Skilled Immigrants & Promotion: Good and Bad News from Canada

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Abstract

The incidence and rate of promotion for Canadian-born and immigrant age-at-arrival groups are investigated. Also a modified human capital framework is used to understand the relationship between job relevant characteristics and promotion. The findings indicate that immigrant's age-at-arrival, education, gender and other relevant characteristics contribute to the odds of receiving a promotion and the rate of promotion. Higher levels of education are related to higher promotion outcomes, for both Canadian-born and immigrants. There are also differences by gender, with females tending to have lower promotion outcomes, all else equal. Gaps in promotion outcomes are one potential pathway leading to the observed gap in earnings between immigrants and Canadian-born.

Introduction

Most of the research on post-immigration adjustment focuses on economic outcomes, such as earnings gaps and differentials. Research shows a widening gap in earnings and low-income rates between recent immigrants and Canadian-born workers (Aydemir and Skuterud 2008; Chiswick, Le, and Miller 2008; Chiswick and Miller 2009; Picot, Hou, and Coulombe 2007; Picot and Sweetman 2005). Despite high levels of education, immigrants in Canada, even after more than a decade of settlement, are still more likely to be underemployed compared to Canadian-born workers (Galarneau and Morissette 2008).

There is growing concern that recent immigrants are not benefiting from the immigration experience as much as their earlier counterparts, and by extension, that potential employer and societal benefits are not being realized (Watt, Krywulak, and Kitagawa 2008). This paper explores promotion experiences as an alternative dimension of economic success for immigrants. Exploring the promotion experience of Canadian-born and immigrant workers enables us to understand a key factor that enables immigrants' earnings profiles to converge with Canadian-born workers.

Promotions are commonly defined as a change in position within a workplace accompanied by changes in tasks, duties, or responsibilities, and are often accompanied by wage increases. Wage increases from promotions are a substantial contributor to wage growth and are associated with "one-sixth of life-cycle wage growth" (McCue 1996: 175). When considering wage profiles of men and woman and black and white employees the cumulative contribution of promotions to wage growth is between 9% to 19% across these labor market groups (McCue 1996). Focusing on promotions is important because promotions are a main contributor to wage growth, typically greater

than growth that comes from separations, other reassignments, or no change in position (McCue 1996). Typically, promotion premiums rise with transitions across position levels (Baker, Gibbs, and Holmstrom 1994; Lazear and Shaw 2007). Thus, movement across levels or grades, of an organization's job classification system, lead to wage-profile growth both from an immediate increase and from a new higher pay band range of seniority increases becoming available from being in a higher pay grade. Most workers aspire to receive promotions, and providing them is a tool that employers can use to attract, retain, and motivate the best employees.

The economic integration of immigrants is important because the United States, Canada, Australia, and the European Union member countries continue to admit large numbers of immigrants. In Canada, for example, the ratio of immigrants to the rest of the population has increased substantially since the 1990s (StatisticsCanada 2008). In 2006, immigrants accounted for slightly over one-fifth of Canada's total labor force (Zietsma 2007). The majority (60%) of these are 'economic immigrants' consisting of skilled workers and business immigrants (investors, entrepreneurs and self-employed) and their families. The skilled workers category of immigrants are selected based on their skills, education, experience, language proficiency, and ability to adjust to changing labor markets. For economic immigrants to Canada, both principal applicants and their spouses have similarly high educational attainment levels relative to family class and refugee class immigrants (Aydemir 2011).

This paper contributes to the literature primarily in two ways. First, to our knowledge, this is one of the first studies exploring the promotion outcomes (both the incidence and rate of promotion) of immigrants broadly at a national level (Fang, Zikic, and Novicevic 2009). The emphasis on promotions provides additional insights into the path of convergence of immigrant outcomes with Canadian-born beyond a focus on wage rate or earnings comparisons. The second contribution is that we use a Human Capital framework to understand the effect of employee and job-relevant characteristics on promotion. In particular, the key employee characteristic of interest is immigrant age-of-arrival. We suggest that our findings, using Statistics Canada's Workplace and Employee Survey (WES), are relevant for other industrialized countries with similar immigration policies. Particularly in jurisdictions where the economic welfare of immigrants is deteriorating, it is important for policy makers to know the specific outcomes facing immigrants.

Review of Theoretical and Empirical Literature

Empirical evidence on immigrants' earnings differentials commonly use human capital theory, developed by Becker (1980) and Mincer (1974), to understand the key factors contributing to differences. Chiswick and Miller (2009) use U.S. 2000 Census to estimate earnings functions to find that after controlling for major occupation groups that immigrants with more foreign labor market experience tend to work in lower-paying occupations and that this is due to the "less-than-perfect" international transferability of immigrant's human capital (Chiswick and Miller 2009: 457). Further, the return on

earnings to an immigrant for an additional year of schooling is mediated by entrance into a higher-paying occupation by about one-half of the increase. In other words, higher education is associated with higher-paying occupations and this reduces the direct effect of education on earnings. Not only are higher levels of education important for outcomes, but the transferability of human capital is important. This implies that the age of arrival of the immigrant can be an important factor in that it affects the transferability of the education attained. Younger age-at-arrival immigrants are likely to be educated in Canada relative to older age-at-arrival immigrants that are more likely to attain their education abroad (Ferrer and Riddell 2002).

Immigrants that arrive as children are more likely to benefit from the opportunity to attain "equivalent" quality education as Canadian-born, relative to immigrant groups that arrive after the ages of 9 and 18. Arrivals after the age of 9 and between 18 are less likely to graduate from high school, with up to 25% in this situation (Corak 2011). Thus, these later arrivals are not able to take advantage of these formative years through second language acquisition and social competencies development.

With regard to language, using quantile regressions on 2000 U.S. Census and 2001 Australian Census data, Chiswick, Le and Miller (2008) find that the relative earnings positions of English-speaking, non-English-speaking, and native-born groups vary across the earnings distribution in both countries. In the lowest deciles immigrants tend to do better than native-born in both countries and in Australia substantially better, however, looking at the middle deciles generally the English-speaking immigrants have greater earnings than the non-English-speaking immigrants relative to native born. More specifically, lower (higher) decile English speaking immigrants tend to do better (worse) in Australia than in the United States. The authors argue that in addition to programs that are more selective with regard to immigration, this finding is likely due to the greater rigidity in the Australian labor market, which tends to offer a degree of wage protection and flattens earnings-experience profiles. Canada and Australia have similar economic systems, legal systems, and immigration policies that focus on “points system” selectivity (Clarke and Skuterud 2012). Education also plays a positive role for immigrant's earnings, particularly in Australia, where the return to school for immigrants from non-English-speaking countries, in the top half of the income distribution, is greater than the bottom third of Australian-born earners (Chiswick, et al. 2008).

Aydemir and Skuterud (2008), using WES 1999 and 2001, find that wage differentials across establishments are a more important source of earnings gap than differences within establishments for immigrant males relative to Canadian-born. For immigrant females, concentration in low-wage establishments does not appear to be the source of their disadvantage and none of the low returns are explained by human capital, job types, occupation, or educational requirement differences. One of the contributions of the Aydemir and Skuterud (2008) study is the identification of the importance of disaggregating the sample by gender.

Finally, many studies explore the possibilities for discrimination based on ethnicity or race (Fang and Heywood 2006; Picot and Sweetman 2005). In a study of on-

line postings across multiple occupations in Canadian workplaces, Oreopoulos (2009) found name-based discrimination--resumes with English-sounding names received interview requests 40% more often than applicants with Chinese, Indian, or Pakistani names. If ethnicity based discrimination is common in hiring within an organization this practice may continue over into other staffing decisions, such as promotion.

The above findings suggest that age-of-arrival, language, and ethnicity will be important factors in understanding differences in immigrant and Canadian-born promotion outcomes. Further, the findings on age-of-arrival and educational outcomes suggest that the interaction of these two factors can have an affect on immigrant labor market success.

Issues concerning promotions, promotion systems and Internal Labor Markets (ILM) have received attention from the economic personnel management and human resource management literatures. Economists have tended to explore promotions from a human capital theory perspective. ILMs exist because employees develop firm-specific human capital that the organization values and wants to retain, and the organization does this by having ports-of-entry and having career paths by which firm-specific knowledge is developed and rewarded as the employee moves up the hierarchy (Becker 1980; Prendergast 1993). This perspective implies that a focus on schooling/education, years of experience (pre- and with current employer), and ability/performance are some of the most important factors affecting promotion probabilities (Baker, et al. 1994; Gibbons and Waldman 1999; Medoff and Abraham 1980).

Several studies have found support for human capital factors, such as schooling and experience, effecting promotion outcomes. McCue (1996) uses promotions, position change, changes in job assignments, and other internal mobility to investigate the effects on wages and wage growth in internal labor markets--using the Michigan Panel Study on Income Dynamics (PSID). The results for education have been mixed in the literature. Generally, higher promotion rates are associated with higher levels of education and lower rates for groups with low levels of education (Baker, et al. 1994; Chan 2006; McCue 1996; Zeytinoglu and Cooke 2008). In particular, McCue (1996) found that white men and black women have not graduated high school are less likely to be promoted. Further, Acosta (2010), using data from a single large U.S. corporation, found a significant positive relationship between higher levels of education (i.e. post-graduate degrees) and promotion likelihood. In contrast, DeVaro (2006b) found a significant negative relationship between college (or greater) and promotion likelihood, using the 1992-1995 cross-sectional employer level dataset called Multi-City Study of Urban Inequality (MCSUI).

The incidence of promotion has been found to fall with potential experience when measured as age minus years of schooling minus 6 (McCue 1996). This finding is consistent with other findings for the association between age and promotion where promotion likelihood is negatively related to age (Chan 2006; De Varo 2006a, 2006b). With regard to tenure, some have found inconsistent results for the relationship of within position tenure and promotion (McCue 1996); while other studies have a substantial

negative relationship between job tenure and receiving a promotion (Baker, et al. 1994; Gibbs and Hendricks 2004). Further, low job tenure (within the first two years at current job) is associated with higher promotion rates compared to higher tenure (Acosta 2010). These findings are not surprising, employees that are passed over early in their current job are likely lacking is some way and either need additional time to develop the needed skills and experience given their ability or else their chance of promotion will continue to deteriorate over time. In contrast to these negative relationships, increases in organizational tenure, years with an employer, have been found to be associated with higher promotion likelihood (De Varo 2006a; Zeytinoglu and Cooke 2008).

McCue (1996) also found that hazard rates for promotion (position change) are higher for those that have already received a promotion. This finding may be an indication of "fast-tracking" and productivity signaling, where organizations use the promotion system to sort employees based on their human capital levels (Baker, et al. 1994; Heisz and Oreopoulos 2006). Thus, it is important to look at the number of promotions received and not just whether a promotion is received within an employee's tenure with an organization.

Finally with regard to immigrants and promotion outcomes, Zeytinoglu and Cooke (2008) find that immigrants are significantly less likely to ever receive a promotion by a factor of 0.81 relative to Canadian-born. In a study of immigrant promotion rates (number of times promoted over job tenure), Fang, Zikic and Novicevic (2009) find immigrant professionals (defined as those with an undergraduate, graduate or professional degree) had a promotion rate of .21 compared to Canadian-born professionals' rate of .26. Although, the Fang, Zikic and Novicevic (2009) study did not test whether these promotion rate differences were significant in a multivariate framework. Nonetheless, the general pattern is that immigrants broadly defined receive fewer promotions and that professional immigrants have a lower promotion rate.

Based on the above literature, it is expected that the receipt and rate of promotion will be positively associated with higher education levels, experience, and tenure. It is also expect that, compared to their Canadian-born counterparts, immigrants' promotion outcomes will vary depending on their age-at-arrival. With younger arrivals having outcomes that are similar to Canadian-born and older arrivals experiencing a gap in promotion outcomes similar to the well-documented gap in earnings (Aydemir and Skuterud 2005). The mitigating effect of higher education levels will be explored through the interaction of education level and age-at-arrival groups. It is expected that higher education levels will have a positive effect on promotion and aid in the convergence to Canadian-born outcomes.

Further, the moderating effect of gender will be explored. Given the non-random sorting by gender across occupations and industry, identified by Aydemir and Skuterud (2008), the role of gender as a factor associated with promotion will be explored. Finally, important job relevant and demographic factors such as employment relationship, coverage by a collective agreement, age, martial status, dependents, ethnicity, and language spoken are used to control for the identified variation in promotion outcomes

across these factors. To reiterate, the presumed result of the above effects is that older age-at-arrival immigrants will have a lower likelihood of being promoted and receive fewer promotions than Canadian-born workers.

Data and Methodology

Our study uses Statistics Canada's 1999 to 2004 Workplace and Employee Survey (WES). This survey is a nationally representative sample of workplaces and their employees. The employer sample is a stratified random sample drawn from a list of all registered active businesses in Canada (i.e. non-public sector). There are some exclusions such as businesses in the territories and in particular industries, including crop production, animal production, fishing, hunting and trapping, private households, religious organizations, and public administration (including municipal, provincial and federal government).

The present study uses the employee as the unit of analysis. Employees are randomly selected from workplaces that are included in the employer sample. Every two years the employee samples are refreshed. This means there are three sets of employee samples with the same employees: 1) in 1999 and 2000, 2) in 2001 and 2002, and 3) in 2003 and 2004. We pool these three separate employee samples into one dataset and focus on the employees in 1999, 2001, and 2003. The total sample size is 64,726 observations; however, after selecting only employees in for-profit organizations and dropping observations with missing responses, for all variables used in the fully specified model, the sample used in the analysis is 43,503, which is representative of an average population of about 7,100,000 employees over the reference periods.

Dependent variables for this analysis are 1) ever been promoted since working for the current employer (0= not promoted, 1= promoted), and 2) the number of times the employee has ever been promoted since working for the current employer (a count greater than 0 if promoted and equal to 0 if never promoted). Promotion is defined in the survey as a change in tasks, duties, or responsibilities, which leads to both an increase in responsibility/complexity and pay for the job.

The independent variables can be divided into immigrant age-at-arrival, job-relevant and personal variables. The main independent variable is the immigrant age-at-arrival identifiers. Immigrants are defined in this study as those who were born outside of Canada and have legal status to reside and work in Canada. Four dummy variables are defined using the immigrant's year of arrival and age: 0 to 9, 10 to 18, 19 to 35 and 36 plus years of age at arrival. The reference group is those born in Canada. Gender is defined as female employees coded as 1, and male employees as 0. A continuous measure of age of the employee is included as well as the variable squared. Other personal characteristics used as controls in the analysis are marital status, dependent children and ethnicity, and not same language used at home and work. These variables are coded as follows: married or common law (=1) and others (=0) including single, separated, divorced, and widowed; and having dependent children (1 = yes, 0 = no).

Ethnicity refers to the heritage of an individual. Both Canadian-born and immigrant Canadians come from a variety of ethnic backgrounds. To identify ethnicity the following question was asked: "Canadians come from many ethnic, cultural and racial backgrounds. From which groups did your parents or grandparents descend? (Check all that apply.)" (StatisticsCanada 2005: 54). Similar to Fang and Haywood (2006), ethnicity is dichotomized as European (Canadian, British, French, any other European groups and American) and non-European (all other groups), where non-European is equal to one and 0 otherwise.

The language used most often at home and at work are used to derive a variable that identifies whether the language used most often in both locations is the same (1 = not the same and 0 = language used at home and at work are the same). Identifying the differences in language use between home and work can be considered a proxy for real or perceived communication skills, cultural differences or the language ability of the immigrant and can be a factor for integration at the workplace (Aydemir 2011). Language use is a proxy for integration into the workplace through more intensive oral communication and cultural integration positively affects promotion likelihood.

Job-relevant independent variables are: education, employment relationship, tenure with employer, experience, qualification level difference from minimum required, and whether the employee is covered by a collective agreement. The highest level of education attained is coded into one dummy variable identifying whether the employee has a university degree or higher (1 = yes, 0 = otherwise). The reference group is all employees with less than a university degree.

The employment relationship is measured by looking at the employment contract status where regular full-time employees (30 hours or more per week, coded as 1 = yes and 0 = otherwise) are distinguished from the reference group which is a combination of regular part-time, temporary full-time, and temporary part-time.

The number of years the employee has spent in their current position is included as a continuous measure of tenure (and squared/100). The years of experience is measured using the following question: "Considering all jobs you have held, how many years of full-time working experience do you have?" The number of years experience is included as a continuous measure and squared/100. The non-linearity (square term) will control for experience over the career-path.

The minimum level of education required for the job is captured using the following categories: elementary school, some secondary school, secondary school diploma, some postsecondary education, trade certificate, college diploma, university undergraduate degree, university professional accreditation (MD, Law, Architect, Engineer, Education, etc.), and university graduate degree; and the level of education can be defined using an identical categorization. The qualifications difference variable is the difference between the highest level and minimum required for the job. Then three

dummy variables were defined: 1) under-qualified, 2) just-qualified, and 3) over-qualified.

Finally, if the employee is a union member or covered by a collective agreement, they are coded as 1 and 0 otherwise.

Analysis

In addition to the descriptive statistics, regression models will be presented. The models focus on the incidence (whether a promotion is received) and the rate of promotion (the number of promotions over employer tenure in years). The models focus on immigrant age-at-arrival variables, and then look at the interactions with university education and gender. Finally, it is appropriate to characterize the likelihood of immigrants being promoted and the rate of promotion as being related to both job-relevant and personal variables. Further, because the dependent variable (promotion rate) is a count variable with over 50% of the outcomes being zero and significant over-dispersion, a zero-inflated negative binomial (ZINB) model is used for estimation-- for all models estimated the dispersion parameters were always significant. The ZINB model puts more weight on the probability of observing zeros than the Negative binomial (NB) model or Poisson models, by dividing employees into those not promoted and those promoted, and using a logistic function to estimate the probability of not being promoted (Cameron and Trivedi 2006).

The ZINB model was selected over other models, such as the Poisson, Zero-inflated Poisson (ZIP), and NB, because of the improvement in fit that occurred when the over-dispersion and excess zeros in the promotion rate count variable were accounted for by the ZINB model. Both the Akaike information criterion (AIC) and Bayesian information criterion (BIC) indicated ZINB as the most appropriate estimation method even when compared across a variety of model specifications (these results are available from the authors upon request). The use of the ZINB model is also appropriate because the overdispersion and excess zeros in the data may be caused by unobservable employee heterogeneity. This is likely the case in these data because all specifications of the NB and ZINB models had a significant α dispersion parameter and the Vuong tests always rejected the NB in favor of the ZINB model (Vuong 1989). The ZINB model not only makes substantive sense, in that it is empirically appropriate given the data, but there is also the theoretical rationale that once an employee gets on a "fast-track" the characteristics that put them on the career-path are likely to contribute to future success and rewards.

For the regression analysis, the employee level survey weight is used and the complex survey design is accounted for by generating bootstrap heteroscedasticity-robust standard errors. The bootstrap iterations used weights that were adjusted for the complex survey design in a similar fashion as the population weight. These adjustments account for the lack of employee sample independence within workplaces (clusters) (Chowhan and Buckley 2005). Further, all weights were adjusted to account for the pooling of

various years of data for differing employee populations (Thomas and Wannell 2009). All estimation was conducted using Stata 12.

Results and Discussion

Descriptive results are presented in Table 1. Of the 19% of the workers that are immigrants about 40% arrived during the ages of 0 to 18 and 60% arrived after age 18. Summarizing immigrant's job relevant characteristics relative to Canadian-born, immigrants tend to have full-time regular employment, they have slightly lower employer tenure but have higher work experience (this includes Canadian and Foreign work experience), and a higher proportion have a university degree. Further, immigrants arriving after age 18, tend to be in jobs that they are over-qualified for in terms of the minimum requirement. With regard to demographic characteristics, working immigrants are on average older, married, have dependent children, are of non-European ethnicity, and a substantial proportion are not speaking the same language at home and at work. It is interesting to note that for many of these characteristics immigrants arriving after age 18 are the main source of variation in the immigrant group; they are quite different than Canadian-born and even younger age-at-arrival immigrants for some of the characteristics.

<Insert Table 1 about here>

With regard to the promotion measures (incidence and rate of promotion) there is a substantial significant ($p<0.05$) difference between immigrants and Canadian-born incidence of promotion, and this difference is driven by low incidence of promotion for immigrants with age-at-arrival over 18 years of age, see Table 1. Immigrants arriving at 19 years and older in Canada have an incidence of promotion that is about 25% lower than Canadian-born workers. The younger age-at-arrival immigrants 0 to 18 have promotion incidence significantly ($p<0.05$) above older age-at-arrival immigrants (18 plus). There are also differences in the promotion rate, with the Canadian-born promotion rate (46.7%) being significantly ($p<0.05$) higher than the 0 to 9 (39.4%) and 19 to 35 (32.6%) age-at-arrival immigrants. Immigrant promotion rates are not significantly different from each other except for the 19 to 35 age-at-arrival group being significantly ($p<0.05$) lower than the 36 plus group. These results have been replicated using the ZINB model and are presented in Figure 1 as Odds Ratios, with Canadian-born workers as the reference.

<Insert Figure 1 about here>

In Figure 2, this simple model is taken a step further by interacting the age-at-arrival groups with university (or greater) education. The general pattern observed in the previous analysis still holds that older age-at-arrival immigrants have significantly ($p<0.05$) lower likelihood of being promoted and have lower promotion rates relative to Canadian-born with university education. Not surprisingly, university education improves outcomes, especially, with regard to promotion rates. Those without university

education tend to have a lower likelihood of receiving a promotion and have a lower promotion rate. This is even true for Canadian-born workers without university education, they are less likely to receive a promotion than Canadian-born workers with a university education by a factor of OR=0.66. It is interesting to note that immigrant university educated age-at-arrivals 36 plus are one of the least likely groups to receive a promotion, but once they do they are more likely to be promoted (although this is substantial it is not statistically significant). This may be an indication that highly skilled older age-at-arrival immigrants may be accepting "entry-level" positions when faced with a lack of better opportunities or a lack of knowledge of other jobs, and thus, opting for a lower career starting point given their potentially limited options. Then from a lower entry-point they may be receiving more promotions. This potential mismatch between having a highly qualified immigrant workforce in lower "career-start" jobs should be examined for policy implications.

<Insert Figure 2 about here>

In Table 2 model (A) columns (1) and (2), we explore whether the results in Figure 2 vary by gender. It is important to note that for both Models A and B, column (1 and 3) presents the logit results explaining whether or not an employee is certain to not receive a promotion, and column (2 and 4) explains the number of promotions for employees that receive promotions (i.e. not in the "certain no-promotion" group) (NB regression). To avoid presenting the results in a counter-intuitive fashion and for the convenience of comparing the logit model results to those of the NB regression model, the signs of the logit coefficients have been changed so that the estimates reflect the probability of being promoted.

All groups that are significantly different from Canadian-born university educated males (i.e. the reference group) have a lower likelihood of receiving a promotion and a lower promotion rate. For comparable age-at-arrival and education groups, females tend to have a lower likelihood of receiving a promotion and promotion rates than males. Even Canadian-born females, both with and without university, are less likely to have received a promotion by factors of 0.72 and 0.51, respectively. Immigrants that are age 19 or older at arrival whether male or female are substantially less likely to receive a promotion, with female university educated being substantially better off than females without university.

<Insert Table 2 about here>

Model (B) in Table 2 includes the immigrant age-at-arrival, education and gender interactions, but also the job relevant and personal factors have been added to the model. The results in columns (3) and (4) show that most of the main results from model (A) still hold in the more fully specified model (B). Canadian-born males without university are still significantly less likely to be promoted. The effect for immigrant males age 19 to 35 at arrival is quite stable and robust to various model specifications for both receiving a promotion and promotion rate. Canadian-born females with or without university are less likely to either be promoted or have a high rate of promotion; in fact, the promotion rate

estimates become significant in model (B) compared to model (A). In model (B), the finding that younger arrival university educated females are not significantly different than Canadian-born university educated males continues to hold. Nonetheless, the general pattern that older age-at-arrival immigrants and those without university education are less likely to receive a promotion and to have a lower rate of promotion continues to hold. Thus, not only are there substantial gaps in the likelihood of receiving a promotion, but even if a promotion is received then non-male-Canadian-born-and non-university-educated face the lowest rates of promotion.

With regard to the job relevant characteristics, regular full-time workers are more likely to receive a promotion by a factor of 2.79 than part-time or temporary employees, see Table 2 Model (B) column (3). An additional year of tenure with an employer is associated with a higher likelihood of receiving a promotion by a factor of 1.18. However, this appears to be a non-linear relationship implying employees generally need to accumulate in-house experience before moving up within the organization, and if the window of promotion opportunity does not get an employee on an upward career-path the signal may be established that reduces future promotion opportunities. Overall work experience is related to higher promotion likelihood by a factor of 1.03. Being covered by a collective agreement is associated with substantially lower likelihood of receiving a promotion, by a factor of 0.53. Finally, the only personal characteristic that is significantly related to the receipt of promotion is age. Each additional year (of age) is associated with a lower likelihood of promotion (by a factor of 0.95).

For model (B) column (4), tenure is negatively associated with promotion rates and a non-linear association is present, this may indicate the possibility that "fast-trackers" at lower tenure levels and those that "make-it-to-the-top" at higher tenure levels are shaping the distribution, with the “middle” tenure group having a relatively lower rate. More experience is positively associated with promotion rates but at a decreasing rate (i.e. significant non-linear relationship). One of the main contributors to the rate of promotion is the worker's qualification level. Workers that are hired as not meeting the minimum education requirements are clearly being assessed on some other unobserved characteristics, which appears to be relevant for receiving future promotions. Employees that are under-qualified are associated with higher promotion rates by a factor of 1.21 once they have been promoted. Collective agreement coverage continues to have a negative relationship with promotion rate. Non-European ethnicity is associated with a lower promotion rate by a factor of 0.92 relative to those with European ethnicity.

Discussion

The general pattern observed in both the descriptive and multivariate analysis is that older age-at-arrival immigrants with and without a university degree (or higher) and all immigrants without university education (regardless of age-at-arrival) are less likely to receive a promotion. Further, these results hold for the rate of promotion outcome although the results tend to be less significant yet still substantial. Thus, not only are

there gaps in the likelihood of receiving a promotion, but even if a promotion is received then non-male-Canadian-born and non-university-educated face lower rates of promotion.

The age-at-arrival dummy variables measure all unobservable effects for these immigrant groupings, which can include characteristics ranging from talent and ability to culture and integration (Baker and Benjamin 1994). Skill and ability may be included in the age-at-arrival effects or skill may be co-mingled with education and other human capital measures. In other words, high innate ability employees will typically have more education than lower innate ability employees, and rewards, such as promotion, are likely to be allocated to employees that demonstrate high effective ability. Thus, if education is thought of as a proxy measure for skill and ability, it is not surprising that more highly educated immigrants are less likely to have different outcomes than Canadian-born when compared to less educated immigrants. Knowledge, skills and ability, as proxied by education, are factors that mitigate the deleterious effects of the challenges of social development and integration (Corak 2011).

The regression results indicate that there may be a transferability issue with immigrant human capital developed outside of Canada. In particular, older age-at-arrival (age 19 plus) immigrants either male or female tend to have significantly negative outcomes even with university (although to a lesser extent). Older age-at-arrival (age 19 plus) immigrants are more likely to have acquired their education outside of Canada (Ferrer and Riddell 2002). Green and Worswick (2004) identify the discounting of foreign experience by employers or the apparent lack of transferability accumulated human capital as a potential policy concern. The same may appear to be true for education in the present study.

The lack of transferability of education credentials can lead to initial placements for immigrants within a workplace hierarchy that are below similarly educated and experienced Canadian-born individuals, thereby, resulting in high performance levels and quick promotion. This is consistent with Goldmann, Sweetman, and Warman's (2009) finding that immigrant's pre-migration occupation frequently differs from their post-migration occupation due to matching difficulties. These findings raise the question: are there mismatches between job requirements in the Canadian labor market and immigrants' qualifications? Galarneau and Morissette (2008: 15) showed that between the 1991 to 2006 reference periods, the proportion of immigrants with a university degree in jobs with low educational requirements increased for both males and females and for early and recent immigrants. The authors concluded that the difficulties experienced by recent immigrants also continue to be experienced by earlier immigrants; thus, the prolonged persistence of lower career attainment experiences suggests that these difficulties are not temporary adjustment problems but are long-term. Further, this is seen in the proportions converging over time of recent and established immigrants in jobs with low educational requirements and the gap relative to Canadian born employees widening (Galarneau and Morissette 2008).

Limitations

This study is not without limitations. A limitation of the promotion variables is that only 'within employer' career advancement is considered, because the data do not enable the consideration of 'between employer' advancement, which is also an important option for employees. If immigrants tend to have a greater proportion of the career advancement moves between employers and a relatively lower proportion within employers compared to Canadian-born then the current study will over estimate the gap in promotion outcomes between Canadian-born and immigrants. Further, not being able to fully address career dynamics and advancement in the external labor market could be problematic, especially when studying highly skilled and educated recent immigrants. For example, if recent immigrants get mismatched placements in their initial jobs they may have a greater incentive to change employers rather than seek promotions with the current employer. Therefore, the main determinant of earnings growth may be promotions received by switching employers rather than promotions received with the current employer.

The inclusion of a set of occupation variables was considered as control variables; however, they were omitted because, like earnings and promotion, they are also an imperfect measure of the latent variable of interest--labor market outcomes. Thus, as Chiswick and Miller (2009) argue including this measure as a regressor would be inappropriate. Further, because we are looking at promotion outcomes as a "stock" (i.e. whether a promotion has ever been received and the number of promotions over the employee's tenure with the employer) job relevant characteristics that are flows (i.e. that could change in any given year) have not been included in the model. For example, individual employee training measures of the amount of training in a given year have not been included in the analysis.

Often organizations have a variety of information on employees being considered for promotion beyond human capital and demographic information. Candidates' personal traits such as honesty, loyalty and motivation are also factors that are typically considered in promotion decisions. Personal traits cannot be measured directly with the WES data. Thus, this study focuses on more objective promotion decision-making criteria.

The WES data do not enable the direct measure of foreign years of education or credentials; however, the qualification level difference variables hint at the discounted value assigned by employers to the educational level of immigrants. Specifically, immigrant's age-at-arrival 19 to 35 and 36 plus tend to be overqualified as shown in the descriptive statistics in Table 1 (columns 6 and 7). Future research could test whether being under or over qualified has differential affects for immigrants and Canadian-born on promotion outcomes.

Conclusion

This study highlights how immigrant's age-at-arrival, skill levels proxied by university education, gender and other relevant characteristics contribute to the odds of receiving a

promotion and the rate of promotion. Higher levels of education are related to both the receipt and rate of promotion, for both Canadian-born and immigrants. There are also differences by gender with females tending to have lower promotion outcomes, all else equal. Although Canadian data are used for this study, we believe that the results can be informative for other industrialized countries that are also admitting significant numbers of immigrants.

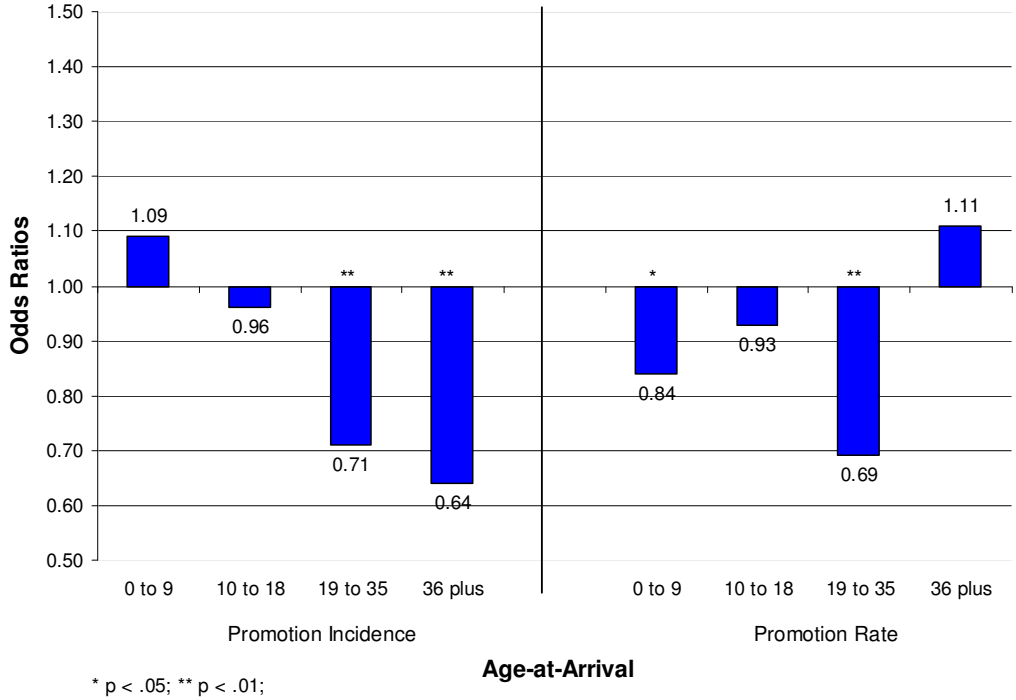
Our study helps reveal the differences in promotion outcomes for Canadian-born and immigrant workers, even after controlling for human capital job relevant and personal factors. Generally, promotions are not received as broadly by workers as are wage increases and particularly wage increases based on seniority or other annual adjustments. The receipt of promotions is a zero-sum game, when one person receives a promotion that means someone else cannot. The "leap" in wage gains and access to future annual within pay grade adjustments is also limited to those receiving the promotion. Thus, this study contributes to the literature by identifying the receipt of promotions and the rate of promotion as one potential pathway leading to the earnings gap observed in the literature between Canadian-born and immigrants.

There are some practical implications of our findings. Promotion opportunities are important for retaining a skilled and motivated workforce. Promotions are particularly important in competitive labor markets where skilled labor is mobile and scarce, and where immigrant workers are accounting for all or most of the labor force growth. Our analysis has identified immigrant's age-at-arrival as a key characteristic contributing to gaps in promotion outcomes. These gaps should raise interest from stakeholders, including employers and governments. If immigrants perceive that they are not fully participating in promotion opportunities within an organization, then organizations may face retention and attraction issues and these organizational level effects may extend to the country at large. In other words, lower promotion outcomes could lead to difficulties retaining immigrants, particularly skilled immigrants, and difficulties with the attraction of future waves of skilled immigrants. The "up or out" saying may no longer apply only to internal labor markets but may begin to apply to countries.

Future research can investigate promotion experiences across the two groups to see whether comparable immigrants and Canadian-born receive promotions of equal value and status. Future research could also focus on internal labor market factors that are related to promotion, such as environmental factors, organizational factors, and job factors that possibly affect immigrants differently than Canadian-born.

TABLES and FIGURES

Figure 1: Promotion Incidence and Rate Canadian-born and Immigrant Age-at-Arrival Comparisons

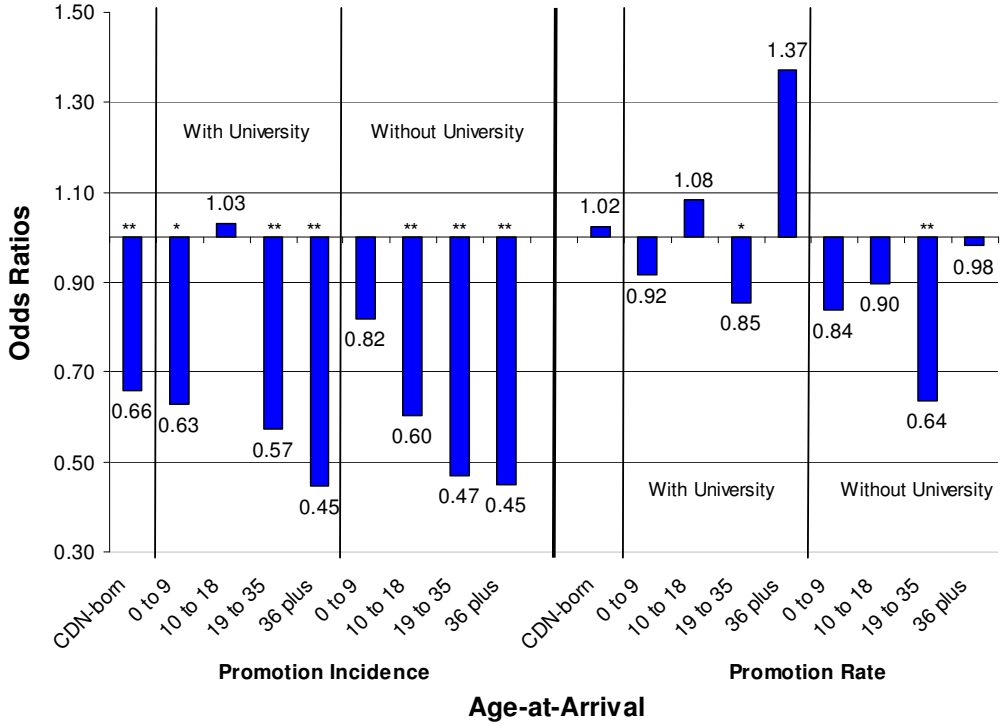


* p < .05; ** p < .01;

Notes: The reference group is Canadian-born. The model used for the estimation of these odds ratios is a Zero-inflated negative binomial model.

Source: 1999, 2001, 2003 Workplace and Employee Survey, Statistics Canada

Figure 2: Promotion Incidence and Rate Canadian-born and Immigrant Age-at-Arrival Comparisons, by University



*** p < .05; ** p < .01;**

Notes: The reference group is Canadian-born with university and the CDN-born estimate in the figure is for those without university. The model used for the estimation of these odds ratios is a Zero-inflated negative binomial model.

Source: 1999, 2001, 2003 Workplace and Employee Survey, Statistics Canada.

TABLE 1

WEIGHTED MEANS BY IMMIGRANT STATUS [a]

Variable	(1) Full Sample	(2) Canadian-born	(3) Immigrants	(4) Age-at-arrival 0 to 9	(5) Age-at-arrival 10 to 18	(6) Age-at-arrival 19 to 35	(7) Age-at-arrival 36 plus
Promotion received	0.40	0.40	0.36	0.42	0.39	0.32	0.30
Promotion Rate (number of promotions by tenure years)	17.9	18.9	13.6	16.7	17.1	10.5	15.7
Of those receiving a promotion, promotion rate [b]	--	46.7	--	39.4	43.4	32.6	51.7
Canadian-born	0.81	1	0	0	0	0	0
Immigrants	0.19	0	1	1	1	1	1
Age-at-arrival 0 to 9	0.04	0	0.23	1	0	0	0
Age-at-arrival 10 to 18	0.03	0	0.17	0	1	0	0
Age-at-arrival 19 to 35	0.09	0	0.50	0	0	1	0
Age-at-arrival 36 plus	0.02	0	0.11	0	0	0	1
University degree or higher	0.17	0.15	0.28	0.25	0.20	0.29	0.38
Regular full-time	0.82	0.81	0.86	0.82	0.84	0.88	0.85
Tenure with employer [c]	7.76	7.81	7.54	7.43	7.83	7.93	5.50
Experience [c]	16.59	16.45	17.23	16.04	16.91	17.12	20.76
Under qualified	0.15	0.14	0.15	0.18	0.17	0.13	0.17
Just qualified	0.28	0.29	0.25	0.29	0.26	0.25	0.20
Over qualified	0.57	0.57	0.59	0.53	0.57	0.62	0.63
Collective agreement coverage	0.17	0.18	0.15	0.16	0.13	0.16	0.12
Gender (female)	0.48	0.48	0.47	0.49	0.49	0.47	0.35
Age	39.14	38.36	42.52	37.89	40.23	43.37	51.83
Marital status (married)	0.68	0.66	0.77	0.65	0.74	0.82	0.88
Dependent Child(ren)	0.47	0.45	0.54	0.44	0.49	0.59	0.55
Non-European ethnicity	0.20	0.10	0.62	0.40	0.63	0.68	0.76
Not same language at home and work	0.11	0.04	0.38	0.14	0.35	0.46	0.58
Sample size (total number of observation)	43503	36542	6961	1715	1156	3407	683

NOTES: [a] All immigrants of all ages are included. [b] These estimates are calculated conditional on receiving a promotion. [c] The estimates for tenure and experience are means of continuous variables whereas the remaining variables are means of binary variables which are proportions.

TABLE 2

Promotion Rate and Promotion Incidence, Differences Across Immigrant Age-at-Arrival

Independent and control variables	(A)				(B)			
	(1)		(2)		(3)		(4)	
	Logit (Not-promoted=0, Promoted=1)		Promotion Rate (Negative binomial)		Logit (Not-promoted=0, Promoted=1)		Promotion Rate (Negative binomial)	
Male Canadian-born with university (ref.)								
Male Canadian-born without university	0.63	**	1.01		0.60	**	0.96	
Male Age-at-arrival 0 to 9 with university	0.50	**	0.67	**	0.51	*	0.87	
Male Age-at-arrival 10 to 18 with university	0.93		0.87		0.74		0.94	
Male Age-at-arrival 19 to 35 with university	0.55	**	0.83		0.70	*	0.89	
Male Age-at-arrival 36 plus with university	0.42	*	1.35		0.96		0.96	
Male Age-at-arrival 0 to 9 without university	0.81		0.89		0.79		0.90	
Male Age-at-arrival 10 to 18 without university	0.45	**	0.84		0.43	**	0.87	
Male Age-at-arrival 19 to 35 without university	0.52	**	0.54	**	0.54	**	0.74	**
Male Age-at-arrival 36 plus without university	0.54	*	1.02		1.38		0.87	
Female Canadian-born with university	0.72	*	0.93		0.75	*	0.90	*
Female Canadian-born without university	0.51	**	0.98		0.57	**	0.81	**
Female Age-at-arrival 0 to 9 with university	0.60		1.12		0.62		0.96	
Female Age-at-arrival 10 to 18 with university	0.84		1.30		1.04		1.21	
Female Age-at-arrival 19 to 35 with university	0.43	**	0.83		0.52	*	0.88	
Female Age-at-arrival 36 plus with university	0.32	**	1.29		0.93		0.90	
Female Age-at-arrival 0 to 9 without university	0.61	*	0.73	*	0.60	*	0.80	**
Female Age-at-arrival 10 to 18 without university	0.59	*	0.90		0.74		0.83	
Female Age-at-arrival 19 to 35 without university	0.30	**	0.73	**	0.42	**	0.84	*
Female Age-at-arrival 36 plus without university	0.18	**	0.71		0.42	*	0.82	

Regular full-time			2.79	**	1.00	
Tenure with employer			1.18	**	0.83	**
Tenure with employer squared/100			0.74	**	1.49	**
Experience			1.03	*	1.01	*
Experience squared/100			0.96		0.96	**
Under qualified (Just qualified ref.)			1.15		1.21	**
Over qualified			1.00		1.04	
Collective agreement coverage			0.53	**	0.90	**
Age			0.95	*	0.97	*
Age squared			1.00		1.00	
Marital status (married)			1.03		1.01	
Dependent Child(ren)			0.90		1.00	
Non-European ethnicity			1.02		0.92	*
Not same language at home and work			0.95		0.99	
lnalpha	-0.11	**	-1.07	**		
Log pseudolikelihood	-1.83E+07		-1.65E+07			
Wald chi2(19), (33)	61.53	**	4639	**		
Sample Size	43503		43503			

Notes: The dependent variable is the number of times promoted divided by tenure with employer and the model used for the estimation is a Zero-inflated negative binomial model. Significance levels indicators are based on bootstrapped standard errors.

* p < .05; ** p < .01;

Source: 1999, 2001, 2003 Workplace and Employee Survey, Statistics Canada

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