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Immigration Quotas and Immigrant Skill Composition: Evidence from the Pacific Northwest

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Abstract

Estimation of the causal effect of immigration restriction on the size and structure of migration flows is complicated by selection issues and the fact that contemporary migration policies operate concurrently with other entry restrictions. In this paper, I examine the effect of immigration quotas on the skills of incoming migrants using implementation of the quota outlined by the Emergency Immigration Act of 1921 as a source of exogenous variation in migrant skill. The 1921 quota restricted entry to three percent of the nationals who were in the U.S. according to the 1910 census. Unaffected migrants, such as Canadian-born, foreign-born Canadian citizens and Japanese migrants, are used to construct a control group against which to compare those affected by the quota. Newly transcribed, individual-level data collected from ship passenger lists report occupation, birthplace, and place of last residence, which are necessary for measuring skill and constructing the control group. By studying migration quotas in the 1920s, a true before-and-after comparison of restricted and unrestricted migrants can be made independent of the complicated structure of contemporary immigration policy. Difference-in-difference estimates indicate that the 1921 quota resulted in flows of higher-earning immigrants. The probability that a migrant was low skilled decreased by more than twenty percent and the probability that a migrant was medium skilled increased by seventeen percent. Importantly, this measured increase in skill is not solely due to changes in the national-origins mix of migrants. Only thirty percent of the change in skill resulted from changes in the national-origins mix of migrants, implying that the majority of the change occurred due to within-country changes in the quality of migrants.

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"If Moses attempted to come in, all his prescience and God given prophecy would avail him nothing if there had already preceded him from the Nile to America eighteen Egyptians."

- Rufus Hardy, U.S. Representative 1907-1923

I. Introduction

Immigration policies are one the few channels by which a country can directly alter its capital-labor ratio. Accordingly, laws that affect the capital-labor ratio have consequences for economic growth. Passage of the 1921 Emergency Immigration Act represents America's first attempt to control immigration at the aggregate level. The 1921 legislation created a quota restricting the number of aliens of each nationality allowed entry to three percent of those nationals resident in the U.S. as determined by the 1910 census.[1] As a result, a ceiling of 355,825 individuals was placed on the number of immigrants allowed entry during any given fiscal year — representing a decrease by more than fifty percent from pre-quota levels.[2] Because a version of the 1921 quota existed until 1965, the consequences for technological-specific change and economic growth would have had long lasting effects on America's economy.

In this paper, I examine the effect the 1921 immigration quotas had on the skill level of incoming migrants. Individual-level data collected from archived ship manifests enable me to obtain unbiased estimates of the effect of the 1921 quota on the skill level of incoming migrants. To control for other forces simultaneously affecting the skill level of migrants during this period, a control group is constructed from Canadian-born migrants, foreign-born Canadian citizens, and other unaffected migrant groups. Unrestricted migrants, such as Canadian-born and foreign-born Canadian residents, provide a natural comparison group for migrants affected by the quota.

[1] For example, if there were a hundred German individuals living in the U.S. in 1910, then only three German migrants were admitted to the U.S. under the quota.
[2] Source: 1922 Statistical Abstract of the United States

Comparisons across restricted and unrestricted migrant groups, before-and-after the law change allow for a differences-in-differences approach.

Because access to the U.S. was "first come, first served" until a country's quota was filled (with no regard given to education, skill, or English speaking capability), it is not immediately clear whether the quota would result in a change in the skills of incoming migrants. At the same time, there are several reasons to believe that the Emergency Quota Act of 1921 would alter the characteristics of those who chose to migrate. First, if some countries generally tend to send higher skilled migrants, and if the quota resulted in changes in the national-origins mix of incoming migrants, then the average skill level of migrants would change. Changes in skill could also occur within source countries as the quota increased migration costs.[3] Also, once the quota was enforced, the timing of migration often made the difference between whether or not a migrant was admitted. This uncertainty likely raised psychological migration costs, but would also increase the explicit costs of migration if a migrant was forced to sit at a port until the quota reset.

I introduce several innovations to the immigration literature in this paper. First, this paper emphasizes the consequences of early twentieth century quota policies on the skill composition of migrant flows. Prior to passage of the 1921 Emergency Quota Act, American immigration was essentially open, allowing a true before-and-after comparison of restricted and non-restricted migrants.[4] Previous studies have focused on the political economy of the passage of early twentieth century quota laws (Goldin, 1994; Timmer and Williamson, 1998; Hatton and

[3] For instance, to compensate for the decrease in rider-ship resulting from the quota, ship fares were increased (Wall Street Journal, 1921).

[4] Aside from the Chinese Exclusion Act, controls on certain characteristics of migrants (contract labor laws, exclusion of classes of immigrants such as prostitutes, anarchists, etc.), head taxes, and a literacy test imposed by the Immigration Act of 1917 immigration to America was unrestricted (Hatton and Williamson, 2005). The literacy test did curtail migration from southern and eastern Europe, but not as substantially as did the quota systems put in place during the 1920s (Goldin, 1994).

Williamson, 2005) and of the effects of lottery-type quotas implemented in the latter half of the twentieth century (Shimada, 2011; Udwadia and Canto, 1986; Mayda, 2005). To my knowledge, this paper is the first to examine the effects of the 1921 Emergency Immigration Act on the skills of incoming migrants.[5]

Second, this paper uses a newly transcribed data set containing individual-level information on migrants obtained at the time of migration. Because ship manifests recorded birthplace, citizenship, and last permanent residence in addition to occupation, they allow for precise identification of migrants unaffected by the quotas. Categorization of unaffected migrants is crucial for the creation of the counterfactual: what restricted-migrant skill levels would have looked like in absence of the 1921 Emergency Quota. Lastly, I collected the data from ports and borders in the Pacific Northwest. The majority of immigration studies, particularly in historical contexts, have focused on Atlantic migration flows.[6] These newly collected data offer insight into migration through western ports. Furthermore, because of the geography of the ports, I collected data on Asian immigrants to the U.S.; an immigration flow that has received little attention by labor economists (Hatton, 2010).

[5] In a recent working paper, Greenwood (2012) examines the skill composition of European migration in the early 1920s. Greenwood's analysis uses aggregated data at the country-year level and creates an indicator variable for migrants highly affected by the quotas solely based off of birthplace. There were three different quota laws passed in the 1920s, and Greenwood's indicator makes no distinction between the 1921, 1924, or 1929 quota laws, which varied in degree of restrictiveness. His comparison is ultimately between highly-affected European migration flows and less-affected European migration flows. In this paper, I focus on the 1921 quota and use individual-level data that allows me to create a comparison group with which to compare affected migrants. Focusing on the individual law is important, because the 1924 and 1929 laws have many loopholes that make a pure before-and-after comparison messy. I also show that without a comparison group, estimates of the effects of the quotas are too small. Furthermore, my analysis is not limited to European countries.

[6] Several studies have used passenger ship manifests of Atlantic flows. Armstrong and Lewis (2009), for example, collected ship manifest data of Norwegians migrating to Canada in 1925. Green and Green (1993) also recorded ship manifest records of migrants to Canada for 1912.

Difference-in-differences results indicate that the median occupation-based income of migrants increased by nearly eighteen percent as a result of the 1921 Emergency Quota Act.[7] To account for the possibility of compensating wage differentials associated with low-skilled but dangerous occupations, reported occupations are also broken up into high-, medium- and low-skilled occupations. Differences-in-differences estimates reveal that the probability of a migrant being low-skilled decreased by more than twenty percent after implementation of the quota. Further analysis reveals this result was driven by a substantial increase in the percentage of medium-skilled migrants. There was not a significant increase in the flow of highly-skilled migrants. Only thirty percent of the measured change in skill resulted from changes in the national-origins mix of migrants, implying that the majority of the change occurred due to within-country changes in the quality of migrants.

II. Early American Immigration Policy

Before the turn of the century, European migration remained generally unrestricted and comprised of individuals from Western Europe, constituting what came to be called "old migration."[8] Beginning in the late 19th century, however, the number of "new" migrants from Eastern and Southern Europe began to exceed the number of "old" migrants. From 1881 to 1910, the percentage of "new" migrants increased from twenty to almost eighty percent of all incoming migrants (Shanks, 2001, pg 71). This change in sending countries, in combination with the economic downturn in the 1890s, spurred nativist concerns about the quality of immigrants and the pressure they placed on low-skilled, native workers. Responding to these

[7] The dependent variable used to find the change in median occupation-based income is an occupation prestige score. Occupational prestige scores from the census were appended to the ship manifest data based off of the occupation provided by the immigrant. Census occupation prestige scores represent the median income of each occupation calculated from the 1950 census.

[8] Specifically, these "old" migrants are from Ireland, the United Kingdom, France, Germany, Norway, Sweden, Denmark, Netherlands, Switzerland, Belgium and Luxemburg.

concerns, section thirty-nine of the immigration act of February 20, 1907 created the Immigration Commission to gauge the current status of immigration and to make policy recommendations.[9] Using reports from the Department of Labor and independent surveys, the commission created statistical reports on the characteristics of aliens currently residing in the U.S.[10]

On the basis of the Immigration Commission's reports, the commissioners concluded if "[they] took the nations from which this immigration came so largely, the eastern and southern nations of Europe, … [and] adopted the educational test, it would substantially decrease the volume of that stream by thirty percent".[11] The favored method for controlling migrant education was a literacy test. Despite several attempts (beginning as early as 1897), a literacy test was only mandated when the Senate overrode the presidential veto in 1917. Passage of the 1917 act amalgamated all previous laws attempting to control migrant quality with the addition of a literacy test.[12] By the time the 1917 immigration law was enacted, it was, however, no longer as restrictive as hoped due to rising literacy rates in Southern and Eastern Europe. The end of the Great War and following economic downturn lead to increased support for further immigration restriction and the Emergency Quota Act was passed in 1921 (Goldin, 1994).

[9] Reports of the Immigration Commission. "Abstracts of reports of the Immigration Commission with conclusions and recommendations and views of the minority." (In two volumes: Vol. I). Presented by Mr. Dillingham. December 5, 1910. Congressional Record Serial Set Vol. No. 5865, Session Vol. No.7; 61st Congress, 3rd Session; S.Doc. 747 vol.1

[10] Statistical reports were made from reports from the Department of Labor and their in addition to independent surveys. The Immigration Commission has also been referred to as the Dillingham Commission and consisted of three senators and three representatives.

[11] William P Dillingham. Congressional Record v53 pt 4 (64c/1s), 25 Feb 1916, 12773

[12] The 1917 Immigration Act also reinforced restrictions on the immigration of prostitutes, mentally handicapped, anarchist, etc. Restrictions on Chinese migration, in place since the Exclusion Act of 1882, were expanded under the literacy law to include an entire portion of Asia, deemed the Asiatic Barred Zone. The Asiatic Bar Zone included "natives of islands not possessed by the United States adjacent to the Continent of Asia, situate south of the twentieth parallel latitude north, west of the one hundred and sixtieth meridian of longitude east from Greenwich, and north of the tenth parallel of latitude south, or who are natives of any county, province, or dependency situate on the Continent of Asia west of the one hundred and tenth meridian of longitude east from Greenwich and south of the fiftieth parallel of latitude north, except that portion of said territory situate between the fiftieth and the sixty-fourth meridians of longitude east from Greenwich and the twenty-fourth and thirty-eight parallels of latitude north."

III. The Emergency Quota Act

The 1921 Emergency Immigration Act placed a ceiling of 355,825 on the number of immigrants allowed into America during a given fiscal year.[13] The numerical restriction took the form of a quota under which the number of aliens of each nationality allowed entry was restricted to three percent of the nationals who were in the U.S. according to the 1910 Census.[14] For the purposes of the quota, nationality was determined by birthplace. Immigrants born in Canada, Mexico and South America were exempt from the quota, as were any immigrants who had spent a continuous year residing in any of these regions. Migrants from Asia were not counted.[15] Operationally, every port could only admit twenty percent of their allotment of the quota each month. As a result, the quotas were often filled within the first five months of a fiscal year.[16] For any immigrant ultimately denied, the shipping companies were responsible for taking that person back to his/her point of departure.

Enforcement of the quota began June 3, 1921, fifteen days after the law's passage on May 19, 1921. In June 1921, only 27,298 migrants were allowed entry. The yearly count began July 1, with the yearly allotment of 355,825 migrants (see Table 1).[17] The first year of the law went poorly. Not only were the actual quota numbers not decided until June 2 (the day before enforcement began), only fifteen days were given to clear the seas before enforcement of the law began. The law was so suddenly written and enforced that countries with longer travel distances

[13] "Restriction of Immigration" February 17, 1922" Serial Set Vol. No. 7955, Session Vol. No.1, 67th Congress, 2nd Session, H.Rpt. 710

[14] "Emergency Immigration Legislation." February 14 (calendar day, February 15), 1921, Serial Set Vol. No. 7774, Session Vol. No.1, 66th Congress, 3rd Session, S.Rpt. 789

[15] Migrants from Easter Asia were restricted under Asiatic Barred Zone defined in the Immigration Act of 1917. Japanese migrants were restricted by the Japanese government under the Gentlemen's Agreement.

[16] The fiscal year begins every July.

[17] Unfilled quotas were not carried over into the next fiscal year (New York Times, 1921, pg. 10). The yearly count reset each July.

had no time to adjust; a sailing ship from Portugal, for instance, took 45 days to reach America.[18] As a result, nearly 10,000 migrants reached America in June in excess of the quota.[19] These migrants were admitted but counted against the quota, which remained binding at 383,123 migrants allowed entry from June 3, 1921 to June 30, 1922. Although enforcement of the law was initially intended to be solely conducted at American entry posts, it quickly became clear that migrants from certain regions would exceed their monthly allotment each month. By mid-June, steamship companies found it necessary to restrict the number of immigrants at the departure ports.[20] The Emergency Quota Act was extended annually until a permanent, and more restrictive, version of the law came into effect July 21, 1924.[21]

Table 1 demonstrates that the quota had a clear impact on migration patterns. Belgium, Greece, Italy, Poland, Portugal, Turkey, Africa, and Spain were the most heavily restricted source countries, in terms of limiting the flow from the previous year.[22] Spain experienced the greatest percentage decrease of 96% in the number admitted in the fiscal year ending in June 1922 compared to the fiscal year ending in June 1921. The number of migrants from Greece and Portugal were also severely reduced. For Germany and Russia, the number of incoming migrants increased relative to prior flows, although the quota was not binding for either.[23] The "old" migrant countries of Finland, Netherlands, France, Denmark, Norway, Sweden, and the

[18] "Restriction of Immigration" February 17, 1922" Serial Set Vol. No. 7955, Session Vol. No.1, 67th Congress, 2nd Session, H.Rpt. 7103

[19] Congressional documents "Admission of Certain Aliens in Excess of Quota for June 1921" 67th congress report Number 169

[20] The Washington Post, "Better Control of Aliens: Steamship Companies are to Observe Capacities of Various Ports," The Washington Post, June 15, 1921, pg. 6

[21] The Emergency Quota Act was replaced by the 1924 Immigration Act. This legislation limited the number of incoming migrants to two percent of the number of foreign-born persons of each nationality resident in the U.S. as determined by the 1980 census. It was therefore represented even tighter constraints on the immigration flows out of Eastern and Southern Europe.

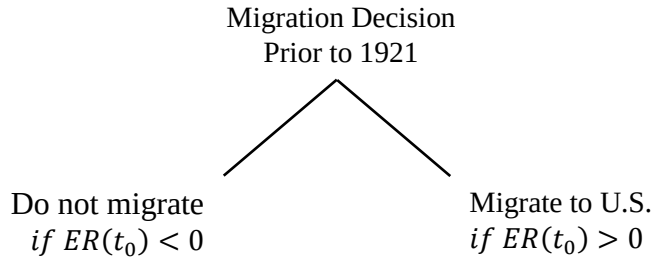
[22] The quotas for Spain, other Europe, Palestine, Syria, Turkey, other Asia, Africa, Australia, New Zealand, Atlantic Islands, Belgium, Greece, Hungary, Yugoslavia, Poland, and Portugal were exhausted by February 2, 1922. (Congressional Documents)

[23] Immigration rates to the US were on a decline after WWI as living conditions in Europe improved (Hatton, 2010).

United Kingdom experienced decreases in the number of migrants sent, but again none exhausted their allotment under the quota. In the next year, the quota was met or exceeded for all countries except Fiume, Bulgaria, Germany, Danzig, Austria, Sweden, Denmark, France, Russia and Germany.[24]

IV. Understanding the Migration Decision Before and After the Quota

A potential migrant chooses to relocate to the U.S. if the expected discounted net return of migrating is positive (Borjas, 1990). The expected net return is estimated from earnings in the home country, potential earnings in the U.S., and migration costs; earnings in the home country and the U.S. are a function of a migrant's skill. The cost of migration includes explicit costs of migration (transportation costs, shoring up debts, savings to cover living expenses while traveling and searching for a job) and psychological costs associated with moving and adapting to new labor markets. Prior to implementation of the 1921 quota, the migration decision of a potential migrant was characterized by the following scenario:



where the discounted expected return is $ER(t_0) = \int_{t_0}^{T}\{E[Y_{US}(t,S)] - E[Y_H(t,S)]\}e^{-rt}dt - C(t_0)$, t indexes time, $t_0$is the time of migration, T is the future lifetime, Y_{US} is the earnings if

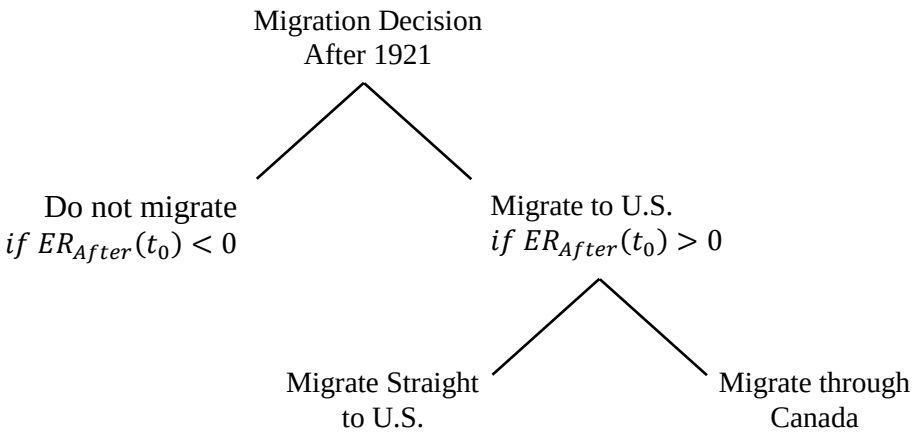
[24] During the year from July 1922 to June 1923, the migration rates of all countries except Danzig, Russia, and Germany were within five percent of the quota.

employed in the U.S., Y_H is the earnings if employed in the home country, S is the skill level of the migrant, and $C(t_0)$ is the cost of migrating at time t_0.[25] Expected earnings in the U.S. depend on the probability of finding employment, as well as a migrant's skill level. If an individual's discounted net expected earnings from time of migration until time T is higher than the cost of migration, then the individual will migrate. A migrant is indifferent between staying and migrating when $ER(t_0) = 0$.

Before implementation of the quota, as long as a migrant fulfilled the requirements laid out by the Immigration Act of 1917 and the Chinese Exclusion Act, they were allowed unrestricted access into the U.S. After 1921, however, the probability that a migrant from a restricted country was allowed entry into the U.S. was no longer equal to one. The quota acted as a stop valve on the flow of migration. Admittance into the U.S. was "first-come, first-served" until a country's quota was filled, with no regard made to the characteristics of a migrant, save their birthplace. The quota reset annually every July, but only twenty percent of an entry-port's quota allotment could be admitted in any month. Therefore, migrating at the beginning of the year afforded a migrant from a highly restricted country the best chances of admittance into the U.S. If a migrant failed to gain entry in the first month of the fiscal year beginning in July, they must wait until the next month when the monthly allotment of twenty percent reset. Therefore, the probability a migrant was allowed entry into the U.S. was a function of time and the migrant's home country.

Migrants from highly restricted countries had the option of migrating through Canada for a year to gain unrestricted admittance into U.S. Thus, the migration decision of a migrant restricted under the 1921 quota Act can be characterized by the following flow diagram:

[25] Adapted from Massey, Arango, Hugo, Kouaouci, Pellegrino, and Taylor (1993) and Armstrong and Lewis (2012).



Under the quota, the expected return to migration will be equal to the maximum of the expected returns to migrating straight to the U.S., or the expected returns to migrating indirectly to the U.S. through Canada:

$$ER_{After}(t_0) = max\{ER_{US,After}(t_0), \qquad ER_{CA,After}(t_0)\}$$

where the expected return to migrating straight to the U.S. is given by

$$ER_{US,After}(t_0) = \int_{t_0}^{T}\{P_{US}(t,H) * E[Y_{US}(t,S)] - E[Y_H(t,S)]\}e^{-rt}dt - C_{US,After}(t_0)$$

and the expected return to indirectly migrating to the U.S. through Canada is

$ER_{CA,After}(t_0) =$

$\int_{t_0+1}^{T} E[Y_{US}(t,S)]e^{-rt}dt + \int_{t_0}^{t_0+1} E[Y_{CA}(t,S)]e^{-rt}dt - \int_{t_0}^{T} E[Y_H(t,S)]e^{-rt}dt - C_{CA,After}(t_0).$

Here, the expected returns to migrating straight to the U.S. depends on $P_{US}(t,H)$, which is the probability that a migrant from country H will be admitted to the U.S. under the quota system at time t if they attempted direct entry into the U.S. The expected net returns of gaining immediate access to the U.S. is given by the discounted difference in expected earnings between the U.S. and the home country, from t_0 to time T, minus the cost of migration.

The expected discounted return to migrating indirectly through Canada is given by $ER_{CA,After}(t_0)$. An indirect migrant spends at least one year in Canada before migrating to the U.S. Therefore, their expected earnings, should they migrate, include a year of working in Canada (where expected earnings in Canada are dependent on the probability of finding work there) and earning in the U.S. for the rest of their lifetime. If a migrant decides to take this indirect route, the probability that they will be admitted into the U.S. under the quota increases to one.

As a result of the quota, migration costs increased such that $C_{US,After}(t_0) > C(t_0)$. Because ships experienced a sharp decline in the number of passengers as a result of the quota, they were forced to raise passenger fares to the U.S. (*Wall Street Journal*, 1921). Furthermore, after implementation of the quota, ships began to monitor passenger numbers and corresponding quota limits before embarking for the U.S. to avoid the cost of having to return non-admitted passengers. Ships may have accepted bribes from migrants to guarantee passage, potentially increasing the explicit costs of migrating. The cost of indirect migration through Canada is represented by $C_{CA,After}(t_0)$. I assume $C_{CA,After}(t_0) > C(t_0)$ because $C_{CA,After}(t_0)$ captures the increase in moving costs associated with moving to Canada first, looking for work in Canada, moving to and looking for work in the U.S., and increased psychological costs due to adapting to two new labor markets instead of one. I cannot determine whether the costs of moving indirectly to the U.S. are greater than the costs of direct migration, but I believe the cost of moving through Canada to the U.S. to be considerably higher than the cost of direct migration.

Figure 1 illustrates how increasing migration costs, resulting from the quota, would have affected the skills of incoming migrants. Before implementation of the quota, a migrant is indifferent between moving and staying if $\int_{t_0}^{T}\{E[Y_{US}(t,S)] - E[Y_H(t,S)]\}e^{-rt}dt = C(t_0)$, where

the left-hand side is the discounted expected *net* earnings, and the right-hand side is the cost of migrating at time t_0. In Figure 1, the discounted expected net earnings (EE) are represented as a positive function of skill, characterizing that migrants of higher skill earn higher wages. A skill level exists for which the expected earnings in the U.S. and the expected earnings in the home country are equal. This point is shown where net expected earnings intersects the x-axis. All skill levels to the left of S^0 earn a higher return to skill in the home country than in the source country. Conversely, skill levels above S^0 earn higher returns to skill in the U.S.

Before implementation of the quota, the skill level of an individual indifferent between staying or migrating is shown as S*. At this point, the net expected earnings exactly equal the cost of migration, and all individuals with a skill level greater than S* will choose to migrate. After the quota went into effect, the cost of migration increased, thus raising the skill level of the indifferent migrant to S** (assuming migration costs are constant for all skill levels). This change is shown in Figure 1b as a parallel upward shift in C from C_{Before} to C_{After}. Furthermore, because the expected return to migration under the quota is now a dependent on the probability a migrants gets into the U.S. as well as wages in Canada, expected earnings will fall from EE to EE'.[26] The fall in expected earnings will result in the skill level of the indifferent migrant increasing to S***. Therefore, this diagram predicts that the quota would have resulted in an increase in migrant skill.[27]

This paper examines whether the 1921 quota resulted in the increase in migrant skill predicted by Figure 1, and determines the magnitude of that change. To empirically measure the

[26] EE' will be less than EE for all skill levels because $P_{US}(t,H) * E[Y_{US}(t,S)] \leq E[Y_{US}(t,S)]$ and $\int_{t_0+1}^{T} E[Y_{US}(t,S)]e^{-rt}dt + \int_{t_0}^{t_0+1} E[Y_{CA}(t,S)]e^{-rt}dt < \int_{t_0}^{T} E[Y_{US}(t,S)]e^{-rt}dt$

[27] Implicit in this model is a migrant's ability to borrow to finance migration and the existence of perfect capital markets. In reality, migrants were unable to borrow against their future earnings to finance migration, so savings were an important component of the migration decision (Armstrong and Lewis, 2012). Saving constraints potentially increased the cost of migration further, encouraging migration only of those from the higher-earning portion of the skill distribution or those whom had already accumulated adequate assets.

effect of the quota on skill, a differences-in-differences approach is used in which treated migrants are compared to control migrants, before and after the law change. Whether a migrant was "treated" by the quota is determined first by birthplace, and then by whether a migrant faced the choice between migrating directly or indirectly to the U.S. All individuals born in North America, South America, and Japan were not counted under the quota and are categorized as non-treated. Once exempt migrants are categorized, treatment status for the remaining migrants is based off of whether or not a migrant was given the choice to migrate directly or indirectly to the U.S. Direct migrants to the U.S., who were counted under the quota, are categorized as treated. Migrants, who would have otherwise migrated directly to the U.S., but chose to migrate indirectly through Canada under the quota, are also categorized as treated. Foreign-born migrants living in Canada who did not migrate to Canada with intent to indirectly migrate through the U.S., are placed in the control group. For these migrants, the decision to migrate to the U.S. would have been unaltered by passage of the quota act. The approximation used for defining treatment status is discussed in the data section.

V. Data

a. Source and Sample

This paper uses hand-collected, individual-level data from archival ship records which documented alien arrivals through Seattle from 1920 to 1922 and over twenty other border posts and ports in Washington and Alaska from 1918 to 1924.[28] The sample created contains information from all available ports in Alaska and Washington. A map of these ports can be found in Figure 2. The sample includes several entry points across the U.S.-Canadian border in

[28] Ancestry.com was used to collect a portion of this data; however, information was hand-collected from images of the original documents, not the keyed-in information provided by Ancestry. Ports in Alaska were all collected from microfilm of the original documents.

addition to several ports on the pacific. The location of these ports offers new insight into migration through western ports during a period of mass migration from Russia, Eastern Europe, and other parts of Asia. Ship records contain an extraordinary amount of information about incoming migrants including occupation, height, cash on hand, intended length of stay, and purpose for migrating. This information was filled out by the steamship. These data were collected by hand from microfilm and are the only existing data source containing information on occupation at time of entry as well as information necessary for categorizing affected and unaffected (or treatment and control) groups of migrants.[29]

All existing ship manifest and border records for Alaska and Washington were collected for this analysis; both admitted and debarred individuals were collected from the ship manifests. Debarred individuals, totaling 290, were removed from the sample.[30] Admitted individuals total over 8,719. Of these, 1,039 individuals were female. Because women with relationships with U.S. citizens were given preference under the quota and often uncounted, the sample is limited to admitted male migrants.[31] The sample is further limited to men at least sixteen years of age, those who list an occupation, and those that are not retired. Students are not included in the sample.[32] Individuals who indicate they are visiting or in transit are excluded.[33] The sample is

[29] Birthplace, citizenry, and last place of residence are used to categorize migrants into affected and unaffected groups.
[30] Descriptive statistics describing debarred migrants is available in the appendix in table A1.
[31] More than 75% of these women would not have made it into the analysis because they did not list an occupation.
[32] Nearly 1,400 students were collected. They are dropped because it is not clear how to code their occupation using occupation prestige scores.
[33] A newspaper article published in the Lost Angeles Times (June 18, 1922) states that there are recorded instances of migrants intentionally lying about being a visitor to gain admittance into the U.S. Over 500 admitted individuals were recorded who indicated they were either in transit or visiting. Under my treatment-categorizing scheme, only sixty of these visitors would have been restricted by the quota. The percentage of the sample which would be counted under the quota that indicate they are visiting or in transit decreases from before the quota to after, which is inconsistent with the idea that migrants are lying about their length of stay to gain admittance. Furthermore, regressions that include visiting individuals result in strikingly similar coefficient estimates to those using only migrants. These regressions are reported in the appendix in Table A2. The signs are all the same, but the magnitudes of the coefficients are slightly smaller for the regressions including visitors. This is likely caused by the little to no effect the quota seemed to have had on visitors when separated out by themselves. If you run the

limited to the time period between the 1917 Immigration Act (May 1, 1921) and the 1924 Immigration Act (July 1, 1924) to avoid changes in the migrant pool resulting from the literacy test and then the adoption of a more restrictive quota. There are no other immigration policies changing within this period of time.

Over 2,300 Chinese migrants are omitted from the sample. Chinese migration was restricted by the 1882 Chinese Exclusion Act and not by the 1921 quota. Because Chinese migrants are technically uncounted under the quota, I would categorize them as part of my comparison group. However, only highly skilled Chinese migrants were allowed entry under the Exclusion act and, as a result, they exhibit very different characteristics from the other migrants in the sample and do not serve well as part of the comparison group.

My clean sample ultimately consists of 3,401 male immigrants. To get a sense of whether collecting data from the original microfilm results in over or under sampling migrants, Table 2 reports the number of migrants in my sample compared to the total recorded arrivals in Seattle. For 1921 and 1922, the number of observations in my cleaned sample is 2/5 the number of reported immigrants entering the port of Seattle.[34] Considering the official reported number of migrants entering the port of Seattle includes several types of immigrants omitted from my sample (such as women, children, students, retirees, and those not listing an occupation), this sample captures a large proportion of the total number of migrants travelling through Seattle.[35] Still, there may be some slight under-sampling. All conclusions must be kept in context of the

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regressions with only visitors, there is only a .8% change in occupation prestige scores after the quota was implemented (this estimate is not statistically significant). It appears that the composition of visitors through northwestern ports is not changing as a result of the quota.

[34] This was calculated from the data collected for this sample and information collected from the 1924 Statistical Abstract of the United States.

[35] Another article utilizing ship record data, Green and Green (1993), collected steerage class passengers admitted to Canada. Their sample captured 1/34 of the reported migrants entering through the ports they collected.

sample; particularly since migration through Alaska and Washington comprises less than ten percent of all early twentieth century migration to the U.S.

b. Measuring Skill: Coding of Occupations

Occupation of each migrant was recorded in full text at time of entry. Information on each migrant's wage is not available; therefore, I matched these occupations to occupation prestige scores listed in the 1920 census. Occupational prestige score is a variable created by the census and is based off of occupation and wages from the 1950 census. The median income of each occupation in the 1950 census was calculated to produce the occupational prestige scores.[36] The medians created using the 1950 census were then assigned to occupations in the 1920 census and represent the median incomes of each occupation in hundreds of 1950 dollars.[37] Using occupation scores from the 1920 census allows for a continuous measure of pay by occupation.

Table 3 reports several of the most common occupations in the sample. The most common occupation is farmer, which is assigned an occupation score of fourteen.[38] Therefore, the median income of a farmer in 1950 was 1,400 in 1950 dollars. A majority of these farmers are non-quota migrants. Where 14.6 percent of non-quota migrants are farmers, only 3.2 percent of quota migrants are farmers. The majority of the quota migrants are in low-skilled occupations such as laborer, miner, seaman, laundry-men, and clerks with most listing seaman as their occupation. However, only 3.9 percent of non-quota migrants are seamen. Merchants make up 12.4 percent of quota migrants and miners make up 13.0 percent of quota migrants. A larger proportion of quota migrants are merchants than non-quota migrants.

[36] Abramitzky, Boustan, and Eriksson (2012) and Minns (2000) also use occupation scores from the census.
[37] Minns (2000) states that income compression of American wages during the forties may result in understating differences in occupational incomes if the census occupational scores are used. If this is the case, I would expect that this would bias my results towards finding no effect on occupational scores due to the quotas.
[38] The directions on the passenger lists make a clear distinction between farmers and farm laborers. A migrant was only listed as farmer if they operate a farm, either for themselves or another.

Occupation scores are used as a substitute for an actual measure of a migrant's earnings. As a result, occupational scores cannot capture differences in skill within each occupation. It could be the case that only the best or worst workers in each occupation are migrating, but there is no way to account for this possibility. Occupational scores also do not account for compensating wage differentials associated with some occupations being more dangerous than others. Therefore, I use a ranking scheme constructed using the Historical International Standard Classification of Occupations (HISCO) as an additional measure of occupation-based skill levels. HISCO is a historical and international occupation classification system that is not income based and, thus, not reflective of compensating wages. HISCO is constructed from 1,600 occupational titles from the following countries: Belgium, Brazil, Canada (Quebec), England, Finland, France, Germany, Greece, the Netherlands, Norway, Portugal, Spain, Sweden and Switzerland.[39] These occupational titles were then broken up into twelve classes of occupations, each of which can further be divided into low-skilled, medium-skilled, and high-skilled occupations. Table 4 gives a breakdown of the class scheme. The low-skill category includes both manual and non-manual occupations, as does the medium skilled category. High-skilled individuals are higher managers or higher professionals, such as doctors, accountants, and engineers.

c. Creating a Comparison Group

This paper aims to measure whether there was a change in skill that resulted from adoption of the 1921 immigration quota. A simple before-and-after comparison of the skills of quota migrants without a control group would fail to control for other factors concurrently affecting the characteristics of immigrants and result in biased estimates. Therefore, the creation of a comparison group is necessary to correctly identify the effect the quota had on the skills of

[39] http://historyofwork.iisg.nl/list_pub.php?categories=hisclass

affected migrants. Using a control group, a differences-in-differences approach may be employed.

Whether a migrant was counted against his or her country's quota was not recorded on the ship manifests. Therefore, I used information provided on birthplace and citizenship to approximate whether a migrant was affected by the quota. Unaffected migrants are used as the comparison group in differences-in-differences regressions. Those born in the Americas were exempt from the quota, as were those who had resided for one continuous year in the Americas before moving to the U.S.[40] Although I know a migrant's place of birth and last residence, the passenger and border lists do not indicate how long a migrant resided at his last residence. For those who had obtained Canadian citizenship, however, the 1914 British Nationality and Status of Aliens Act required that they had lived in Canada for five years prior to naturalization. Therefore, I categorize all migrants with Canadian citizenship as unrestricted by the quota.[41] It is unclear how to categorize those aliens listing Canada as their last permanent residence who were not Canadian citizens.[42] If a migrant had indicated *intent* to live in Canada for a year to the steamship filling out the passenger lists, Canada was recorded as his last permanent residence. However, under the quota, at least a full year of actual residence in North or South America was required to be exempt from the quota and evidence of a migrant's length of stay was required by immigration officials. Because Canada required a passport and visa for entry, those migrating through Canada to the U.S. could show their passports to prove the length of time they had lived

[40] Specifically, the law states that "aliens who have resided continuously for at least one year immediately preceding the time of their admission to the United States in the Dominion of Canada, Newfoundland, the Republic of Cuba, the Republic of Mexico, countries of Central or South America, or adjacent islands" are exempt from the quota.
[41] There are 460 migrants in the sample that claim Canadian citizenship but were not born in Canada. Of these, 240 entered before the quota law.
[42] Directions for the last country of residence are as follows: "Actual or an intended residence of one year shall constitute permanent residence. The last country in which alien resided with the intention of remaining one year or more shall be the last permanent residence regardless of length of actual residence therein."

in Canada.[43] Migrants listing Canada as their last permanent residence who were not Canadian born or Canadian citizens are categorized as treated by the quota. My resulting comparison group consists of individuals born in North, South or Central America, foreign-born Canadian citizens, and migrants from Japan (as Japanese individuals were also not counted under the quota).

Of the 3,401 migrants in the sample, 973 are categorized as quota migrants and 2,428 are categorized as nonquota migrants. For sixteen of the migrants in the sample, quota status was explicitly noted on the manifest. This provides an opportunity to examine the accuracy of my measure of treatment status. For only one out of these sixteen migrants, my measure of treatment status incorrectly predicted that a quota migrant was a nonquota migrant. This migrant was born in Poland, migrated in 1922, was a Canadian citizen, and listed his last permanent residence as British Columbia, Canada.[44] Under my categorization scheme, this individual would be categorized as uncounted because he had resided in Canada long enough to obtain Canadian citizenship. It is unclear why this individual was marked as counted against Poland's quota and I believe it may have been a mistake. Furthermore, it could be the case that, despite his manifest card stating he was a quota migrant, he was not actually counted against Poland's allotment by immigration officials.

Ultimately, I end up with a measure of treatment that may suffer from some measurement error. Although I am confident that I correctly identify the non-quota migrants (there are no quota migrants miscoded as non-quota migrants), there are potentially migrants who would not have been counted under the quota that get categorized as quota migrants in my

[43] I am unaware of what type of evidence individuals listing Mexico or South America used to establish whether they had lived in Mexico or South America long enough to enter uncounted. There are only six migrants in my sample that list Mexico or South America as their last previous residence that were not born in the Americas. These migrants were dropped for the analysis.

[44] This individual's border crossing record can be found in the appendix in Figure A1.

analysis. To understand the potential consequences of miscategorizing some non-quota migrants as quota migrants, we must recall what treatment is. When an individual is trying to decide to migrate he or she will do so if the benefits of migration outweigh the costs. If it is to his advantage to migrate, he or she will get on a boat and head to an American port. Once the quota system was put in place, however, this migrant then has to face the possibility that he may not be able to get into the U.S. if he headed straight for a U.S. port. Under the quota law, this potential migrant now has the option to move to Canada for one year then migrate to the U.S. unrestricted, instead of risking being deported by going to the U.S. directly. Consequently, even if a person does migrate to Canada for a year to get into the U.S., his behavior has been altered as a result of the quota, and he ought to be categorized as treated. Without explicit knowledge of who migrated to Canada in order to avoid restriction under the quota, my approximation for treatment is the most appropriate measure for capturing the behavioral changes that result from the policy.

This approximation may result in some measurement error. For example a person born in the U.K. that lived in Canada more than a year but did not obtain citizenship may have decided to migrate to the U.S. after the policy change. In my analysis, she would have been categorized as a quota migrant even though, in truth, the quota probably did not affect her migration decision. Measurement error would attenuate my estimates towards finding no result. For robustness, I run several specifications using different approximations for the treatment and control groups.

d. Descriptive Statistics

Over fifty countries are represented in the sample. Table 5 lists the most common birthplaces. The majority of control, or nonquota, migrants are Japanese. All non-quota

migrants who were not born in Japan or Canada were Canadian citizens. Britons, Italians, Polish, and Irish migrants also make up a substantial portion of the control group. The majority of quota migrants are from the United Kingdom, Sweden, Yugoslavia, Russia, Norway, Italy, and Australia. The effect of the quota on sending countries is evident in this simple before and after comparison provided in Table 5. The percentage of treated migrants from New Zealand, Sweden, Finland, Austria, Italy, and France decrease after the quota is in place, demonstrating that the quota is having an effect on the composition of birthplace on the migrants in my sample. The percentage of Yugoslavians substantially increases after the quota law is put in place, as does the percentage of Russian migrants. This is surprising considering the quota on Yugoslavians was one of the first to be exhausted each year.

In addition to occupation, aliens were required to report their age, marital status, whether they had fifty dollars on hand, citizenship, race, last permanent residence, address of nearest relative, whether they had been in the U.S. before, whether they were joining anyone, their height, complexion, eye color, hair color, birthplace, and intended length of stay. The only questions on the arrival forms pertaining to education attainment were whether or not the migrant could read or write. The literacy test typically consisted of reading some phrases from the Constitution and writing a couple sentences in whichever language the migrant chose (Goldin, 1994). The language that the migrants took the test in was recorded on the passenger lists.

To get a sense of the characteristics of the migrants in the sample, Table 6 reports descriptive statistics. Overall, these migrants have a substantial amount of cash on hand. After the quota was put in place, non-quota migrants have an average of $1,925 in cash and quota migrants have and impressive $545. For perspective, in a study of Dutch migrants to Canada between 1925 and 1929, the average migrant only had $163.90 in cash at the time of migration

(Armstrong and Lewis, 2012, pg. 748). These migrants are also older than typically seen in other migration studies.[45] The average age of the migrants in the sample range from thirty-two to thirty-eight, depending on the group and time period. The average age of quota and non-quota migrants decreases after the quota law. More than half of the quota migrants took their literacy tests in English.[46] Less than twenty percent of the non-quota migrants took the literacy test in English. Table 7 reports, however, that this average rises to nearly one hundred percent if Japanese migrants are omitted. Similarly, while the overall height of non-quota migrants is less than quota migrants, once Japanese migrants are omitted, the average height of non-quota migrants rises to sixty-eight inches (see Table 7). The percentage of quota migrants who list they are migrating for work significantly increases after the quota. Only about ten percent of all the migrant groups report they are temporary migrants.[47]

In the pre-quota period, the average occupation scores of the counted and uncounted migrants is statistically the same; however, occupation scores of the two groups change significantly in the post-quota period. Migrants affected by the quota were younger, taller, and carried more cash than unaffected migrants. A higher percentage of affected migrants were single and could read/write English. Table 6 also illustrates that many characteristics of nonquota migrants do not change substantially from one period to the next, unlike the characteristics of quota migrants.

[45] For articles addressing the age composition of migrants see Greenwood (2007), Hatton and Williamson (1998), and Schaafsma and Sweetman (2001).
[46] The 1917 Immigration Act required all migrants be literate. All the migrants in my sample are literate, but not all took the literacy test in English.
[47] For this analysis, any migrant indicating a stay of one month to a year were categorized as temporary. A year or more was categorized as permanent because in the official counts for the reports to the Labor Department, only migrants indicating a year or more of residence were counted as migrants. The length of time chosen to qualify a migrant as temporary has no effect on the empirical results, and only serves to illustrate what type of migrants are included in the sample.

VI. Empirical Analysis

a. Defending Assumptions for Differences-in-Differences

In a differences-in-differences analysis, it is important to have a control group that plausibly tells us what would have happened to the treated group had it not been treated. To this end, a credible control group should exhibit trends in the dependent variable that are similar to the treated group prior to treatment. Figure 3 illustrates the trends in occupation scores of the quota migrants and nonquota migrants. Panel a shows the trends in occupation scores of migrants through Canadian and Alaskan entry points from 1917 to 1924 without the port of Seattle included. Occupational scores of the quota and nonquota migrants are very similar until the second half of 1921, where the average occupation scores of quota migrants begins to fall outside of a ninety-five percent confidence interval around the average occupational score of nonquota migrants. The timing of the deviation of the quota migrants from the nonquota migrants suggests that the quota resulted in an increase in the occupation scores of migrants affected by the quota. The trends in occupation scores of migrants entering through Seattle are shown in Figure 4. Although the occupational scores of quota migrants are higher and outside of the ninety-five percent confidence interval for this port, other than the first three months the trends are fairly similar in the before period. Overall, the pre-treatment trends of occupational scores of quota and nonquota migrants are similar prior to implementation of the quota. This is consistent with the primary assumptions necessary for a differences-in-differences analysis.

b. Regression Specification and Results

A differences-in-differences specification is employed to measure the changes in occupational scores and skills of migrants after implementation of the quota. Log occupation

score is regressed on an indicator for after the quota, an indicator for quota status, and an interaction of the two.

$$y_{iqt} = \beta_0 + \beta_1(After)_t + \beta_2(Quota)_q + \beta_3(After_t \; x \; Quota_q) + \varepsilon_{iqt}$$

Here i indexes individual migrants, q indexes treatment status, and t indexes time. The coefficient on the interaction of the after and quota dummy, β_3, is the differences-in-differences result and states how much more (or less) occupational scores of quota migrants are than nonquota migrants after the Emergency Quota Act was enforced. Linear probability models are also run using dummies for low-skill, high-skill, and medium-skill occupations as the dependent variable and the same controls as above.

Although I have collected several other descriptive variables for each migrant, an unconditional differences-in-differences model is the most appropriate for answering the question of how the skills of migrants changed in response to the 1921 act. Ideal controls would 1) be correlated with the dependent variable and not the variable of interest, or experiment variable, thus increasing precision or 2) variables that are correlated with the dependent variables and the variable of interest, potentially alleviating omitted variable bias problems. In my analysis, however, I believe all the controls I have collected are potential outcome variables in themselves and could just as easily be used as dependent variables. Age for instance, is likely positively correlated with occupation score and may seem like an appropriate control. However, it is likely that the age of migrants changed as a result of the quota, due to either waiting for your country's quota to be renewed, moving through Canada, or attempting entry but getting deported. Thus, using age as a control would introduce selection bias (Angrist and Pischke, 2009). Similar cases can be made for all of the descriptive variables listed in Table 6; therefore, I do not use any of these variables as controls. The appendix tables A3-A6 report several regressions with

controls and fixed effects added. Adding controls has no effect on the sign of the coefficient of interest and has little effect its magnitude.

Table 8 lists the results of unconditional differences-in-differences regressions using occupation score, a dummy for low-skill, a dummy for medium skill, and a dummy for high skill as the dependent variable. Because the quota is implemented at individual ports and each port is allotted a certain number of migrants each month, these regressions were run with errors clustered at the port level.[48] The estimates in Table 8a report that the quota is associated with an increase in occupation score of 17.8 percent. This result is partly driven by an eight percent decrease in occupation scores of the comparison group. The occupation scores of treated migrants, however, increased by ten percent from before to after the quota. Thus, given we expect quota migrants to experience the same decrease in skills as unaffected migrants in absence of the policy change, the net increase in occupation scores resulting from the policy is large, and nearly twenty percent. Considering that the median income of a treated migrant before the quota was 2,611 dollars, the quota resulted in an increase of income by 465 dollars (in 1920s dollars).

Parts b-d of Table 8 report the results from the linear probability models with indicators for skill as the dependent variables. These regressions indicate that the probability of a migrant being low-skilled decreased by 21.8 percent as a result of the quota and the probability of a migrant being medium-skilled increased by 16.5 percent. The probability a migrant was highly-skilled slightly increased after the quota; however, this result is not statistically significant.

[48] The results are statistically significant with robust standard errors and clustered standard errors.

c. Changes in Source Country versus Within Country Changes

These results beg the question: Are the overall increases in skill due to changes in skill within a source country, or due to changes in which countries are sending migrants after the quota was implemented? As noted by Borjas (1985, 1995), birthplace and the skill characteristics of migrants are strongly related, so it is reasonable to believe that there will be changes in skills associated with changing source countries. To address this, I run the previous specification from section b with fixed effects designed to compare migrants with similar migration patterns and birthplaces to determine how much the differences-in-differences coefficient changes once birthplace is accounted for. Each individual born in a country counted under the quota who did not become a Canadian citizen is given a fixed effect for their birth place. Migrants born in counted countries that became Canadian citizens have their own country-of-birth-by-citizenship fixed effects. Therefore, the regression makes comparisons within birth country and within-birth-country-Canadian-citizens. For instance, migrants born in the U.K. that are not Canadian citizens are compared to other migrants born in the U.K. who did not become Canadian citizens. Comparisons are also made within U.K. born, Canadian citizens. The comparisons result in individuals from the same birth places being compared within their relative treatment groups. The results from these regressions are shown in Table 9.

Estimates show that the coefficient on occupation scores of quota migrants after the law change decreases from .178 to .136 when fixed effects for birthplace-by-citizenship are added. This implies that only thirty percent of the change in occupation prestige score associated with implementation of the quota is explained by birthplace.[49] These estimates suggest that the majority of the increases in skill are occurring within sending countries, as opposed to a

[49] This methodology is similar to that used by Neal and Johnson (1996).

compositional change in the national-origins mix of migrants. This is evidence that migrants are altering their behavior in response to the quota within countries.

VII. Robustness Checks

Migrants residing in Canada for at least a year before migrating were not counted against their birth-country's quota. Therefore, it was possible to move to Canada for a year with the explicit purpose of avoiding the quota. In the first year of the quota there may have been several migrants who had lived in Canada for at least a year that chose to migrant to the U.S. once the quota was in place. For these individuals, the quota would have had minimal effects on their behavior: before the quota they could have migrated freely and after the quota they can still migrate freely. Furthermore, because of the suddenness of the law, it is unlikely that migrants intentionally migrated to Canada to live there for a year to enter the U.S. unrestricted by the quota within the first year of the quota law. If I restrict my sample to one year before and after the quota law, my data will not include any migrants choosing to move through Canada with the intention to go to the U.S., and I can get a sense of the behavioral changes of migrants who chose to migrate directly to the U.S. Table 10 shows that, within the first year of the quota, the quotas were associated with an increase in occupation scores by 9.07 percent.

I also run specifications using birthplace as the sole means for determining treatment and control status. The law was intended to limit migration from certain countries deemed undesirable. Using birthplace to determine quota status allows for estimation of the effects of the quota true to the intentions of the lawmakers. Fittingly, using birthplace to determine treatment status results in estimation of the intent-to-treat effect. Intent-to-treat regressions are reported in Table 11. Categorizing treatment solely from birthplace results in differences-in-differences

estimates smaller than those found with the approximated comparison group. This is a result of miscategorizing some untreated observations as treated, which closes the gap in occupational scores between those counted as treated and untreated in the intent-to-treat regressions. However, the quota is still associated with a statistically significant increase in occupation scores and decrease in the probability a migrant is low-skilled. Occupation scores increase by 12.5 percent as a result of the quotas, while the probability of a migrant being low-skilled decreases by 23.3 percent.

Migrants who lived in Canada were exempt from the quota. Because the ship manifests did not record length of stay at last residence, it is difficult to determine if a migrant was in fact counted under the quota or whether they moved to Canada to become exempt from the quota. In my main analysis, these migrants are counted as quota migrants because, by moving to Canada to avoid the quota, their behavior had been altered by implementation of the quota. For robustness, I run the difference-in-differences specification from the main analysis allowing those migrants who listed their last permanent residence as Canada to be categorized as untreated. In this instance, I categorize some migrants that may have been treated as untreated. Table 12 reports the regressions results. These regressions estimate that occupation scores increased by 6.7 percent as a result of the quotas. This demonstrates that even in the most expansive definition of treatment, I still find the quota to be associated with increases in occupation scores.

VIII. Conclusions

The Emergency Quota Act substantially altered the size and characteristics of immigrant flows into the U.S. in the 1920s. My analysis used differences-in-differences regressions to

determine how the 1921 quota affected migrant skill. My results indicate that the occupational prestige scores of incoming migrants increased by nearly twenty percent as a result of the quota. In context, the median occupation-based income of incoming migrants increased substantially from 2,611 to 3,076 in 1920 dollars. In linear probability models using dummies for low-, medium-, and high-skilled workers as the dependent variable, I find that the quota resulted in a decrease in the probability that an admitted migrant was low-skilled by 21.8 percent. Conversely, the probability an admitted migrant was medium-skilled increased by 16.5 percent. There was not a substantial change in the probability a migrant was high skilled.

My estimates are likely lower bounds of the true effect due to attenuation bias resulting from measurement error in treatment-status variable. Using alternative measures of treatment status, I continued to find that the quota resulted in an increase in skill; although the size of the change was smaller than in my preferred specification. The small estimates obtained from intent-to-treat regressions reveal that using country-level data on the skills of migrants results in an estimate of the effect of quotas on skill levels that are too small. This highlights importance of creating a control group of migrants.

Although I am confident I have pinned down the general size of the effect of the quota on skill levels for migrants entering through the northwest, these results may not be generalizable to eastern ports. The migrants that arrive on the east coast may be fundamentally different than those on the west and will certainly have a different national-origins mix. My results indicate, however, that more than seventy percent of the change in skill observed in western ports occurs to the quota altering the optimization decision *within* countries. I expect increased migration costs also occurred on the east coast, and would expect that there would be an increase in skill observed there as well. Because most of the change in skill is due to within-country changes, the

size of the change in skill of Atlantic migrants depends on the extent to which the change in migration costs differed between the two regions.

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Figure 1: The Relationship between Migration Costs and Skill Before and After the Quota

Figure 1a: Costs and Skills before the Quota

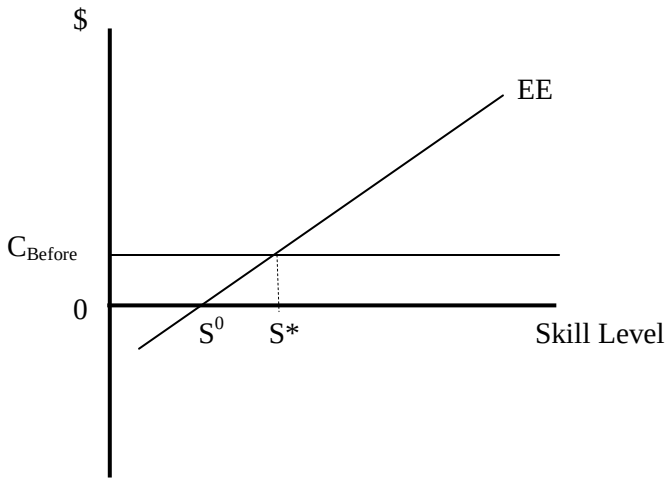
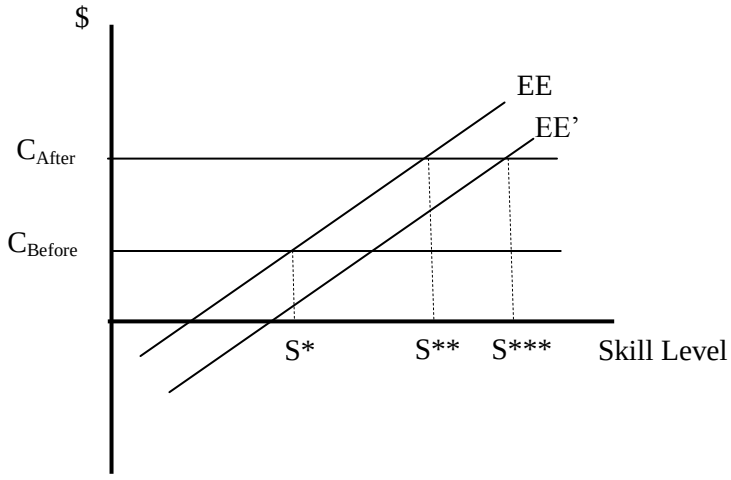


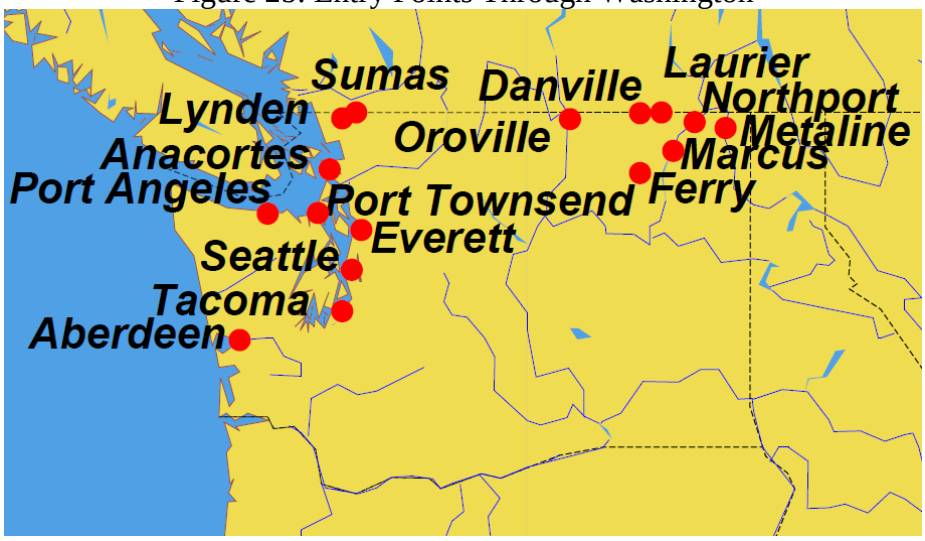
Figure 1b: The Effect of Increasing Costs on Skill Levels

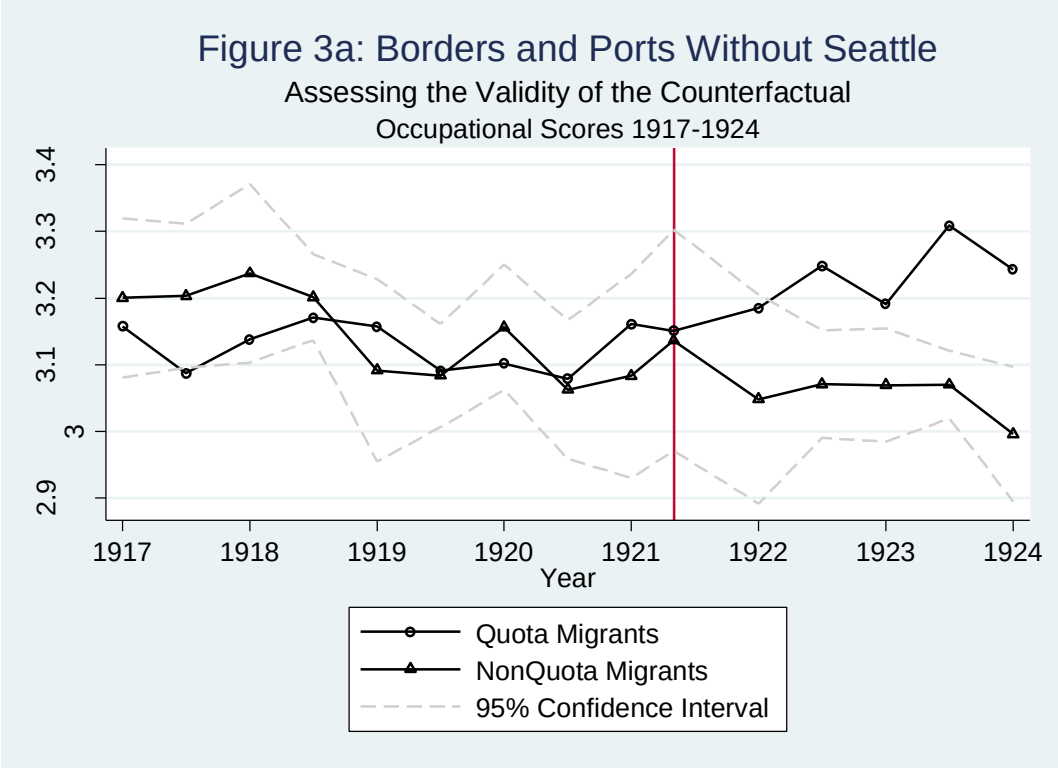


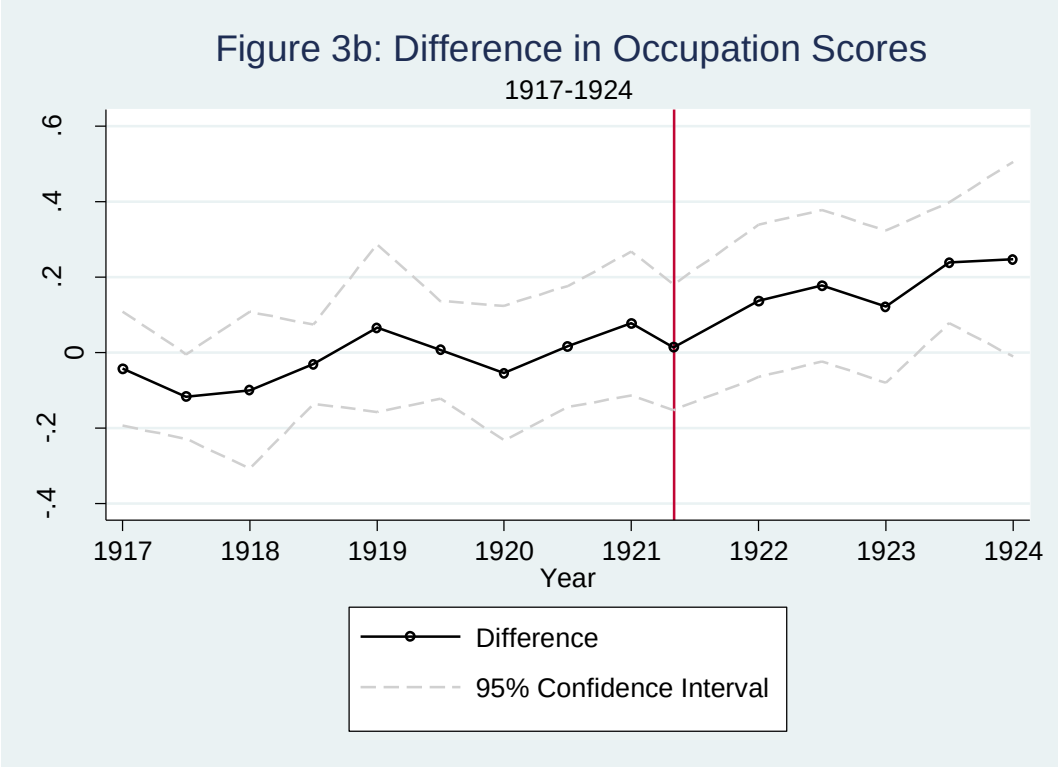
Notes: This diagram is adapted from a version used in Greenwood (2012). Expected earnings are given by $EE = \int_{t_0}^{T}\{E[Y_{US}(t,S)] - E[Y_H(t,S)]\}e^{-rt}dt$. In panel a, a migrant indifferent between migrating or staying has skill level S*. At this point EE=C_{before}, so the discounted expected return to migration is equal to zero.

Figure 2a: Entry Points Through Alaska

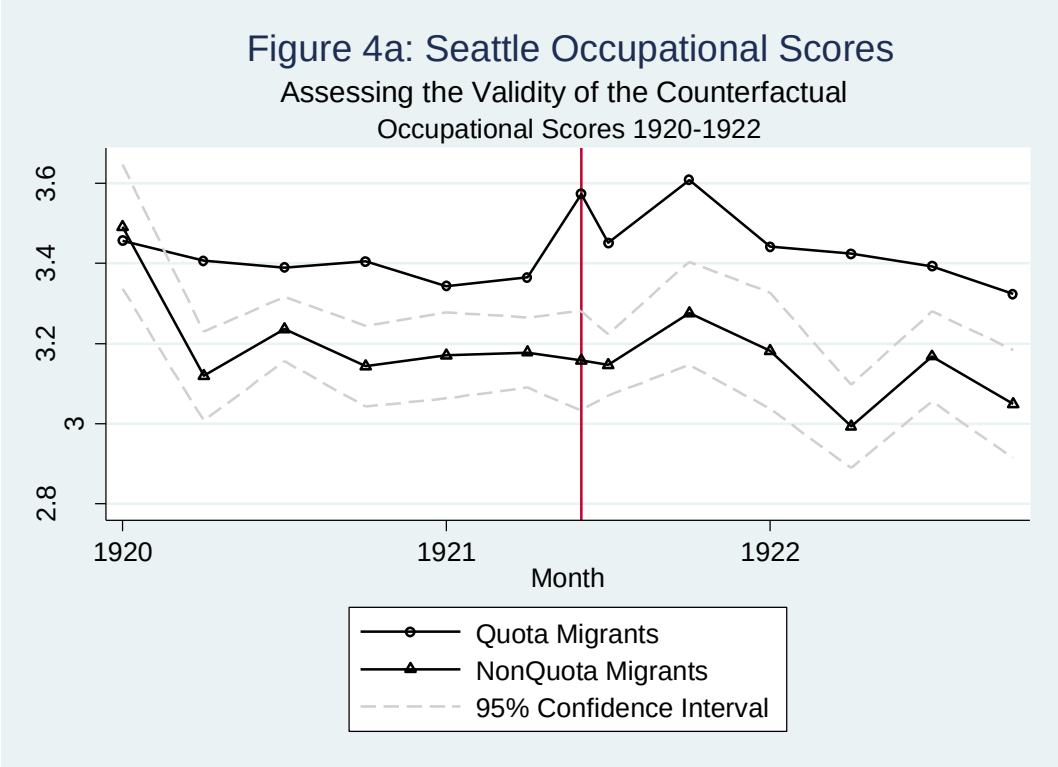
Figure 2b: Entry Points Through Washington

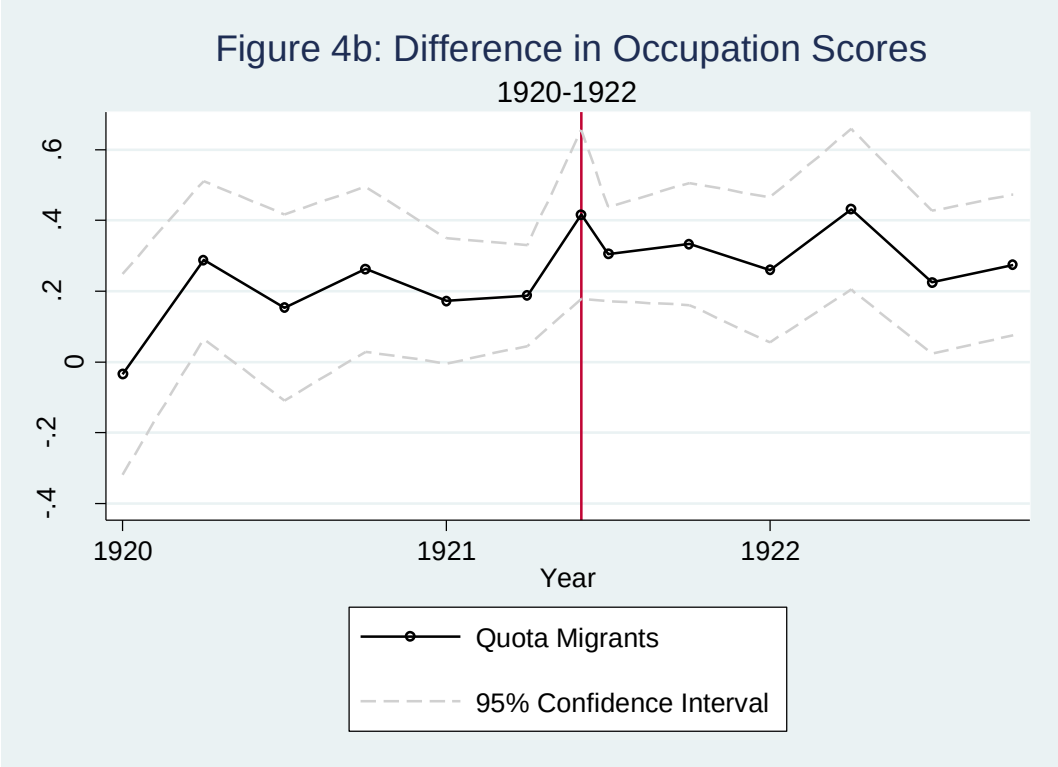






Notes: Panel a shows average log occupational score over six month periods for the treated and untreated migrants. The dashed line is 95% confidence interval about the average log occupation scores of non-treated migrants. The second panel of Figure 3 shows the difference between the occupation scores of quota migrants and nonquota migrants.





Notes: Panel 4a shows average log occupational scores for Seattle. The data for Seattle represent 3 month averages. The dashed line is 95% confidence interval about the average log occupation scores of non-treated migrants. The second panel of Figure 4b shows the difference between the occupation scores of quota migrants and nonquota migrants.

Table 1: Quota Limits Set by Emergency Quota Act

Country	Admitted July 1920 - June 1921	Quota Allotment Per Fiscal Year	Admitted July 1921 - June 1922	% Change 1920 - 1921	Admitted July 1922 - June 1923
Albania	.	287	280		288
Austria	4,947	7,444	4,797	-3%	7358
Belgium	6,166	1,557	1,581	-74%	1563
Bulgaria	.	301	301		295
Czechoslovakia	40,884	14,269	14,248	-65%	14357
Danzig	.	285	85		263
Denmark	6,260	5,644	3,284	-48%	5226
Finland	3,795	3,890	3,038	-20%	3921
Fiume	.	71	18		67
France	9,552	5,692	4,343	-55%	5034
Germany	6,803	68,039	19,053	180%	49258
Greece	28,502	3,286	3,447	-88%	3294
Hungary	.	5,635	6,035		5638
Italy	222,260	42,021	42,149	-81%	42057
Yugoslavia	.	6,405	6,444		6426
Luxemburg	.	92	93		92
Netherlands	6,493	3,602	2,408	-63%	3607
Norway	7,423	12,116	5,941	-20%	12202
Poland *	95,089	25,800	26,129	-73%	29730
Portugal	19,195	2,269	2,486	-87%	2465
Rumania	23,536	7,414	7,429	-68%	7419
Russia	6,398	34,247	28,908	352%	24646
Spain	23,818	663	888	-96%	912
Sweden	9,171	19,956	8,766	-4%	19867
Switzerland	7,106	3,745	3,723	-48%	3752
United Kingdom	79,577	77,206	42,670	-46%	77342
Other Europe **	.	86	144		145
Armenia	.	1,588	1,574		****
Palestine	.	56	214		57
Syria	.	905	1,008		928
Turkey	6,391	653	1,096	-83%	2388
Other Asia	.	78	528		81
Africa	1,301	120	195	-85%	122
Australia	.	271	279		279
New Zealand	.	50	88		80
Atlantic Islands ***	.	60	83		118
Pacific Islands ǂ	.	22			
Total	805,228	355,825	243,753		331,277

* Including Eastern Galacia; ** Andorra, Gibraltar, Lichtenstein, Malta, Memel, Monaco, San Marino, and Iceland

*** Other than Axores, Madeira, and islands adjacent to American Continents; ǂ Other than New Zealand and islands adjacent to the American Continents

****Armenia included in Turkey in 1923, quota for Turkey increased to 2,388

For those admitted between June 1920 and June 1921, there were several countries I could not find the migration statistics. These countries are indicated with a "." indicating they are missing (they do not indicate a zero value). Source: Statistical Abstract of the United States 1922, 1920 Department of Labor Reports, 1923 Statistical Abstract of the United States. The percentage difference is calculated as the difference in migration rates from July 1921 - June 1922 and July 1920 - June 1921 divided by the migration rate from July 1921-June 1922.

Table 2: Migration through Seattle

Year	Number of Migrants Recorded by the Department of Labor	Number of Migrants in Clean Sample	%
1920	3575	808	0.226
1921	3682	1609	0.437
1922	2837	1115	0.393

Notes: This table demonstrates the difference between the reported number migrants migrating through the port of Seattle compared to the number of migrants collected by hand from ship manifest records. Note that the totals for my data do not include women, children, Chinese migrants, students, retired individuals, and individuals that did not report an occupation. Source: 1924 Statistical Abstract of the United States

Table 3: Listing of Common Occupations and Associated Skill Levels

Entire Sample				Quota Migrants			NonQuota Migrants		
Occupation	Frequency	Percent	Skill Level	Occupation	Frequency	Percent	Occupation	Frequency	Percent
Farmer	397	11.7	Medium	Farmer	27	3.2	Farmer	370	14.6
Merchant	378	11.1	Medium	Merchant	104	12.4	Merchant	274	10.8
Laborer	356	10.5	Low	Laborer	77	9.2	Laborer	279	11.0
Miner	282	8.3	Low	Miner	109	13.0	Miner	173	6.8
Seaman	277	8.1	Low	Seaman	177	21.1	Seaman	100	3.9
Farm Laborer	171	5.0	Low	Farm Laborer	4	0.5	Farm Laborer	167	6.6
Engineer	124	3.6	High	Engineer	38	4.5	Engineer	86	3.4
Cook	107	3.2	Medium	Cook	13	1.5	Cook	94	3.7
Carpenter	90	2.7	Medium	Carpenter	32	3.8	Carpenter	58	2.3
Laundryman	85	2.5	Low	Laundryman	28	3.3	Laundryman	57	2.3
Clerk	68	2.0	Low	Clerk	16	1.9	Clerk	52	2.1
Restaurant	37	1.1	Medium	Restaurant	0	0.0	Restaurant	37	1.5
Accountant	23	0.7	High	Accountant	7	0.8	Accountant	16	0.6
Doctor	23	0.7	High	Doctor	4	0.5	Doctor	19	0.7
Dentist	22	0.7	High	Dentist	3	0.4	Dentist	19	0.8
Machinist	16	0.5	Medium	Machinist	6	0.7	Machinist	10	0.4
Other	945	27.8		Other	328	23.1	Other	617	71.4
Total	3401				973			2428	

Notes: This table reports the most common occupations in the entire sample and then reports how occupations differ by treated migrants and untreated migrants. The skill level column demonstrates how the most common occupations were broken up into the different categories of skill: low, medium, and high. Source: See Data Section.

Table 4: Dimensions of Social Class in HISCLASS

Manual/ non-manual	Skill	Super-vision	Sector	Class labels	Number
Non-manual	higher skilled	yes	other	Higher managers	1
			primary		
		no	other	Higher professionals	2
			primary		
	medium skilled	yes	other	Lower managers	3
			primary		
		no	other	Lower professionals, clerical and sales personnel	4
			primary		
	lower skilled	yes	other		
			primary		
		no	other	Lower clerical and sales personnel	5
			primary		
	unskilled	yes	other		
			primary		
		no	other		
			primary		
Manual	higher skilled	yes	other		
			primary		
		no	other		
			primary		
	medium skilled	yes	other	Foremen	6
			primary		
		no	other	Medium-skilled workers	7
			primary	Farmers and fishermen	8
	lower skilled	yes	other		
			primary		
		no	other	Lower-skilled workers	9
			primary	Lower-skilled farm workers	10
	unskilled	yes	other		
			primary		
		no	other	Unskilled workers	11
			primary	Unskilled farm workers	12

Source: A short note on HISCLASS, Marco H.D. van Leeuwen and Ineke Maas, November 2005

Table 5: Common Birthplaces, %

	Entire Sample		Quota		NonQuota	
	Before	After	Before	After	Before	After
Japan	43.85	41.06	0	0	61.59	57.34
Canada	9.01	10.33	0	0	12.64	14.42
United Kingdom	5.95	10.39	18.68	14.04	5.88	9.35
Sweden	4.22	1.75	10.34	4.47	1.77	0.67
Yugoslavia	3.12	6.7	19.09	22.34	0.24	0.51
Russia	2.95	4.23	10.14	14.68	0.16	0.08
Norway	2.89	2.42	8.55	7.87	0.56	0.25
Australia	2.48	0.85	5.57	5.96	0.48	0.25
Finland	1.96	1.87	4.57	3.62	0.32	0.17
Germany	1.56	1.45	1.99	4.04	0.56	0.34
Denmark	1.21	1.39	2.19	5.32	0.4	0
Poland	1.03	1.39	3.38	4.47	0.08	0.17
New Zealand	0.98	1.51	3.18	2.34	0	0.17
Austria	0.69	0.79	1.19	0	0.48	0
Greece	0.57	0.24	1.59	0.64	0.16	0.08
France	0.69	0.36	0.99	0.21	0.08	0.42
Spain	0.58	0.36	0.4	1.28	0	0
Italy	2.52	0.85	7.75	1.7	0.4	0.51
Other	13.74	12.06	0.4	7.02	14.2	15.27

Notes: This table reports the most common birthplaces represented in the sample. Non-quota migrants are migrants to America that were Canadian citizens at the time of migration and are therefore uncounted under the Emergency Immigration Act. There are a large number of Japanese migrants in the sample. They are also not counted under the quota scheme. See the data section for source.

Table 6: Descriptive Statistics: Before and After by Quota Status

	Quota		NonQuota	
	Before	After	Before	After
Occupation Score	25.93	28.74	26.51	25.23
	(9.04)	(10.29)	(12.45)	(12.95)
% High Skilled	0.09	0.16	0.13	0.15
	(0.28)	(0.37)	(0.34)	(0.36)
% Low Skilled	0.60	0.44	0.37	0.43
	(0.49)	(0.50)	(0.48)	(0.50)
% Medium Skilled	0.31	0.40	0.50	0.42
	(0.46)	(0.49)	(0.50)	(0.49)
Age	34.81	32.35	38.44	36.07
	(10.29)	(10.41)	(10.70)	(10.79)
% Married	0.32	0.36	0.69	0.70
	(0.47)	(0.48)	(0.46)	(0.46)
% Single	0.67	0.63	0.30	0.28
	(0.47)	(0.48)	(0.46)	(0.45)
% Read/Write English	0.68	0.58	0.15	0.17
	(0.47)	(0.49)	(0.35)	(0.38)
Cash	838.60	544.91	618.22	1925.88
	(5482.85)	(1632.26)	(1613.74)	(48329.06)
Height, inches	67.88	67.65	65.22	65.22
	(3.17)	(3.89)	(3.49)	(3.70)
% Visited US Before	0.66	0.38	0.77	0.73
	(0.47)	(0.49)	(0.42)	(0.44)
% Joining Family	0.28	0.21	0.26	0.28
	(0.45)	(0.41)	(0.44	(0.45)
% Joining Friend	0.17	0.16	0.37	0.45
	(0.37)	(0.36)	(0.48)	(0.50)
% Joining Work	0.07	0.26	0.05	0.13
	(0.25)	(0.44)	(0.22)	(0.34)
% Joining School	0.00	0.00	0.00	0.00
	(0.05)	(0.00)	(0.03)	(0.06)
% Joining None	0.49	0.37	0.31	0.14
	(0.50)	(0.48)	(0.46)	(0.34)
% Temporary	0.08	0.12	0.10	0.12
	(0.27)	(0.32)	(0.31)	(0.32)
N	503	470	1242	1186

Notes: Standard deviations reported in Parenthesis. Cash in 1920 dollars and deflated by the CPI. Source: See data section. Cash on hand is in 1920 dollars. A migrant was categorized as temporary if they indicated a length of stay of a year or more.

Table 7: Descriptive Statistics by Control Group in the Before Period (1917-1921)

		NonQuota Migrants		
	Quota Migrants	All NonQuota	Foreign-Born Canadian Citizens	Canadian Born
Occupation Score	25.93	26.51	23.00	26.01
	(9.04)	(12.45)	(8.26)	(9.96)
% High Skilled	0.09	0.13	0.05	0.06
	(0.28)	(0.34)	(0.22)	(0.24)
% Low Skilled	0.60	0.37	0.53	0.59
	(0.49)	(0.48)	(0.50)	(0.49)
% Medium Skilled	0.31	0.50	0.42	0.34
	(0.46)	(0.50)	(0.49)	(0.48)
Age	34.81	38.44	43.70	41.22
	(10.29)	(10.70)	(12.12)	(12.82)
% Married	0.32	0.69	0.46	0.43
	(0.47)	(0.46)	(0.50)	(0.50)
% Single	0.67	0.30	0.49	0.55
	(0.47)	(0.46)	(0.50)	(0.50)
% Read/Write English	0.68	0.15	0.97	1.00
	(0.47)	(0.35)	(0.16)	(0.00)
Cash	838.60	618.22	566.48	520.28
	(5482.85)	(1613.74)	(1491.29)	(1031.10)
Height, inches	67.88	65.22	68.20	68.91
	(3.17)	(3.49)	(2.70)	(2.23)
% Visited US Before	0.66	0.77	0.92	0.90
	(0.47)	(0.42)	(0.27)	(0.30)
% Joining Family	0.28	0.26	0.31	0.21
	(0.45)	(0.44)	(0.46)	(0.41)
% Joining Friend	0.17	0.37	0.12	0.22
	(0.37)	(0.48)	(0.33)	(0.41)
% Joining Work	0.07	0.05	0.03	0.04
	(0.25)	(0.22)	(0.16)	(0.21)
% Joining School	0.00	0.00	0.00	0.00
	(0.05)	(0.03)	(0.00)	(0.00)
% Joining None	0.49	0.31	0.54	0.53
	(0.50)	(0.46)	(0.50)	(0.50)
% Temporary	0.08	0.10	0.27	0.22
	(0.27)	(0.31)	(0.45)	(0.42)
N	503	1242	240	157

Notes: Standard deviations in parenthesis. Nonquota migrants consist of all unaffected migrants, including native-Canadians and foreign-born Canadians. Japanese migrants were excluded for space and are included in the "All NonQuota" category. Cash in 1920 dollars. See the data section for source.

Table 8a: Difference-in-Differences Estimator
Mean Log Occupation Score Before and After 1921 Policy

	Before	After	Difference
Quota Migrants	3.201	3.302	0.101
	N = 429	N = 424	
NonQuota Migrants	3.164	3.086	-0.078
	N = 1316	N = 1232	.
Relative Difference			**0.178*****
			(0.049)

* Clustered standard errors at port level shown in parentheses

Table 8b: Difference-in-Differences Estimator
Percentage Low Skill Before and After 1921 Policy

	Before	After	Difference
Quota Migrants	0.600	0.443	-0.157
	N = 429	N = 424	
NonQuota Migrants	0.368	0.429	0.061
	N = 1316	N = 1232	
Relative Difference			**-0.218*****
			(-0.067)

* Clustered standard errors at port level shown in parentheses

Table 8c: Difference-in-Differences Estimator
Percentage Medium Skill Before and After 1921 Policy

	Before	After	Difference
Quota Migrants	0.314	0.398	0.084
	N = 429	N = 424	
	0.503	0.422	
NonQuota Migrants	0.503	0.422	-0.081
	N = 1316	N = 1232	
Relative Difference			**0.165*****
			(0.049)

* Clustered standard errors at port level shown in parentheses

Table 8d: Difference-in-Differences Estimator
Percentage High Skill Before and After 1921 Policy

	Before	After	Difference
Quota Migrants	0.085	0.160	0.075
	N = 429	N = 424	
NonQuota Migrants	0.129	0.148	0.019
	N = 1316	N = 1232	
Relative Difference			**0.055**
			(-0.033)

* Clustered standard errors at port level shown in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Adding Fixed Effects for Birthplace x Canadian Citizenship

Dependent Variable:	Log Occupation Score	Low Skill	Medium Skill	High Skill
After Dummy	-0.0815***	0.0551	-0.0798	0.0246**
	(0.0137)	(0.0631)	(0.0723)	(0.0109)
Quota Dummy	-0.0882	-0.0357	-0.0225	0.0582**
	(0.0672)	(0.123)	(0.108)	(0.0219)
Quota x After	**0.136*** **	**-0.114*** **	**0.0802** **	**0.0338***
	(0.0477)	(0.0380)	(0.0324)	(0.0196)
Constant	3.170***	1.094***	0.0221	-0.117***
	(0.0404)	(0.103)	(0.0900)	(0.0259)
Fixed Effects for Canadian Citizenship X Birthplace	y	y	y	y
Observations	3,401	3,401	3,401	3,401
R-square	0.060	0.162	0.108	0.064

These regressions include fixed effects for birthplace by Canadian citizenship. For example, someone born in Russia that did not become a Canadian citizen is given a different fixed effect than someone born in Russia that became a Canadian citizen. Clustered Standard Errors by port shown in Parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 10: Regressions Restricted to One Year Before and After Policy Change

	Log Occupation Score	Low Skill	Medium Skill	High Skill
After Dummy	-0.0414***	0.0821***	-0.131***	0.0488***
	(0.00581)	(0.0248)	(0.0217)	(0.00555)
Quota Dummy	0.123***	0.0573	-0.0469	-0.0104
	(0.0273)	(0.0735)	(0.0588)	(0.0161)
Quota x After	**0.0907*** **	**-0.0364**	**0.0748**	**-0.0384** **
	(0.0162)	(0.0586)	(0.0465)	(0.0144)
Constant	3.163***	0.300***	0.541***	0.159***
	(0.0156)	(0.0353)	(0.0226)	(0.0141)
Observations	1,894	1,894	1,894	1,894
R-square	0.024	0.008	0.013	0.004

Clustered Standard Errors (by port) shown in parentheses. These regressions are specified the same as those in Table 8, but the sample is limited to a year before and a year after the quota. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Intention-to-Treat Regressions

Dependent Variable:	Log Occupation Score	Low Skill	Medium Skill	High Skill
After	-0.0773***	0.0789	-0.0970	0.0267
	(0.00987)	(0.0639)	(0.0641)	(0.0167)
ITT Quota Dummy	0.0339	0.246***	-0.210**	-0.0488***
	(0.0501)	(0.0827)	(0.0859)	(0.0145)
ITT x After	**0.125*** **	**-0.232*** **	**0.246*** **	**0.0266**
	(0.0275)	(0.0518)	(0.0471)	(0.0183)
Constant	3.163***	0.348***	0.599***	0.134***
	(0.0281)	(0.0776)	(0.0679)	(0.0291)
Observations	3,401	3,401	3,401	3,401
R-squared	0.014	0.029	0.021	0.006

Clustered Standard Errors (by port) shown in parentheses. In these regressions, treatment status is determined solely off of birthplace. Therefore, the control group consists of Canadians and Japanese migrants. *** p<0.01, ** p<0.05, * p<0.1

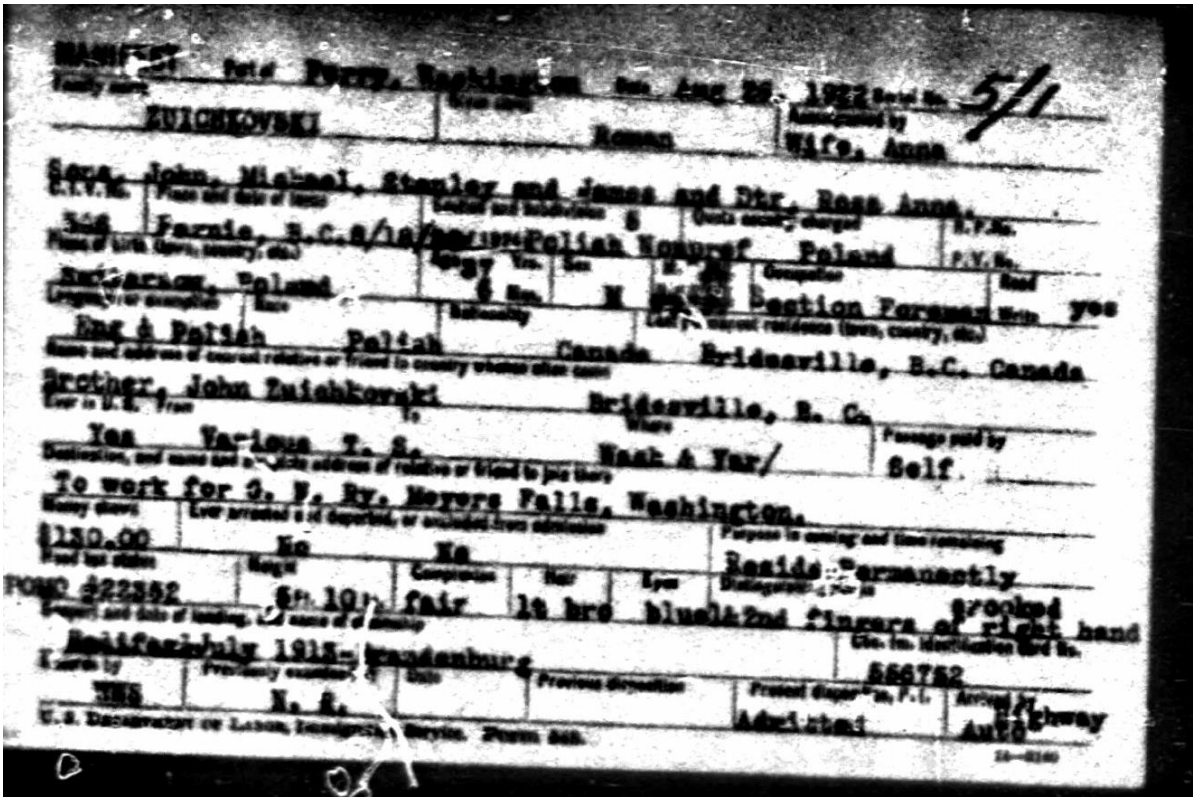
Table 12: Regressions with Less Restrictive Measure of Quota Status

Dependent Variable:	Log Occupation Score	Low Skill	Medium Skill	High Skill
After Dummy	-0.0629***	-0.0162	-0.0219	0.0381*
	(0.00631)	(0.114)	(0.103)	(0.0204)
Less Restrictive Quota Dummy	0.163***	-0.121	0.0761	0.0447
	(0.0306)	(0.102)	(0.0765)	(0.0291)
Quota x After	**0.0669*** **	**0.105**	**-0.0753**	**-0.0297**
	(0.0115)	(0.130)	(0.111)	(0.0239)
Constant	3.150***	0.453***	0.437***	0.110***
	(0.0328)	(0.132)	(0.0952)	(0.0386)
Observations	3,401	3,401	3,401	3,401
R-squared	0.030	0.004	0.003	0.004

In these regressions, migrants listing Canada as their last permanent resident were categorized as uncounted under the quota. Clustered Standard Errors (by port) shown in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix

Figure A1: Border Crossing Form of Miscategorized Migrant



Source: Ancestry.com

Appendix

Appendix Table A1: Descriptive Statistics: Debarred Migrants

	Debarred		Entire Sample	
	Quota	NonQuota	Quota	NonQuota
Occupation Score	21.1687	20.91913	27.32851	25.93868
% High Skilled	0.01	0.018868	0.124267	0.136578
% Low Skilled	0.72	0.735849	0.513482	0.407378
% Medium Skilled	0.28	0.245283	0.362251	0.456044
Age	31.385	33.64151	33.60023	37.12049
% Married	0.54	0.320755	0.34	0.677153
% Single	0.425	0.641509	0.645882	0.307118
% Read/Write English	0.080882	0.6875	0.638462	0.169146
Cash	114.2378	165.96	715.8089	1232.408
Height, inches	65.62325	67.2217	67.88912	65.29636
% Visited US Before	0.39	0.566038	0.516549	0.744858
% Joining Family	0.090909	0.365385	0.242206	0.273521
% Joining Friend	0.191919	0.307692	0.158273	0.399762
% Joining Work	0.060606	0.038462	0.16307	0.093291
% Joining School	0	0	0.001199	0.001985
% Joining None	0.656566	0.288462	0.435252	0.231441
% Temporary	0.014706	0.16	0.099432	0.110006
N	53	200	853	2548

Source: See data section. Cash on hand is in 1920 dollars.

Appendix

Appendix Table A2: Regressions Including Visitors

Dependent Variable:	Log Occupation Score	Low Skill	Medium Skill	High Skill
After	-0.0543***	0.0456	-0.0780	0.0324*
	(0.00833)	(0.0677)	(0.0706)	(0.0178)
Quota Dummy	0.0484	0.162	-0.148*	-0.0138
	(0.0517)	(0.108)	(0.0861)	(0.0225)
Quota x After	**0.159*** **	**-0.137***	**0.113***	**0.0238**
	(0.0341)	(0.0698)	(0.0574)	(0.0322)
Constant	3.160***	0.384***	0.498***	0.118***
	(0.0287)	(0.0932)	(0.0657)	(0.0290)
Observations	3,912	3,912	3,912	3,912
R-squared	0.018	0.011	0.012	0.003

Clustered Standard Errors (by port) shown in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A3: Regressions with Log Occupation Score and Controls

	1	2	3	4	5	6	7	8
After Dummy	-0.0802***	-0.0353**	-0.0241	-0.0238	-0.028	-0.0247	-0.0348	-0.0472*
	-0.00711	-0.0146	-0.0316	-0.0256	-0.0279	-0.033	-0.0251	-0.0258
Quota Dummy	0.0324	0.0422	0.0417	0.0397	0.0433	0.0333	0.00713	0.00629
	-0.0478	-0.0478	-0.0488	-0.0476	-0.0413	-0.0435	-0.0389	-0.0371
After x Quota	**0.186*** **	**0.155*** **	**0.157*** **	**0.159*** **	**0.160*** **	**0.153*** **	**0.117*** **	**0.0958*** **
	-0.0292	-0.0262	-0.0263	-0.0299	-0.0304	-0.0346	-0.0326	-0.0312
Age				0.00983	0.00838	0.00915	0.0181**	0.0153*
				-0.0128	-0.0105	-0.0106	-0.00822	-0.00801
Age Squared				-0.00015	-0.00013	-0.00014	-0.000223**	-0.000190*
				-0.00013	-0.00012	-0.00012	-9.89E-05	-9.34E-05
Married					0.0116	0.0153	0.0329	0.0454
					-0.0463	-0.0438	-0.0268	-0.0313
Height						0.00673	0.00607	0.00523
						-0.00528	-0.00495	-0.00459
USA Before							-0.262***	-0.246***
							-0.0581	-0.0556
Year FE		y	y	y	y	y	y	y
Month FE			y	y	y	y	y	y
Joining FE								y
Constant	3.166***	3.032***	3.000***	2.861***	2.935***	2.416***	2.642***	2.827***
	-0.0359	-0.0462	-0.0457	-0.266	-0.342	-0.152	-0.0401	-0.0605
Observations	3,401	3,401	3,401	3,401	3,393	3,358	3,347	3,322
R-squared	0.021	0.031	0.036	0.04	0.04	0.043	0.093	0.103

The dependent variable is log occupation score. Joining fixed effects are dummy variables for whether the migrant is meeting up with family, work, none, friends or school. Clustered standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A4: Regressions with Low-Skill Dummy and Controls

	1	2	3	4	5	6	7	8
After Dummy	0.0363	0.0577***	0.0475**	0.0393*	0.0482***	0.0516***	0.0624***	0.0838***
	-0.0805	-0.017	-0.0196	-0.0205	-0.0153	-0.0151	-0.0155	-0.0152
Quota Dummy	0.174*	0.103	0.101	0.0813	0.049	0.0508	0.0719	0.0644
	-0.0959	-0.0884	-0.0871	-0.0789	-0.0622	-0.0592	-0.046	-0.044
After x Quota	**-0.141****	**-0.0507**	**-0.037**	**-0.0467**	**-0.063**	**-0.0564**	**-0.0224**	**-0.0238**
	-0.0605	-0.0514	-0.0518	-0.0459	-0.0436	-0.0444	-0.0345	-0.0285
Age				-0.0229***	-0.0122**	-0.0125**	-0.0204**	-0.0213**
				-0.00432	-0.00579	-0.00589	-0.00776	-0.00902
Age Squared				0.000235***	0.000124	0.000128	0.000203*	0.000214*
				-4.82E-05	-7.50E-05	-7.55E-05	-9.95E-05	-0.00012
Married					-0.150*	-0.152*	-0.169**	-0.153**
					-0.0812	-0.0806	-0.066	-0.0626
Height						-0.00266	-0.00194	-0.0024
						-0.00594	-0.00605	-0.00573
USA Before							0.238***	0.228***
							-0.0478	-0.0469
Year FE		y	y	y	y	y	y	y
Month FE			y	y	y	y	y	y
Joining FE								y
Constant	0.392***	0.390**	0.377**	0.845***	0.877***	0.860**	0.894*	0.719
	-0.0968	-0.145	-0.155	-0.152	-0.102	-0.414	-0.455	-0.442
Observations	3,401	3,401	3,401	3,401	3,393	3,358	3,347	3,322
R-squared	0.013	0.086	0.095	0.109	0.125	0.125	0.164	0.176

The dependent variable is a dummy for low skilled migrants. Joining fixed effects are dummy variables for whether the migrant is meeting up with family, work, none, friends or school. Clustered standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A5: Regressions with Medium-Skill Dummy and Controls

	1	2	3	4	5	6	7	8
After Dummy	-0.0608	-0.107***	-0.0944***	-0.0873***	-0.0975***	-0.0997***	-0.102***	-0.109***
	-0.0776	-0.0139	-0.0203	-0.0236	-0.0177	-0.0188	-0.0193	-0.0208
Quota Dummy	-0.142	-0.0926	-0.0949	-0.0755	-0.0489	-0.0443	-0.047	-0.0356
	-0.0842	-0.0765	-0.0735	-0.0642	-0.0526	-0.059	-0.0591	-0.0596
After x Quota	**0.161*** **	**0.0532**	**0.0448**	**0.052**	**0.066**	**0.0611**	**0.0609**	**0.0732**
	-1.065	-0.0476	-0.0459	-0.0426	-0.04	-0.0462	-0.0489	-0.045
Age				0.0123***	0.00329	0.00301	0.004	0.00686*
				-0.00321	-0.0027	-0.00267	-0.00265	-0.00396
Age Squared				-8.89e-05*	4.94E-06	8.10E-06	-1.04E-06	-3.57E-05
				-4.58E-05	-4.38E-05	-4.09E-05	-4.02E-05	-5.68E-05
Married					0.124**	0.126**	0.127**	0.106*
					-0.0557	-0.0585	-0.0589	-0.0588
Height						-0.0003	-0.00035	0.000408
						-0.00797	-0.008	-0.00731
USA Before							-0.0236	-0.0277
							-0.0203	-0.0166
Year FE		y	y	y	y	y	y	y
Month FE			y	y	y	y	y	y
Joining FE								y
Constant	0.484***	0.582***	0.517***	0.215	0.11	0.384	0.291	0.027
	-0.0656	-0.114	-0.123	-0.132	-0.0987	-0.471	-0.49	-0.445
Observations	3,401	3,401	3,401	3,401	3,393	3,358	3,347	3,322
R-squared	0.01	0.047	0.054	0.068	0.079	0.078	0.079	0.093

Joining fixed effects are dummy variables for whether the migrant is meeting up with family, work, none, friends or school. Clustered standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A6: Regressions with High-Skill Dummy and Controls

	1	2	3	4	5	6	7	8
After Dummy	0.0245	0.0492***	0.0470***	0.0480***	0.0493***	0.0481**	0.0392***	0.0252*
	-0.0182	-0.0135	-0.0144	-0.0117	-0.0138	-0.0187	-0.0125	-0.0145
Quota Dummy	-0.0314**	-0.0105	-0.00627	-0.00581	-6.60E-05	-0.00654	-0.0249	-0.0288
	-0.0148	-0.0135	-0.0154	-0.0167	-0.0123	-0.0103	-0.0172	-0.0202
After x Quota	**0.0391**	**-0.00249**	**-0.00774**	**-0.00529**	**-0.00304**	**-0.00463**	**-0.0385**	**-0.0494**
	-0.0264	-0.0184	-0.0192	-0.0202	-0.0222	-0.0289	-0.0344	-0.0388
Age				0.0106***	0.00891**	0.00951**	0.0164**	0.0144**
				-0.00344	-0.00427	-0.00407	-0.00614	-0.00543
Age Squared				-0.000146***	-0.000129**	-0.000136**	-0.000202**	-0.000178**
				-4.90E-05	-5.96E-05	-5.71E-05	-8.08E-05	-7.12E-05
Married					0.026	0.026	0.0417***	0.0472***
					-0.0259	-0.0226	-0.0101	-0.00944
Height						0.00296	0.00229	0.00199
						-0.00422	-0.00377	-0.00335
USA Before							-0.215***	-0.200***
							-0.0598	-0.0553
Year FE		y	y	y	y	y	y	y
Month FE			y	y	y	y	y	y
Joining FE								y
Constant	0.124***	0.0277	0.106**	-0.0598	0.0127	-0.244	-0.185	0.254
	-0.0339	-0.0415	-0.0426	-0.0665	-0.0806	-0.326	-0.286	-0.284
Observations	3,401	3,401	3,401	3,401	3,393	3,358	3,347	3,322
R-squared	0.004	0.025	0.03	0.034	0.035	0.037	0.105	0.116

Joining fixed effects are dummy variables for whether the migrant is meeting up with family, work, none, friends or school. Clustered standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1