect on wage growth of their lower promotion rates, which renders the total contribution of mobility to the wage growth gap between white natives and visible minority immigrants close to zero.

Finally, we examine the relationship between within- and between-firm mobility and occupational mobility early in the career in light of evidence that immigrants to Canada experience occupational "downgrading" upon arrival.[5] Here too, the importance of between-firm mobility for white immigrants is evident. Some 91% of white immigrants changing employers switch occupations compared to only 71% of white natives and 81% of visible minority immigrants. As a consequence of their greater likelihood of changing employers and changing occupations conditional on changing employers, 26% of white immigrants in our sample change occupations between interviews compared to only 16% of white natives and 19% of visible minority immigrants. Both moves to new employers and promotions are important channels for changing occupations early in the career in our sample, and white immigrants are particularly good at using the former channel to change—and likely upgrade—occupations.

While Aydemir and Skuterud (2008), Oreopoulos (2011), and Bowlus et al. (2016) provide evidence consistent with visible minority immigrants in Canada encountering job search frictions not encountered by white Canadian-born workers, our primary contribution is to provide direct evidence of actual differences between natives and immigrants in mobility. These differences are surprising because the Canadian immigration system imposed few mobility constraints. Newly arrived permanent residents were not for the most part tied to employers or regions. Likewise, immigrants in Canada on "open work permits" could change employers without restriction, while immigrants on employer-specific work permits needed only apply for a new work permit to change employers. Moreover, work permits could be renewed indefinitely as long as the worker remained employed.

Our second contribution is to note the marked differences among immigrants in mobility patterns and the potential importance of these differences to the diverging fortunes of different groups of immigrants. Specifically, ours is the first study to highlight the role of between-firm mobility in the relative economic success of white immigrants to Canada. This is particularly important for interpreting the existing evidence on mobility among immigrants to Canada. Notably, Skuterud and Su (2012) provide evidence

that immigrants to Canada were less likely than natives to transition into high-wage jobs (and more likely to transition out of these jobs), but equally likely to transition into low-wage jobs. Our findings suggest that these patterns may be driven by visible minority (and not white) immigrants.

In terms of interpreting these mobility patterns, we note that the fact that visible minority immigrants were just as likely to move to new employers as white natives should not be taken as evidence against the existence of search frictions. If visible minority immigrants are not promoted at rates commensurate with their skills, presumably they should be pursuing outside options more than white natives. Likewise, immigrants may have stronger incentives to move to new employers in order to upgrade occupations than natives. Both possibilities suggest that visible minority immigrants should be moving to new employers with greater frequency than white natives as we observe among white immigrants. Indeed, Oreopoulos' findings imply that even if visible minority immigrants were sending out resumes at a rate similar to white immigrants, they would generate fewer contacts with employers and thus lead to a lower rate of transitioning to new employers.

We consider three potential explanations for the mobility patterns that we observe: unobserved productivity differences, taste-based discrimination on the part of employers, and information asymmetries and other search frictions. Visible minority immigrants may be less likely to be promoted if they are less productive than natives in ways unobserved by the econometrician. For instance, immigrants may have language difficulties that limit their prospects for promotion. Splitting our sample by age-at-immigration, however, we find that immigrants who arrived in Canada as children actually fare the worse where promotions are concerned. Alternatively, unobserved differences *among* visible minority immigrants in our sample may have resulted from changes in Canadian immigration policy in the early 1990s that prioritized admitting skilled immigrants as opposed to immigrants with family ties. While we find that visible minority immigrants who arrived before the shift to an immigration policy focusing on admitting skilled immigrants (most of whom arrived as children) fare worse in terms of promotion probabilities than those who arrived after this policy change, the difference in promotion probabilities is not statistically significant.

The lower promotion rates among visible minority immigrants could also arise if employers prefer to promote white workers (natives and immigrants) rather than visible minorities. If this were the case, however, then high-ability visible minority immigrants ought to be more likely to move to new employers as competition gives firms incentives to hire away talented visible minorities experiencing discrimination in promotion outcomes. As a consequence, visible minority immigrants ought, on average, to be more likely to change employers than white immigrants and natives. In our sample, however, visible minority immigrants move to new employers at a similar rate as white natives. Nevertheless, the struggles of visible minority natives observed in our sample in terms of wage growth suggest that taste-based discrimination may play a role in the outcomes of visible minorities regardless of whether they are immigrants.

Of course, taste-based discrimination could persist without visible minority immigrants being more likely to change employers if search frictions exist that prevent visible minority immigrants from moving to new employers. For instance, visible minorities may lack networks for job search or be less familiar with how job search

works in Canada. Alternatively, potential employers may have less information about visible minority immigrants. In the "invisibility hypothesis" of Milgrom and Oster (1987), this information asymmetry between current and prospective employers gives employers incentives to "hide" employees about whom the market has less information by denying them promotions that are assumed to convey positive information about the worker to other employers. We find some evidence consistent with such information asymmetries. Specifically, we find that visible minority immigrants about whom the market likely has more information—those with a bachelor's degree or higher—enjoy similar mobility between- and within-firms and wage returns to this mobility as white natives. Ultimately, however, establishing whether information asymmetries or other search frictions lead to the mobility differences between visible minority immigrants and white immigrants and natives requires further investigation, an issue we discuss in the conclusion.

The remainder of the paper proceeds as follows. Section 2 discusses the data as well as the implications of our sample selection criteria. Section 3 discusses the Canadian immigration policies that affected immigrants in our sample and their implications for mobility. Section 4 presents our main findings. Section 5 concludes and poses the questions for future research.

2 Data

Our sample is drawn from the Workplace and Employee Survey (WES), a longitudinal survey of employers and their employees collected by Statistics Canada between 1999 and 2006. In every year, a representative sample of approximately 6000 employers was surveyed.[6] A maximum of 24 employees were interviewed from each sampled firm in each odd year and re-interviewed the following year regardless of whether they remained with their initial employer.[7] The employee sample is representative of the Canadian workforce in the target population of employers when properly weighted, and all of our analysis incorporates sample weights from Statistics Canada. While a longer longitudinal dimension would have been preferred, the WES is particularly well-suited for our study insofar promotions and moves to new employers between interviews are well-measured.

Three dependent variables are used in our study. First, we use a categorical variable that identifies the transition made by each worker between interviews to study native-immigrant differences in within- and between-firm mobility. A worker either transitions to unemployment (i.e., the employee has left the initial employer and does not have a new employer—including self-employment), transitions to a new employer, remains with the initial employer and has been promoted since the first interview, or remains with the initial employer without having been promoted. Changes in pay and responsibilities are thought to be the distinguishing features of promotions (Pergamit and Veum 1999), and our data identify promotions using precisely these two features. Specifically, whether the employee has been promoted between interviews is based on the questions: "Have you ever been promoted while working for this employer? (By promotion we mean a change in duties/responsibilities that lead to both an increase in pay and the complexity or responsibility of the job)" and "When did your most recent promotion occur?"[8] The caveat that a promotion must entail a change in job complexity or responsibility is important insofar our interest in promotions stems largely from

their role in enabling workers to change occupations. Second, we use the change in the worker's log-hourly wage between interviews to examine the extent to which differences in mobility contribute to differences in wage growth. Third, we create an indicator that equals one when a worker changes occupations between interviews to study the relationship between occupational mobility and between- and within-firm mobility.[9]

Our main analysis is based on the pooled 1999, 2001, and 2003 cross sections of employees; the 2005 cross section cannot be used because WES did not field an employee survey in 2006. We restrict our sample to non-aboriginal men who were interviewed twice with less than 10 years of potential labor market experience (defined as age minus years of schooling minus six).[10] The full sample used to study labor market transitions includes observations from 4907 men after the sample restrictions are imposed—including 260 (266) white (visible minority) immigrants. When studying wage growth and occupation switching, we further restrict the sample to workers who are employed at both interviews (i.e., dropping men who transition to unemployment) resulting in a sample with observations from 4585 men.

We focus on early-career workers for three reasons. First, most job shopping occurs early in the career (e.g., Topel and Ward 1992, van der Klaauw and Dias da Silva 2011). Likewise, most promotion activity occurs early in the career among Canadian workers in the WES (Javdani and McGee 2017). Second, focusing on workers who enter Canada before or shortly after entering the workforce allows us to abstract from issues arising from differences in the returns to labor market experience acquired in different countries that complicate native-immigrant comparisons among older workers. Third, focusing on workers beginning their careers over a single decade enables us to abstract to some extent from differences in macroeconomic conditions upon labor market entry that have affected long-run immigrant and native career trajectories in other cohorts (Green and Worswick 2012).

We create indicators for being a Canadian-born visible minority, a white immigrant, or a visible minority immigrant with white Canadian-born workers serving as the reference category because significant differences exist among both natives and immigrants of different races.[11] Our controls include the highest level of schooling, the number of dependent children, an indicator for marital status, a quadratic in age, a quadratic in years of (actual) full-time labor market experience, a quadratic in years of seniority with the current employer, an indicator for full-time employment, an indicator for membership in a union or collective bargaining agreement, an indicator for the language spoken at work being different from the language spoken at home, occupation (six categories), industry (14 categories), and the worker's place in the firm-level wage distribution.[12] We control for the worker's standing in the firm-level wage distribution as a proxy for the worker's position in the firm's hierarchy because different hierarchical levels could be associated with different rates of transitions and the returns to these transitions.

Before discussing the summary statistics, some discussion of our sample selection rules is warranted. Workers who are not interviewed a second time ("attriters") are eliminated from our analysis because we do not observe their employment transitions, wage growth, or occupation switching between interviews. Workers may not be re-interviewed for the usual reasons (e.g., refusals, inability to locate), but immigrants may

also attrit because they return to their home country (i.e., population attrition). Systematic, unobserved differences between natives and immigrants may bias our estimates if return migration is correlated with the unobserved attributes of immigrants. To assess the potential importance of non-random attrition, Appendix: Table 9 reports the estimated marginal effects from a probit model of the probability of attrition for visible minority Canadian-born workers, white immigrants, and visible minority immigrants observed in the first (odd year) interview using different sets of controls. While both white and visible minority immigrant men are more likely to attrit than white natives, the difference is only statistically significant for white immigrants.[13] If this attrition is due to population attrition, our findings should be interpreted as applying to the population of white immigrants who remain in Canada—presumably the population of interest in the long run.[14]

Alternatively, it may be the case that workers who change employers between interviews are harder to locate than workers who remain with their initial employers. Attrition along these lines would imply that our estimates understate the between-firm mobility of white immigrants. We have two reasons, however, to doubt that "movers" were more likely to attrit than "stayers." First, the WES documentation indicates following workers who changed employers between interviews was one of the objectives of the survey (Krebs et al. 1999). Second, workers who consented to be interviewed in the odd year submitted forms with their contact information. After 2000, all interviews were done over the phone. The initial employer played no role in contacting workers for the second interview (Krebs et al. 1999). Nevertheless, we acknowledge that there is some potential that our estimates understate the between-firm mobility of immigrants.

Figure 1 details the proportions of each group making particular transitions. Most strikingly, only 20% of visible minority immigrants in our sample were promoted with

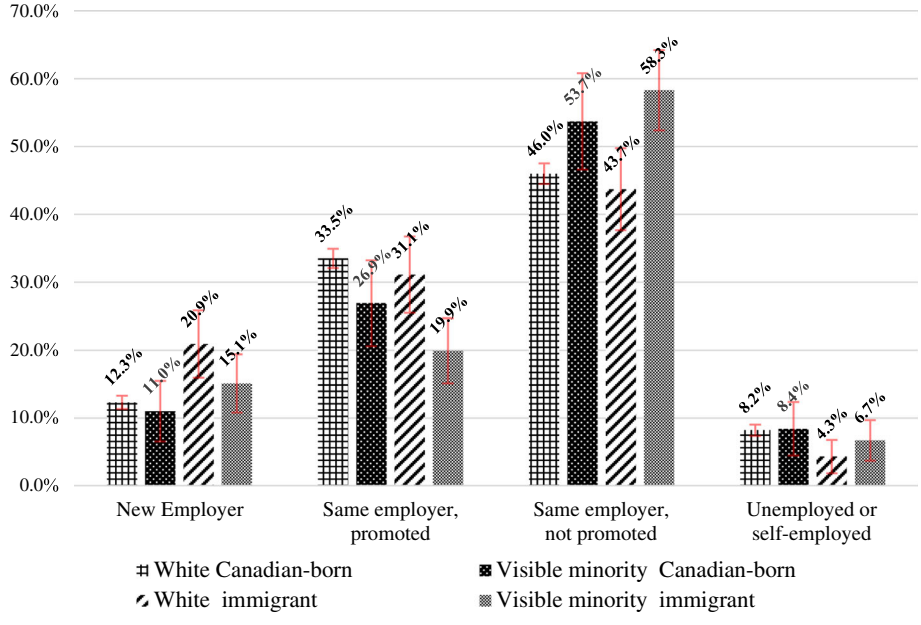

Fig. 1 Labor market transitions by group. *Notes*: The figure displays the weighted fraction of each group making a particular transition using the employee weights provided by Statistics Canada along with 95% confidence intervals

their initial employers between interviews relative to 34% of white, Canadian-born men—a difference that is statistically significant at the 1% level.[15] Visible minority immigrants were not significantly more likely to move to new employers relative to white natives (15 versus 12%), but 58% of visible minority immigrants simply remained with their initial employers without being promoted relative to only 46% of white natives—again a statistically significant difference. By contrast, white immigrants were nearly as likely as white natives to be promoted when remaining with their initial employer but significantly more likely to move to new employers.

Table 1 reports summary statistics for each group. In addition to the differences in mobility observed in Fig. 1, immigrants and natives differ in both their wage growth and the rates at which they switched occupations. Early-career white natives experienced wage growth of 8.3% between interviews relative to only 6.6% for visible minority immigrants. White immigrants, by contrast, experienced 9.5% wage growth between interviews.[16] While not statistically significant at conventional levels, the economic significance of these wage growth gaps early in the career could be considerable. Finally, more than a quarter of white immigrants changed occupations between interviews relative to only 16% of white natives.

Table 1 also makes it clear that controlling for observed characteristics may be important as immigrants and natives differ significantly on several dimensions. Consistent with Canada's bias in favor of skilled immigrants discussed in the next section, 51% of visible minority immigrants and 44% of white immigrants in our sample had a bachelor's degree or higher compared to only 19% of white natives. Given that the sample restriction is based on potential experience and immigrants spend more years in school, both visible minority and white immigrants were also on average approximately 2 years older than natives in our sample.

Finally, immigrants were distributed very differently across industries and occupations than their white native peers. For instance, nearly 32% of visible minority immigrants in our sample worked in finance and insurance or business services compared to only 15% of white natives. Similarly, more than 40% of white and visible minority immigrants worked either as managers or as professionals while less than 38% worked in technical occupations or the trades. By contrast, only 25% of white natives worked as managers or professionals while 50% worked in technical occupations and the trades. In Section 4, we examine whether these observed differences between natives and immigrants can explain the unconditional native-immigrant differences in mobility, wage growth, and occupation switching.

3 Immigration policy in Canada

Immigrants in our sample arrived in Canada between 1966 and 2002. In this section, we briefly discuss the key features of and changes to Canadian immigration policy in this period and the likely implications for immigrants' mobility. In 1967, a points system to score applicants based on characteristics such as education, age, language, and occupation was introduced to provide an objective standard for admission to Canada. Three main admission classes were established: economic-class applicants whose eligibility was evaluated solely based on the point system, nominated relatives who were assessed under the point system but received bonus points based on kinship, and family class applicants who were admitted solely on family ties.

Table 1 Summary statistics

Variable	White Canadian-born	Visible minority Canadian-born	White immigrant	Visible minority immigrant
Unemployed	0.082	0.084	0.043	0.067
New employer	0.123	0.110	0.209	0.151
Same employer, promoted	0.335	0.269	0.311	0.199
Same employer, not promoted	0.460	0.537	0.437	0.583
Change in log-hourly wage‡	0.083	0.009	0.095	0.066
Changed occupations‡	0.162	0.223	0.258	0.193
Log-hourly wage in the first interview	2.664	2.773	2.887	2.731
Education				
Bachelor or higher	0.190	0.305	0.444	0.509
More than high school but less than bachelor	0.551	0.548	0.356	0.389
High school grad	0.181	0.074	0.141	0.077
Less than high school*	0.077	0.071	0.056	0.023
Married	0.426	0.243	0.547	0.437
Number of dependent children	0.282	0.109	0.272	0.298
Age	25.202	24.925	27.397	27.596
Years of actual full-time experience	5.281	4.427	5.735	5.481
Full-time job	0.737	0.615	0.822	0.862
Membership in a union	0.181	0.161	0.109	0.144
Tenure with employer	3.044	2.201	3.199	2.833
Language spoken at home different from work	0.032	0.020	0.014	0.053
Industry				
Construction and natural resources	0.085	0.015	0.063	0.007
Transportation, warehousing, wholesale	0.116	0.044	0.128	0.065
Communication and other utilities	0.017	0.014	0.007	0.011
Retail trade and consumer services	0.300	0.238	0.222	0.263
Finance and insurance	0.027	0.123	0.029	0.120
Real estate, rental, and leasing operations	0.016	0.019	0.007	0.004
Business services	0.124	0.144	0.175	0.197
Education and health services	0.071	0.163	0.075	0.057
Information and cultural industries	0.037	0.047	0.038	0.021
Manufacturing*	0.202	0.188	0.250	0.250
Occupation				
Managers	0.093	0.074	0.150	0.150
Professionals	0.142	0.261	0.323	0.251
Technical/traders	0.504	0.332	0.374	0.354
Marketing/sales	0.054	0.141	0.019	0.071
Clerical/administrative	0.087	0.151	0.052	0.121
Production workers*	0.116	0.038	0.079	0.050
Percentile in firm wage distribution	0.298	0.321	0.256	0.341
Number of observations	4192	189	260	266

*Omitted category in our regression specifications
‡The statistic applies to the restricted sample of 4585 men who are employed in both interviews

In 1978, a new Immigration Act prioritized the admission of family members and refugees—thereby reducing the share of immigrants admitted under the economic class, who already constituted a small share of admitted applicants. Further changes in 1982 limited the admission of economic class applicants to those with pre-arranged employment, but these restrictions proved to be short-lived. Concerns about Canada's low fertility rate and an aging population in 1986 resulted in the elimination of the pre-arranged employment requirement for economic class applicants and a substantial increase in immigration levels with the number of immigrants admitted annually rising from 83,000 in 1985 to 99,000 in 1986 and ultimately to 250,000 by 1993 (Green and Green 1999).

In the early 1990s, Canada's immigration policy moved from emphasizing family reunification and short-term occupational needs to an emphasis on growing the country's stock of human capital. To this end, the share of family class immigrants was reduced in favor of economic class immigrants even as annual inflows of immigrants remained stable at about 1% of the population (Green and Green 1999). As a consequence, the composition of immigrants to Canada changed substantially in this period with significant increases in the average education level of newly arrived immigrants and the number of visible minority immigrants. This shift in policy has implications for the immigrants in our sample. Immigrants who entered Canada in the 1990s and early 2000s either as dependent children or applicants would likely have been selected based on their (or their parents') skill levels, while immigrants who entered Canada as young children prior to the 1990s would not necessarily come from families with high skill levels.[17] The effect on mobility of the change in immigration regimes, however, is unclear as child immigrants in our sample who entered under the former policy would also benefit from greater language acquisition and cultural assimilation.

In the late 1990s, Provincial Nominee Programs (PNP) were introduced that allowed provincial governments to nominate applicants for immigration based on the provinces' labor market needs; the federal government remains responsible for admitting nominees. Most of the PNPs—which differ by province in their particulars—require an applicant to work in the nominating province for a period of time on a temporary work permit before applying, but immigrants are not tied to a specific employer provided they remain in the province.[18] As such, immigrants entering Canada through the PNPs might be expected to be less mobile between firms than other workers as the universe of potential employers is restricted. These PNP restrictions on mobility, however, were unlikely to have affected many immigrants in our sample as the first PNP came into effect in 1998, and the fraction of immigrants entering Canada in our sample period was trivial. In 1999, for instance, only 477 immigrants entered Canada under the PNPs, and less than 3% (6248) of immigrants in 2004 were admitted via PNPs (Citizenship and Immigration Canada 2011).

To summarize, no immigration policies in place during our sample period restricted the mobility of immigrants between employers within a given province. In the period in which immigrants in our sample entered Canada, however, immigration selection procedures changed significantly, and the composition of the immigrant population changed significantly as well. In the next section, we examine whether the change in immigration selection procedures led to unobserved changes in immigrants that affected immigrants' mobility.

4 Findings

4.1 Immigration and between- and within-firm mobility

We first estimate multinomial logit models of the probabilities of making each transition between interviews. Each panel of Table 2 concerns a single transition. The first row of each panel reports the predicted probability of the transition for white, Canadian-born men. Below this predicted probability, each row reports the estimated difference between the predicted probabilities of making the transition for the specified minority group and white natives. Column (1) of Table 2 reports the estimates including only indicators for group membership. Columns (2) to (6) add controls for worker and job characteristics, occupation, industry, and the worker's position in the firm's wage distribution.

A worker's occupation and industry may be endogenous if workers select into particular industries and occupations based on unobserved characteristics related to their employment transitions. Likewise, the worker's standing in the employer's wage distribution may be endogenous insofar it likely reflects earlier transitions. *None of the controls*, however, appreciably affect the estimated differences in the probabilities of each transition between white native men and the members of each minority group.

Conditional on worker and job characteristics in column (2), the estimated probability of transitioning to unemployment between interviews for white native men in their first 10 years in the labor market is 0.056. The probabilities of transitioning to unemployment for members of every other group are statistically indistinguishable from and within 1 percentage point of the estimated probability for white natives in each specification in columns (2) to (6). This is particularly important insofar we restrict our sample to workers who remain employed in the second interview in subsequent analysis relating transitions to wage growth. The similar estimated probabilities of transitioning to unemployment across groups suggests that this restriction is unlikely to materially affect our inferences.

The second panel of Table 2 reports the predicted probabilities of remaining with the initial employer and being promoted. Similar to the unconditional difference in Fig. 1, visible minority immigrants are approximately 15 percentage points less likely to remain with their initial employer having been promoted than white natives in columns (2) to (6). While we also find that visible minority natives and white immigrants are less likely to have been promoted than similar white natives, these differences are never statistically distinguishable from zero.

In the third and fourth panels, we find that visible minority immigrants are approximately 8 percentage points more likely to remain with the initial employer without being promoted and 6 percentage points more likely to move to a new employer between interviews than similar white natives—although neither difference is statistically significant.[19] By contrast, white immigrants are nearly 12 percentage points more likely to move to new employers between interviews than white natives—a difference that is statistically distinguishable from zero at the 10% level in most specifications and highlights the differences in mobility among immigrants with different ethnic backgrounds. While white immigrants exhibit a higher degree of interfirm mobility than white natives, they enjoy a similar probability of promotion when remaining with their initial employers. Visible minority immigrants, on the other hand, are also slightly more likely than white natives to move to new employers but are much less likely than white natives to be promoted when remaining with their initial employers. Differences between the groups in observed characteristics cannot explain the differences in early-career mobility evident in Fig. 1.[20]

Table 2 Multinomial logit estimates of transition probabilities

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome: unemployment						
White Canadian-born (predicted probability)	0.075***	0.056***	0.055***	0.053***	0.053***	0.053***
	(0.009)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Visible minority Canadian-born	0.006	− 0.010	− 0.010	− 0.004	− 0.005	− 0.008
	(0.032)	(0.020)	(0.019)	(0.020)	(0.020)	(0.020)
White immigrant	− 0.036**	− 0.010	− 0.006	− 0.009	− 0.005	− 0.005
	(0.017)	(0.018)	(0.019)	(0.018)	(0.019)	(0.019)
Visible minority immigrant	− 0.012	0.008	0.008	0.007	0.008	0.006
	(0.024)	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)
Outcome: same employer and promoted						
White Canadian-born (predicted probability)	0.337***	0.356***	0.357***	0.353***	0.354***	0.356***
	(0.017)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Visible minority Canadian-born	− 0.063	− 0.060	− 0.066	− 0.054	− 0.057	− 0.055
	(0.070)	(0.072)	(0.069)	(0.071)	(0.069)	(0.069)
White immigrant	− 0.025	− 0.040	− 0.049	− 0.027	− 0.036	− 0.029
	(0.051)	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)
Visible minority immigrant	− 0.135***	− 0.148***	− 0.147***	− 0.151***	− 0.150***	− 0.153***
	(0.042)	(0.044)	(0.044)	(0.043)	(0.043)	(0.043)
Outcome: same employer and not promoted						
White Canadian-born (predicted probability)	0.462***	0.485***	0.489***	0.491***	0.495***	0.495***
	(0.017)	(0.018)	(0.018)	(0.017)	(0.017)	(0.017)
Visible minority Canadian-born	0.071	0.093	0.092	0.076	0.072	0.069
	(0.072)	(0.072)	(0.070)	(0.068)	(0.068)	(0.070)
White immigrant	− 0.024	− 0.066	− 0.069	− 0.077	− 0.078	− 0.055
	(0.054)	(0.056)	(0.056)	(0.058)	(0.058)	(0.056)
Visible minority immigrant	0.119**	0.078	0.079	0.081	0.083	0.088
	(0.060)	(0.066)	(0.066)	(0.064)	(0.065)	(0.065)
Outcome: new employer						
White Canadian-born (predicted probability)	0.125***	0.102***	0.098***	0.102***	0.098***	0.096***
	(0.012)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Visible minority Canadian-born	− 0.013	− 0.023	− 0.015	− 0.018	− 0.009	− 0.005
	(0.040)	(0.030)	(0.031)	(0.034)	(0.036)	(0.037)
White immigrant	0.085	0.117*	0.125*	0.114*	0.121*	0.089
	(0.063)	(0.064)	(0.066)	(0.066)	(0.068)	(0.062)
Visible minority immigrant	0.027	0.061	0.058	0.061	0.058	0.057
	(0.049)	(0.056)	(0.055)	(0.054)	(0.055)	(0.054)
Controls						
Personal and job characteristics		Yes	Yes	Yes	Yes	Yes
Occupation			Yes		Yes	Yes
Industry				Yes	Yes	Yes
Percentile in wage distribution						Yes

Notes: Robust standard errors clustered at the firm level are reported in parentheses. The estimation sample includes observations from 4907 men. For white Canadians, we report the predicted probability of each transition, while for minority groups, we report the difference between the predicted probabilities for each group and white Canadians
*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

Before examining the role of these mobility differences in native-immigrant differences in wage growth and occupational change, we briefly consider some potential explanations for the native-immigrant differences in mobility observed in Table 2. Immigrating at an earlier age presumably leads to greater language competency, which has been shown to affect native-immigrant wage differentials (e.g., Chiswick and Miller 1995, Dustmann and van Soest 2002, Bleakley and Chin 2004, Adsera and Ferrer 2015).[21] Researchers have speculated that a "critical age" exists after which perfect language acquisition (i.e., vocabulary, syntax, accent) is impossible (Singleton and Lengyel 1995). Using age 9 as a rough benchmark for the critical age in Canada, we estimate the transition probabilities for immigrants who immigrated before age 9 and those who immigrated after age 9.[22]

Table 3 reports these estimates by age-at-immigration.[23] Perhaps surprisingly, visible minority immigrants who arrived in Canada *before age 9* are an estimated 27 percentage points less likely than similar white natives to be promoted with the initial employer between interviews while being 16.8 percentage points more likely to move to new employers. Visible minority immigrants who move to Canada after age 9, on the other hand, are only 9.3 percentage points less likely to have been promoted. Language competency appears unlikely to be the dominant factor underlying the struggles of visible minority immigrants in internal labor markets.

Complicating the interpretation of the estimates in Table 3, however, is the shift in Canadian immigration policy in the early 1990s discussed in the previous section. Most (but not all) of the early-career immigrants in the WES who arrived in Canada before age 9 would have arrived under the older policy placing less emphasis on the skill of their parents, while most (but not all) immigrants who arrived after age 9 would have

Table 3 Transition probabilities by age-at-immigration

Group	(1) Unemployment	(2) New employer	(3) Promoted with initial employer	(4) Not promoted with initial employer
White Canadian-born	0.056***	0.102***	0.356***	0.486***
	(0.008)	(0.010)	(0.019)	(0.018)
Visible minority Canadian-born	− 0.010	− 0.023	− 0.061	0.094
	(0.020)	(0.031)	(0.072)	(0.072)
White immigrant entering Canada before age 9	− 0.001	0.120	− 0.037	− 0.083
	(0.027)	(0.117)	(0.086)	(0.094)
White immigrant entering Canada at age 9 or older	− 0.020	0.113*	− 0.040	− 0.053
	(0.022)	(0.068)	(0.069)	(0.065)
Visible minority immigrant entering Canada before age 9	− 0.028	0.168	− 0.272***	0.132
	(0.019)	(0.142)	(0.041)	(0.137)
Visible minority immigrant entering Canada at age 9 or older	0.033	0.008	− 0.093*	0.051
	(0.039)	(0.038)	(0.056)	(0.075)

Notes: Robust standard errors clustered at the firm level are reported in parentheses. The estimation sample includes observations from 4907 men. The table reports estimates from multinomial logit models of transition probabilities similar to those in column (2) of Table 2 controlling for worker and job characteristics. We replace the visible minority and white immigrant indicators in Table 2 with four immigrant indicators (visible minority or white immigrants entering Canada before age 9 or at 9 years of age or older). Slightly more than a third of immigrants in our sample enter Canada before age 9. For white Canadians, we report the predicted probability of each transition, while for visible minority immigrants, we report the difference in the predicted probability between visible minority immigrants in a particular age-at-immigration group and white Canadian-born workers

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

been admitted after Canada began emphasizing immigrants' skill. If unobserved skill levels are correlated within families, the immigrants in our sample who arrived early in life might be less skilled in unobserved senses than other immigrants. In Table 4, we allow the transition probabilities for immigrants to depend on whether immigrants entered Canada before or after 1993.[24] The estimates suggest that visible minority immigrants who entered Canada before 1993 and after 1993 were 16.2 and 12.5 percentage points less likely than white natives to have been promoted between interviews, respectively—a difference that is not statistically significant. This suggests that the change in immigration policy cannot explain the lower promotion rates of visible minority immigrants observed in Table 2.

Alternatively, the struggles of visible minority immigrants in internal labor markets may stem from potential employers discounting the signaling value of immigrants' foreign credentials. If so, immigrants with more credentials to be discounted—more educated immigrants—might experience the greatest impediments to between- and within-firm mobility relative to similar white, Canadian-born men. To test this hypothesis, we report in Table 5 estimates from separate multinomial logit models for workers with and without a bachelor's degree or higher. For visible minority and white immigrants with bachelor's degrees, we fail to reject the null hypotheses that their transition probabilities are identical to those of white natives in column (1). Among workers without a bachelor's degree in column (2), however, visible minority immigrants are an estimated 19.4 percentage points less likely to be promoted while remaining with the initial employer without being significantly more likely to move to new employers than white natives. Insofar internal mobility is concerned, credential discounting does not appear to drive the immigrant-native differences in mobility observed in Table 2.

Table 4 Transition probabilities by year of immigration

Group	(1) Unemployment	(2) New employer	(3) Promoted with initial employer	(4) Not promoted with initial employer
White Canadian-born	0.056***	0.102***	0.356***	0.485***
	(0.008)	(0.010)	(0.019)	(0.018)
Visible minority Canadian-born	− 0.010	− 0.023	− 0.060	0.093
	(0.020)	(0.031)	(0.072)	(0.072)
White immigrant entering Canada before 1993	− 0.004	0.151*	− 0.072	− 0.075
	(0.023)	(0.084)	(0.064)	(0.069)
White immigrant entering Canada in 1993 or later	− 0.029	0.025	0.045	− 0.041
	(0.019)	(0.059)	(0.088)	(0.089)
Visible minority immigrant entering Canada before 1993	0.008	0.082	− 0.162***	0.073
	(0.032)	(0.084)	(0.055)	(0.091)
Visible minority immigrant entering Canada in 1993 or later	0.010	0.030	− 0.125*	0.084
	(0.041)	(0.055)	(0.070)	(0.094)

Notes: Robust standard errors clustered at the firm level are reported in parentheses. The estimation sample includes observations from 4907 men. The table reports estimates from multinomial logit models of transition probabilities similar to those in column (2) of Table 2 controlling for worker and job characteristics. We replace the visible minority and white immigrant indicators in Table 2 with four immigrant indicators (visible minority or white immigrants entering Canada before 1993 and in 1993 or later). Around a third of immigrants in our sample enter Canada after 1993. For white Canadians, we report the predicted probability of each transition, while for visible minority immigrants, we report the difference in the predicted probability between visible minority immigrants in a particular age-at-immigration group and white Canadian-born workers

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

That less-educated visible minority immigrants in Canada struggle in internal labor markets is consistent with Milgrom and Oster's (1987) "invisibility hypothesis." Milgrom and Oster assume that potential employers possess less information about the ability of disadvantaged workers—rendering such workers "invisible" to potential employers. Promotions are assumed to convey (positive) information about these workers to other employers. Current employers with private information regarding their high-ability but "invisible" workers have incentives to conceal them by limiting their promotion opportunities. This suppresses the signals of ability promotions send to competing employers and prevents these workers from being bid away by other firms.

If employers have less information about the productivity of visible minority immigrants—particularly less educated ones—and promotions signal ability to asymmetrically informed firms, visible minority immigrants would be less likely to be promoted compared to white natives as we document given employers' incentives to "conceal" these workers. This would be less likely to be true for white immigrants—many of whom come from the USA and other parts of the Commonwealth—about whom employers may have better information.[25] Furthermore, the lower probability of promotion for visible minority immigrants would not necessarily lead to a disproportionately higher probability of between-firm mobility for visible minority immigrants because other employers possess less information about high-ability, visible minority immigrants and thus would be less likely to offer wages higher than their current employers.

Alternatively, other search frictions—including taste-based discrimination—may limit the outside opportunities of visible minority immigrants. Employers may decline to promote such workers precisely because the employer does not need to compete with outside offers. We discuss the need for further research on the nature of search frictions experienced by visible minority immigrants in the conclusion.

4.2 Mobility and wage growth

To establish the importance of mobility to wage growth in our sample, panel A of Table 6 reports estimates from log-wage growth models in which we regress the change in log-hourly wages between interviews on indicators for whether workers have been promoted with their initial employers or changed employers between interviews as well as different sets of controls. Men who remain with their initial employers without having been promoted serve as the reference group, and the sample necessarily excludes those workers who transition to unemployment. Moving to new employers between interviews is associated with wage growth of 15.7% in our sample controlling for worker and job characteristics in column (2)—larger than the 10% wage growth associated with job transitions reported by Topel and Ward (1992). The estimated wage growth associated with promotions is 2.5% in column (2)—somewhat smaller than Cobb-Clark's (2001) estimate of 4.5% among early-career men in the NLSY79. The estimates in columns (2) to (6) indicate that these returns are not sensitive to the choice of controls.

In panel B of Table 6, we report estimates in which we allow the returns to transitions to differ by group for the specification controlling for worker and job characteristics. The p values for Wald tests of the hypotheses that the returns to a given transition are the same across groups are given in column (5). For transitions to new employers, we fail to reject the null of equal returns across groups. For promotions, however, the p

Table 5 Multinomial logit regressions by education

	With a bachelor's degree or higher degree	Without a bachelor's degree
	(1)	(2)
Outcome: unemployment		
White Canadian-born (predicted probability)	0.030***	0.065***
	(0.009)	(0.009)
Visible minority Canadian-born	− 0.025**	− 0.000
	(0.010)	(0.030)
White immigrant	− 0.014	− 0.005
	(0.014)	(0.027)
Visible minority immigrant	0.004	0.016
	(0.030)	(0.035)
Outcome: different employer		
White Canadian-born (predicted probability)	0.050***	0.115***
	(0.016)	(0.011)
Visible minority Canadian-born	− 0.039**	− 0.006
	(0.017)	(0.044)
White immigrant	0.069	0.093
	(0.065)	(0.069)
Visible minority immigrant	0.023	0.069
	(0.043)	(0.072)
Outcome: same employer and promoted		
White Canadian-born (predicted probability)	0.342***	0.356***
	(0.029)	(0.021)
Visible minority Canadian-born	− 0.012	− 0.084
	(0.109)	(0.093)
White immigrant	0.017	− 0.040
	(0.081)	(0.068)
Visible minority immigrant	− 0.085	− 0.194***
	(0.067)	(0.050)
Outcome: same employer and not promoted		
White Canadian-born (predicted probability)	0.577***	0.464***
	(0.030)	(0.020)
Visible minority Canadian-born	0.076	0.092
	(0.110)	(0.089)
White immigrant	− 0.072	− 0.047
	(0.084)	(0.070)
Visible minority immigrant	0.057	0.108
	(0.088)	(0.084)
# of observations	1275	3632

Notes: See the notes for Table 2. We separately estimate the multinomial logit models for workers with a bachelor's degree and those without such a degree and report the estimates in columns (1) and (2)
*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

value (less than 0.01) strongly supports rejecting the null, but this is driven entirely by visible minority natives, who experience much smaller wage growth following promotions than other workers. For white and visible minority immigrants, we fail to reject

Table 6 Wage returns to promotion and employer change

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: wage returns to promotion and employer change same for all groups						
1 if promoted	0.024*	0.025*	0.025*	0.027*	0.026*	0.025*
	(0.013)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
1 if changed employer	0.150***	0.157***	0.156***	0.160***	0.158***	0.160***
	(0.030)	(0.028)	(0.027)	(0.028)	(0.027)	(0.028)
Controls						
Person and job characteristics		Yes	Yes	Yes	Yes	Yes
Occupation			Yes		Yes	Yes
Industry				Yes	Yes	Yes
Percentile in firm wage distribution						Yes
	(1) White native	(2) Visible minority native	(3) White immigrant	(4) Visible minority immigrant	(5) p value (1) = (2) = (3) = (4)	
Panel B: allowing wage returns to vary by group						
1 if promoted	0.027	− 0.107***	0.021	0.034	0.001	
	(0.017)	(0.035)	(0.027)	(0.026)		
1 if changed employer	0.015***	− 0.013	0.209**	0.146*	0.416	
	(0.032)	(0.134)	(0.106)	(0.086)		

Notes: Panel A reports the estimated coefficients of indicators for being promoted or changing employers between interviews from regressions of log-wage growth between interviews on these transition indicators and the controls listed for each column. Columns (1) to (4) of panel B report the estimated returns to promotions and employer changes for individuals belonging to different groups. The log-wage growth regression in panel B includes respondent and job characteristics (corresponding to column (2) in panel A) and interactions between the transition indicators and indicators for group membership (with white Canadian-born workers serving as the reference group). Panel B reports the sum of the coefficient estimates for the transition indicators and these interaction terms. The standard errors were calculated using the *lincom* command in Stata. Column (5) reports the p value for the F test of the null hypothesis that the interactions between the group indicators (for being a visible minority Canadian-born worker, a white immigrant, or a visible minority immigrant) and the transitions indicator (promotion or employer change) given in the far-left column are jointly equal to zero

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

the null that the returns to promotion are the same as for white natives. If unobserved productivity differences or taste-based discrimination (in combination with search frictions) were behind the differing experiences of white natives and visible minority immigrants, we might expect the wage returns to these transitions to vary by group, but they do not. Instead, the similar returns to transitions across groups are consistent with the "invisibility hypothesis" discussed above insofar less visible workers—while less likely to be promoted—are expected to receive wage increases following promotions comparable to other workers when they manage to get promoted.

We next examine the link between mobility differences and wage growth across groups. As noted in the introduction, however, this exercise is limited by the fact that the wage growth gaps themselves are not precisely estimated. Panel A in Table 7 details the average log-wage growth experienced by members of each group and the wage growth gaps between white natives and the minority groups in our sample. Wage growth early in the career is quite rapid. White natives enjoyed average wage growth between interviews of 8.3%, while white (visible minority) immigrants experienced wage growth between interviews of 9.5 (6.6) percent. While the gaps in wage growth relative

to white native men are not statistically significant at conventional levels, we note that they would generate large wage gaps in wage levels if compounded over several years.[26] Visible minority natives as a group are again an outlier in our sample insofar they experienced little wage growth between interviews.[27]

In panel B of Table 7, we report estimates of the Oaxaca-Blinder (O-B) decompositions of the gaps in average wage growth ($\widehat{\Delta wg}_M$) between white natives (WN) and the minority groups (M) (Blinder 1973; Oaxaca 1973). For each minority group, the decomposition takes the form

$$\widehat{\Delta wg}_M = \underbrace{\sum_{k=1}^{k} \hat{\beta}_{\mathrm{WN},k}\left(\overline{X}_{\mathrm{WN},k} - \overline{X}_{M,k}\right)}_{\text{explained gap}} + \underbrace{\sum_{k=1}^{k}\left(\hat{\beta}_{\mathrm{WN},k} - \hat{\beta}_{M,k}\right)\overline{X}_{M,k}}_{\text{unexplained gap}}$$

The O-B decomposition estimates the contributions to the log-wage growth gap between white natives and the members of a given minority group of observed differences in transitions and characteristics (referred to as the "explained" gap) and differences between groups in the "returns" to these characteristics (referred to as the "unexplained" gap).[28]

Consistent with white natives being much more likely to be promoted than visible minority immigrants, the estimates in column (1) indicate that the difference in promotion receipt can account for 0.4 percentage points of the 1.7 percentage point gap in wage growth between white natives and visible minority immigrants—a contribution statistically significant at the 10% level. Oaxaca and Ransom (1999), however, show that only the total effect of the full set of categorical dummies is identified. Bearing this in mind, we note that transitions to new employers contribute − 0.4 percentage points to the observed wage growth gap between white natives and visible minority immigrants because a higher proportion of visible minority immigrants move to new employers than white natives and the wage returns to such moves are very high. As a result, the total contribution of within-firm and between-firm mobility to the wage growth gap between white natives and visible minority immigrants is approximately zero.

The O-B estimates in column (2) indicate that labor market transitions (moves to new employers and promotions) can account for 1.2 percentage points of the 1.1 percentage point gap in wage growth between white natives and white immigrants that favors white immigrants. This is unsurprising given that white immigrants in our sample were much more likely than white natives to change employers and the wage returns to employer changes are very large. While imprecisely estimated, we note that this contribution of mobility to the wage growth gap enjoyed by white immigrants is larger than the contribution of any other observable (e.g., experience, education). Thus, we tentatively infer that between-firm mobility may be important in explaining the early-career success of white immigrants relative to their white native peers.[29]

4.3 Mobility and occupation switching

Standard models of job search suggest that young workers shop jobs for good matches (Jovanovic 1979). Moreover, the early part of the career likely entails a period of occupational experimentation as young people learn about their own skills and the demands of different occupations (Antonovics and Golan 2012). Young immigrant men may

Table 7 Oaxaca-Blinder decomposition of the wage growth gap between white natives and members of minority groups

	Visible minority immigrant	White immigrant	Visible minority Canadian-born
	(1)	(2)	(3)
Log wage growth for white Canadians	0.083***	0.083***	0.083***
	(0.007)	(0.007)	(0.007)
Log wage growth for minority group	0.066**	0.095***	0.009
	(0.026)	(0.027)	(0.030)
Raw gap in log wage growth	0.017	− 0.011	0.073**
	(0.027)	(0.028)	(0.031)
Explained	− 0.014	− 0.026*	− 0.004
	(0.010)	(0.013)	(0.011)
Unexplained	0.032	0.014	0.078**
	(0.026)	(0.025)	(0.032)
Explained by differences in characteristics			
Transition: new employer	− 0.004	− 0.013	0.002
	(0.008)	(0.010)	(0.006)
Transition: promoted	0.004*	0.001	0.002
	(0.002)	(0.001)	(0.002)
Demographics	− 0.004	− 0.007	0.007*
	(0.008)	(0.008)	(0.004)
Education	− 0.006	− 0.003	− 0.005
	(0.007)	(0.005)	(0.004)
Experience	− 0.002	− 0.003	0.003
	(0.002)	(0.003)	(0.004)
Occupation	0.004	0.006	0.000
	(0.004)	(0.004)	(0.005)
Industry	− 0.008*	− 0.003	− 0.010
	(0.004)	(0.003)	(0.006)
Explained by differences in returns to characteristics			
Transition: new employer	− 0.004	0.001	0.013
	(0.016)	(0.013)	(0.016)
Transition: promoted	0.002	− 0.002	0.025
	(0.011)	(0.011)	(0.022)
Demographics	− 0.428	− 2.874***	1.146
	(1.335)	(0.870)	(1.779)
Education	0.048	0.010	− 0.020
	(0.040)	(0.020)	(0.040)
Experience	0.086	0.025	0.015
	(0.082)	(0.070)	(0.060)
Occupation	− 0.008	0.004	0.016
	(0.022)	(0.018)	(0.022)
Industry	0.023	− 0.024	− 0.067*
	(0.026)	(0.023)	(0.036)

Notes: Robust standard errors in parentheses. The sample includes men who do not transition to unemployment
*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

have even more motivation to change occupations if they enter the Canadian labor market in occupations for which they are over-qualified as documented in Wald and Fang (2008).

To assess the relationship between occupational mobility and between- and within-firm mobility among immigrants and natives, we report in panel A of Table 8 the fraction of each group changing occupations. Between interviews, 16 (22) percent of white (visible minority) natives change occupations. By contrast, nearly 26% of white immigrants and 19% of visible minority immigrants switch occupations.

In panel B, we report the fraction of workers making each transition who change occupations. White immigrants who move to new employers switch occupations 91% of the time. By contrast, only 71% of white natives and 80% of visible minority immigrants and natives switch occupations when moving to new employers. Among workers promoted and not promoted remaining with the initial employer, immigrants and white natives switched occupations at around the same rate.[30]

Finally, panel C reports the fraction of occupation switchers in each group who made a particular transition. The percentages in this panel reflect both the rates of occupation switching among workers making different transitions reported in panel B and the rates of each transition among workers in different groups reported in Table 1. The means in panel C indicate that immigrants move between occupations in very different ways relative to white natives. Among white natives, 59% of the occupation switchers did so by moving to new employers, while 77 and 68% of white and visible minority immigrants who switched occupations, respectively, did so by moving to new employers. Internal promotions account for a much larger fraction (32%) of occupation switching among white natives. By contrast, only 18 and 19% of occupation switches for white and visible minority immigrants, respectively, were realized through internal promotions. For white immigrants, this is largely because white immigrants were more likely to move to new employers and were more successful at switching occupations in these

Table 8 Transitions and occupation switching

	White natives	Visible minority natives	White immigrants	Visible minority immigrants
	(1)	(2)	(3)	(4)
Fraction switching occupations between interviews				
	0.162	0.223	0.258#	0.193
Fraction switching occupations when making a given transition				
New employer	0.713	0.793	0.910**	0.814
Promoted with initial employer	0.142	0.386#	0.141	0.171
Not promoted with initial employer	0.029	–[a]	0.029	0.039
Fraction of occupation switchers in a group who made a particular transition				
New employer	0.591	–[b]	0.770	0.684
Promoted with initial employer	0.318	0.506	0.178	0.189
Not promoted with initial employer	0.090	–[a]	0.052	0.126

Notes: The indicators for statistical significance refer to the differences between the statistic in each column and that in column (1) for white, Canadian-born men

#Significant at the 15% level; *significant at the 10% level; **significant at the 5% level

[a]Fraction not released by Statistics Canada because the cell (visible minority natives who remain with the initial employer but were not promoted by who switch occupations between interviews) contains fewer than five individuals

[b]Fraction not released by Statistics Canada because in fractions in this column must sum to 1, meaning that the fraction of occupation switches accounted for by workers who were not promoted among visible minority natives if this fraction were released

moves than white natives. The difference in the rates of occupation switching between white natives and visible minority immigrants, however, is driven more by the fact that visible minority immigrants are much less likely than white natives to be internally promoted.

5 Discussion and conclusions

Our study presents two important stylized facts about mobility patterns between and within employers among early-career natives and immigrants in Canada. First, visible minority immigrants were much less likely to be promoted with their initial employers than white natives while being similarly likely to change employers between interviews. Second, white immigrants were much more likely than white natives to change employers while being just as likely be promoted with their initial employers. We present tentative evidence linking this greater between-firm mobility of white immigrants to their relatively fast wage growth and their ability to change occupations. Overall, our findings suggest that mobility may play an important role in the relative economic success of early-career white immigrants.

Important questions remain concerning the role of between- and within-firm mobility in the assimilation of immigrants. First, how does mobility influence the experiences of immigrants over a longer horizon? A major limitation of the WES is that the longitudinal component for workers is limited to a single year between interviews. Observing the contributions of mobility to the experiences of immigrants over a longer period, however, may be important. Both Topel and Ward (1992) and Light and McGarry (1998) document the diminishing returns to job changes over the course of the career, while Machado and Portela (2013) show that previous promotions are strong determinants of subsequent promotions. As such, the poor performance of visible minority immigrants in internal promotions may have consequences that cannot be offset by greater between-firm mobility over the long run. Indeed, Pendakur and Woodcock (2010) find that visible minority immigrants who have been in Canada for less than 10 years in the WES earn, on average, 31% less than similar white natives. While 42% of this wage gap is due to crowding of these immigrants into lower-paying firms as documented in Aydemir and Skuterud (2008), the remaining 58% is due to wage disparities relative to their native peers within firms. Our findings suggest that internal labor markets might play a key role in generating these within-firm wage gaps.

Second, why might visible minority immigrants be less "visible" to potential employers? The mobility patterns that we observe are consistent with potential employers having less information about visible minority immigrants. If information problems are at the heart of the mobility issues of visible minority immigrants, addressing this information asymmetry is important from a policy perspective. Given that the mobility difficulties appear to most pronounced among visible minority immigrants without higher education credentials, should policy-makers aim to vouch for the credentials (e.g., secondary school completion) of visible minority immigrants obtained abroad, or can credentialing programs be created? Can contacts with previous employers—potentially abroad—be facilitated?

Of course, information problems may be just one of many search frictions limiting the mobility of visible minority immigrants. Given the growing body of

evidence—including our findings—of the existence of search frictions experienced by visible minority immigrants to Canada, understanding how their searches differ from those of their white peers (natives and immigrants) is of particular importance. Evidence concerning native-immigrant differences in Canada in the use of search networks, search methods, the geographic scope of search, and employer call-back rates would all shed much light on the potential existence and nature of the frictions experienced by visible minority immigrants in the Canadian labor market.

Endnotes

[1]Studies documenting the occupational downgrading experienced by immigrants during their initial years in the host country include Chiswick (1978), Friedberg (2000), and Chiswick et al. (2005).

[2]Depew et al. (2017) study the between-firm mobility of skilled guest workers in the USA.

[3]Immigrants may lack the knowledge of local labor market institutions necessary for job search. Alternatively, immigrant enclaves might limit the search networks of recent immigrants to Canada (Warman 2007). If immigrants encounter search frictions not experienced by natives, employers may enjoy some degree of monopsony power over them that could drive the native-immigrants wage gap. Hirsch and Jahn (2015) and Naidu et al. (2016) provide evidence of employers' monopsony power over immigrants in Germany and the UAE, respectively.

[4]Other studies documenting the large early-career wage gains associated with job mobility include Bartel (1980), Borjas and Rosen (1980), Antel (1991), and McCue (1996).

[5]Imai et al. (2017), for instance, find that immigrants who arrived in Canada between 2000 and 2001 were initially employed in occupations requiring less cognitive skill and more manual skill than their occupations prior to immigration.

[6]The target population of employers consisted of all business locations in Canada with paid employees in March of each surveyed year. In the 1999, 2001, 2003, and 2005 surveys, the sample of employers was refreshed with new employers from the Statistics Canada Business Register to maintain a representative cross section. Employers in the Yukon, Nunavut, and Northwest Territories and employers operating in crop production, animal production, fishing, hunting, trapping, private households, religious organizations, and public administration were excluded from the sample. Public administration's share of employment in Canada is around 6.5% (Statistics Canada, Table 281-0024).

[7]The number of workers interviewed from each firm was proportional to firm's size except for workplaces with fewer than four employees in which all employees were surveyed.

[8]We identify promoted workers if they report having been promoted and the most recent promotion date is after the first interview.

[9]WES contains 47 detailed occupation categories based on the Standard Occupational Classification (SOC) 1991. Our occupational change indicator equals one if the detailed occupational category changes between interviews and zero otherwise.

[10]We focus on male workers because of differences in family formation between native and immigrant women. Javdani and McGee (2017) find that the promotion

experiences of early-career women in the WES—particularly those with families—differ significantly from those of their male peers.

[11]According to Statistics Canada (2011), the visible minority population in Canada consists mainly of Chinese, South Asian, Black, Arab, West Asian, Filipino, Southeast Asian, Latin American, Japanese, and Korean individuals. A worker is identified as a visible minority if her/his parents or grandparents belonged to one of these groups. The Employment Equity Act in Canada defines visible minorities to be "persons, other than Aboriginal people, who are non-Caucasian in race or non-white in color."

[12]Firms in the WES report the numbers of permanent full-time and part-time employees earning more than $80,000, earning between $60,000 and $80,000, earning between $40,000 and $60,000, earning between $20,000 and $40,000, and earning less than $20,000. We use this information along with the total number of employees within the firm to calculate the proportion of workers within the firm in a higher earnings category relative to any given worker. We cannot calculate the proportion of workers in higher earnings categories workers who earn more than $80,000 (because no such category exists). For these workers, we set the proportion of workers in higher earnings categories to zero.

[13]Nearly 9% of white immigrants in the WES came from the USA compared to less than 1.5% of visible minority immigrants. Due to the North American Free Trade Agreement, workers from the USA need only a verifiable job offer from a Canadian employer to immigrate. The ease of return migration to the USA may explain the higher attrition rates of white immigrants.

[14]Kim (2012) develops sample and population attrition adjusted weights for application in short panels such as ours. He shows that the effect of population attrition in the CPS on assimilation estimates is minor. Given the similarity in his adjusted and unadjusted assimilation estimates and our short panel, we eschew the re-weighting procedure.

[15]The promotion rates in our sample are considerably higher than those reported in studies using changes in hierarchical levels or occupational categories to identify promotions (e.g., van der Klaauw and Dias da Silva 2011; Cassidy et al. 2016), but the promotion rates in those studies may fail to capture promotions within broad hierarchical levels or occupational categories. The promotion rates in our sample are similar to the rates of self-reported promotions among young workers in the USA documented in Pergamit and Veum (1999) and Cobb-Clark (2001).

[16]Consistent with their higher education levels, both white and visible minority immigrants earned more on average than white natives in our sample—though this unconditional advantage is only statistically significant for white immigrants. Conditional on worker characteristics, visible minority immigrants earn significantly less than white native in terms of wage levels (see Appendix: Table 10).

[17]Unfortunately, our data do not identify to the immigration class to which an immigrant belonged.

[18]Many immigrants enter Canada on fixed length work permits prior to becoming permanent residents. The fixed duration may limit immigrants' promotion prospects if employers fear losing an employee when the permit expires, but work permits can be

renewed. In addition, there is no reason to expect that the effects of fixed term work permits on white and visible minority immigrants' promotion prospects would differ.

[19]This is unsurprising given that the predicted probabilities of the transition outcomes must sum to one for each group.

[20]Between-firm mobility is likely influenced by local labor demand, and immigrants in Canada tend to be concentrated in provinces such as Ontario and British Columbia. As such, controlling for the region of residence is important in principle when estimating native-immigrant differences. Our early estimates, however, indicated that controlling for the province of residence and living in a city had no appreciable effect on the estimated marginal effects for immigrants.

[21]Oreopoulos (2011) indicates that recruiters rationalized their dismissal of the resumes of skilled immigrants based on language concerns.

[22]Our choice of age 9 as the benchmark critical age is motivated in part by Corak's (2011) finding that children who immigrate to Canada after age 9 are much less likely to graduate from high school than those who immigrate at earlier ages.

[23]The estimates reported in Table 3 come from a specification identical to that in column (2) of Table 2, but we replace the two immigrant indicators (white and visible minority) with four immigrant indicators (i.e., white and visible minority immigrants in the two age-at-immigration groups).

[24]The shift to an immigration policy focused on admitting skilled immigrants was realized through several policy decisions in the early 1990s. We use 1993 as a benchmark because amendments to the Immigration Regulations in 1993 significantly reduced the share of family class immigrants.

[25]Approximately 30% of the white immigrants in our sample come from the USA and the UK compared to only 3% of visible minority immigrants.

[26]In terms of wage-level gaps, visible minority immigrants in the first interview earn more than white natives unconditionally but earn 15.1% less conditional on worker characteristics—a gap that grows to 16% by the second year. White immigrants, on the other hand, face no wage gaps relative to their Canadian-born counterparts in either year (see Appendix: Table 10).

[27]See Javdani (2017) for a discussion of the low wage returns to promotion and low wage growth between interviews experienced by visible minority natives in the WES.

[28]We use the procedure developed by Yun (2005) to transform the coefficients of the categorical transition dummies so that the results of the decomposition are invariant to the choice of the (omitted) base category. Alternative decomposition methods (e.g., using the coefficients from a pooled model over white natives and the minority group as the reference coefficients) produced similar results where the explained gaps were concerned.

[29]One potential concern for our estimates is that immigrants and natives with the same amount of potential experience may have different amounts of Canadian labor market experience given that some immigrants come to Canada after their labor market entry. To assess the robustness of our findings, we re-estimated the O-B decompositions restricting the sample to natives and immigrants who entered Canada within their first 3 years in the labor force (based on our potential experience measure). The estimates, reported in Appendix: Table 11,

are similar to those in Table 7. Estimates from multinomial logit models of transition probabilities using this restricted sample are also similar to those reported in Table 2.

[30]We also estimated probit models of the probability of occupation switching controlling for group indicators and worker characteristics. Similar to our multinomial logit estimates, the worker characteristics had little effect on the estimated marginal effects of the group indicators. As such, we report only the summary statistics by group in Table 8 for simplicity.

Appendix

Table 9 Marginal effects from probit models of the probability of attrition

	(1)	(2)	(3)	(4)	(5)
Visible minority Canadian-born	− 0.041	− 0.034	− 0.037	− 0.026	− 0.032
	(0.041)	(0.043)	(0.043)	(0.043)	(0.043)
White immigrant	0.076	0.125**	0.124**	0.132**	0.130***
	(0.049)	(0.052)	(0.050)	(0.052)	(0.050)
Visible minority immigrant	0.031	0.055	0.056	0.062	0.064
	(0.050)	(0.048)	(0.048)	(0.048)	(0.049)
Controls					
Person and job chars		Yes	Yes	Yes	Yes
Occupation			Yes		Yes
Industry				Yes	Yes

Notes: The sample includes observations from 6331 men interviewed in the first (odd) year with less than 10 years of potential experience. The table reports marginal effects from a probit model of the probability of attrition in which the dependent variable equals one if the respondent is interviewed in the odd year and not interviewed in the even year and zero otherwise

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

Table 10 Wage gaps relative to white Canadian-born workers among men with less than 10 years of potential experience

	(1)		(2)		(3)	
	Odd year	Even year	Odd year	Even year	Odd year	Even year
Visible minority immigrants	0.054	0.036	− 0.151***	− 0.160***	− 0.127***	− 0.140***
	(0.053)	(0.055)	(0.051)	(0.054)	(0.044)	(0.040)
White immigrants	0.219***	0.231***	0.041	0.041	0.017	0.020
	(0.073)	(0.065)	(0.047)	(0.045)	(0.042)	(0.041)
Visible minority Canadian-born	0.116	0.042	0.143***	0.055	0.121**	0.016
	(0.084)	(0.085)	(0.047)	(0.044)	(0.048)	(0.042)
Controls						
Worker characteristics			Yes		Yes	
Occupation and industry					Yes	

Notes: Robust standard errors accounting for clustering at the firm level are reported in parentheses. The sample is restricted to the 4585 men with valid wage observations in both interviews

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

Table 11 Robustness of O-B decompositions

	Visible minority immigrants	White immigrants	Visible minority Canadian-born
	(1)	(2)	(3)
Log wage growth for white Canadians	0.083***	0.083***	0.083***
	(0.007)	(0.007)	(0.007)
Log wage growth for minority group	0.052*	0.089***	0.009
	(0.029)	(0.030)	(0.030)
Raw gap in log wage growth	0.030	− 0.005	0.073**
	(0.030)	(0.031)	(0.031)
Explained	− 0.008	− 0.024*	− 0.004
	(0.010)	(0.014)	(0.011)
Unexplained	0.039	0.018	0.078**
	(0.029)	(0.027)	(0.032)
Explained by differences in characteristics			
Transition: new employer	− 0.002	− 0.012	0.002
	(0.009)	(0.011)	(0.006)
Transition: promoted	0.004*	0.001	0.002
	(0.002)	(0.001)	(0.002)
Demographics	− 0.001	− 0.005	0.007*
	(0.008)	(0.007)	(0.004)
Education	− 0.006	− 0.003	− 0.005
	(0.007)	(0.005)	(0.004)
Experience	− 0.002	− 0.002	0.003
	(0.002)	(0.002)	(0.004)
Occupation	0.005	0.007	0.000
	(0.005)	(0.005)	(0.005)
Industry	− 0.007	− 0.004	− 0.010
	(0.004)	(0.004)	(0.006)
Explained by differences in returns to characteristics			
Transition: new employer	0.009	0.006	0.013
	(0.016)	(0.015)	(0.016)
Transition: promoted	0.000	0.008	0.025
	(0.013)	(0.011)	(0.022)
Demographics	0.124	− 2.539***	1.146
	(1.342)	(0.948)	(1.779)
Education	− 0.002	− 0.006	− 0.020
	(0.044)	(0.019)	(0.040)
Experience	0.029	0.024	0.015
	(0.088)	(0.072)	(0.060)
Occupation	− 0.008	− 0.009	0.016
	(0.027)	(0.024)	(0.022)
Industry	0.014	0.000	− 0.067*
	(0.034)	(0.025)	(0.036)

Notes: The sample includes only immigrants who entered Canada prior to their first 3 years in the labor force. See the notes to Table 7 for additional details

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level

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Availability of data and materials
The data used in our study are confidential data that were made available through the Statistics Canada Research Data Centre program. RDCs provide researchers with access, in a secure university setting, to microdata from population and household surveys. The centers are staffed by Statistics Canada employees. They are operated under the provisions of the Statistics Act in accordance with all the confidentiality rules and are accessible only to researchers with approved projects who have been sworn in under the Statistics Act as "deemed employees." Application process and guidelines to get access to the data are based on the affiliation of the Principal Investigator and the type of research being conducted at a Research Data Centre (RDC) and are available here: http://www.statcan.gc.ca/rdc-cdr/process-eng.htm.

Competing interests
The IZA Journal of Development and Migration is committed to the IZA Guiding Principles of Research Integrity. The authors declare that they have observed these principles.

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