The Language of Opportunity: Canadian Inter-regional and International Migration, 1900–1930

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Abstract

At the start of the 20th century, high quality Prairie farm land became available and drew Canadians west. Yet despite the rapid pace of western settlement, Canadians continued to move to the U.S. in large numbers. We see this as a large scale sorting by which the Canadian-born relocated within North America to maximize the return on their skills, and in doing so paid little heed to the international border. We merge Canadian and U.S. Census microdata files from 1900 through 1931 to generate a sample of the population of the Canadian-born living in both Canada and the U.S. We quantify the relative odds of Anglo- and Franco-Canadians moving interprovincially and to the U.S., comparing the relative mobility of each group, and tracking changes in mobility over time. Canadians moved to match human capital with available opportunities by region. Those migrating improved their occupational outcomes, and those migrating to the U.S. had the highest outcomes. We also note a shift in the characteristics of French Canadians moving to the U.S. during the 1920s due to the literacy requirement introduced in 1917.

Introduction

North Americans are a highly mobile people. For someone born in the U.S. in the nineteenth or early twentieth century, there was a good chance they would end up living outside their state of birth. The Canadian-born were also highly mobile in pursuit of opportunity. The likelihood of the Canadian-born living outside their province of birth in the nineteenth and early twentieth centuries was high if the U.S. is included as a possible destination. The border was essentially open to Canadian citizens through the middle of the twentieth century.

In contrast to their willingness to migrate to the U.S., Canadians were not uniformly as mobile within their own country. Both English and French-speaking Canadian-born migrated in large numbers to the United States prior to 1930. Both were highly mobile populations; and a significant share of the Canadian-born—both English- and French-speaking—were living in the U.S. by the early twentieth century.[1] Where the two populations differed, however, was in their propensity to migrate within Canada. French-speakers (francophones) were never very keen to move within Canada; and to the extent they did, they tended not to move very far, settling in regions of Ontario that were near to or bordering Québec. In contrast, the Canadian West was settled mostly by English-speakers (anglophones) and immigrants from Europe, and by a modest, albeit brief inflow, from the U.S.[2]

While the movement of the Canadian-born to the U.S. in the nineteenth century has been well-documented, we show that the Canadian-born continued to move *en masse* to the U.S. even after the opening of the Canadian West to settlement at the turn of the twentieth century. The Canadian "National Policy", really a set of three policies—an intercontinental all-Canadian railroad, subsidized homesteads on the Prairies, and tariffs to protect the domestic market— was intended to keep Canadians in Canada. And while the West did attract a large number of Canadians, two facts stand out. The Canadian West attracted very few francophones. And while the Canadian West did attract anglophones in large numbers, the U.S. attracted anglophones in greater num-

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[1]At its peak in 1901, the Canadian-born living in the U.S. amounted to 22% of the Canadian population. The proportion of Franco-Canadians living in the U.S. was 24% of the population of Québec.

[2]Though an indeterminate share of this flow may have been Canadians returning from the U.S.

bers.

If both anglophone and francophone Canadians were mobile, then why did francophones eschew the rest of Canada in favor of the U.S.? And particularly surprising, why did anglophone Canadians continue to flood into the U.S.? These facts are particularly puzzling given that the early twentieth century was a period of mass migration to the newly-settled Canadian West during the era commonly referred to as the Wheat Boom. We show that indicators of human capital were important in distinguishing between migrants and non-migrants. We show further that the opportunities afforded those with greater human capital differed by language spoken. The mobility of anglophones was enhanced by greater human capital. For francophones, the exact opposite was true with mobility being greater among those with lower human capital. The differential effect of human capital on mobility by language was determined by networks of chain migration established before the opening of the Canadian West.

We quantify the relative mobility of the anglophone and francophone Canadian-born within North America by destination choice of the U.S. or Canada. We examine the entire population of the Canadian-born by using both the U.S. and Canadian Censuses of population. We are thus able to distinguish movers from non-movers among all Canadian-born. By pooling the population of all movers and non-movers, we estimate more precise measures of the propensity of the Canadian-born to migrate.

We also characterize movers, both anglophones and francophones, by destination on a few basic demographic and human capital characteristics. The Canadian-born sorted themselves by destination based on their human capital: education and language-spoken. Among the anglophones, migrants to the U.S. had the greatest human capital attainments, while migrants within Canada were modestly more educated than non-movers. Among the francophones, it was the non-movers who had more human capital. We find that migrants–both anglophones and francophones— improved their occupational outcomes, with those moving to the U.S. gaining the most. These gains were due to the greater opportunities available in a larger and more diversified U.S. economy. Canada may have been a rich economy, but was simply too small to offer the same diversity of

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opportunity.

Canadian Migration–Interprovincial and International

Modeling the Migration Decision

It is well known that large numbers of francophone Canadians moved to the U.S. in the late-nineteenth century (McInnis, 2000; Paquet and Smith, 1983). Though less well-known, large numbers of anglophone Canadian-born also moved to the U.S. prior to the Great Depression. (McInnis, 2001; Widdis, 1998). One difference between anglophones and francophones was francophones were much less mobile within Canada.[3] It seems reasonable to assume that francophones would have had fewer opportunities than anglophones in most North American locations outside Québec. Yet the language barrier did not seem to impede migration of francophones to the U.S., only within Canada.

To explain the choice of destination by language spoken and education, we adopt a simple model of migration choice. Migrants are motivated by the opportunity to obtain a stream of higher net earnings. Formally, a person will choose the destination and timing of migration to maximize the net present value of the increment to their expected lifetime earnings stream net of costs of moving to the chosen destination

$$\max_{\{l,t\}} \left\{ \int_{t=t^*}^{T} \{p(h,l)\,w(h,l) - p(h)\,w(h)\}\,e^{-rt}\,dt - C(h,l) \right\}$$

where l is the destination, $w(h,l)$ is wage earned by migrating to location l given human capital h, $w(h)$ is wage earned by not migrating, $p(h,l)$ and $p(h)$ are the probabilities of employment for migrants and non-migrants respectively, $C(h,l)$ is the cost of migrating to location l given human capital h, t^* is the age at time of move, T is the expected lifetime, and r is the rate of time preference (Armstrong and Lewis, 2012). Both the probability of finding employment and the wage earned are functions of the individual's human capital, h, given the choice of destination l.

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[3]Francophones are French speakers born in Québec unless otherwise stated. The use of the term anglophone' will mean 'non-French speakers' as it is used to refer to everyone else other than francophones, unless otherwise stated.

Costs of migrating, *C(h,l)*, are also a function of the destination, and of the interaction between the migrant's human capital and destination.

The impact of destination on the return to human capital, $w(h, l)$, has two components: occupation and language. Occupational opportunities differed by region. The agricultural and resource-based Canadian West would not provide as great a return to an individual with training in skilled manufacturing as would a midwestern U.S. city. Language was also important as French was spoken in very few locations in North America outside of Québec. There were smaller communities, mostly in New England, settled by francophone immigrants in the mid-nineteenth century where French was spoken (MacKinnon and Parent, 2012).

The cost of moving, *C(h,l)*, would include the actual cash outlay for transportation as well as any additional investment required to obtain the increased earnings, which could include the purchase of inputs as well as the financing of consumption prior to establishing employment. Transport costs for the Canadian-born considering a move within North America were much lower than for intercontinental migrants. Migration by Canadians to the U.S. involved short distances, much shorter even than for those considering moving within Canada to the Prairies. Canadians who moved to the U.S. went primarily to New England—particularly francophone migrants—to New York and to Michigan (MacKinnon and Parent, 2012; McInnis, 2001; Ramirez, 2001).[4] For many considering a move to the Prairies, discounted train fares were available on harvest excursion trains.[5] The cost of transport was certainly not a barrier.

Further reducing the cost of migration were the well-established networks of chain migration. For a migrant with family or friends at a destination this meant lower adjustment costs. The migrant would have a place to stay temporarily, as well as a source of information on local labor market conditions thereby reducing time spent seeking employment. Canadians had been migrating to the U.S. in large numbers since the end of the Civil War so migration networks were

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[4]The West attracted a few Canadians. North Dakota drew a small share prior to World War I, and California and Washington may have attracted about 5% of Canadian migrants, particularly during the 1920s.

[5]These harvest excursions were trains used to address the peak demand for harvest labor in an otherwise labor-scarce region (Thompson, 1978). Families were not eligible, but many potential migrants may have started their move to the Prairies as harvest laborers.

well-established by the twentieth century. Ramirez (2001, p. 131) finds in his sample of border entries of immigrants to the U.S. from 1906–1930 that the large majority—more than 75%—of Canadians migrating to the U.S. identified a contact at their intended destination.

Armstrong and Lewis (2012) model the migration decision of Dutch migrants to Canada in this period under the assumption of a capital constraint. With a capital constraint, the timing of migration, t^*, depended on a migrant's capacity to save out of income earned prior to migration. For the Canadian-born, the capital constraint was likely only relevant to the decision to move to the Prairies for those considering farming, particularly those wishing to settle a homestead. Farming required capital in order to finance purchases of inputs such as equipment, materials and seed; and to finance consumption over the period prior to harvest. Evidence for European migration to Canada supports this. Of those emigrating from Europe to Canada during the wheat boom period, only about a third settled on the Prairies, and those that chose the Prairies over other destinations in Canada had financial capital in the form of savings (Green and Green, 1993).

The other important effect on the timing of the move, t^*, is the skill demanded in the employment opportunities in the destination. If migrants move to pursue skilled employment, they would first have to acquire those skills before moving. That would delay the time of the move, so the average age for those that do move to pursue skilled employment compared to those moving to pursue unskilled employment would be higher. This effect appears to be very important in characterizing the likelihood of migration of anglophones to the U.S.

Francophone Canadian migration

The effect of human capital on the migration decision of francophones was particularly important. English was necessary to obtain more highly remunerative employment, and literacy was necessary to obtain information on the changing labour market (Green, MacKinnon, and Minns, 2005, p. 829). In both these criteria, francophones were at a disadvantage as not only were the majority of francophones non-English speakers, but francophones had lower literacy rates than anglophone Canadians. That meant that migration for francophones was more costly regardless

of destination.

Human capital was also important to the migration decision as the various regions of North America offered different opportunities. The Prairie West offered opportunities to potential farmers. Urban employment opportunities, though certainly available, were more limited due to the relatively small size of urban centers on the Prairies during the settlement phase before the Great Depression. For those with farming experience, the Prairies looked attractive and the probability of obtaining a homestead or work as a farm laborer was high. For those with non-agricultural skills and different labor market experience, the probability of finding suitable urban employment was lower.

New England attracted many Canadians, particularly francophones. Demand for unskilled labor in New England was particularly high because of the large number of textile mills. And not only was demand for unskilled labour higher for male heads of household, textile production also had the added benefit that women and children were highly employable. While wages for unskilled labor in textiles were low, family incomes were supplemented by the work of women and children Green, MacKinnon, and Minns (2005). This effectively boosted the expected income for a migrant to New England anticipating working in textiles or taking other unskilled employment. Few other regions on the continent had the same employment opportunities for an entire family outside of agriculture. Industrial employment in the manufacturing centers of the midwest was more suited to adult males due to their physical stature, and child labor was much less prevalent.

Not only were potential family earnings higher for a francophone migrant to New England, but non-transport costs of migration were lower compared to virtually all other possible destinations in North America. Deep and integrated networks of family and friends had been established through the latter part of the nineteenth century, extending from small communities in Québec, and reaching throughout many communities in New England (MacKinnon and Parent, 2012)[6] This meant that recent migrants could avail themselves of assistance to adjust to their new com-

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[6]In 1930, the cities of Woonsocket, Rhode Island and Lewiston, Maine were more than 50% French Canadian, including those of French-Canadian parentage. (Truesdell, 1943, p.89).

munity, and it meant that new and potential migrants could receive information on employment opportunities. The presence of many contacts and the prevalence of communities of francophones throughout New England mitigated the otherwise higher cost of the language disadvantage. Before the Civil War francophone migration had been well-dispersed across the East and Midwest; after the Civil War, the pattern of movement to New England became the norm, and once established became self-reinforcing through these network effects (McInnis, 2000).

Armstrong and Lewis (2012) discuss the 'taste' of immigrants for their home communities acting effectively to raise the cost of migration. The network of chain migration also meant that parochial schools in New England with priests from Québec available to teach children French in a French Catholic environment were readily available (Ramirez, 2001). This further lowered the cost of francophone migration to New England. In contrast, the few French Catholic communities established in the West were scattered across the region, distant from Québec, and generally distant from each other too.[7] Culturally this meant that a francophone family migrating to western Canada would find themselves in a more sparsely populated French environment compared to those migrating to New England. To the extent that francophones migrated interprovincially, the vast majority ended up in Ontario in regions relatively near the Québec border (Lew and Cater, 2012).

While many francophone migrants to the U.S. came from smaller, rural communities of Québec, and therefore probably had agricultural skills, very few migrated to the Prairies. This is surprising in that while opportunities to employ the family were few in North America outside of the textile mills of New England, agriculture was a sector where female and child labor could have been utilized in activities like maintaining livestock, keeping a garden, providing for farm hands receiving board, etc. That francophone Canadians did not migrate West in large numbers is likely due to two principal reasons: only a relatively small number had the capital necessary to start a farm on the Prairies, and the 'taste' factor given the sparse population and distance from other francophone communities raised the cost of moving West. As will be illustrated below, of

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[7]McInnis (2001, p. 8) notes a substantial francophone community near Crookston, Minnesota, established out of an historical coincidence of factors, and one that did not attract continued chain migration.

those francophones who did migrate to the Prairies, the overwhelming majority did in fact end up in agriculture as evidence of the benefit of family employment and the lack of employment alternatives for low-skilled non-anglophones.

The model predicts that francophone migrants will tend to move to regions nearer Québec. Language will tend to attract francophones to areas settled by previous migrants from Québec. Those with lower human capital, here proxied by literacy, will be attracted to the textile mills of New England where family incomes can be supplemented by working children. The more literate francophones would be less likely to migrate as the premium they could earn from their education would certainly be heavily discounted outside of francophone regions. A few families with sufficient capital were able to move West. There might be some attraction for a few among the heavily francophone-settled communities of New England, but not much else beyond that. The opportunity cost of the wages foregone for the literate in Québec by migrating would disuade migration.

Anglophone Canadian migration

Anglophone Canadians had been immigrating to the U.S. since at least the 1860s, if not earlier[8]. They tended to migrate to smaller towns in Michigan and Massachusetts looking for employment in woodworking industries and a few other trades, but not well-represented in the industries of the industrializing Midwest and Northeast that tended to attract European immigrants, like steel or coal-mining. Some too were attracted to agriculture in North Dakota, but were attracted in equal numbers to agriculture in Michigan.

Distance was also relevant. While few Canadians moved to New York City, many moved upstate to Buffalo, Niagara Falls, Rochester, Watertown, and smaller communities of the Mohawk valley. Maritimers moved disproportionately to Boston. There was also a modest settlement of anglophone Canadians in the Pacific Northwest, likely movement out of British Columbia as even by 1930 Seattle had proportionately more Canadians than did San Francisco or Los Angeles.

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[8]This and the next paragraph are drawn from McInnis (2002).

As they spoke English and were generally the most literate among all immigrant groups to the U.S., they could be more selective in choosing their destination to better match employment opportunities to skills. The lack of Canadian representation in steel, but over representation in lumber and woodworking for example, industries of relatively more importance in Canada, is evidence. As well, anglophones are well-underrepresented, compared to other immigrant groups, as unskilled laborers, reflecting the ability of anglophones to match skills with opportunities. Given the relatively low cost for anglophones to move, it is not surprising that the number that did migrate was large. They also proved to be highly selective in choosing occupations, suggesting that those who moved knew very well the circumstances awaiting them upon arrival. An assessment of the outcomes of those who did migrate will be taken up below. In summary, well-educated anglophone migrants to the U.S. had better occupational outcomes compared to anglophone interprovincial migrants or anglophone non-migrants.

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Timing and Occupational Choice

The flows of Anglophone and Francophone Canadians to the U.S.

Following MacKinnon and Parent (2012, p. 35), we illustrate the annual immigration flows from Canada for both francophone and anglophone Canadians. We repeat their method using the year-of-arrival data in the U.S. Censuses (fig 1).[9] These flows show that Canadian immigration to the U.S. actually increased during the 1920s. Population totals in table 1 from the published census corroborate.

[Figure 1 about here.]

Breaking the patterns down by language, the big increase was movement of anglophones to the U.S. in the 1920s. Movement of francophones to the U.S. was generally declining in the decade 1911–1920. There was, however, a modest increase in the decade 1921–1930. This increase was

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[9]MacKinnon and Parent (2012) use the 1900 Census for those arriving before 1896, the 1910 Census for arrivals between 1896 and 1905, the 1920 Census for arrivals between 1906 and 1915, and the 1930 Census arrivals after 1915. These are not true flows, but simply illustrative of the general timing of the ebbs and flows over the border.

not as large as that of the anglophones. As illustrated in table 1, while there was an increase in the stock of both francophones and anglophones in the U.S. from 1920 to 1930, the total stock of francophones living in the U.S. in 1930 was still less than it had been at its peak in 1900 or even 1910. The stock of anglophones, in contrast, peaked in 1930 (Carter et al., 2006, series Ad422–3).

[Table 1 about here.]

The decline in the number of francophone immigrants to the U.S. between 1910 and 1920 may have been due to the literacy test, introduced in 1917. The "annual flow" data show a slight decline in 1917. But this could also be an affect of the War as the number of anglophone immigrants to the U.S. fell that year as well. We show below that while the literacy test did not bar francophones—their literacy rates were certainly increasing by this period—it may have altered the composition to the more literate.[10] The relative increase of anglophones compared to francophones was probably more a function of the higher literacy among anglophones and a general shift in labor demand itself away from the unskilled.

Occupational mix and migrant destination

The very different opportunities to which migrants were attracted is illustrated in figures 2 and 3. These figures show the distribution of male migrants, both interprovincial and to the U.S., between two major occupational categories: farming, and semi-skilled and unskilled labour.[11] Because the comparison is between Canada and the U.S., the figures show migrant totals regardless of period of arrival, as period of migration is unavailable in the Canadian Census.

[Figure 2 about here.]

[Figure 3 about here.]

Migrants did not move to the U.S. to engage in agriculture. Though in the 1900 Census, about 25% of anglophone Canadian immigrants were in agriculture, that proportion declines quite

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[10]According to Goldin (1993, p. 226), the literacy test was administered in the language of choice of the potential immigrant so language itself was not a barrier.

[11]IPUMS and CCRI use the same occupational coding. Farmers are identified by occupational codes 1xx. Semi-skilled and unskilled labour is defined by occupational codes 6xx and 9xx (< 975), which includes textile operatives, the important choice of francophones.

rapidly over the next two decades.[12] For Canada as a whole, francophone migrants were more likely than anglophone migrants to work in agriculture, though the difference is not quite statistically significant at the 95% level in 1911 and 1921. But for those moving to the Prairies, the difference is large. For francophone migrants to the Prairies, of which there were relatively few, farming was overwhelmingly where they ended up, attracting better than 80%. And while the majority of anglophone migrants to the Prairies were also in agriculture, it accounted for about 60% of the total. That illustrates very clearly the limited occupational opportunities available to francophones on the Prairies, and the extent to which agriculture offered family employment.

The same general pattern is evident among francophone migrants to Ontario, the choice of most francophone interprovincial migrants. Agriculture was the largest occupational category, and a much greater proportion of francophone migrants than anglophone were in agriculture. But at least before the Great Depression, the share in agriculture among francophone migrants to Ontario hovered around 50%, even below in 1911. So only a slight majority of francophones moving to Ontario ended up in agriculture.

In contrast, Canadian immigrants to the U.S. were more likely to be employed as unskilled labour. Around 25% of anglophone Canadian immigrants, and about 50% of francophones were employed as unskilled labour. For anglophones, the ratios of migrants to the U.S. and to Ontario in unskilled labour were about the same. For francophone migrants, the distribution of employment as unskilled labour was much higher in the U.S. than in Canada overall.

Subdividing by region, there is little difference between francophones and anglophones in the proportion employed as unskilled labour on the Prairies; the big difference being the greater share of anglophone employment in occupations other than agriculture or unskilled labour. As well, it is not clear that francophone migrants to the U.S. were more likely to be classified as unskilled labour than were those moving to Ontario, at least in 1911 and 1921, due to the greater dispersion of the observations at the provincial level.

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[12]It also is a measure of all migrants, not just recent arrivals. More on this difference below.

As timing of move can be identified for Canadian immigrants to the U.S., we show in figures 4 and 5 the comparison between the occupational distribution of all arrivals against arrivals for the ten years ending with each census year. The patterns of the recent arrivals is better illustrative of the trends. Figure 4 does show that a steady 15% of anglophone Canadian immigrants chose agriculture, and only about 7.5% of francophone Canadian immigrants did. Figure 5 illustrates better the changes in the unskilled labour share of francophone immigrants. Most importantly, the share among the more recent arrivals was considerably higher than for all arrivals, particularly in 1900 and 1910. Those proportions are definitely larger than the share of unskilled labour among francophones moving to Ontario in this period.

[Figure 4 about here.]

[Figure 5 about here.]

Both series illustrate a decline in the proportion of immigrants employed as unskilled labour over time. It is clear that the proportion of francophone Canadian immigrants employed as unskilled labour was lower in 1930 than in 1910 or 1900. It is not clear, however, whether there was any decline from 1920 to 1930. It is also apparent that the share of anglophone Canadian immigrants employed as unskilled labour among the recent arrivals remained unchanged from 1910 through 1930. That may suggest that demand for unskilled labour was not declining very rapidly, though this is a very rough measure as the categories themselves may have evolved with the changes in technology. Though there was no decline, there was no apparent increase either, so the restrictions on European immigrants did not seem to have the same draw for Canadian immigrants as it did for southern black migrants within the U.S. (Collins, 1997).

Characterizing the Franco- and Anglo-Canadian migrants

Data and method

We turn to comparing migration rates by language and destination, classifying key characteristics of migrants, and quantifying the differences by language and destination. The data used are

the microdata files for the Canadian Census, 1901–1931, and the IPUMS U.S. Census microdata files (Canadian Families Project, 2002; Canadian Century Research Infrastructure (CCRI), 2009; Ruggles et al., 2010). The 1901 and 1911 Censuses are available as 5% samples, the 1921 Census as a 4% sample and the 1931 Census as a 3% sample.[13] The IPUMS U.S. Census microdata files for 1900, 1910, 1920 and 1930 are 5%, 1%, 1% and 5% samples respectively.

Available data can distinguish among the following choices for the Canadian-born: remain in province of birth, move to another province, or move to the U.S. An individual is considered to have moved interprovincially if, at the time of the census, they are living in a province other than their province of birth as recorded in the Canadian Census.[14] The sample of the Canadian-born choosing to move to the U.S. are those living in the U.S. as recorded in the U.S. Census, identifying their country of birth as Canada. The U.S. Census also identifies the year moved, information not available for those who moved interprovincially.

Given the availability and restrictions of the data, we model two different sets of comparisons of movers. We look at the binary choice of those choosing to move to the U.S. compared to those remaining in Canada regardless of location of birth in Canada and location at Census date. We also consider the three-choice model of those choosing to remain in their province of birth, those choosing to move to another province, and those choosing to move to the U.S. This three-choice model enables differentiation among those who move from their province of birth between inter-provincial and international migrants.

The restriction of the analysis to a binary choice of moving to the U.S. or remaining in Canada regardless of mobility status within Canada, or to the three choice set of staying in province of birth, moving to another province, or moving to the U.S, are to a certain extent arbitrary. In fact mobility of the Canadian born followed more subtle and complex paths. As discussed already, anglophones moving to the U.S. were most likely to move from Ontario to New York or Michigan,

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[13]As of the date of writing, the 1921 and 1931 Canadian Census sample files were available only with restricted access.

[14]No information is provided on the possible sequence of moves between birth and census date, and no information is available on timing of moves.

as well as to a handful of other northeastern and midwestern states. Anglophones from the Maritime provinces were much more likely to move to Boston. Francophones were over-represented in New England, with some also moving to New York. Within Canada, francophones moved mostly to Ontario while anglophones moved throughout the country, particularly to the West. Would enough be gained from analyzing a more complex set of choices? For example, a possible choice set for anglophones could be from among regions of Canada and the U.S. We argue that those moving from Canada to the U.S. were on average sufficiently different from those moving within Canada that the binary distinction captures the important differences. We will present a discussion of a test of a more complex choice-set model below. There is a cost to expanding the choice set in reducing the precision of the estimates.

By looking at the binary-choice comparison of those moving to the U.S. and those remaining in Canada, the timing of the move can be included as the U.S. Census records year of move. Therefore for this comparison, we are able to identify those who moved when they were adults.[15] We are also able to characterize movers from non-movers by decade of move. This allows the tracking of changes in propensity to move and the characteristics that determine the choice to move from census year to census year. This addresses the question of whether anglophones or francophones were more likely to leave Canada. This comparison does not address the question of what characteristics made interprovincial moves more or less likely.[16]

We also look at a three-choice model. We characterize the Canadian-born as selecting from among three mutually exclusive options: remain in province of birth, move to another province, or move to the U.S.[17] This model highlights the differences between interprovincial and international migrants. It does come at a cost because the timing of interprovincial moves are unknown. So in using the three-choice model, we are unable to distinguish between those who chose to move as adults and those who moved as children with their parents. The lack of data on timing of move

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[15]We define an adult as 18 or older. As the census provides no information on family status at time of move, we do not know for sure that an adult moved independently or with their family, so we keep the definition of adult on the high side.

[16]That binary choice is examined in Lew and Cater (2012)

[17]We assume the independence of irrelevant alternatives, which the results suggest are reasonable. Also multiple moves cannot be distinguished in these data.

also reduces the precision of capturing changes by decade. Our solution is to look at those in the age range 30–39 years. This choice does not eliminate the problem of including those who may have moved as children, but in looking at changes from decade to decade, it better captures the changes in the group of of those who would have been 20–29 year olds in the previous census, those most likely to have moved on their own during the intervening decade (Rosenbloom and Sundstrom, 2004).

The binary choice of moving to the U.S. is modeled as a (binary) logit

$$\ln \Omega(x) = \alpha + \beta_1 \, age + \beta_2 \, age^2 + \gamma \, female + \mu \, married$$
$$+ \gamma_m \, female \times married + \lambda \, literate + \epsilon$$

where

$$\Omega(x) = \frac{Pr(move = 1|x)}{Pr(move = 0|x)}.$$

The three-destination choice is modeled as a multinomial logit

$$\ln \Omega(x_i) = \alpha_i + \beta_{1i} \, age + \gamma_i \, female + \mu_i \, married$$
$$+ \gamma_{m_i} \, female \times married + \lambda_i \, literate + \epsilon$$

where

$$\Omega(x_1) = \frac{Pr(move_i = 1|x)}{Pr(move_i = 3|x)}$$

and

$$\Omega(x_2) = \frac{Pr(move_i = 2|x)}{Pr(move_i = 3|x)}$$

and $i \in \{\text{interprovincial (1)}, \text{U.S. (2)}, \text{no move (3)}\}$.

We identify francophones as follows. There are francophones throughout Canada, though the vast majority live in Québec, with both New Brunswick and Ontario having non-trivial minority francophone populations. The strategy is to identify francophones from Québec as the group most likely to have migrated to the U.S. For the Canadian Census, francophones are identified as

those born in Québec who declare an ability to speak French in the Census regardless of whether they can speak English. This leaves out the francophones from New Brunswick and Ontario, but their moves are theorized to be motivated by different circumstances.[18] As well, the numbers are not large.

The U.S. Census does not report consistently on province of birth of the Canadian-born, so we rely on the mother tongue definition, available from 1910.[19] For 1900, mother tongue is not available, but there is more detail than usual on province of birth. In particular, the 1900 U.S. Census identifies the birthplaces "French Canada" and "English Canada" covering 85% of the Canadian-born. We include in the definition of non-French those born in English-majority provinces (fewer than 0.3% of the observations). We leave out the general category for birthplace of "Canada," about 15% of observations of the Canadian-born. While this different treatment of the U.S. 1900 Census sample may introduce error in our measures over time, our results do not suggest major discontinuities arising therefrom.[20] We expect that estimates of overall migration rates will be understated for 1900, and we presume this will affect our estimates for anglophones more than for francophones.

Binary choice: international movers

Basic results

The sample used to estimate the binary choice model of international movers is the population of the Canadian-born living in the U.S. and Canada. We have restricted our sample to those 18–54 years of age. Among those living in the U.S., we further restrict our sample to those who moved to the U.S. over the decade ending with the census year, and who moved as adults. Using only decadal movers yields the changes in mobility from decade to decade. Restricting further

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[18]Francophones living outside Québec likely had different incentives to learn English. The local labour markets for French-only speakers were much smaller.

[19]Others, like Green, MacKinnon, and Minns (2005) use an algorithm to identify French names. This is more important for Census years before mother tongue was recorded beginning with the Census of 1910.

[20]The option for uniformity of identifying francophones by last name across both the U.S. and Canadian Census is not possible for the Canadian Censuses 1921 and 1931. Names are stripped out of these Census samples for which confidentiality still applies.

the sample to include only those who moved as adults insures that estimates are for those who made the choice to move for themselves.

Results for the binary choice model are shown in table 2, the base odds ratios are shown in table 3, and various marginal effects are reported in table 4. Regressions are run separately on francophones and anglophones for each census year. Note that age is included as $\frac{age - 35}{10}$. The coefficients on *age* are the increase in the log-odds for each 10 year increase in age from 35 years.

[Table 2 about here.]

[Table 3 about here.]

[Table 4 about here.]

The average odds ratios of the Canadian-born moving to the U.S. compared with remaining in Canada are reported in table 3. These indicate the overall average likelihood of a move to the U.S. The odds ratios are all statistically significant, but are not particularly large because these are the odds of moving among the entire population 18–64 years old. The odds of moving among those in their prime working age are much higher, to be illustrated below.

For the decades 1891–1900 and 1901–1910, francophones were more likely than anglophones to move. But then the average odds of moving for francophones drops quite sharply over the period 1911–1920, from 0.08 to 0.03. The average odds for anglophones moving also declines that decade, but not by as much. So over the decade 1911–1920, francophone migration rates to the U.S. fell below those of the anglophones. Migration rates increased over the 1920s for both groups by about the same percentage. The decline in migration rates was greatest in the World War I decade, and the drop was particularly large among francophones.

The probable cause of the drop in out-migration during the decade of World War I was an increase in employment opportunities in Canada. As supplier of food and munitions to Britain and the allies during World War I, Canadian employment levels increased dramatically (Lew and McInnis, 2006). When many of those expanded industries were unable to adjust to the

postwar economy, opportunities particularly within manufacturing declined and out-migration resumed in the 1920s. That this temporary wartime expansion of industrial employment seems to have benefited francophones relatively more may be due to the relative increase in demand for unskilled factory labour in Canada during World War I.

Age

The changes in the odds ratios of migration to the U.S. by age are illustrated in figure 6. The odds ratios for francophones are the dotted lines and the dashed lines are the anglophones. Odds ratios are plotted for each of the four census years. Comparing the age profile of the odds ratios for francophone against anglophone, with the exception of 1920, the odds ratios for anglophones are more tightly distributed around their means, with a more pronounced hump in the ages 30–35, and a more pronounced decline in the odds ratios by 40. In comparison, odds ratios for francophone migration to the U.S. are much less influenced by age. Anglophones were much more likely to delay their move to the U.S. until older; whereas for francophones the likelihood of moving was relatively more evenly distributed across age.

[Figure 6 about here.]

The difference suggests that anglophone migrants were drawn to employment that was relatively skilled, and therefore they didn't move until they had already acquired some skills in Canada. Once past the age of 40, the relative advantage of opportunities in the U.S. compared to Canada declined. As well, the age profile becomes more humped and shifted slightly older by 1930, suggesting progression over time towards even higher skilled employment opportunities. The age pattern of the odds ratios for francophone migrants suggests a pursuit of less-skilled employment opportunities, since age was less an influence.

Over the four decades there is little change in the age profiles of anglophones other than the modest increase in the mean in 1930. For three of four census years, the profiles are otherwise virtually identical. Only the odds ratios for 1920 are shifted down reflecting the shifting opportunities in Canada during the decade of World War I. For francophone speakers, the entire

schedule of odds ratios of moving across all ages shift, but there is little change in shape of the age profiles over time, with one exception. In the 1930 sample, the odds ratios fall more rapidly with age. The opportunities drawing francophone speakers to the U.S. during the 1920s were not as open to older workers. That may be indicative of the impact of the literacy restriction.

Sex and marital status

Marginal effects for individual characteristics are reported in table 4. We first focus on the impact of marriage on the odds of moving to the U.S. Francophones tended to move as families while anglophones moved as singles. We quantify this in table 4. For all decades, for francophones, single females were less likely to move to the U.S. than are single males. The effect is somewhat diminished by 1930, but is still significant. Marriage increases the odds of francophone females moving to the U.S., though married francophone females were less likely to move than were single francophone males. So among francophones, while families did move, so too did single males. For francophone males, marriage may have reduced modestly the odds moving to the U.S., though the marginal effect is only statistically significant for 1900–1910. That reverses, however, during the 1920s, when francophone males who move to the U.S. are much more likely to be married. Regardless of changing patterns of marriage on males, single francophone females are very clearly less likely to have moved to the U.S.

In contrast, for anglophones, females were more likely to move to the U.S. compared to single males over the entire period, particularly, single females. Married females were about as likely to move as were married males for most of the periods. The effect of marriage on the odds of moving for anglophones varies over time. In the first decade, 1890–1900, marriage boosted slightly the odds of moving for males, though not for females. In the 1920s, marriage had a more substantial boost on the odds of moving for anglophone males such that married males were more likely to move than females, additional evidence that the draw of opportunity to the U.S. was changing during the 1920s.

That single females were more likely to move supports the view that Canada in particular had a less dynamic labor market for female employment. While employment opportunities for women in Canada had been particularly limited in the nineteenth century, changing employment opportunities for women in clerical work expanded more rapidly in the U.S. in the early twentieth century offering females employment opportunities (Adshade and Keay, 2010; McInnis, 1991; Rotella, 1981). For anglophone Canadian-born women employed in the U.S., the largest share were still private household workers followed by general manufacturing operatives even by 1930. But there were more opportunities over this period in service occupations like nursing, sales, stenographers, clerical workers and bookkeepers.

For francophone women, general factory operatives was the most common occupation reported over the period, accounting for about 40% of employment. By 1930 private household work became more common for francophones—in contrast to its decline for anglophones—which along with private household work, accounted for over 50% of the employment of francophone women. Textile employment was declining over the three decades, and unlike anglophones, francophone women did not obtain employment in the expanding opportunities in office services jobs such as stenographer, etc. Francophone women were more likely to be employed as teachers and even as nurses, though nursing was much more common among anglophone women.

Literacy

The key indicator that distinguished migration to the U.S. over time and between anglophone and franchophone is the changing importance of literacy. For anglophones, literacy was a key characteristic of movers, and its effect was increasing every period. As well, literacy was the largest predictor of movers among anglophones. The marginal effect of literacy is graphed in figure 7.

[Figure 7 about here.]

The marginal effect of literacy on the odds of moving for anglophones ranges from a low of 0.04 from 1911–1920, to a high of 0.06 from 1921–1930. But there really is no trend. And for franco-

phones too, literacy was also a characteristic of movers. Movers to the U.S. among francophones were less likely to be literate, but there is an upward trend in the marginal effect of literacy for francophones. After 1920, literacy no longer distinguishes movers from non-movers among francophones. While francophones who migrated to the U.S. during the 1920s were not more literate than those that did not move, they were no longer less literate. Effectively there is a net increase in the effect of literacy on the odds of moving for francophones into the 1920s.

For francophone migrants to the U.S., the 1920s represents a period of change for the composition of those who did move. Literacy no longer distinguished movers from non-movers. While the marginal effect of literacy for both anglophone and francophones increased during the decade 1921–1930, for anglophones the marginal effect of literacy ends up no higher than it had been two decades earlier. So with a relative increase in the effect of literacy on the odds of moving among francophones with no long run trend apparent among anglophones, the effect of literacy restrictions may indeed have had some teeth. But that conclusion should be moderated by the caveat that the relative mix of employment of anglophones and francophones differed as well, so if there was a shift in demand for more skilled workers, it would have had a relatively larger effect on francophones who were more likely to be found in unskilled occupations. And yet there was no obvious shift of francophones in the U.S. away from unskilled labour; the share of employment was statistically the same as it had been in the previous decade. There was likely an increase in skill requirements within the same employment categories.

Distinguishing between interprovincial and international movers

Basic results

To fully capture the choices available to the Canadian-born, we distinguish among three possible choices since we know that the Canadian West was a large draw for the Canadian-born through this period. A comparison between interprovincial and international movers for anglophone and francophone migrants is modeled as a multinomial logit. Lacking observations on the timing of moves interprovincially, these estimates are for a sample of 30–39 year olds only. The samples for these estimates are different from those used above in the binary choice model so a direct com-

parison of the values of the coefficients is inappropriate. Again, age is included as the deviation from thirty-five and scaled by 1/10. Because of the narrow age range, the square of age is not included.[21]

The regression results for the three-choice model are reported in table 5. Panel A reports results for those choosing to move interprovincially while panel B reports the estimates for the international movers. The hold out category is those that remained in their province of birth. The average odds ratios are calculated from the results and are reported in table 6. The values are the odds ratios of moving either interprovincially or to the U.S. compared to those that remained in their province of birth, and they are averaged over the sample.

[Table 5 about here.]

[Table 6 about here.]

The odds for anglophones moving to the U.S. is quite a bit larger than for interprovincial migration, though the difference narrows somewhat over time as the attraction of an interprovincial move compared to an international move increases. In 1900/01, the odds for anglophones moving to the U.S. are much larger than the odds for moving interprovincially. Over the next decade the odds increase for an interprovincial move while barely changing for a move to the U.S. Over the next two decades, the odds of moving to the U.S. decline while the odds of moving interprovincially remain about the same, so the difference between the two settles at about 0.05 over the last two decades. Over the full period, anglophones are more likely to move to the U.S. than to move interprovincially, and this includes the period of western settlement. The Canadian West was simply not as large a draw to the Canadian-born anglophone as was the U.S.

For francophones, the differences in odds ratios for international versus interprovincial movers are much greater, though the difference is driven more by the very low odds of interprovincial moves. The odds ratios for interprovincial moves range from a low of 0.007 in 1910/11, to a high of 0.02 in 1930/31. The lowest odds ratio values for francophone interprovincial movers,

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[21]It was not significant when included.

ironically, is in the period of most rapid western settlement.

The odds for francophones moving to the U.S. range from a high of 0.33 in 1900/01 to a low of 0.18 in 1930/31. At their peak, among 30-year olds on average one francophone born in Québec moved for every three that remained. That ratio fell somewhat over the period, but only to a ratio of 1 in 5 by 1930/31. In other words, at its trough, the odds ratio of an international outmigration from Québec was as high as the peak odds ratio of interprovincial migration for anglophones. This illustrates very starkly the very high rate of movement of Québeckers to the U.S. even at this late date, and the very low rate at which they moved interprovincially, even when including Ontario, the largest destination for interprovincial francophone movers.

Comparing the mobility of anglophones and francophones, the key distinguishing feature is the difference in odds of interprovincial moves. But equally interesting is the relatively high rates of migration of anglophones to the U.S., rates that persisted even through the period of large-scale western settlement. The odds of anglophones moving to the U.S. are only 5% less than for francophones in 1900/01, the odds are equal by 1920/21, and the odds are actually greater for anglophones moving to the U.S. by 1930/31, 20% versus 18%. That Anglo-Canadians were drawn to the U.S. as strongly as were Franco-Canadians is a point worth stressing, though historians like Ramirez (2001) and Widdis (1998), and economic historians like McInnis (1994)—for a slightly earlier period—have stressed this.

The marginal effects of the covariates: age, sex, marital status and literacy are reported in table 7. The effect of age on the odds of migration varies. For anglophones, interprovincial migrants are likely to be younger in 1911, but older in the latter two decades. The effect of age is also greater for anglophones moving to the U.S., and it increases over the first three decades, before declining quite substantially by the 1930 Census. This is evidence of change occurring during the 1920s. For francophones, age has no differential effect on interprovincial movers relative to those that didn't move. For francophone migrants to the U.S., the effect of age varies by census year, positive and significant in the first two years, insignificant in the third, and positive and

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significant in the fourth.[22]

For francophones, virtually none of the characteristics considered differentiated interprovincial movers from non-movers. The only exception is that interprovincial movers were slightly more literate than non-movers in 1911 and in 1931. But for francophone international movers, literacy did distinguish movers from non-movers, with movers being less literate than non-movers over the first three decades. For the decade 1920–1930, literacy had a statistically significant and positive effect on movers to the U.S. While this shift could reflect an increase in demand for skilled workers by U.S. employers, the change seems rather abrupt and of fairly large magnitude, suggesting a role for the change in immigration requirement for literacy.

For anglophones, interprovincial movers were more likely to be male. The marginal effect of female is negative and statistically significant for all years. In particular, the negative marginal effect of female for singles is large in all years, but largest in 1911 when western settlement was at its peak. This is consistent with the settlement period favouring males. The marginal effect of female for those married is also negative, but is not very large and is no longer statistically significant by 1931. The marginal effect of marital status is not significant in 1901 and 1911, and is statistically significant and positive in 1921 and 1931.

Anglophones moving to the U.S. were quite different. The marginal effect of female is negative only for 1900, though it is small and barely significant for both single and married. It becomes positive and statistically significant for 1921 and 1931, and is even larger for single females in those two years. While females were less likely to move interprovincially, they became more likely to move to the U.S. in the latter two decades of the period. This is the same pattern as already discussed, but noting that for single females, the Canadian West was considerably less attractive than the U.S.

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[22]Marginal effects not yet available.

Literacy

Literacy was the most important characteristic of anglophones who moved, both interprovincially and to the U.S. The marginal effects of literacy for francophone and anglophone movers, both interprovincially and to the U.S., are illustrated in figure 8. The general pattern revealed is that the marginal effect of literacy is generally negative for francophone migrants, and positive for anglophones. The marginal effect of literacy is largest for anglophones international migrants, remaining statistically constant across the four decades. In comparison, the marginal effect of literacy on anglophone interprovincial migrants increases quite sharply from 1900 to 1910, exactly coincident with the increase in western settlement.

[Figure 8 about here.]

Among the francophone migrants, while literacy has generally a negative marginal effect on migration, the trends are quite different for international and interprovincial migrants. For interprovincial migrants, there is no trend, though the marginal effect is in fact statistically insignificant in 1910 but negative in the other three observations. For francophone international migrants, the effect jumps from being strongly negative through 1920, to modestly positive by 1930. There does not appear to have been any change in the source conditions as the marginal effect of literacy on interprovincial migrants remains virtually unchanged from 1920 to 1930, while the effect becomes positive for international migrants. That is strongly suggestive of the effects of the literacy test. The shift in literacy well-outpaces any shift in the composition of employment. As shown in figure 5, the share of francophone employment in unskilled occupations in 1930 is statistically no less than it had been in 1920.

The slightly surprising result is that interprovincial movers, particularly those moving to the Prairies, would be more literate. But as Green, MacKinnon, and Minns (2005) argue, literacy was important for gathering information on employment opportunities, particularly in a region where few migrants would have had deep network linkages. It is otherwise not surprising to note that anglophone Canadians moving to the U.S. were much more likely to be literate. Unlike the francophone migrants choosing the New England mills, Canadians migrating to the U.S.

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faced considerably more competition. So for those pursuing higher income occupations, human capital was much more important.

Migration Choice Without Borders: Regional Patterns

The two models presented are abstractions from the actual patterns of migration, and they both gloss over any regionally-specific labour market linkages. The binary choice model illustrates characteristics for those that moved to the U.S. compared to those who remained in Canada regardless of move within Canada. So a francophone born in Magog,Québec moving to Burlington, Vermont would be defined as a migrant while a neighbor who instead moved to Trois Rivières, Québec would not. The maintained assumption is that the two moves differed in kind. The three choice model would capture this distinction, but would not differentiate between a move from Magog to Chateaugay, New York rather than to Burlington, Vermont.

To address the possible multiplicity of labor market linkages, we also estimate a multinomial logit for regional choices. We do not report the results here, but we discuss the basic findings which are not much different than the results of the three-choice model.[23]

The model is a simple extension of the three-choice model. We estimate odds of moving from among up to seven U.S. and five Canadian regions. Those regions for the U.S. are the census regions with the three southern regions amalgamated into one because very few Canadians moved to these states. The five Canadian regions are the three Maritime provinces, Ontario, Québec, the Prairie provinces, and British Columbia. That yields a total of twelve possible migration choices plus the non-migration choice.[24]

For francophones, the results for the three-choice model are driven by the effect of migration to the New England states. Literacy reduces odds of a move to New England. In contrast, literacy

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[23]Results are available from the authors.

[24]For even this modest expansion of the choice set, sample size becomes a problem. We have restricted our sample to the 30–39 year-olds to capture the decadal effects, and for the 1% IPUMS samples for 1910 and 1920 we have very few observations of illiterate Canadian-born migrants outside of New England, New York and some of the East North Central states.

is mostly insignificant in characterizing francophone movers to other regions of the U.S., and is significant and positive for moves to East North Central in several of the years. But as New England was the destination for 75-85% of francophone migrants over this period, the behaviour of these migrants are most important and drive the aggregate results. For interprovincial moves, the effect of literacy on francophones moving to Ontario is about the same as those moving to New England. Francophone movers to the Prairie provinces, in contrast, are modestly more likely to be literate. But it is the movers to Ontario who dominate.

Outcomes and Migrant Selection

The general pattern for Canadian migration to the U.S. in the early part of the twentieth century was for the more educated—literate—among anglophones to move to the U.S., and the somewhat more educated to move interprovincially within Canada. For francophones we observe the opposite. Francophone migrants to the U.S. were generally less literate than those that remained in Canada. As well francophones were much less likely to move within Canada. The pattern suggests a sorting. Among anglophones, those with the most human capital chose the U.S. For those who did move to the U.S., their occupational pursuits were relatively narrowly defined, and notably did not include agriculture. In contrast, for anglophones who moved within Canada agriculture was a significant pursuit. Francophones on the other hand moved within a much more narrowly defined geographic scope and pursued less diverse employment.

Those that moved regardless of language improved their economic outcomes, and those that moved to the U.S. had a greater improvement than those that moved interprovincially. We illustrate this by determining the average occupational status for non-migrants, for migrants by destination, and for both by language spoken. Ideally we would compare wages for those who moved and compare them to wages for those who did not. There are no broad comparisons of wage data between the U.S. and Canada. The Canadian Census does report earnings, but for this period the U.S. Census does not. Green, MacKinnon, and Minns (2005) use data from the Dillingham Commission reports to show that francophones' wages were higher in New England

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than in Canada, particularly when including family earnings, but that is for a more narrowly-defined time period.

To compare the outcomes of migrants and non-migrants, we use the occupational score variable coded by IPUMS. The occupational score assigns to each occupational category the median income earned for that category in 1950. Because the CCRI Canadian Census microdata have occupations coded using the IPUMS coding, the categories are comparable across censuses by year and country and can be matched to the IPUMS occupational score variable. Mean occupational scores are calculated by language spoken and literacy for each census year for three groups: non-migrants, interprovincial migrants, and immigrants to the U.S.[25]

This comparison of occupational scores is done assuming that wages are otherwise the same between countries. Any differences that arise in calculating average occupational scores by group reflect only differences in occupational mixes. The implication is that opportunities for employment differed and migrants were able to obtain higher-ranked occupations. There is substantial evidence suggesting that real wages in Canada were lower than in the U.S. on average, and particularly for manufacturing (Keay, 2000; Dales, 1966). Further, real wages in Canada were lower than in the U.S. because, among other reasons, Canada had higher domestic prices due to tariff policy, and the smaller market implied less competition to equilibrate prices. Differences in prices between the countries is well-documented even for the recent past when tariff differences were much less significant (Engel and Rogers, 1996).

We present the mean occupational scores for migrants by destination and language spoken in figure 9.[26] Only immigrants to the U.S. who migrated as adults during the decade ending with the census year are included. This will bias downward the occupational scores for migrants to the U.S. as none would have had more than a decade to fit into the labor market, and the average immigrant in the sample would have had less.

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[25]We include all male adults in our calculation. We could look only at decadal arrivals to the U.S., but because we cannot determine age of migration for interprovincial migrants, we want to keep the comparison groups more similar.

[26]Results for 1900/01 are not reported as occupations were not categorized for the Canadian Census sample of 1901 with the same coding, so occupational scores are not directly compatible.

[Figure 9 about here.]

For anglophones, the literate score much higher than the illiterate regardless of migrant status.[27] Among the literate anglophones, immigrants to the U.S. score higher than interprovincial migrants, who score higher than non-migrants. For the illiterate anglophones, few conclusions can be drawn. The sample is too small so the confidence intervals are large and overlapping.

For literate francophones, conclusions are the same as for anglophones. Occupational outcomes are much higher for migrants to the U.S. The scores are not as high as for literate anglophone immigrants to the U.S. though. It appears that there was a premium for literacy in the U.S. compared to Canada even for francophones. But those opportunities were limited as most francophones who moved to the U.S. were illiterate.

The main difference between scores for anglophones and francophones are for the illiterate. Among the anglophones, migration status had little effect on occupational scores for the illiterate. For illiterate francophones, occupational scores are much higher for immigrants to the U.S. for the two decades 1901–1910 and 1921–1930.[28] They are even higher than occupational scores of the literate, non-migrant francophones. For the illiterate francophone, those that did move to the U.S. improved their occupational outcomes. The same cannot be said for francophone interprovincial migrants. For either literate or illiterate, an interprovincial move did not result in higher occupational standing than for a non-migrant francophones.

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[27]Because very few anglophone migrants were illiterate, the 95% confidence intervals for the anglophone illiterate are very wide.

[28]Because the number of francophone immigrants to the U.S. falls over the 1911–1920 decade, and because the IPUMS sample for 1920 is only 1%, we cannot conclude that illiterate francophone migrants to the U.S. did better than illiterate francophone interprovincial migrants, though migrants to the U.S. did have better occupational outcomes than those who did not move.

Conclusions

We have illustrated some well-known migration trends extended into the first third of the twentieth century, and have quantified them for comparison. Migration by Canadians to the U.S. was substantial through this period regardless of language spoken. We note that odds of migration to the U.S. by anglophones was even greater than was the odds of their moving interprovincially. In other words, even during a period of substantial western settlement, the U.S. proved to be a larger a draw to anglophone Canadians. We note further that migration to the U.S. by anglophones was virtually as large a share of the anglophone population as was the francophone migration to the U.S., in fact even larger during the 1920s.

Key characteristics of migrants indicative of the selection process is most importantly literacy. For anglophones, interprovincial migrants were more likely to be literate than non-migrants, and immigrants to the U.S. were much more likely to be literate. Among francophones, on the other hand, the literate were more likely to remain in Québec. Those that immigrated were less likely to be literate through 1920. For the decade of the 1920s, literacy did not distinguish immigrants from non-migrants among the francophone. Most likely this reflected the immigration restrictions implemented as a literacy test in 1917.

Anglophone and francophone immigrants to the U.S. had different age profiles. The age profile of francophone immigrants to the U.S. was relatively flat, suggesting a relatively equal likelihood of migration at any point during working age. That is consistent with demand for unskilled labor. The age profile of anglophone immigrants to the U.S. has a tighter distribution, with less variance and a defined hump peaking around age 35. That shape is consistent with migration of skilled workers. Younger workers would have less experience and skill, while older workers would have skills that would likely be too firm-specific to be of as much value on average, or the higher value would have been realized in their home labour market.

The analysis also sheds some light on the displacement debate at the time; the concern that large-scale immigration to Canada was 'displacing' the Canadian-born and pushing them to the

U.S. During the Wheat Boom period, anglophone Canadians moved to the U.S. at a rate even greater than they moved to western Canada. But those moving to the U.S. were substantially more literate than average. Those highly-skilled workers would have been more likely to remain in Canada in response to large-scale immigration if immigrants tended to be low-skilled. Any degree of complementarity between unskilled immigrants and skilled Canadian-born should have increased their demand in Canada. At the minimum, the two groups were not close substitutes so European immigration was unlikely to have lowered wages of the skilled. It is easy to see why there was concern over a brain drain early in the twentieth century in Canada due to such substantial outmigration, but it was not caused by supply of European immigrant. Rather it was the demand for skilled labor in a booming U.S. economy that drew the Canadian-born.

Canadians were highly mobile and were willing to move within the entire continent in pursuit of better opportunities. The Canadian-born had the best of both worlds, they could choose to remain in Canada and participate in the booming economy of the early twentieth century. Or they could move to the U.S. to take advantage of a particular specialized skill that the smaller Canadian market did not value as highly. The incomes of the Canadian-born were thereby substantially enhanced.

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Table 1: Canadian-born in the United States

	Total	French	Other
1890	980,938	302,496	678,442
1900	1,179,922	395,126	784,796
1910	1,209,717	385,083	824,634
1920	1,138,174	307,786	830,388
1930	1,310,369	370,852	939,517

Source: Carter et al. (2006).

Table 2: Regression Results, Binary-Choice: Canadian Migration to U.S.

	1900/01	1910/11	1920/21	1930/31
Panel A: English				
age	−0.3310***	−0.2522***	−0.2464***	−0.2679***
	[0.0232]	[0.0433]	[0.0512]	[0.0186]
age^2	−0.3814***	−0.3938***	−0.4007***	−0.5573***
	[0.0200]	[0.0386]	[0.0472]	[0.0175]
female	0.0292	0.1903**	0.2963***	0.1638***
	[0.0399]	[0.0889]	[0.1121]	[0.0394]
married	0.0890**	0.1402	0.1429	0.3289***
	[0.0443]	[0.0940]	[0.1170]	[0.0396]
female × married	−0.0502	−0.1029	−0.1977	−0.2751***
	[0.0555]	[0.1175]	[0.1445]	[0.0498]
literate	0.9196***	1.4104***	1.6144***	2.2452***
	[0.0797]	[0.2699]	[0.4231]	[0.2062]
constant	−3.3355***	−3.9086***	−4.6192***	−4.6586***
	[0.0860]	[0.2786]	[0.4231]	[0.2092]
N	85,309	93,951	85,613	89,475
Panel B: French				
age	−0.0970***	−0.0224	−0.1234	−0.2029***
	[0.0227]	[0.0529]	[0.0837]	[0.0325]
age^2	−0.1979***	−0.2555***	−0.3500***	−0.3854***
	[0.0211]	[0.0455]	[0.0830]	[0.0304]
female	−0.3339***	−0.1934	−0.3605*	−0.1585**
	[0.0631]	[0.1367]	[0.2051]	[0.0801]
married	−0.2133***	−0.3740***	−0.3732*	0.3502***
	[0.0596]	[0.1349]	[0.1949]	[0.0768]
female × married	0.3462***	0.2962*	0.4484*	0.1487
	[0.0786]	[0.1744]	[0.2589]	[0.0970]
literate	−0.5951***	−0.4697***	−0.6899***	−0.0070
	[0.0422]	[0.1235]	[0.1972]	[0.1055]
constant	−1.3829***	−1.6204***	−2.1981***	−3.0294***
	[0.0611]	[0.1508]	[0.2360]	[0.1170]
N	32,535	38,041	35,314	37,693

Standard errors in brackets.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Notes: Dependent variable is indicator for living in Canada or U.S. Sample is 18–55 year olds. Movers restricted to those who moved as adults.

Table 3: Base Odds Ratios, Binary Choice: Canadian Migration to U.S.

	1900/01	1910/11	1920/21	1930/31
English	0.0704	0.0668	0.0421	0.0676
	[0.0010]	[0.0019]	[0.0015]	[0.0008]
French	0.1121	0.0807	0.0336	0.0433
	[0.0021]	[0.0034]	[0.0021]	[0.0010]

Standard errors in brackets. All estimates are signifi-
cant at the 1% level.

Table 4: Marginal Effects, Binary Choice: Canadian Migration to U.S.

	1900/01	1910/11	1920/21	1930/31
Panel A: English				
literate	0.0441***	0.0534***	0.0346***	0.0619***
	[0.0025]	[0.0051]	[0.0038]	[0.0017]
married	0.0045*	0.0058	0.0014	0.0126***
	[0.0024]	[0.0048]	[0.0035]	[0.0020]
female	0.0002	0.0089**	0.0074**	−0.0010
	[0.0020]	[0.0040]	[0.0030]	[0.0016]
female–single	0.0020	0.0124**	0.0119***	0.0091***
	[0.0028]	[0.0058]	[0.0045]	[0.0022]
female–married	−0.0015	0.0062	0.0043	−0.0086***
	[0.0027]	[0.0054]	[0.0039]	[0.0024]
Panel B: French				
literate	−0.0785***	−0.0457***	−0.0313***	0.0003
	[0.0066]	[0.0144]	[0.0119]	[0.0045]
married	−0.0070	−0.0196**	−0.0059	0.0173***
	[0.0054]	[0.0091]	[0.0054]	[0.0024]
female	−0.0125***	−0.0012	−0.0029	−0.0024
	[0.0042]	[0.0069]	[0.0042]	[0.0020]
female–single	−0.0356***	−0.0161	−0.0120*	−0.0050**
	[0.0066]	[0.0113]	[0.0067]	[0.0025]
female–married	0.0014	0.0081	0.0029	−0.0005
	[0.0053]	[0.0086]	[0.0053]	[0.0029]

Standard errors in brackets.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5: Regression Results: Interprovincial and International Migration

	1900/01		1910/11		1920/21		1930/31	
	english	french	english	french	english	french	english	french
Panel A: Interprovincial Migration								
age	−0.0077	0.3598**	−0.1711***	0.2547*	0.1971***	0.3834**	0.1995***	−0.0121
	[0.0738]	[0.1589]	[0.0557]	[0.1530]	[0.0558]	[0.1509]	[0.0669]	[0.1635]
female	−1.1179***	−1.1488***	−1.0959***	−1.4235***	−0.6196***	−1.1264***	−0.4811***	−0.8553***
	[0.0915]	[0.2406]	[0.0690]	[0.2071]	[0.0672]	[0.1869]	[0.0810]	[0.2056]
married	−0.3070***	−0.4645***	−0.3186***	−0.7754***	−0.1582***	−0.4265***	−0.0955	−0.2187
	[0.0578]	[0.1468]	[0.0443]	[0.1197]	[0.0487]	[0.1216]	[0.0604]	[0.1402]
female × married	0.9373***	1.1146***	0.9322***	1.3181***	0.5721***	0.9979***	0.4824***	0.7007***
	[0.1046]	[0.2614]	[0.0788]	[0.2305]	[0.0769]	[0.2098]	[0.0920]	[0.2327]
literate	0.5907***	−0.3481***	1.1171***	−0.3787***	1.2804***	−0.5847***	1.1340***	−0.6468***
	[0.1015]	[0.1068]	[0.1000]	[0.1331]	[0.1343]	[0.1388]	[0.1688]	[0.1686]
constant	−2.1500***	−1.8908***	−2.0743***	−1.7056***	−2.2827***	−1.5754***	−2.4690***	−1.8909***
	[0.1067]	[0.1488]	[0.1033]	[0.1516]	[0.1367]	[0.1586]	[0.1735]	[0.1930]
Panel B: International Migration								
age	0.1906***	0.2007***	0.2612***	0.3942***	0.5321***	0.1737	0.1628***	0.2844***
	[0.0462]	[0.0704]	[0.0868]	[0.1308]	[0.0912]	[0.1435]	[0.0495]	[0.0755]
female	−0.2422***	−0.6408***	−0.1230	−0.2436	0.1336	−0.1839	0.1275**	−0.0286
	[0.0526]	[0.0931]	[0.0997]	[0.1579]	[0.1032]	[0.1760]	[0.0590]	[0.0954]
married	0.1474***	−0.2859***	0.1292*	−0.4403***	−0.0269	−0.1572	0.0722	0.2129***
	[0.0412]	[0.0687]	[0.0778]	[0.1227]	[0.0869]	[0.1384]	[0.0487]	[0.0765]
female × married	0.1755***	0.5602***	0.0779	0.3464*	0.0109	0.283	−0.0651	0.0638
	[0.0610]	[0.1029]	[0.1148]	[0.1794]	[0.1199]	[0.1979]	[0.0675]	[0.1069]
literate	1.2646***	−0.2332***	1.4044***	−0.5212***	2.1537***	−0.4221***	1.8638***	0.4052***
	[0.0788]	[0.0485]	[0.1862]	[0.1095]	[0.3576]	[0.1472]	[0.1694]	[0.1149]
constant	−2.0611***	−0.0872	−2.1414***	−0.0125	−3.0855***	−0.6034***	−3.0650***	−1.9496***
	[0.0852]	[0.0721]	[0.1928]	[0.1418]	[0.3619]	[0.1764]	[0.1732]	[0.1284]
sample	29,304	11,570	26,297	10,706	24,455	10,033	27,199	12,330

Standard errors in brackets.
$^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$
Notes: Dependent variable is indicator for living in province of birth, living in Canada outside province of birth, or living in U.S. Sample is 30–39 year olds.

Table 6: Base Odds Ratios: Interprovincial and International Migration

	1900/01	1910/11	1920/21	1930/31
Panel A: English				
interprovincial	0.0868	0.1458	0.1716	0.1461
	[0.0016]	[0.0021]	[0.0024]	[0.0023]
us	0.2810	0.2760	0.2325	0.2064
	[0.0026]	[0.0049]	[0.0046]	[0.0023]
Panel B: French				
interprovincial	0.0434	0.0402	0.0525	0.0467
	[0.0019]	[0.0017]	[0.0021]	[0.0021]
us	0.3389	0.2911	0.2349	0.1886
	[0.0044]	[0.0077]	[0.0073]	[0.0033]

Standard errors in brackets. All estimates are significant at the 1% level.

Table 7: Marginal Effects on Odds of Interprovincial and International Moves, 1900/01–1930/31

	1900/01	1910/11	1920/21	1930/31
Panel A: English Interprovincial Migrants				
age	−0.0053	−0.0316***	0.0065	0.0199**
	[0.0057]	[0.0073]	[0.0082]	[0.0081]
literate	0.0229***	0.0776***	0.1012***	0.0820***
	[0.0062]	[0.0070]	[0.0094]	[0.0106]
married	−0.0017	−0.0014	0.0142***	0.0143***
	[0.0036]	[0.0046]	[0.0055]	[0.0052]
female	−0.0308***	−0.0465***	−0.0315***	−0.0151***
	[0.0033]	[0.0042]	[0.0048]	[0.0046]
female–single	−0.0778***	−0.1238***	−0.0866***	−0.0585***
	[0.0060]	[0.0078]	[0.0089]	[0.0089]
female–married	−0.0123***	−0.0181***	−0.0128**	−0.0018
	[0.0039]	[0.0049]	[0.0056]	[0.0054]
Panel B: English Immigrants to U.S.				
age	0.0382***	0.0586***	0.0860***	0.0205***
	[0.0090]	[0.0170]	[0.0159]	[0.0078]
literate	0.1817***	0.1821***	0.1961***	0.1651***
	[0.0080]	[0.0176]	[0.0150]	[0.0076]
married	0.0449***	0.0316***	−0.0081	0.0021
	[0.0057]	[0.0109]	[0.0106]	[0.0053]
female	−0.0128**	0.0024	0.0324***	0.0157***
	[0.0052]	[0.0097]	[0.0091]	[0.0045]
female–single	−0.0220**	0.0154	0.0468***	0.0335***
	[0.0095]	[0.0186]	[0.0181]	[0.0092]
female–married	−0.0092	−0.0024	0.0274***	0.0102**
	[0.0062]	[0.0114]	[0.0106]	[0.0052]

Table 7: *continued*

	1900/01	1910/11	1920/21	1930/31
Panel C: French Interprovincial Migrants				
age	0.0119*	0.0051	0.0168**	−0.0030
	[0.0065]	[0.0060]	[0.0076]	[0.0072]
literate	−0.0115**	−0.0080	−0.0274***	−0.0424***
	[0.0050]	[0.0060]	[0.0098]	[0.0128]
married	−0.0002	−0.0097**	−0.0028	0.0002
	[0.0049]	[0.0044]	[0.0051]	[0.0049]
female	−0.0068*	−0.0148***	−0.0167***	−0.0136***
	[0.0038]	[0.0034]	[0.0042]	[0.0042]
female–single	−0.0347***	−0.0526***	−0.0502***	−0.0356***
	[0.0085]	[0.0077]	[0.0087]	[0.0084]
female–married	−0.0002	−0.0050	−0.0075	−0.0072
	[0.0042]	[0.0038]	[0.0048]	[0.0048]
Panel D: French Immigrants to U.S.				
age	0.0393**	0.0774***	0.0263	0.0435***
	[0.0154]	[0.0265]	[0.0256]	[0.0114]
literate	−0.0471***	−0.1090***	−0.0721**	0.0606***
	[0.0110]	[0.0252]	[0.0304]	[0.0131]
married	−0.0051	−0.0527***	−0.0022	0.0354***
	[0.0112]	[0.0193]	[0.0178]	[0.0075]
female	−0.0382***	0.0104	0.0110	0.0059
	[0.0088]	[0.0154]	[0.0146]	[0.0066]
female–single	−0.1260***	−0.0337	−0.0197	0.0021
	[0.0199]	[0.0342]	[0.0314]	[0.0127]
female–married	−0.0175*	0.0218	0.0194	0.0070
	[0.0098]	[0.0172]	[0.0164]	[0.0076]

Standard errors in brackets.
$^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$
Sources: See text. Dependent variable is indicator for interprovincial move, move to the U.S., or remain in province of birth. Sample is 30–39 year olds.

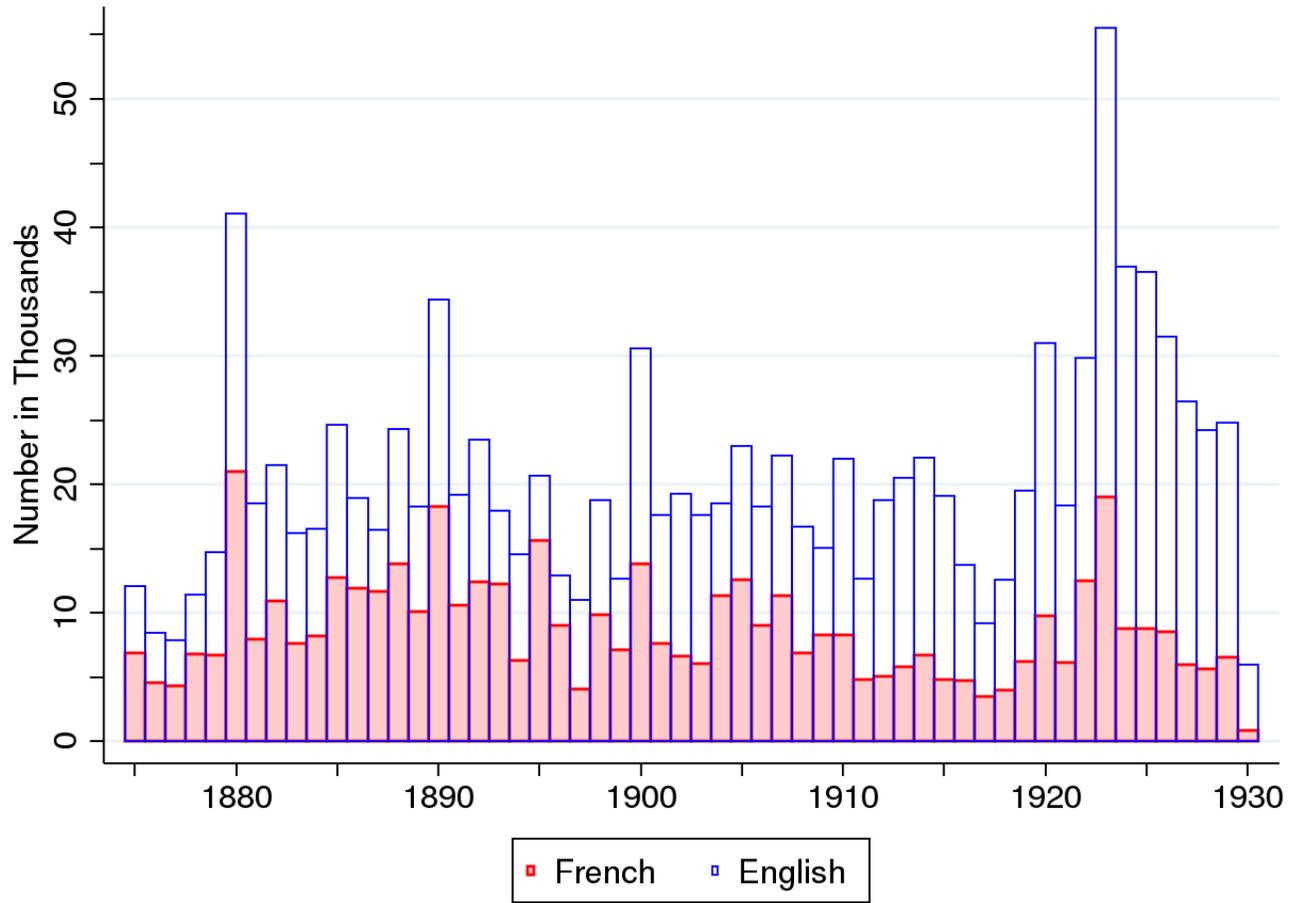Figure 1: Year of Arrival in U.S., Canadian-born, Francophone and Anglophone.
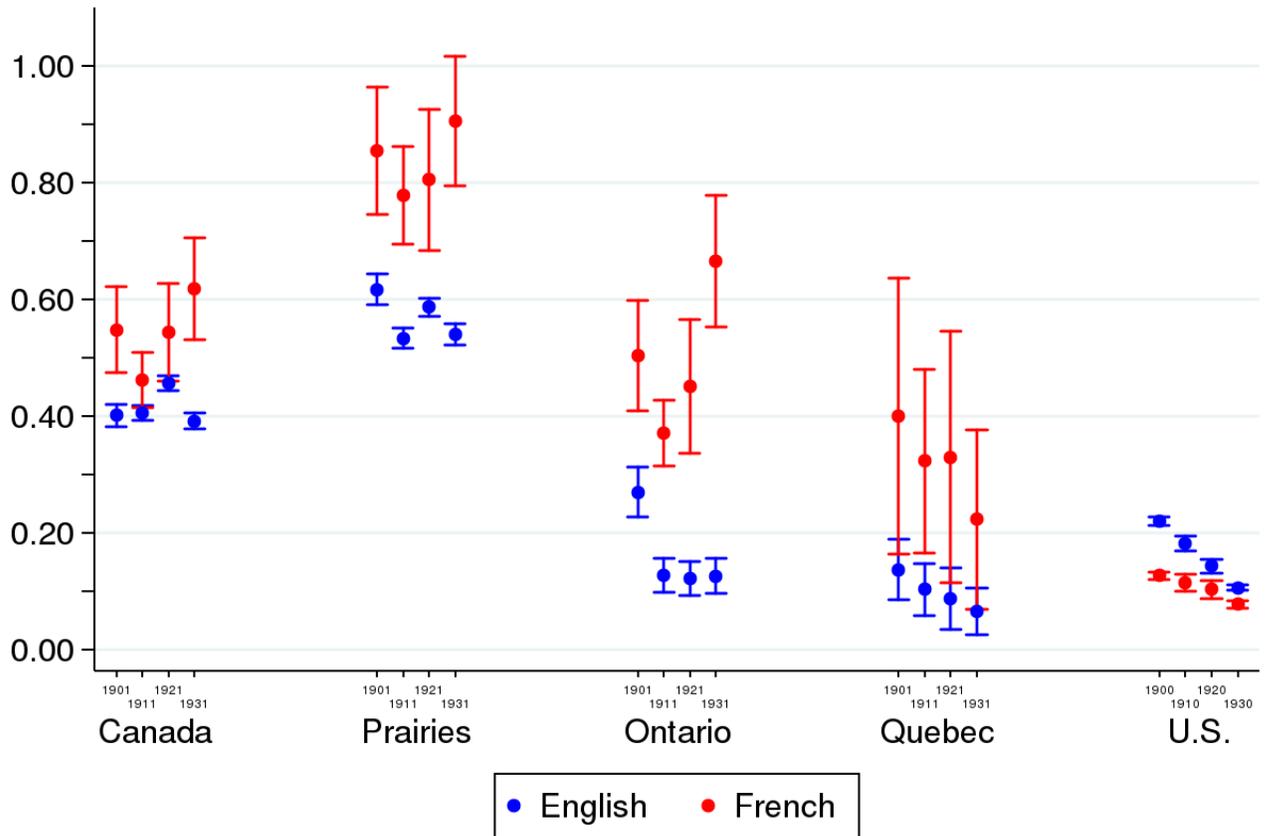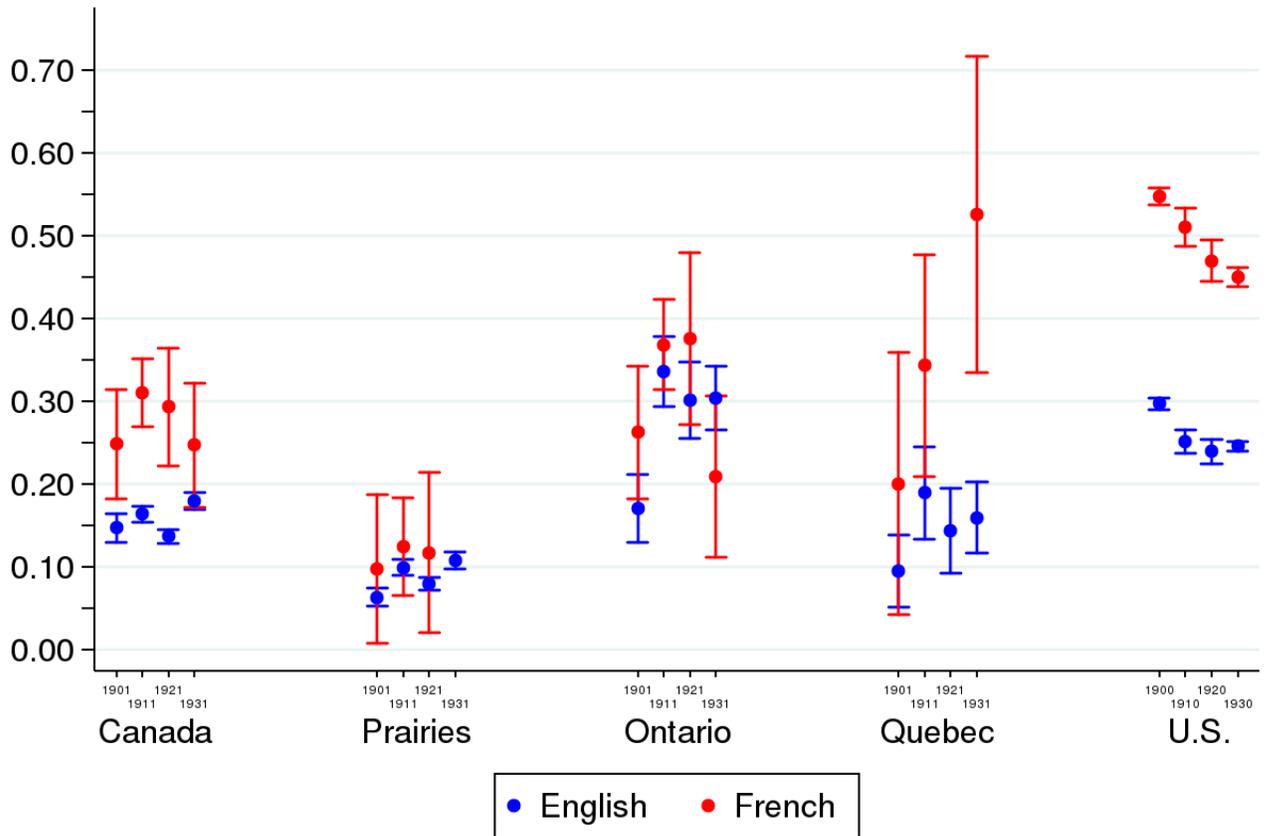
Figure 2: Proportion of Canadian-born Migrants Employed in Agriculture, by Destination, by Language.
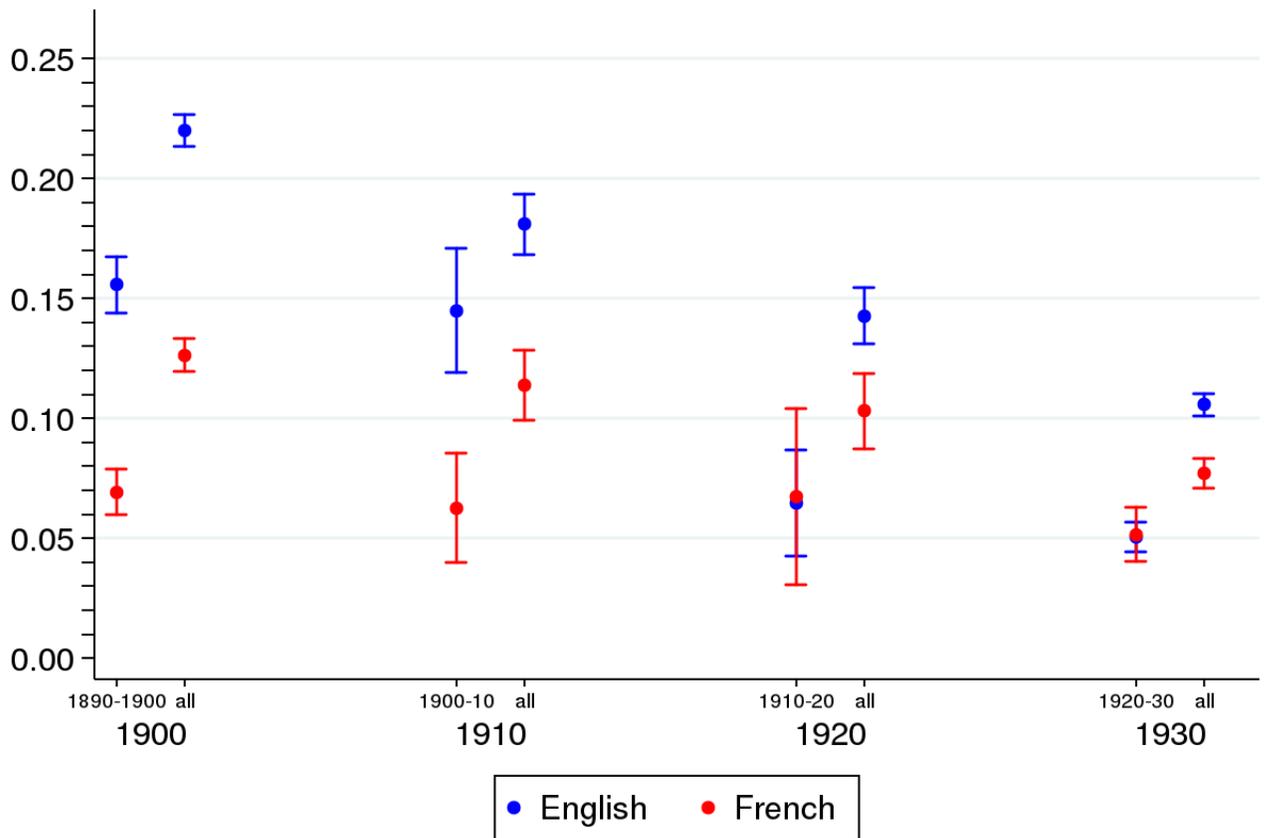

Note: 95% confidence interval shown.
Source: See text.

Figure 3: Proportion of Canadian-born Migrants Employed as Unskilled Labour, by Destination, by Language.

Note: 95% confidence interval shown.
Source: See text.

Figure 4: Proportion of Canadian-born Immigrants to the U.S. Employed in Agriculture, All Arrivals and Decadal Arrivals.

Figure 5: Proportion of Canadian-born Immigrants to the U.S. Employed as Unskilled Labour, All Arrivals and Decadal Arrivals.
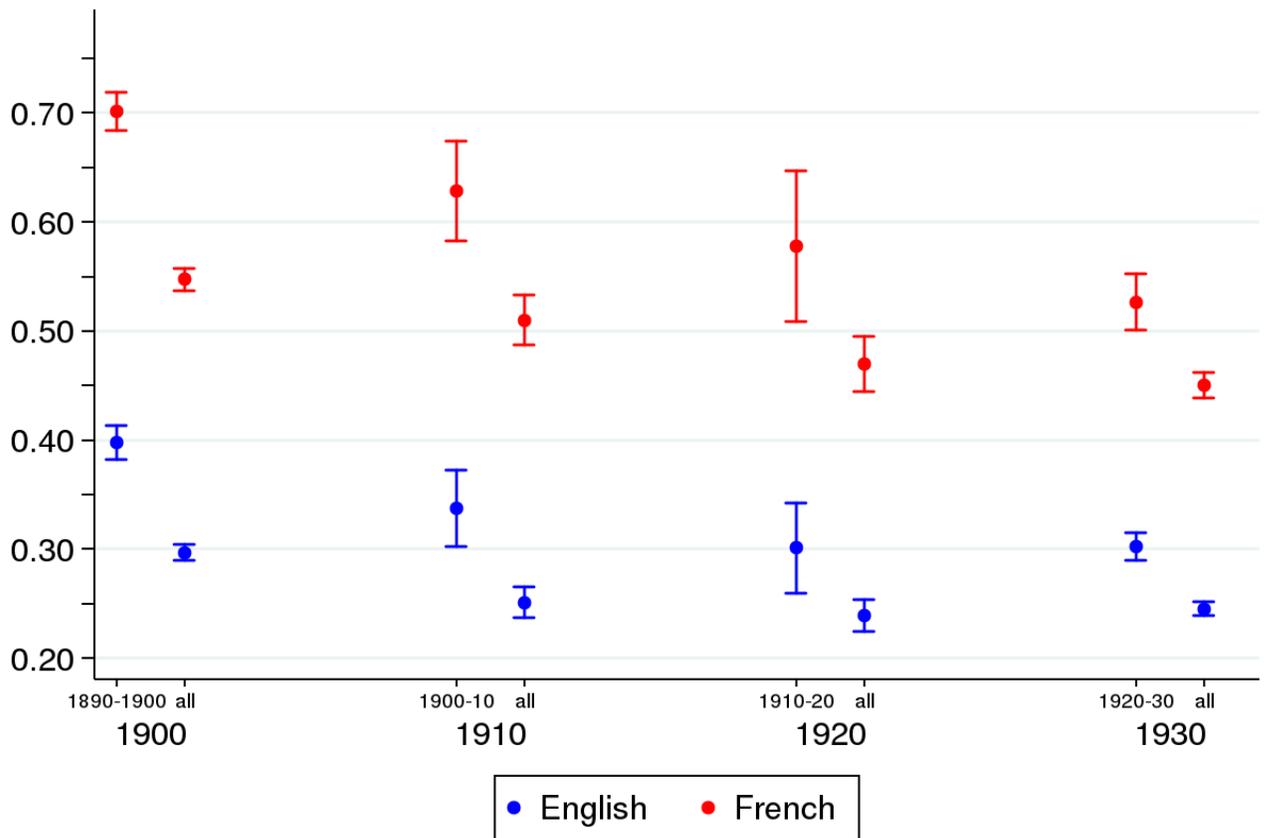
Note: 95% confidence interval. Arrivals in ten years prior to census year and all arrivals.
Source: Ruggles et al., 2010.

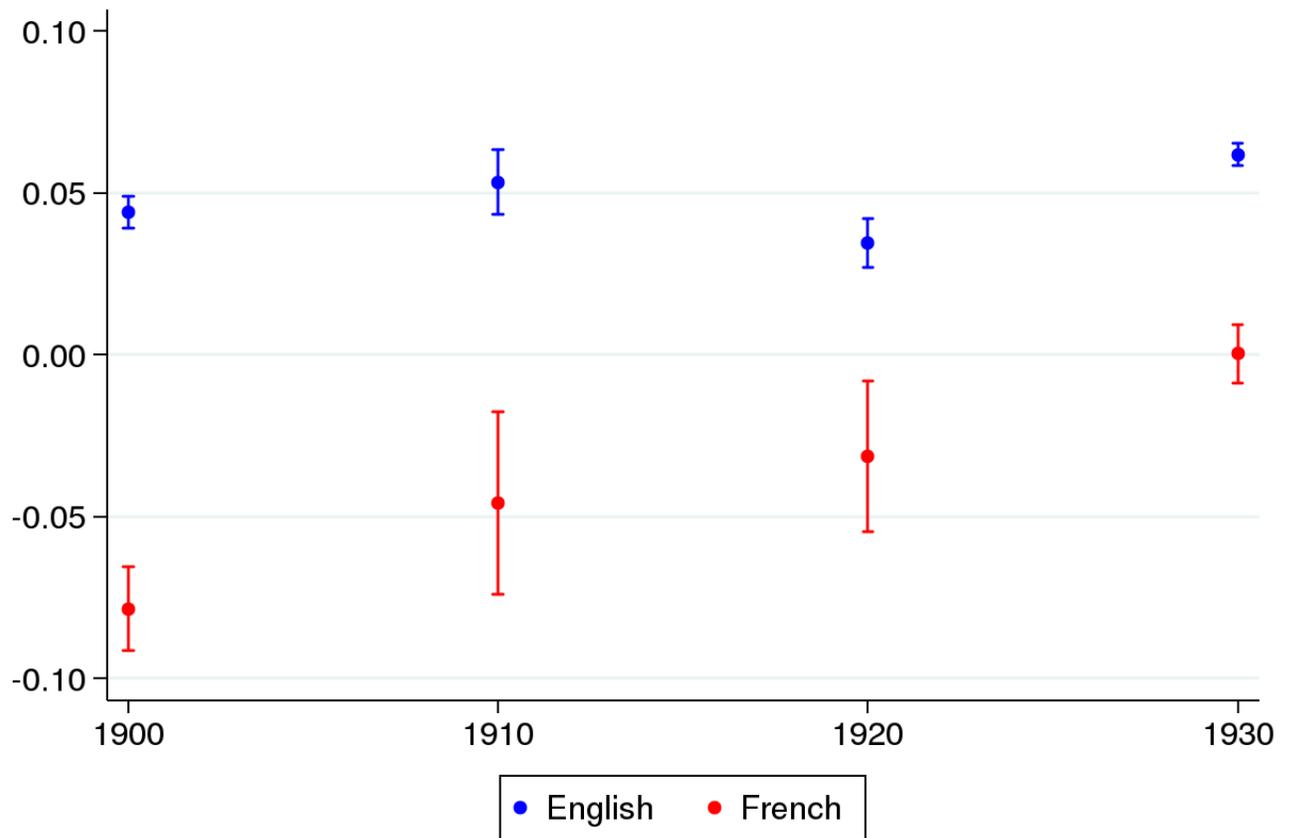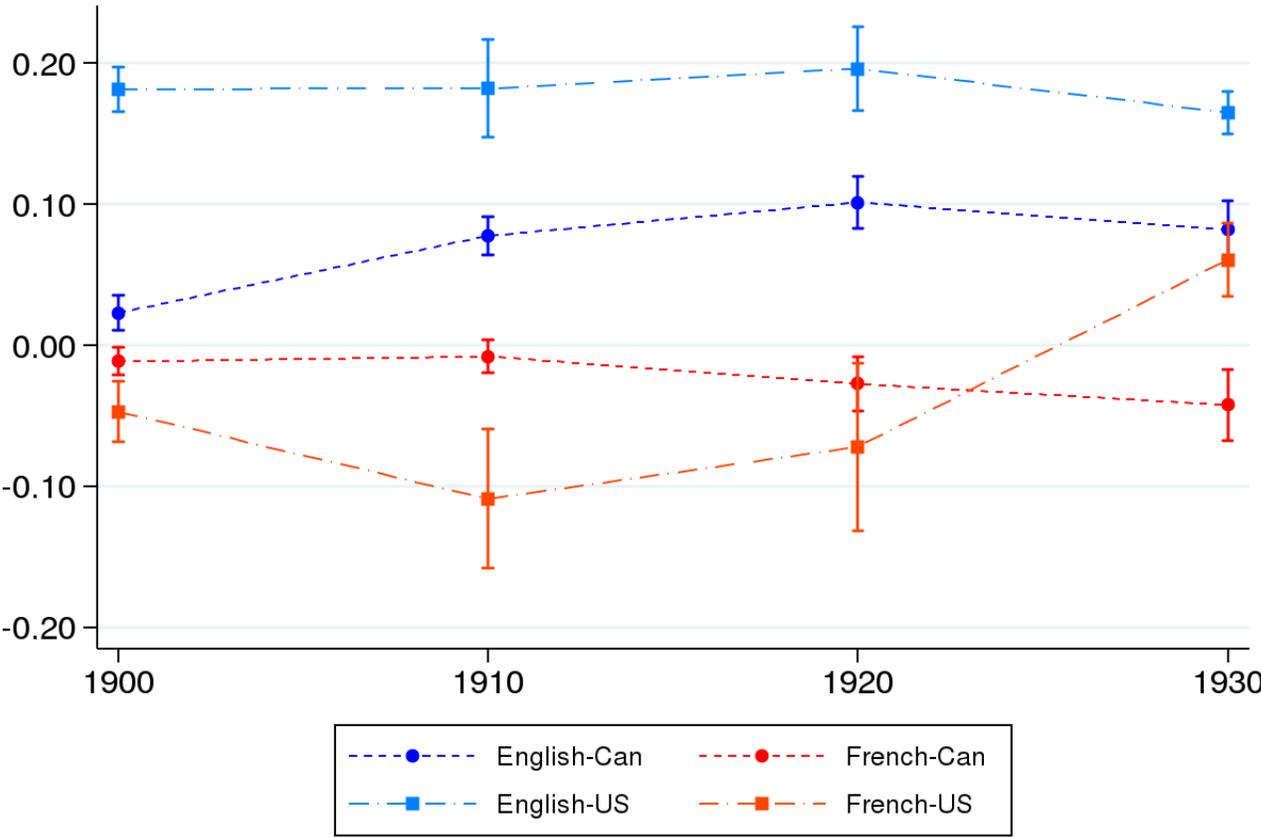Figure 6: Odds Ratios of Moving to the U.S. by Age and Language
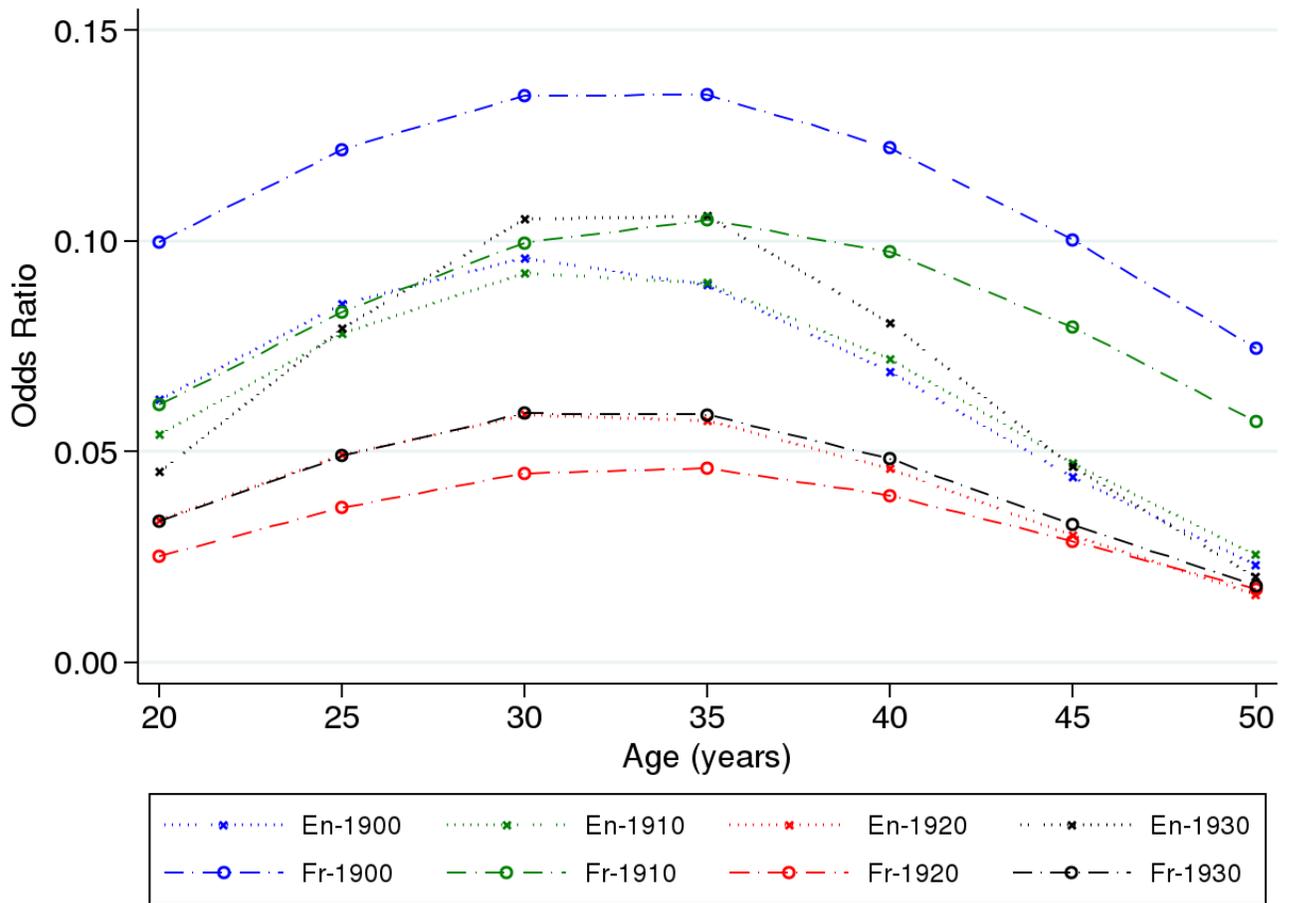
Figure 7: Average Marginal Effect of Literacy on Odds of International Migration by Language Spoken
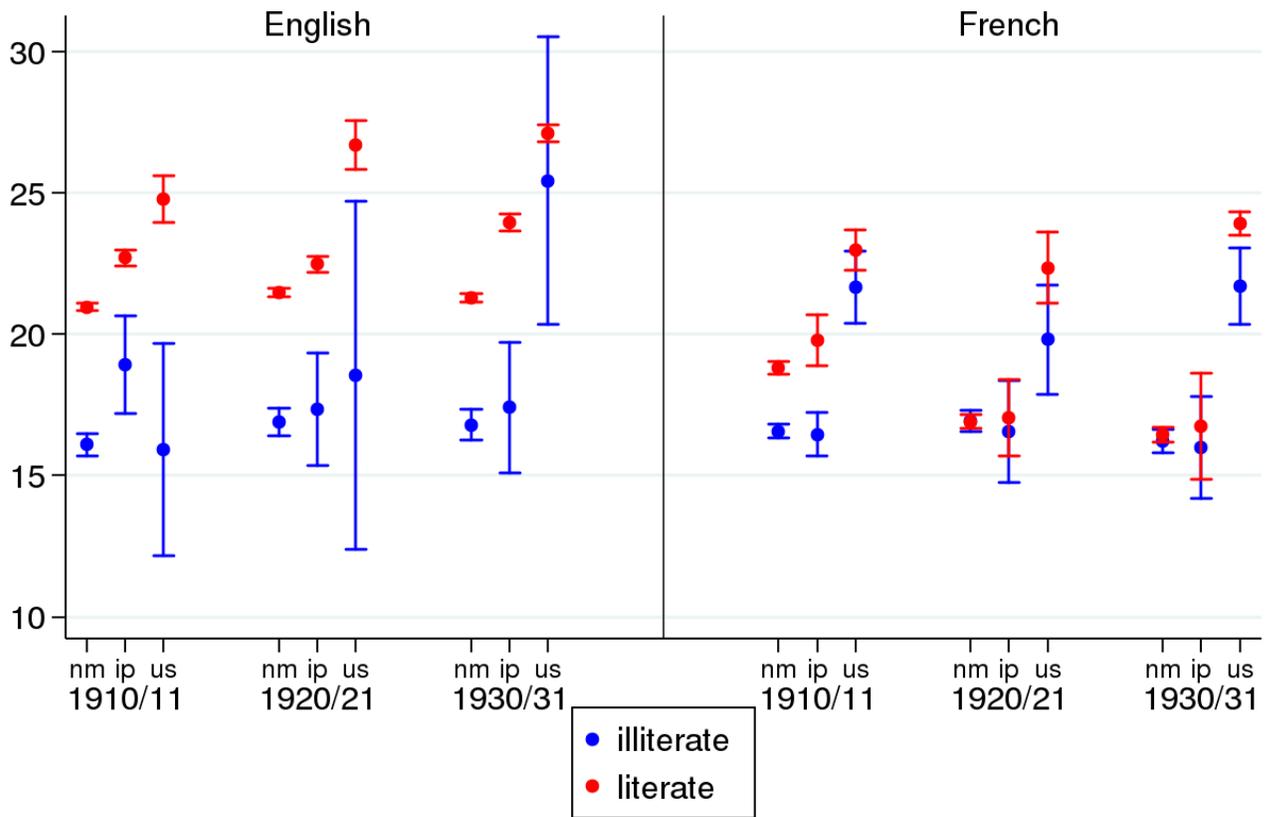

Note: 95% confidence interval shown.
Source: See text.

Figure 8: Average Marginal Effect of Literacy on Odds of Interprovincial and International Migration by Language Spoken

Note: 95% confidence interval shown.
Source: See text.

Figure 9: Occupational Scoring by Census Year: Nonmigrants, Interprovincial and International Migrants, by Language and Literacy

Note: Sample is males ages > 17. Migrants to U.S. migrated as adults in the decade ending with census year. Migration status: nm-nonmigrant, ip-interprovincial migrant, us-immigrant to US. 95% confidence interval shown.