

Poverty and Progress among Canadian Immigrants, 1911-1931¹

Kris Inwood (Guelph), Chris Minns (LSE), and Fraser Summerfield (Guelph)

November 2013

Preliminary: Not for citation

¹ We thank Javier Torres and participants at the 2013 British Association for Canadian Studies, 2013 European Historical Economics Society, Essex FRESH, University of Sussex, and 2013 Canadian Economics Association Meetings for their comments.

Introduction

How do migrants fare in host economy labour markets after arrival? How have the fortunes of immigrants in destination labour markets changed over time? The answer to these questions are key to understanding the economic implications of mass migration. Research examining changes in labour market adjustment in recent decades has focused on shifts in the country of origin composition of immigrant flows that have altered the skill profile and adaptability of immigrant inflows over time. (Borjas 1995; Chiswick 1986; Aydemir and Skuterud 2005).. A second set explanations focus on labour market conditions in the host economy near the time of arrival. Several papers have debated the importance of initial conditions, with some finding that high rates of unemployment upon entry to the destination labour market having a “scarring” effect on the future prospects of immigrants (Aslund and Rooth 2007; Aydemir and Skuterud 2005; Chiswick and Miller 2002).²

Less is known about how immigrants fared over the first wave of mass migration that took place between 1880 and 1930. Historical studies of mass migration over these decades have looked mainly at the experience of immigrants in the American labour market, and have focused primarily on developments up to 1910. These papers have been able to document differences in economic status between immigrant origin groups (Douglas 1919; Hatton 2000 Minns 2000, Abramitzky, Boustan, and Erikson 2012), but are unable to trace long-term outcomes for those arriving after 1900. These later immigrants were predominantly from “new” source countries in Southern and Eastern Europe, and possessed much less human capital on arrival than immigrants of previous vintage.³ Longitudinal limitations are particularly restrictive if one is interested in the effect of economic shocks on immigrant prospects; the years following the end of the First World War were a time of considerable fluctuation in North American labour markets, and the onset of the Great Depression brought the most unfavourable labour market conditions ever experienced in Canada and the United States. Sustained high levels of long-term unemployment could have had large effects on immigrants who had recently arrived in North

² Note that evidence on scarring effects are not conclusive’ MacDonald and Worswick (1999) and Chiswick et. al. (1997) find faster assimilation in earnings and employment among those arriving during recessions.

³ One exception to this is found in Abramitzky, Boustan, and Erikson 2012, who extend their analysis to data from the 1920 Census of the United States.

America, and the massive scale of dislocation, with uneven effects on employment and wages, both over geographical space and between sectors and firms, could have had profound effects even on immigrants who were relatively long-settled. While it is well-established that unemployment was higher among immigrants than the native-born in the 1930s (Green and MacKinnon 1988; Gemery 1993), little else is known about how the foreign-born experienced the Depression in Canada and the United States. This paper uses recently released random samples of the Canadian censuses of 1911, 1921, and 1931 to document the changing path of poverty and progress among Canadian immigrant in the early 20th century. Canada was one of the world's leading immigrant destinations at this time, with approximately 4.6 million immigrants arriving in Canada between 1901 and 1931. As in the United, source countries for Canadian immigration were changing over this period. Prior to 1901, the vast majority of immigrants to Canada arrived from Britain. In the early 20th century, increasing numbers were arriving from more distant origins in Eastern and Southern Europe. Although Canadian immigration policy followed trends in the US through the introduction of a literacy test (1919) and restrictions by country of origin (1923), the number of migrants from "non-preferred" origin countries grew substantially in the 1920s.⁴ The labour market outcomes of Canadian immigrants have seen much less attention than those of American immigrants. Green and MacKinnon (2001) document the slow assimilation of British migrants circa 1901. This pattern appears to survive through to 1911 (Dean 2012). Little is known, however, about the earnings adjustment progress of immigrants from other parts of the world, or how immigrants in general were affected by changing labour market conditions after 1911.⁵ The most important change was that which took place between 1929 and 1933. Canada experienced a Great Depression as deep as that of the United States (Zagorsky 1998), with only limited, local relief available to those unable to secure employment (Marsh 1940; MacKinnon 1988). The shock to labour demand that had taken place by the time of the 1931 Census had already had serious consequences for the employment prospects of unskilled workers (Marsh 1940). Given their skill profile, the foreign-

⁴ The composition of flows to Canada may have been partly dependent on developments in the US: Lew and Carter (2002) show evidence that a tightening of U.S immigration quotas in 1924 may have influenced the country origins of Canadian migrants.

⁵ One existing exception to the British focus is evidence of immigrant characteristics among immigrants from the Netherlands between 1925 and 1929 (Armstrong and Lewis 2012)

born in Canada were likely to have suffered particularly strong exposure to these adverse labour market conditions. . While one might expect the labour market dislocation of the Great Depression to have consequences for recently-arrived immigrants seeking to invest in job search and other investments in local human capital, the scale and depth of the shock could also have ramifications for established migrants who made similar investments earlier in the 20th century, much as it did for experienced native-born Canadian men.

We use synthetic panel techniques to document the entry position and longitudinal labour market experiences of immigrant cohorts arriving in Canada between 1901 and 1930. One particular advantage of Canadian data is that from 1901 the Canadian census asked respondents to report individual earnings.⁶ While research on American labour markets in this period provides insight on the labour assimilation among immigrants of different origins (Minns 2000; Abramitzky, Boustan, and Erikson 2012b), changes in observed labour market status in these studies is limited to shifts in occupational profiles.⁷ For Canada, we can examine both occupational change and changes in pay within occupations. We compare earnings at arrival and earnings growth between immigrants from different countries of origin and trace the evolution of labour market outcomes for immigrants within the same origin group. To the best of our knowledge, we provide the first systematic evidence on Canadian immigrant outcomes after 1911, and the first direct evidence of how immigrant earnings in North America were affected by the Great Depression.

Our preliminary findings suggest larger entry effects and slower adjustment for later immigrant cohorts from continental Europe than for British arrivals. These findings appear to support pessimistic views of the economic progress of “new” immigrants relative to the “old” immigrants who dominated flows before 1910. The most striking findings relate to relative immigrant earnings in 1931. The data show that relative earnings for non-anglophone immigrant cohorts declined in the early years of the Great Depression. The most significant relative earnings regression is

⁶ The Canadian Census also enquired about unemployment and weeks worked, with considerable detail for the 1931 sample.

⁷ Pioneering work on earlier decades has generated insight on the longitudinal progress of immigrants by linking earlier Census records to ship lists, or by tracing individuals from complete count census data to random samples (see Ferrie 1999), but these studies are similarly constrained by the lack of earnings data.

found among older European migrants who had been in Canada for over twenty years.⁸ Others have written that the economic crises of the 1920s and 30s placed a disproportionate burden on older men (Marsh 1940, p. 316-7; Temple for the UK); our findings show that this was particularly true among the foreign-born from continental Europe, for whom with irregular employment was a prominent feature of declining incomes. ***If we get anywhere in explaining this pattern, it gets a mention here***

Understanding Immigrant Earnings Adjustment

The first studies of immigrant labour market assimilation in North America were optimistic about the capacity of immigrants to experience earnings convergence with the native-born (Chiswick 1978, Abbott and Beach 1993). Many such early studies, however, were based on analysis of a single cross-section of census or other labour market data. Later studies, using repeated cross-sections to trace immigrant and native-born cohorts over time, found that the initial earnings of immigrants on arrival were often much lower than previously believed, and that subsequent earnings growth was sluggish (Borjas 1985 for the US; Baker and Benjamin 1993, Aydemir and Skuterud 2005 for Canada).⁹ Similar changes are well-documented for the early 20th century, where immigrant inflows shifted as demand for emigration rose and fell in different parts of Europe (Hatton and Williamson, 1999, chapter x). Evidence on how these earlier changes in source country composition translated to labour market outcomes are more limited, however. Many early studies of American immigrants were limited to cross-sectional analyses of 19th century labour force surveys of state-specific industries (Blau 1980, Hannon 1982, Hatton 1997) or a single cross-section of Census data (Hanes 1995). Two later studies added a longitudinal dimension: Minns (2000) used repeated cross-sections from Public Use Samples of the 1900 and

⁸ We do not focus on entry effects for different immigrant groups and cohorts in this study, but our results also show a sharp widening in the gap in earnings on arrival in 1931, between immigrants (especially non-anglophone Europeans) and native-born Canadians.

⁹ The changes in immigrant origins since the 1960s are due both to changes in demand for migration in response to international changes in wages and living standards, and shifts in policy regimes that made the US and Canada more accessible to migrants from less-developed countries from the mid 1960s onwards (Borjas 1985; Chiswick 1986; Green and Green 1995).

1910 Census, while Abramitzky, Boustan, and Erikson (2012b) created a panel of migrants linked between Census years using new digital resources and data linkage techniques.¹⁰ Longitudinal studies for the early 20th century find moderate to small entry effects among immigrants, and that subsequent earnings growth was similar to the native-born. Assimilation rates were, if anything, somewhat higher for “new” immigrants from Southern and Eastern Europe (Minns 2000). These studies are constrained, however, by the absence of information on earnings in the US Census prior to 1940. Canadian evidence does not suffer from this limitation. As earnings information is present in the Census from 1901 onwards, Canada offers a useful testing ground to evaluate how much assimilation is lost under an occupational earnings approach.

As in the US, Canada experienced changes in the volume of inflows, and marked shifts in the source country composition of immigrants after 1901. The foreign-born share in Canada rose from about 13 percent in 1891 and 1901 to 22 percent in 1921 and 1931 (Table 1). So-called free migrants from Great Britain and the United States dominated inflows. The large increase in immigrants from this category between 1911 and 1921 was driven mainly by immigration from England, whose numbers rose from 203 thousand to 519 thousand. Whether or not this was also associated with a change in who came from England is a question currently unanswered in the literature, despite strong interest from commentators at the time. Much of the concern surrounding British (and particularly English) migration likely had to do with the potential wage effects on these inflows on native-born workers. Immigration minister in 1920, Clifford Sifton expressed concerns regarding the future quality of migrants from England (quoted in Avery, 1979, p. 96-97), whereas Reynolds (1935, p. 98-99) claims that after the First World War white-collar clerical and professional employees replaced skilled tradesmen as the dominant kind of migrant. Preferred migrants never made up more than ten percent of the stock, but the non-preferred share increased noticeably between 1901 and 1911, and again from 1921 to 1931. A sharp increase in the stock of migrants from Eastern Europe

¹⁰ A further advantage of the approach adopted by Abramitzky, Boustan and Erikson (2012b) is that their linkage approach should not suffer from biases due to selective return migration that are a potential issue in Minns (2000) and the approach adopted in this paper.

accounts for this change, with over 300 thousand from Poland and the Soviet Union present in 1931, compared to only 30 thousand in 1901.

The changing source country composition among Canadian immigrants challenged views as to whether immigrants could easily adapt to their new destination. Canadian labour historians have identified the shift in the national origin composition of migration after 1919 as a key factor in precipitating changes in the attitudes of both organized labour and the political establishment towards immigration circa 1930 (Avery, 1979). Contemporary observers speculated that relative poverty might have hindered immigrant economic prospects once in Canada.¹¹ These discussions served to intensify the debate surrounding the need for restrictive immigration policy. Canada followed the US model with the introduction of a literacy test in 1919, and the introduction of formal restrictions by country of origin in 1923. The Canadian policy regime retained easy access for prospective immigrants from Britain, the Irish Free State, the United States and Northern and Western Europe (Scandinavia, Belgium, France, Holland, Switzerland, and from 1926, Germany). Immigrants from Southern and Eastern Europe faces stiffer entry conditions, though many Eastern Europeans were recruited for agricultural work under the so-called railway agreements between 1925 and 1930.

In addition to where immigrants come from, labour economists have drawn attention to the potential importance of of labour market conditions on arrival for subsequent earnings performance. This research has generated mixed findings on the whole (Chiswick et al. 1997; Chiswick and Miller 2002; MacDonald and Worswick 1999; Aydemir and Skuterud 2005), but the most recent research suggests that local conditions do have significant effects when location decisions are exogenous (Aslund and Rooth 2007). These studies deal with relatively mild episodes of unemployment, in a context where states provide some degree of public assistance through the welfare states. Labour market conditions in Canada in the 12 months leading up to the 1931 Census survey were of an entirely different magnitude. National unemployment was over 20 percent by June of 1931. Unemployment incidence was unevenly distributed across cities and sectors – Vancouver saw male unemployment rates soar above 34

¹¹ For example, in *Strangers within our Gates* (1908), J.S. Woodsworth contrasted the difficulties of “Canadianizing” a recent influx of Galician immigrants from Eastern Europe (p. 134) with the “sober, industrious, and thrifty” Scandinavians, who were “in every way excellent citizens” (p. 97). Similar comments appear in Marsh (1940) a generation later.

percent; in Toronto, workers in construction (carpenters) and labouring occupations were more likely to be out of work than to have a job at the census date. (Green and Mackinnon 1988, Table 10.2, Table 10.3). There are several reasons why the massive scale of dislocation may have had a differential impact on immigrant populations relative to the native born. Ethnic networks were used by many to arrange employment prior to the Depression, and it is unknown how well these may or may not have continued to function once labour demand fell sharply. More generally, if immigrant labour faced different search costs compared to the native-born, a prediction would be that this would translate into differences in unemployment, spells out of the labour market, and the willingness to accept lower wage offers. These effects could “scar” new entrants, as discussed in the contemporary literature, but there may also be substantial effects on long-settled migrants, who would face the same difficulties as older native-born Canadians, with the potential added disadvantages associated with job search as an ethnic minority.

New Canadian Census data, 1911-1931

We explore immigrant adjustment in new Canadian census samples from 1911, 1921, and 1931. These samples have been generated as part of the Canadian Census Research Infrastructure (CCRI) Project, and are five percent (1911), four percent (1921), and three percent (1931) random samples of the original census manuscripts. The census provides a full national picture of the Canadian labour market at these three dates, with a wide range of information on personal and demographic characteristics. In our analysis we focus on a small set of explanatory variables related to human capital accumulation and interregional differences in earnings: province or region of residence, age (our proxy for experience) and the ability to speak English. The census also includes responses on individual earnings and occupation that are relatively easy to standardize over time.

In the work that follows, we restrict our attention to adult men aged 16 to 65 in each Census sample. We also restrict our analysis to urban areas (defined in the census as places with a population of 1,000 or higher). There are two main reasons for this restriction. First, the proportion of adult men with positive earnings responses is much higher in urban areas. This is in part due to differences in occupational composition – most farmers did not report a figure for earnings, and these responses

are more likely to be an unreliable indicator of economic status for those that did. In addition, we exclude men employed in agriculture from our analysis. This restriction allows us to focus on employee labour markets where theories and evidence of immigrant assimilation have greatest relevance.¹² It does, however, have implications for the overall picture of relative immigrant earnings. A large share of Canadian-born men were farming, and many fewer immigrant men were doing the same.¹³ If farmer earnings were on average low, as fragmentary evidence from the Census suggest they were, then our results will overstate the distance between native-born and immigrant earnings.¹⁴ A further concern is the possibility of differences in urban-rural migration between immigrants and the native-born, particularly once the depression hit. Issues of the *Labour Gazette* in 1930 and 1931 feature much discussion about “back to the land” movements in both Eastern and Western Canada.¹⁵ While data from the 1936 Census of Manitoba suggest that such movement began to take place between 1931 and 1936 (Marsh 1940, p. Xxx), an examination of urban shares of foreign and native born in our samples shows similar overall trends among adult men.

Baseline regression results

We estimate a relatively parsimonious series of regression model from which we derive the evolution of immigrant cohort earnings over time. Our baseline regression model is outlined in the following equation:

$$Y_{ij} = \alpha 0_{ij} + \beta 1 age_{ij} + \beta 2 age_{ij}^2 + \gamma 1_{ij} ysm + \gamma 2_{ij} ysm^2 + I_{ij} \theta + X_{ij} \chi + C_{ij} \delta + \varepsilon \quad (1).$$

In equation (1), the explanatory variable Y is the log of personal earnings in year i and age cohort j. In keeping with the existing literature on immigrant assimilation in early

¹² We have also estimated our regression results limiting the sample only to those who state that they are “employees.” This restriction has little effect on our results.

¹³ In 1911, about 42 percent of Ontario Anglophone men with a recorded occupation were farming. The corresponding figure for immigrant men is about 28 percent (Inwood, MacKinnon, and Minns 2013).

¹⁴ Median agricultural earnings were about half of what operative earned in the 1911 Census (Inwood, MacKinnon, and Minns 2013).

¹⁵ Pull some page numbers from notes on desk *****

20th Century labour markets, we use annual earnings in the first set of results presented here. On the right-hand side, age and the square of age are proxies for experience. Years since migration (ysm) approximates the Canadian-specific labour market experience of immigrants. Our analysis of immigrants of different origins divides the foreign-born population into three broad groups, based on 1920s Canadian immigration policy criteria – immigrants who enjoyed free entry into Canada after 1921 (Britain, Ireland, and the US), “preferred” immigrants from Northwest Europe (France, Netherlands, Belgium, Germany, and “non-preferred” immigrants from other origins.¹⁶ ***I don’t know if we want to bundle these groups together as “European” or wait to see if we are asked to do it first*** These immigrant indicators (free, preferred, and non-preferred) are included in equation (1) through the vector I. Finally, X is a vector of control variables - in the baseline specification, these are province of residence, and a dummy variable for lack of English language ability - and a series of 5-year arrival cohorts (C) for immigrants. We estimate the model in equation (1) for all three Census years (i=1911, 1921, or 1931), and for three age cohorts (j=born 1876-85, born 1866-75, or born 1856-65). ***Another spec would be to estimate this for all the age cohorts together, but to allow the ysm effects to differ by immigrant group. It would not change the story, but things would be cleaner at this stage.*** The regression coefficients on immigrant origins, age, and years since migration then allow us to trace the evolution of relative immigrant earnings between census years (as captured through cohort dummies) controlling for a limited set of additional characteristics.¹⁷ While this approach allows us to develop a longitudinal perspective on relative immigrant earnings, there are also some important shortcomings to note. Return to Europe was an important part of early 20th century mass migration (Kuznets and Rubin 1954; Bandiera, Rasul, and Viarengo, 2012), and we have no way of adjusting for cohort attrition due to return migration. Part of any earnings intertemporal adjustment we find may be due to the impact of unobserved,

¹⁶ We include Germany in the list of preferred countries from 1924, in which year it changed from the non-preferred to the preferred category.

¹⁷ We have estimated alternative models of this regression that impose less restrictions on the relationship between immigrant vintage and earnings, through a series of 5-year dummy variables for arrival cohorts in each census year. These results, which are available from the authors on request, provide similar evidence regarding relative labour market assimilation, but at the cost of additional individual regressions and many more right-hand side variables.

selective return migration (see Abramitzky, Boustan, and Erikson, 2012b, Figure 1). At this time we have little way to control for this problem. The Canadian case introduces another form of potentially selective attrition, that being the departure of native-born Canadians to the United States.¹⁸ It is well-known that many Canadians moved south in the early 20th century, and the experience of these migrants in the US has been the subject of several recent histories (Ramirez 2001; Widdis 1998). Data from Canadian Census bureau reports suggest that these flows declined markedly after 1924 (see Marsh 1940, the *Labour Gazette* in the late 1920s/early 1930s).¹⁹ This implies that the relative position of the native-born is less likely to reflect selective migration decisions among cohorts affected by the Great Depression than was the case in earlier decades.²⁰

The results of the regressions explaining annual earnings are presented in Table 2. Our main interest is in using the pattern of coefficients on the immigrant indicators, age, and years since migration to trace relative earnings, but other results are worth noting in passing. As is typical of most age earnings profiles, the quadratic age terms show decreasing returns to experience. Unsurprisingly, the age/earnings slope is usually steeper at early ages among younger cohorts. Provincial indicators show earnings were higher in Quebec than Ontario for all age cohorts and census years. In large part this reflects the fact that Montreal was the economic centre of the country throughout these years. Maritimers typically had lower earnings than Ontarians, which is also consistent with expectations based on alternative sources.²¹ For western Canada the picture is much more mixed. Men enjoyed a positive premium in British Columbia in 1911, but this was not shared by men residing in the

¹⁸ Decadal emigration rates from Canada were well over 100 per 1000 through the late 19th century, and was in the order of 100,000 per annum at several points in the 1910s and 1920s. McInnis (2000a; 2000b).

¹⁹ ***** Numbers *****

²⁰ We have estimated our regression models in a more restricted sample in which the native-born include only internal migrants, and we find larger native born – immigrant differentials under this alternative. Our tentative interpretation of these results is that the departure of those who left to the US is likely to compress earnings differentials than in a counterfactual were Canadian emigrants were unable to move south.

²¹ See Inwood, MacKinnon, and Minns (2013) for evidence on regional earnings from the Census of 1901 and 1911, and Emery and Levitt (2002) on wage evidence from the *Labour Gazette* in the 1910s, 20s, and 30s.

province in 1921 and 1931. In the Northwest (Alberta, Saskatchewan, and urban settlements in the Yukon), we find positive premiums in 1921 and 1931. It seems likely that the small number of “urban” observations in this region in 1911 may have something to do with the absence of differences in the first census cohort. By 1911, earnings in urban Manitoba are well in line with those in Ontario. The most interesting of the control variables is the indicator for lack of English language ability. Coefficients are negative, significant, and large in all nine regressions, and are much greater in magnitude in 1931 for all cohorts than in 1911 or 1921. This suggests that penalties for language human capital grew over time, and were particularly large in the depressed conditions of the early 1930s. When labour demand was at its most scarce, those with higher search costs due to poor communication skills and a heavy reliance on (possibly declining) ethnic networks were forced to accept much lower wage packages than those who could speak English. Indeed, other findings later in this paper will support this view of the immigrant labour market in 1931.

The baseline regression specification also provides an estimate of the entry effect for the three immigrant groups. The dummy variables for “free”, “preferred”, and “non-preferred” migrants provide the predicted earnings gap between each immigrant group and otherwise identical native-born Canadians when years since migration is equal to zero. The estimated entry effects are fairly large for all groups and age cohorts in 1911 and 1921 (in the order of 25 to 50 log points); in 1931 the data show a sharp decline in earnings at arrival concentrated among European migrants in the preferred and non-preferred groups. Figures 1a, and 1b provide a visual portrayal of the relative progress of age-arrival cohorts over time from the baseline regression results. We simulate the earnings path of three age and arrival cohorts relative to the native-born. In each case, we use coefficient estimates to track the progress between censuses of immigrants relative to the native-born of the same age, both resident in Ontario throughout and able to speak English. Figure 1a compares just-arrived immigrants (years since migration = 0), who were 25 years of age in 1911 to native-born men of the same age. Figure 1b does the same for immigrants who arrived in 1896 (years since migration = 15), who were 40 years of

age in 1911. In each figure, we follow the fortunes of the three aggregate immigrant groups (free, preferred, and non-preferred) over a 20 year window.²²

Both figures suggest that free immigrants, a group dominated by flows from the US and the UK, made reasonable progress after 1911, despite the large entry penalty experienced by younger migrants (Figure 1a). This pattern suggests that the reported trend of British immigrants faring poorly in Canada in 1901 and 1911 ceased to be the case after the First World War (Green and MacKinnon 2001; Dean 2012) Progress for other immigrant was much more limited. Preferred and non-preferred immigrants did not come close to achieving earnings parity with the native-born. A striking feature of all three figures is the divergence in earnings between preferred and non-preferred immigrants and comparable native-born between 1921 and 1931, particularly among the older immigrant groups. The predicted earnings gaps in 1931 are in the order of 30 to 70 log points, a disadvantage much larger than found among experienced immigrants in Canada in 1901 and 1911 (Green and Mackinnon 2000; Dean 2012), which also exceeds most of the wage gaps found between immigrants and the native born in Canada and the United States in recent decades (Aydemir and Skuterud 2005; Borjas 1994).²³

Regressions with occupational controls

In Table 3, we extend our baseline specification with controls for broad occupational grouping. The effect of these controls is to condition relative immigrant progress on occupational attainment – in other words these regressions then can be used to report relative earnings growth within occupational clusters. This is important for at least two reasons. First, as mentioned earlier, previous studies of immigrant cohort attainment in American labour markets base their findings entirely on earnings patterns that are fixed by occupation (Minns 2000; Abramitzky, Boustan, and Eriksson 2012b). We are able to provide some documentation of whether immigrants also experienced earnings convergence within occupation. Second, cohort progress in terms of within and between occupational earnings growth is also important in

²² We have estimated regression models without controls for language, and these generate similar results (available on request).

²³ In alternative regression specifications we also find large, significant entry effects among immigrants recently arrived in 1931.

understanding the dynamics of early 20th Century immigrant labour markets, particularly in light of the evidence seen earlier of declining relative earnings in 1931 for older cohorts.

Table 3 reports the full set of coefficients from the modified regressions, including the occupation category controls. A visual summary of the effect of occupational controls is provided in Figures 2a and 2b. We use the same assumptions regarding age, vintage (years since migration), language ability, and province or residence as in Figures 1a and 1b, and make the predictions conditional on being employed in the operative category. Controlling for occupation does account for a noticeable share of the earnings gap between preferred/non-preferred immigrants and the native-born among younger workers (Figure 2a). For older immigrants, however, the earnings penalties remain substantial in 1931 – Figure 2b reports gaps of 55 to 65 log points for preferred and non-preferred migrants aged 40 in 1911 with an 1896 arrival date.

In sum, results with occupational controls suggest that these can account for quite a bit of the earnings penalty suffered by younger, more recently arrived immigrants, but older migrants of long-standing in Canada suffered large earnings disadvantages even within occupations. The figures also suggest that there were only minor differences in earnings between Anglophone immigrants and their Canadian counterparts within occupations. Although we include several Anglophone immigrant groups in the free migrant category, this finding does appear to run counter to claims by contemporaries (and some historians today) that English and Irish immigrants suffered the effects of labour market discrimination in Canada. Their occupational mix implied a lower average wage than that of the native-born, but earnings within occupations appear to have converged.

Immigrants with weaker language abilities, and perhaps fewer connections outside of ethnic labour markets had a particularly difficult occupational adjustment once the depression hit. Non-preferred immigrants may have been less able to switch occupational sectors in response to relative shocks to labour demand, with higher search costs allowing employers to bid down their wages. While there is an established literature about demographic differences in unemployment incidence and duration during the Depression, much less is known regarding the dynamics of salaries and wages for those who remained employed. Some research suggests that skill type, for which natives and the foreign-born may have different endowments,

mattered for wage outcomes in the 1930s among those who remained employed. In an examination of career employment at the Canadian Pacific Railroad during the Depression, Hamilton and MacKinnon (2001) find that the demand shock led to workers with firm-specific skills being demoted to low-paid positions, while those with general skills were fired. Whether this finding can translate into ethnic differences in earnings among those who remain employed is unclear. Our finding of large within-occupation differences in earnings also suggest that some caution is necessary in interpreting earlier results based on occupational earnings profiles (Minns (2000) and Abramitzky, Boustan, and Erikson (2012b)),

Regressions for weekly earnings

Our final set of regression models are estimated with weekly rather than annual earnings on the left-hand side. The main reason to explore this specification is to discover to what extent the results change once spells out of the labour market are accounted for. This is particularly important for 1931, where we see evidence of declining relative earnings among many immigrants, paired with extensive evidence of differences in the incidence of unemployment and lost work time between occupations and ethnic groups. Leonard Marsh's analysis of employment and unemployment in the 1930s shows the depression reducing employment in skilled trades, but the incidence of unemployment was greatest among men employed in low-skilled occupations, particularly construction (Marsh 1940, p. 298, p. 364).²⁴ His findings also confirm international patterns of greater unemployment among older workers. Green and MacKinnon (1988) show that the share of men who lost time in 1931 varied by country of birth. Forty-four percent of working-age men lost time in 1930-31. For British immigrants, the figure is 50 percent for recent arrivals, and 40 percent for those in Canada since 1911. For European immigrants the equivalent numbers are 71 percent and 52 percent.

The CCRI samples for all three censuses include a variable capturing weeks worked in occupations (1911), weeks away for any reason (1921), and derived weeks away for any reason (1931). We sum weeks in all occupation in 1911, and subtract weeks lost in 1921 and 1931 from 52 to arrive at a number of weeks worked which we

²⁴ Unemployment rates were less than 10 percent for clerks and store managers, and over 50 percent for labourers and carpenters.

then use as the denominator in calculating weekly earnings.²⁵ We first estimate weekly earnings regressions without occupation controls (Table 4), then add controls (Table 5) and use the results to trace earnings gaps relative to the native born over the life-cycle for the three cohorts of interest (Figures 3a and 3b). Here we find significant attenuation of the earnings gaps between the native-born and preferred/non-preferred immigrants. This is particularly the case in 1931, where the hardest-hit cohorts are now within 25 log points of the native-born (Figure 3b). An earnings disadvantage of 20 to 25 percent remains significant by historical standards, and we still find little convergence for preferred and non-preferred migrants between 1911 and 1931, but it is clear that much of the enormous gaps found in the earlier figures was due to relative differences in lost worktime.

Interpretation

Our findings suggest a strong differential impact of the Great Depression on immigrants relative to the native-born, particularly among older men. While it is impossible to fully account for this pattern with the data at hand, we have three tentative explanations to propose here. The first idea is that labour market discrimination against non-anglophone immigrants may have increased during the Depression. European migrants were more likely to lose employment than otherwise similar Britons or “British Canadians,” and may have faced higher search costs (and therefore longer average spells out of work) in securing new positions. While there is abundant evidence of ethnic discrimination in housing markets at this time (reference - ask Rowena), separating labour market discrimination from the effects of unobserved skills is beyond the possibilities of what we can do with the evidence available to us. A discrimination-based explanation will also struggle to account for the patterns experienced by free migrants, given the large historical literature that emphasizes the hostility of many native-born Canadians towards arrivals from Britain (Lloyd 2012). A second possibility relates to the post-migration human capital investments made by Canadian immigrants in the late 19th and early 20th Century. Immigrants who arrived with few skills may have made different investments to natives and native-speakers in other dimensions of general and job-

²⁵ Sample coverage of weeks worked/not worked is excellent in both 1911 and 1931, but limited to about 65 percent of observations in 1921.

specific human capital. If credit constraints among poorer European immigrant families meant that human capital investment in earlier years was focused on job-specific skills, the disruption in the labour market between 1929 and 1931 would hit these groups particularly hard. Evidence on this point can be generated by extending the earlier analysis that controls for occupational group by tracing more fine-grained occupational holdings of cohorts of European immigrants, Anglophone immigrants, and native-born Canadians over time... and we find... The third avenue we consider has to do with a different facet of human capital. Many Canadian immigrants used ethnic networks to secure employment rapidly after arriving in Canada, rather than developing a broader network of contacts. The use of such networks is likely to direct employment towards particular sectors, as described above. One consequence of the labour market shocks beginning in 1929 is that the ability of ethnic connections to secure new jobs may have declined substantially, leaving older generations of immigrants at a distinct disadvantage when facing spells of unemployment or nominal wage cuts in current employment. We explore this possibility by.... And we find....

Conclusions We draw the following conclusions from our preliminary analysis of immigrant labour market assimilation in Canada, 1911-1931:

1. Overall, Immigrants experienced modest earnings convergence with the native-born. The assimilation experience varied widely between immigrant arrival groups. Free” migrants from the UK and the appear to enjoy some catch-up growth relative to the native-born. Preferred immigrants and especially non-preferred migrants fared worse. The disadvantage of non-anglophone origin are magnified in 1931, in particular for older workers. These findings suggests that migrants who arrived with less transferrable human capital and perhaps had less opportunity to make additional investments were hit particularly hard by conditions in the early 1930s – even among migrants who had long tenure in the Canadian labour market.
2. Controlling for occupations reduces, but does not eliminate immigrant disadvantage. While free immigrants see enhanced catch-up and smaller earnings gaps within occupations, non-preferred migrants fare much worse and we still find regression over time among the worst affected cohorts. There is some evidence that immigrants with weaker skills were “stuck” in the wrong occupations in 1931, but

they also experienced significant regression (in relative terms) within those occupations.

3. Differences in time worked appear to account for much of the largest gaps between non-preferred immigrants and the native-born. For older cohorts, the log point earnings differential falls by about two-thirds in 1931 when we run regression explaining weekly earnings rather than annual earnings. What this finding tells us is that the visibly foreign-born (not Canadian, American, or British) were highly vulnerable to spells of unemployment, even compared to otherwise identical workers of different origins. This appears to be just as true for those who had spent over 20 years in Canada as for the most recent arrivals. Most explanations for this pattern would revolve around differences in human capital, differences in social capital, or the presence of discrimination in tight labour markets. While we cannot rule out the effects of discrimination when jobs are rationed, our tentative view is that Depression may have led to a permanent dislocation in the ethnic networks used by many immigrants to secure employment in the 1920s and earlier. Older workers who drew on such connections to find work when times were relatively good found themselves experiencing slower, more costly job search when times were bad, with longer spells of unemployment and lower wages a consequence.

References

- Michael G. Abbott and Charles M. Beach, 1993. "Immigrant Earnings Differentials and Birth-Year Effects for Men in Canada: Post-war-1972." *Canadian Journal of Economics*, 26, pp. 505-524.
- Ran Abramitzky, Leah Platt Boustan, and Katherine Eriksson, 2012a. "Europe's Tired, Poor, Huddled Masses: Self-Selection and Economic Outcomes in the Age of Mass Migration," *American Economic Review*, 102, pp. 1832-56.
- Ran Abramitzky, Leah Platt Boustan, and Katherine Eriksson, 2012b. "A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration." Stanford University Working Paper
- Alex Armstrong and Frank D. Lewis, 2012. "International Migration with Capital Constraints: Interpreting Migration from the Netherlands to Canada in the 1920s." *Canadian Journal of Economics*, 45, pp. 732-754.
- Olof Åslund and Dan-Olof Rooth, 2007. "Do when and where matter? initial labour market conditions and immigrant earnings." *The Economic Journal*, 117, pp. 422-448.
- Donald Avery, 1979. "Dangerous Foreigners": European Immigrant Workers and Labour Radicalism in Canada 1896-1932. Toronto: McClelland Stewart.
- Abdurrahman Aydemir and Mikal Skuterud, 2005. "Explaining the Deteriorating Entry Earnings of Canada's Immigrant Cohorts, 1966-2000." *Canadian Journal of Economics*, 38, pp. 641-672.
- Michael Baker and Dwayne Benjamin, 1994. "The Performance of Immigrant in the Canadian Labour Market." *Journal of Labor Economics*, 12, pp. 369-405.
- Oriana Bandiera, Imran Rasul, and Martina Viarengo, 2012. "The Making of Modern America: Migratory Flows in the Age of Mass Migration." *Journal of Development Economics*, forthcoming.
- Francine Blau, 1980. "Immigration and Labor Earnings in Early Twentieth Century America." *Research in Population Economics*, 2, pp. 21-41.
- George J. Borjas, 1985. "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants." *Journal of Labor Economics*, 3, pp. 463-489.
- George J. Borjas, 1994. "The Economics of Immigration." *Journal of Economic Literature*, 32, pp. 1667-1717.
- Barry R. Chiswick, 1978. "The Effect of Americanization on the Earnings of Foreign-born Men." *Journal of Political Economy*, 8, 897-921.
- Barry R. Chiswick, 1986. "Is the new immigration less skilled than the old?" *Journal of Labor Economics*, 4, pp. 168-192.

Barry R. Chiswick, Yinon Cohen, and Tzippi Zach, 1997. "The labor market status of immigrants: effects of the unemployment rate at arrival and duration of residence." *Industrial and labor relations review*, 50. pp. 289-303.

Barry R. Chiswick and Paul W. Miller, 2002. Immigrant earnings: "Language skills, linguistic concentrations and the business cycle." *Journal of Population Economics*, 15, pp. 31-57.

Jason Dean, 2012. "The Economic Progress of UK Immigrants in the Canadian Labour Market: New Evidence from the 1901 and 1911 Censuses." Unpublished working paper, McGill University.

Paul H. Douglas, 1919. "Is the new immigration more unskilled than the old?" *Quarterly Publications of the American Statistical Association*, 16, pp. 393-403.

J.C. Herbert Emery and Clint Levitt (2002). "Cost of Living, Real Wages, and Real Incomes in Thirteen Canadian Cities, 1900-1950." *Canadian Journal of Economics* 35, 115-137.

Joseph Ferrie, 1999. *Yankeys Now: Immigrants in the Antebellum US, 1840-1860*. Oxford: NBER/Oxford University Press.

Henry A. Gemery, 1993. "International migration and the US labor market in the Great Depression." *Migration and the International Labor Market 1850-1939*, (pp. 171-xxx). London: Routledge

Alan Green and David Green, 1995. "Canadian Immigration Policy: The Effectiveness of the Point System and Other Instruments." *Canadian Journal of Economics*, 28, pp. 1006-1041.

Alan Green and Mary MacKinnon, 1988. "Unemployment and Relief in Canada." In *Interwar Unemployment in International Perspective* (pp. 353-396). Springer Netherlands.

Alan Green and Mary MacKinnon, 2001. "The Slow Assimilation of British Immigrants in Canada: Evidence from Montreal and Toronto, 1901," *Explorations in Economic History*, 38, pp. 315-338.

Barton Hamilton and Mary MacKinnon, 2001. "An Empirical Analysis of Career Dynamics and Internal Labour Markets During the Great Depression." Unpublished manuscript, Olin School of Business, Washington University at St. Louis.

Chris Hanes, 1995. "Immigrants' Relative Rate of Wage Growth in the Late 19th Century." *Explorations in Economic History*, 33, pp. 35-54.

Joan Hannon, 1982. "Ethnic Discrimination in a 19th-Century Mining District: Michigan Copper Mines: 1888." *Explorations in Economic History*, 19, pp. 28-50.

Timothy J. Hatton, 1997. "The Immigrant Assimilation Puzzle in Late Nineteenth-Century America." *Journal of Economic History*, 57, pp. 34-62.

Timothy J. Hatton, 2000. "How much did immigrant "quality" decline in late nineteenth century America?" *Journal of Population Economics*, 13, pp. 509-525.

Kris Inwood, Mary MacKinnon, and Chris Minns (2013), "Labour market dynamics in Canada, 1891-1911: a first look from new Census samples. In: Darroch, Gordon, (ed.) *The dawn of Canada's century: hidden histories*. McGill-Queen's University Press, Montreal, Canada.

Simon Kuznets and Ernest Rubin, 1954. *Immigration and the Foreign Born*. New York: NBER.

F.H. Leacy, et. al., 1983. *Historical Statistics of Canada*. Ottawa: Statistics Canada.

Byron Lew and Bruce Carter, 2002. "The Impact of United States Immigration Quotas on Migration to Canada During the 1920s." Unpublished working paper, Trent University.

Amy Lloyd, 2012. "'The Englishmen here are mich disliked': Hostility towards English Immigrants in Ealry Twentieth Century Toronto." In: Tanja Bueltmann, David T. Gleeson, and Donald M. Macrauld (eds.) *Locating the English Doaspora, 1500-2010*. Liverpool: Liverpool University Press.

Mary MacKinnon, 1990. "Relief not insurance: Canadian unemployment relief in the 1930s." *Explorations in Economic History*, 27, pp. 46-83.

James T. McDonald and Christopher Worswick, 1999. "The earnings of immigrant men in Australia: assimilation, cohort effects, and macroeconomic conditions." *Economic Record*, 75. pp. 49-62.

Marvin McNinnis, 2000a. "The Population of Canada in the Nineteenth Century." In: Michael Haines and Richard Steckel (eds.) *A Populatyion History of North America*. Cambridge: Cambridge University Press.

Marvin McNinnis, 2000b. "The Population of Canada in the Twentieth Century." In: Michael Haines and Richard Steckel (eds.) *A Populatyion History of North America*. Cambridge: Cambridge University Press.

Leonard Marsh, 1940. *Canadians In and Out of Work: A Survey of Economic Classes and their Relation to the Labour Market*. Montreal: Oxford University Press.

Catherine Massey, 2012. "Immigration Quotas and Immigrant Skill Composition : Evidence from the Pacific Northwest." Unpublished Working Paper, UC-Boulder.

Chris Minns, 2000. "Income, Cohort Effects, and Occupational Mobility: A New Look at Immigration to the United States at the Turn of the 20th Century," *Explorations in Economic History*, 37, pp. 326-350.

Bruno Ramirez with Yves Otis, 2001. *Crossing the 49th Parallel: Migration From Canada to the United States, 1900-1930*. Ithica: Cornell University Press.

Lloyd G. Reynolds, 1935. *The British Immigrant: His Social and Economic Adjustment in Canada*. Toronto: Oxford University Press.

Temple, William (ed.) 1938. *Men Without Work: a report made to the Pilgrim Trust*. Cambridge: Cambridge University Press.

Randy Widdis, 1998. *With Scarcely a Ripple: Anglo-Canadian Migration into the United States and Western Canada, 1880-1920*. Montreal: McGill-Queens University Press.

J. S. Woodsworth, 1909. *Strangers Within Our Gates*. Toronto: F.C. Stephenson.

Jay L. Zagorsky, 1998. "Was depression era unemployment really less in Canada than the US?." *Economics Letters* 61, pp.125-131.

Appendix: Price index used for real wage calculations

To be added.

Table 1: The foreign-born in Canada, 1891-1931 (thousands)

Year	Population	Foreign-born (% of population)	Free migrants (% off foreign-born)	Preferred migrants (% of foreign-born)	Non-preferred migrants (% of foreign-born)
1891	4833	644 (13)	572 (89)	41 (6)	31 (5)
1901	5371	700 (13)	534 (76)	56 (8)	109 (16)
1911	7207	1587 (22)	1118 (70)	130 (8)	339 (21)
1921	8788	1956 (22)	1439 (74)	128 (7)	388 (20)
1931	10377	2308 (22)	1529 (66)	174 (8)	604 (26)

Source: Historical Statistics of Canada, 2nd edition, consulted online (1983).

Notes: Free migrants are arrivals from the United States, Britain, Ireland, and other British dependencies. Preferred immigrants are from Belgium, the Netherlands, France, Germany, and Scandinavia. Non-preferred immigrants include all other arrivals from Europe and elsewhere.

Table 2: Regression results, annual earnings

	Born 1886-95			Born 1876-85			Born 1866-75		
	1911	1921	1931	1911	1921	1931	1911	1921	1931
Age	.50*** (.03)	.15*** (.04)	.09 (.09)	.10** (.04)	.12* (.06)	.13 (.14)	.07 (.08)	.06 (.12)	-.02 (.25)
Age ² x 10	-.10*** (.01)	-.02*** (.01)	-.01 (.01)	-.01** (.01)	-.02** (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.001 (.02)
Years since migration	.20*** (.02)	.05*** (.01)	.04 (.01)	.14*** (.01)	.04*** (.01)	.03*** (.01)	.09*** (.02)	.04*** (.01)	.04* (.02)
Years since migration ² x 10	-.02*** (.002)	-.02*** (.01)	-.01*** (.003)	-.11*** (.01)	-.01*** (.003)	-.01* (.003)	-.07*** (.02)	-.01* (.01)	-.01 (.01)
No English	-.25*** (.02)	-.25*** (.02)	-.58*** (.03)	-.32*** (.02)	-.30*** (.02)	-.55*** (.04)	-.33*** (.02)	-.31*** (.03)	-.66*** (.06)
Free migrants	-.47*** (.03)	-.27*** (.04)	-.35*** (.05)	-.41*** (.03)	-.30*** (.05)	-.29*** (.08)	-.39*** (.04)	-.26*** (.08)	-.31* (.17)
Preferred migrants	-.40*** (.04)	-.52*** (.05)	-.77*** (.06)	-.36*** (.04)	-.48*** (.06)	-.71*** (.10)	-.37*** (.06)	-.44*** (.09)	-.78*** (.19)
Non-preferred migrants	-.36*** (.04)	-.48*** (.04)	-.91*** (.05)	-.45*** (.03)	-.54*** (.05)	-.88*** (.09)	-.39*** (.05)	-.52*** (.08)	-.93*** (.17)
British Columbia	.19*** (.02)	-.04* (.02)	-.10*** (.03)	.09*** (.02)	-.06*** (.020)	-.05 (.03)	.07*** (.03)	.03 (.04)	-.20 (.06)
Northwest	-.12*** (.02)	-.06*** (.02)	-.04 (.03)	-.11*** (.02)	-.01 (.02)	-.03 (.03)	-.06* (.03)	-.01 (.03)	.01 (.06)
Manitoba	-.04 (.02)	-.04** (.02)	-.14*** (.04)	-.03 (.02)	.012 (.02)	-.12*** (.04)	.06* (.04)	.03 (.04)	-.03 (.07)
Quebec	.13*** (.01)	.08*** (.02)	.15*** (.02)	.13*** (.02)	.09*** (.02)	.19*** (.03)	.17*** (.02)	.12*** (.02)	.24*** (.04)
Maritimes	-.23***	-.26***	-.34*	-.34***	-.23***	-.24***	-.31***	-.19***	-.25***

	(.02)	(.02)	(.03)	(.02)	(.02)	(.04)	(.02)	(.03)	(.06)
Constant	-4.6*** (.32)	-.07 (.06)	.20 (1.7)	.21 (.61)	-.36 (1.3)	-.87 (3.4)	.59 (1.6)	.46 (2.9)	3.1 (7.5)
R2	.16	.05	.10	.08	.04	.07	.06	.04	.07
N	18009	16016	13146	17836	12796	9413	9997	7126	4337

Notes: Canadian Census samples of 1911, 1921, and 1931 – see text for further details. Estimation is by OLS. Standard errors in parentheses.

***, ** and * indicate coefficients significant at 1%, 5%, and 10% level.

Table 3: Regression results, annual earnings, occupation controls

	Born 1886-95			Born 1876-85			Born 1866-75		
	1911	1921	1931	1911	1921	1931	1911	1921	1931
Age	.50*** (.03)	.09** (.04)	.05 (.08)	.05 (.04)	.10* (.06)	.25* (.13)	.02 (.07)	.08 (.11)	.27 (.25)
Age^2 x 10	-.10*** (.01)	-.01* (.01)	-.01 (.01)	-.01 (.01)	-.01* (.01)	-.03** (.01)	-.003 (.01)	-.01 (.01)	-.02 (.02)
Years since migration	.20*** (.02)	.04*** (.01)	.03*** (.01)	.13*** (.01)	.03*** (.01)	.03*** (.01)	.10*** (.02)	.03** (.01)	.03* (.02)
Years since migration^2 x 10	-.02*** (.002)	-.02*** (.004)	-.01*** (.002)	-.11*** (.01)	-.01*** (.003)	-.01** (.003)	-.08*** (.02)	-.01* (.01)	-.01* (.01)
No English	-.17*** (.02)	-.08*** (.02)	-.23*** (.03)	-.18*** (.02)	-.12*** (.03)	-.25*** (.04)	-.18*** (.02)	-.16*** (.03)	-.36*** (.06)
Free migrants	-.42*** (.03)	-.24*** (.03)	-.27*** (.05)	-.36*** (.03)	-.29*** (.04)	-.24*** (.08)	-.34*** (.04)	-.21*** (.07)	-.22 (.16)
Preferred migrants	-.32*** (.04)	-.33*** (.04)	-.46*** (.06)	-.25*** (.04)	-.33*** (.05)	-.42*** (.09)	-.27*** (.05)	-.26*** (.09)	-.48*** (.18)
Non-preferred migrants	-.35*** (.04)	-.32*** (.04)	-.58*** (.05)	-.36*** (.03)	-.36*** (.05)	-.51*** (.08)	-.29*** (.04)	-.34*** (.08)	-.58*** (.17)
Professional	.72*** (.03)	.86*** (.02)	1.5*** (.04)	1.0*** (.03)	.92*** (.03)	1.5*** (.05)	1.1*** (.03)	.91*** (.04)	1.4*** (.07)
Clerical	.62*** (.02)	.72*** (.02)	1.1*** (.04)	.85*** (.02)	.66*** (.03)	1.1*** (.05)	.86*** (.03)	.58*** (.04)	1.1*** (.07)
Craftsmen	.68*** (.02)	.60*** (.02)	.77*** (.03)	.74*** (.02)	.53*** (.02)	.78*** (.04)	.68*** (.03)	.48*** (.03)	.61*** (.06)
Operative	.57*** (.02)	.54*** (.02)	.72*** (.03)	.65*** (.02)	.45*** (.03)	.69*** (.05)	.60*** (.03)	.42*** (.04)	.64*** (.07)
Service	.36*** (.02)	.40*** (.02)	.72*** (.03)	.52*** (.02)	.37*** (.03)	.74*** (.05)	.51*** (.03)	.29*** (.04)	.56*** (.07)

	(.03)	(.03)	(.04)	(.03)	(.03)	(.05)	(.04)	(.05)	(.07)
Labour	.39*** (.02)	.22*** (.02)	.08** (.04)	.34*** (.02)	.12*** (.02)	.10** (.04)	.28*** (.03)	.07* (.03)	.01 (.06)
British Columbia	.15*** (.02)	-.04* (.02)	-.06* (.03)	.08*** (.02)	-.05*** (.02)	-.02 (.03)	.05** (.02)	-.001 (.03)	-.11* (.06)
Northwest	-.03* (.02)	.03* (.02)	-.001 (.03)	-.06*** (.02)	.03 (.02)	-.01 (.03)	-.04* (.03)	.03 (.03)	-.02 (.05)
Manitoba	-.01 (.02)	-.04** (.02)	-.11*** (.03)	-.04* (.02)	.001 (.02)	-.16*** (.04)	.02 (.03)	.004 (.03)	-.13** (.07)
Quebec	.10*** (.01)	.05*** (.01)	.12*** (.02)	.10*** (.01)	.07*** (.02)	.17*** (.03)	.13*** (.02)	.09*** (.02)	.18*** (.04)
Maritimes	-.193*** (.02)	-.20*** (.02)	-.18*** (.03)	-.26*** (.02)	-.17*** (.02)	-.12*** (.04)	-.22*** (.02)	-.17*** (.03)	-.15*** (.05)
Constant	-4.9*** (.32)	-.23 (.60)	.20 (1.7)	.35 (.55)	-.37 (1.2)	-4.9 (3.3)	.88 (1.5)	.41 (2.7)	-6.2 (7.4)
R2	.27	.22	.34	.27	.22	.30	.26	.20	.27
N	17526	15260	10937	17306	12146	7804	9699	6743	3596

Notes: Canadian Census samples of 1911, 1921, and 1931 – see text for further details. Standard errors in parentheses. ***, ** and * indicate coefficients significant at 1%, 5%, and 10% level.

Table 4: Regression results, weekly earnings

	Born 1886-95			Born 1876-85			Born 1866-75		
	1911	1921	1931	1911	1921	1931	1911	1921	1931
Age	.41*** (.03)	.17*** (.05)	.10 (.07)	.11*** (.04)	.16** (.07)	.22** (.11)	.04 (.07)	.04 (.14)	-.23 (.21)
Age ² x 10	-.08*** (.01)	-.02*** (.01)	-.01 (.01)	-.02*** (.01)	-.02** (.01)	-.002** (.001)	-.01 (.01)	-.01 (.01)	.002 (.002)
Years since migration	.02 (.02)	.05*** (.01)	.03*** (.01)	.02*** (.01)	.03*** (.01)	.02** (.01)	.01 (.01)	.03** (.01)	.03* (.02)
Years since migration ² x 10	-.02 (.02)	-.02*** (.01)	-.01*** (.002)	-.02** (.01)	-.01* (.004)	-.001 (.002)	.01 (.01)	-.01 (.01)	-.01 (.004)
No English	-.13*** (.01)	-.22*** (.03)	-.47*** (.03)	-.22*** (.01)	-.23*** (.03)	-.46*** (.03)	-.21*** (.02)	-.16*** (.04)	-.53*** (.05)
Free migrants	-.12*** (.03)	-.23*** (.04)	-.22*** (.04)	-.12*** (.02)	-.19*** (.05)	-.16** (.07)	-.15*** (.03)	-.19** (.08)	-.28** (.14)
Preferred migrants	-.05 (.03)	-.46*** (.05)	-.49*** (.05)	-.05* (.03)	-.31*** (.06)	-.45*** (.08)	-.11 (.04)	-.26** (.10)	-.56*** (.15)
Non-preferred migrants	.01 (.03)	-.35*** (.04)	-.54*** (.04)	-.16*** (.02)	-.35*** (.05)	-.51*** (.07)	-.18** (.03)	-.32*** (.08)	-.60*** (.13)
British Columbia	.24*** (.02)	.06** (.02)	-.02 (.02)	.16*** (.01)	.03 (.02)	-.01 (.02)	.14*** (.02)	.12*** (.03)	-.03 (.05)
Northwest	-.08 (.02)	-.10 (.02)	-.04* (.02)	-.05*** (.02)	-.07*** (.02)	.004 (.03)	.02 (.03)	-.03 (.04)	.05 (.05)
Manitoba	-.07 (.02)	-.05** (.02)	-.12*** (.03)	-.05*** (.02)	.003 (.02)	-.07** (.03)	.05 (.03)	.08** (.04)	-.05 (.05)
Quebec	.08*** (.01)	.07*** (.02)	.10*** (.02)	.08*** (.01)	.08*** (.02)	.13*** (.02)	.11*** (.02)	.12*** (.03)	.19 (.03)
Maritimes	-.14*** (.01)	-.22*** (.02)	-.31*** (.02)	-.05*** (.01)	-.19*** (.02)	-.24*** (.02)	-.24*** (.02)	-.13*** (.03)	-.26*** (.03)

	(.01)	(.02)	(.03)	(.02)	(.02)	(.03)	(.02)	(.03)	(.05)
Constant	-7.3*** (.27)	-4.7*** (.73)	-3.8*** (1.4)	-3.7*** (.53)	-5.0*** (1.4)	-7.1*** (2.7)	-2.7** (1.4)	-2.9 (3.4)	5.7 (6.2)
R2	.16	.06	.08	.06	.04	.06	.04	.03	.06
N	16943	9609	13126	16594	7754	9399	9119	4195	4325

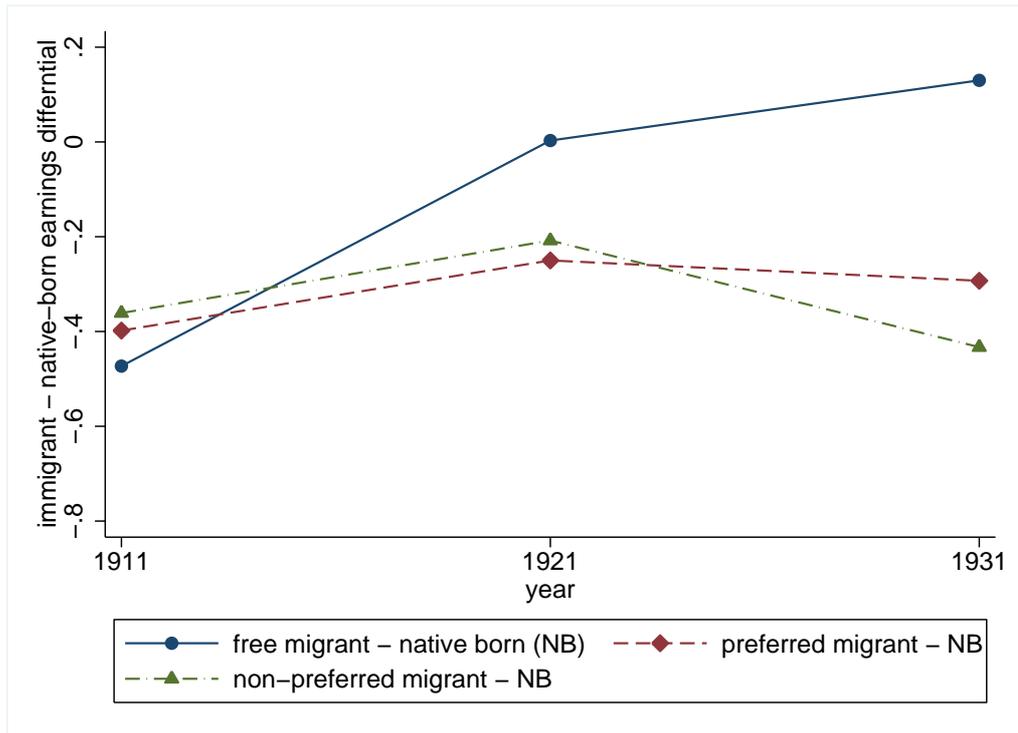
Notes: Canadian Census samples of 1911, 1921, and 1931 – see text for further details. Standard errors in parentheses. ***, ** and * indicate coefficients significant at 1%, 5%, and 10% level.

Table 5: Regression results, weekly earnings, occupation controls

	Born 1886-95			Born 1876-85			Born 1866-75		
	1911	1921	1931	1911	1921	1931	1911	1921	1931
Age	.41*** (.03)	.10** (.04)	.07 (.07)	.07** (.03)	.12* (.06)	.30*** (.10)	.02 (.06)	.10 (.12)	-.03 (.20)
Age^2 x 10	-.08*** (.01)	-.01* (.01)	-.01 (.01)	-.01** (.01)	-.02* (.01)	-.03*** (.01)	-.002 (.01)	-.01 (.01)	.001 (.02)
Years since migration	.02 (.01)	.04*** (.01)	.02*** (.01)	.02** (.01)	.02** (.01)	.01 (.01)	.01 (.01)	.03** (.01)	.02 (.02)
Years since migration^2 x 10	-.02 (.02)	-.02*** (.004)	-.01*** (.002)	-.02** (.01)	-.01 (.003)	-.001 (.002)	-.002 (.01)	-.01* (.01)	-.01 (.004)
No English	-.10*** (.01)	-.09*** (.02)	-.19*** (.03)	-.13*** (.01)	-.10*** (.03)	-.23*** (.03)	-.10*** (.02)	-.05 (.04)	-.27*** (.05)
Free migrants	-.08*** (.02)	-.17*** (.04)	-.14*** (.04)	-.08*** (.02)	-.17*** (.04)	-.12** (.06)	-.10*** (.03)	-.17** (.08)	-.18 (.13)
Preferred migrants	-.01 (.03)	-.25*** (.05)	-.23*** (.05)	.04 (.03)	-.15*** (.05)	-.22*** (.07)	-.004 (.04)	-.19** (.09)	-.37** (.14)
Non-preferred migrants	-.01*** (.03)	-.21*** (.04)	-.28*** (.04)	-.08*** (.02)	-.18*** (.05)	-.24*** (.06)	-.07** (.03)	-.19** (.08)	-.34** (.13)
Professional	.61*** (.02)	.91*** (.03)	1.4*** (.03)	.84*** (.02)	.98*** (.03)	1.3*** (.04)	.91*** (.03)	1.1*** (.05)	1.3*** (.06)
Clerical	.45*** (.02)	.74*** (.03)	1.0*** (.03)	.65*** (.02)	.74*** (.03)	.99*** (.04)	.63*** (.03)	.75*** (.05)	1.0*** (.06)
Craftsmen	.56*** (.02)	.72*** (.02)	.88*** (.03)	.63*** (.02)	.72*** (.03)	.91*** (.04)	.51*** (.02)	.75*** (.05)	.87*** (.06)
Operative	.48*** (.02)	.67*** (.03)	.80*** (.03)	.51*** (.02)	.65*** (.03)	.78*** (.04)	.43*** (.03)	.71*** (.05)	.83*** (.06)
Service	.25*** (.02)	.48*** (.03)	.68*** (.03)	.38*** (.02)	.49*** (.03)	.66*** (.04)	.32*** (.03)	.46*** (.05)	.59*** (.06)

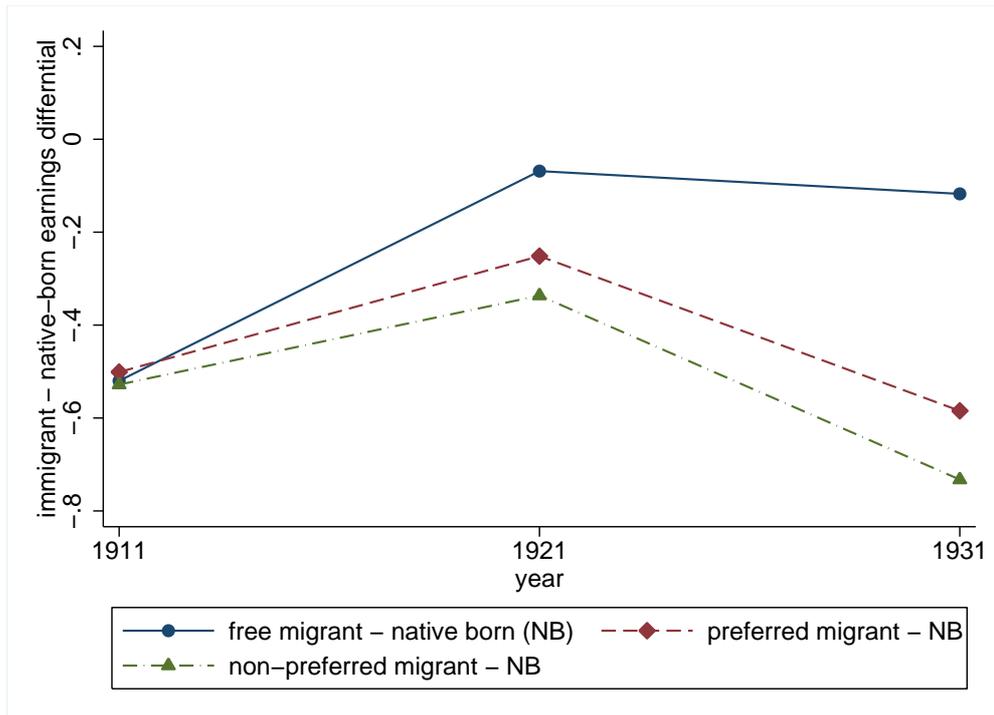
	(.03)	(.03)	(.04)	(.03)	(.04)	(.04)	(.04)	(.06)	(.06)
Labour	.39*** (.01)	.39*** (.02)	.36** (.03)	.29*** (.02)	.34*** (.03)	.36*** (.04)	.19*** (.02)	.39*** (.05)	.38 (.06)
British Columbia	.22*** (.02)	.04** (.02)	.01 (.02)	.15*** (.01)	.012 (.02)	.01 (.02)	.13*** (.02)	.06* (.03)	.05 (.04)
Northwest	-.02 (.02)	.003 (.02)	.02 (.02)	-.02 (.01)	-.02 (.02)	.05 (.02)	.01 (.03)	.02 (.04)	.07 (.04)
Manitoba	-.02 (.02)	-.05*** (.02)	-.09*** (.02)	-.05*** (.02)	-.01 (.02)	-.08*** (.03)	.01 (.03)	.04 (.03)	-.13*** (.05)
Quebec	.05*** (.01)	.04** (.02)	.07*** (.02)	.06*** (.01)	.05*** (.02)	.11*** (.02)	.08*** (.02)	.08*** (.03)	.13*** (.03)
Maritimes	-.13*** (.01)	-.19*** (.02)	-.18*** (.02)	-.20*** (.01)	-.16*** (.02)	-.16*** (.03)	-.17*** (.02)	-.16*** (.03)	-.20*** (.05)
Constant	-7.6*** (.26)	-4.2*** (.67)	-3.9*** (1.3)	-3.6*** (.48)	-4.8 (1.2)	-10 (2.6)	-2.7** (1.3)	-5.2* (3.1)	-1.1 (6.0)
R2	.25	.24	.34	.22	.25	.30	.22	.21	.27
N	16498	9164	10918	16117	7376	7804	8860	3971	3586

Figure 1a: Predicted relative immigrant earnings (annual), born 1886, arriving 1911



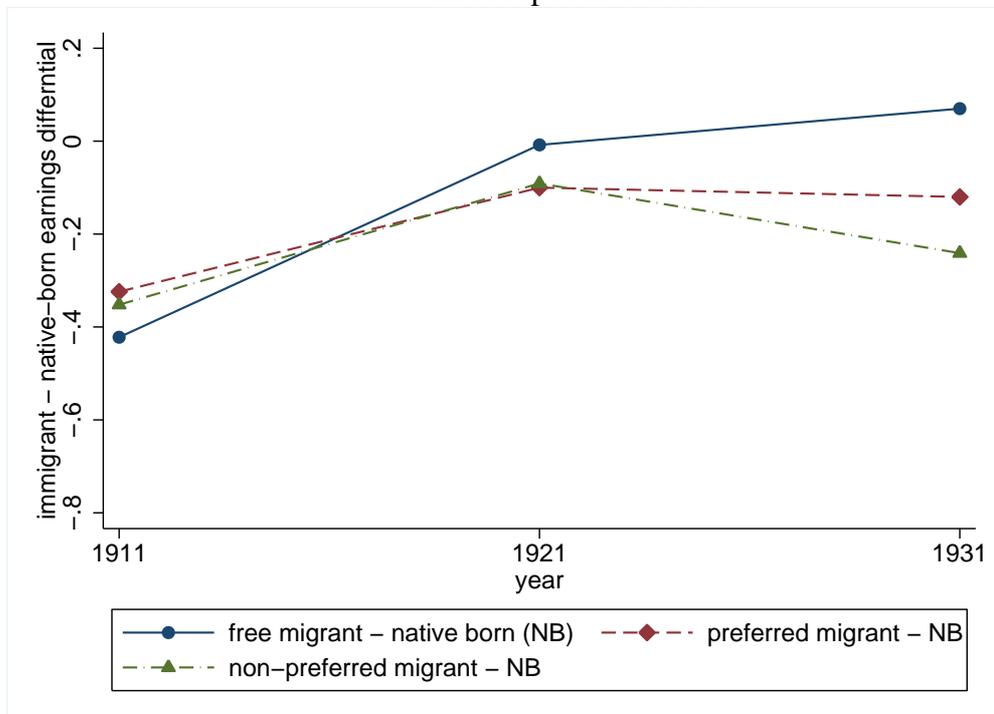
Notes: Derived from regression estimates in Table 2, assuming age of 25 in 1911, ysm of 0 in 1911, speaks English and resides in Ontario.

Figure 1b: Predicted relative immigrant earnings (annual), born 1871, arriving 1896



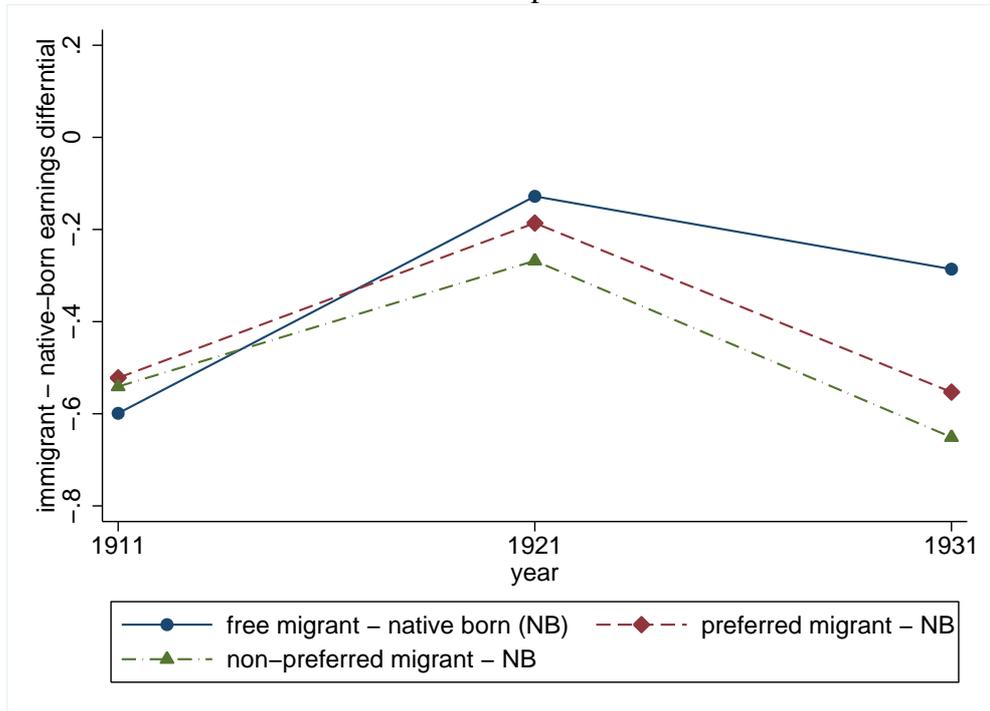
Notes: Derived from regression estimates in Table 2, assuming age of 40 in 1911, ysm of 15 in 1911, speaks English and resides in Ontario.

Figure 2a: Predicted relative immigrant earnings (annual), born 1886, arriving 1911, with occupation controls



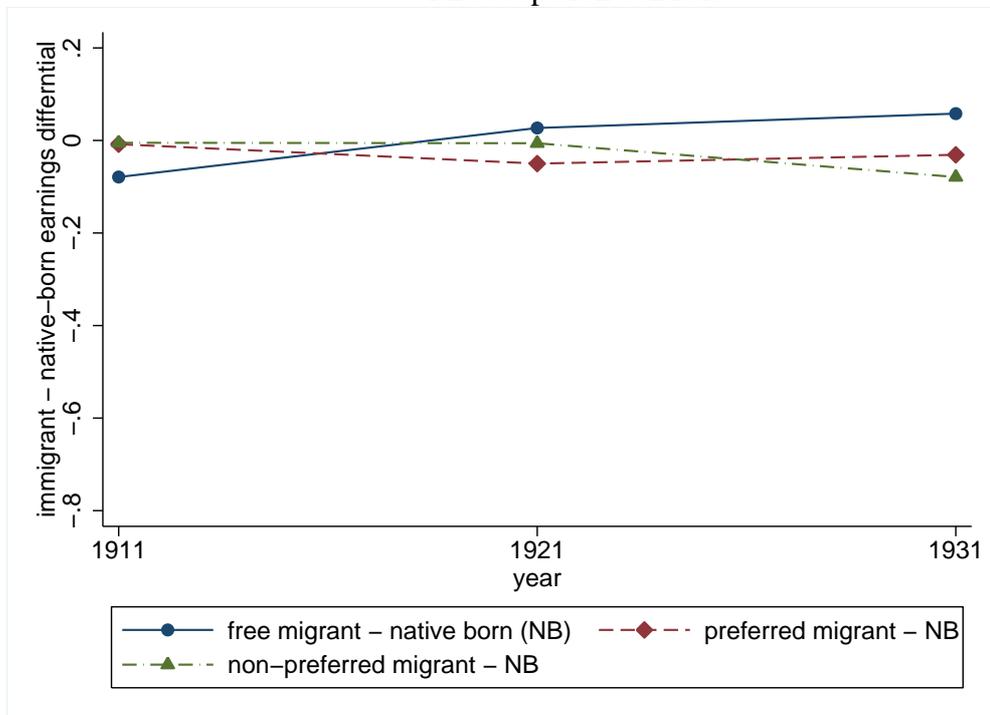
Notes: Derived from regression estimates in Table 3, assuming age of 25 in 1911, ysm of 0 in 1911, employed as operative, speaks English and resides in Ontario.

Figure 2b: Predicted relative immigrant earnings (annual), born 1871, arriving 1906, with occupation controls



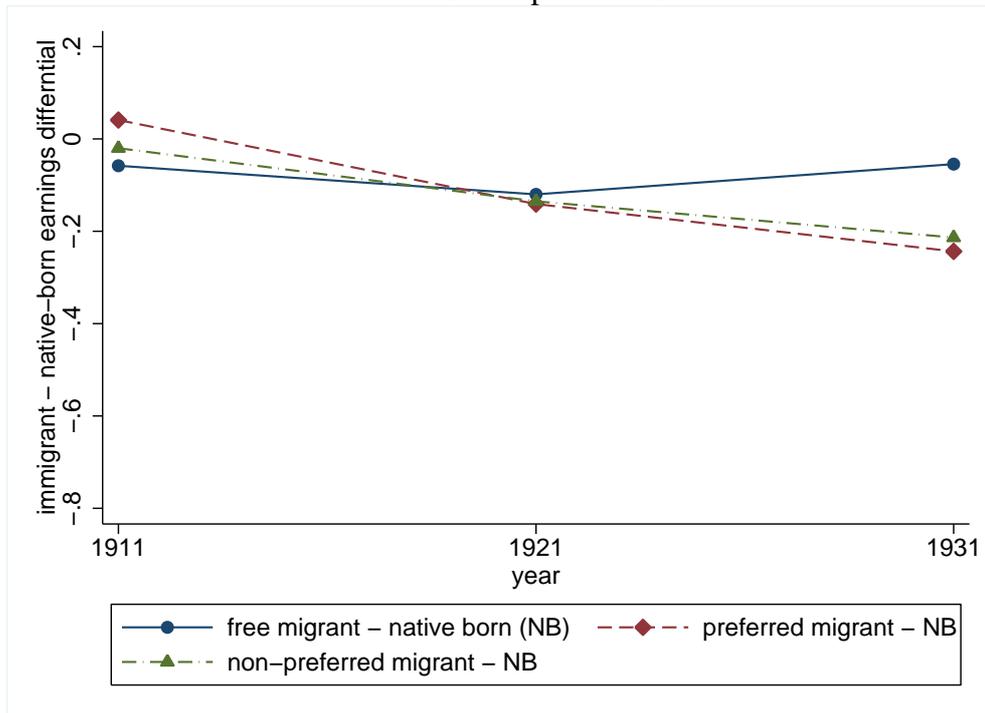
Notes: Derived from regression estimates in Table 3, assuming age of 40 in 1911, ysm of 15 in 1911, employed as operative, speaks English and resides in Ontario.

Figure 3a: Predicted relative immigrant earnings (weekly), born 1886, arriving 1911, with occupation controls



Notes: Derived from regression estimates in Table 5, assuming age of 25 in 1911, ysm of 0 in 1911, employed as operative, speaks English and resides in Ontario.

Figure 3b: Predicted relative immigrant earnings (weekly), born 1871, arriving 1906, with occupation controls



Notes: Derived from regression estimates in Table 5, assuming age of 40 in 1911, ysm of 15 in 1911, employed as operative, speaks English and resides in Ontario.