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Immigration and the Wisconsin Economy*

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Executive Summary

- Wisconsin's immigrant population has changed composition since the nineteenth century, from the German, Norwegian, and Polish settlement waves to a somewhat different mix by 1970, inclusive of later migrant waves such as Italians. These same origin groups settled throughout the rest of the country as well, evidence that migration to Wisconsin has historically been driven more by push factors in migrants' home countries than by anything unique to the state — a fact this paper exploits to build an empirical design.
- Historically, a one-percentage-point increase in a county's migration rate raised Wisconsin workers' income by about \$40. Both native- and foreign-born workers gained, with foreign-born workers gaining an additional \$23 on top of natives' \$41 — a pattern consistent with complementary task specialization between newly arrived and native-born workers.
- Wisconsin's foreign-born labor force share fell sharply over the twentieth century, from 18% in 1930 to just 4% by 2000, in part a legacy of the restrictive federal immigration quotas of the 1920's.
- By 2000, the mechanism appears to have shifted. A county's migration rate no longer shows a statistically detectable effect on Wisconsin wages specifically (though it still does nationally), but the state's immigrants now earn significantly more than natives — even after controlling for years of schooling. This points to positive selection of immigrants on unobserved human capital as the more likely channel behind modern immigration's economic contribution to Wisconsin. Gains from migration in the modern period are thus likely to materialize through human capital externalities.

Introduction

Wisconsin has experienced several waves of large migrations, most famously Germans and Norwegians over the 19th and early 20th centuries. With these waves of migration come new ideas and new skills. What are the quantitative effects of migration on Wisconsin residents and how do these effects break up over foreign and native-born residents? How have the benefits of migration to the state evolved over time?

This article offers a brief look into how the state's various migration episodes can be used to answer these questions. I look at these questions both historically and in the more recent period. The historical period offers a stronger assessment of the effects in question as the groups migrating to Wisconsin tended to locate diffusely across the US. This diffusion is key to identifying the effect of migration in the historical period. In the contemporary period, national migration rates do little to predict Wisconsin-specific migration rates and so I provide only correlational evidence on the effects of migration in the contemporary period. I argue that the nature of the gains from migration to the state have changed over time; historically gains are likely to arise due to comparative advantage and the kind of tasks migrants specialized in while the gains in the contemporary period are driven by the strong positive selection of migrants, the latter being associated with high levels of human capital.

Wisconsin Immigrant Origins Over Time

The composition of international migrants to Wisconsin has gone through changes over time. To demonstrate this, figures 1 and 2 plot the four most common birthplaces of Wisconsin's foreign-born population in 1900 and 1970, respectively. The first of these figures reveals a history well documented by the State's Historical Society; Wisconsin received large waves of German, Norwegian and Polish immigrants over the nineteenth century (Zeitlin, 2000; Fapso, 2001; Mikos, 2012). Over time, as the state receives new migrants and older migrant stocks decay through death or out-migration, the top origin countries of migrants may change, as seen in figure 2 when Italy replaced Norway as one of the top origin countries of the state's migrants.[†]

Migrant Diffusion. These figures do more than illustrate Wisconsin's top migrant enclaves. They also tell us that immigration from these origin countries was rather diffuse throughout the United States. Many counties outside of Wisconsin received large inflows of these same groups and developed significant enclaves of them. Such diffusion suggests that migration from these origins is as much driven by forces in the origin pushing

[†]In later Censuses, respondents report their ancestry. It is likely that the stock of residents claiming Norwegian ancestry is larger in Wisconsin, to this day, than those claiming Italian ancestry since the children of previous migrant stocks are domestic-born.

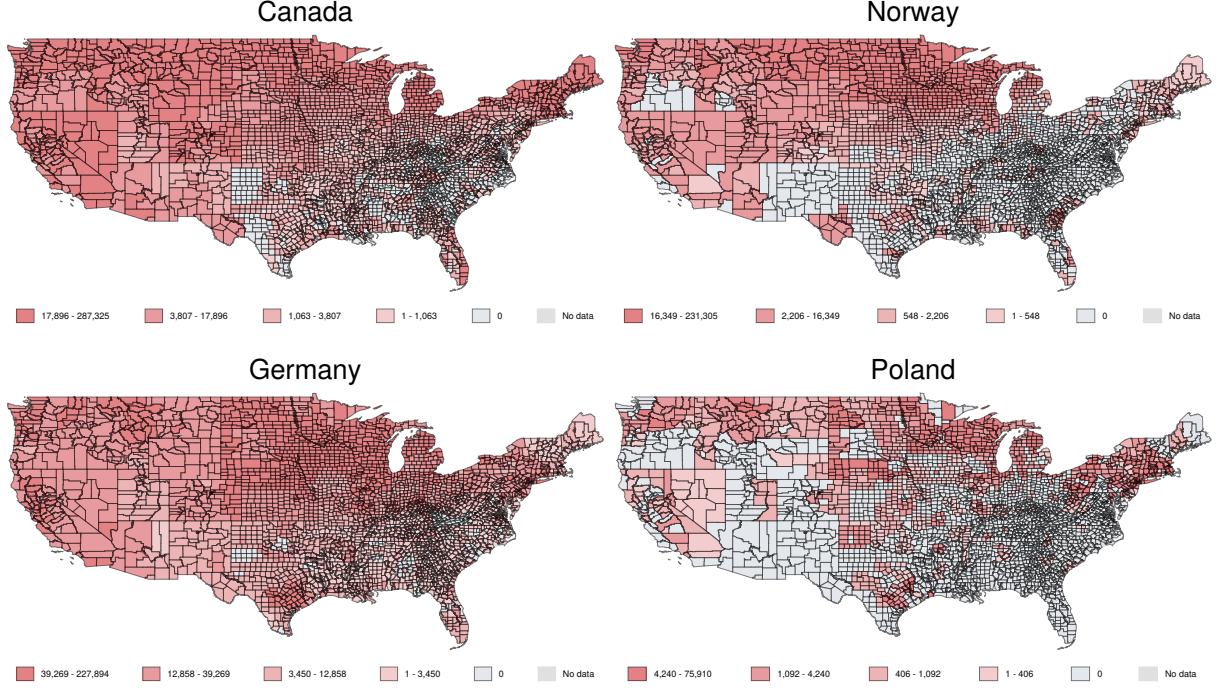


Figure 1: Top four birthplaces of Wisconsin's foreign-born population in 1900 and their presence in the rest of the US. Units are residents per one million. County boundaries are harmonized to 1990. Sources: IPUMS USA (Ruggles et al., 2025) and Burchardi, Chaney and Hassan (2019) for county harmonization.

migrants towards the US than forces in any particular location in the US pulling migrants toward that location.[‡] We can leverage these ideas to build an empirical design which aims to estimate the causal effect of migration to Wisconsin.

Individual Effects of Immigration

In this section we are interested in the effects of migration flows on individual outcomes. Letting i enumerate individuals and $W_{c(i)} := \mathbb{1}\{c(i) \in \text{Wisconsin}\}$ be an indicator that turns on when the county that individual i resides in, $c(i)$, is in Wisconsin, we are interested in,

$$y_i = (\alpha_0 + \alpha_1 W_{c(i)}) + (\beta_0 + \beta_1 W_{c(i)}) \times \frac{M_{c(i)}}{N_{c(i),-1}} + (\gamma_0 + \gamma_1 W_{c(i)}) \mathbf{X}'_i + e_i. \quad (1)$$

The variable y_i in (1) is some outcome of interest, such as wages or occupational rankings according to the occupational scores provided by IPUMS USA (Ruggles et al., 2025). The variable $M_{c(i)}/N_{c(i),-1}$ measures the rate of migration as a proportion of county popula-

[‡]Of course, there may be a US-specific factor pulling migrants toward all US counties. The empirical methodology I take below handles this by comparing counties with higher or lesser migrant shares in 1900, the base period preceding the 1920–1930 window analyzed below. In this way, factors which are common to all counties can be controlled for. See Goldsmith-Pinkham, Sorkin and Swift (2020) and Card (2001).

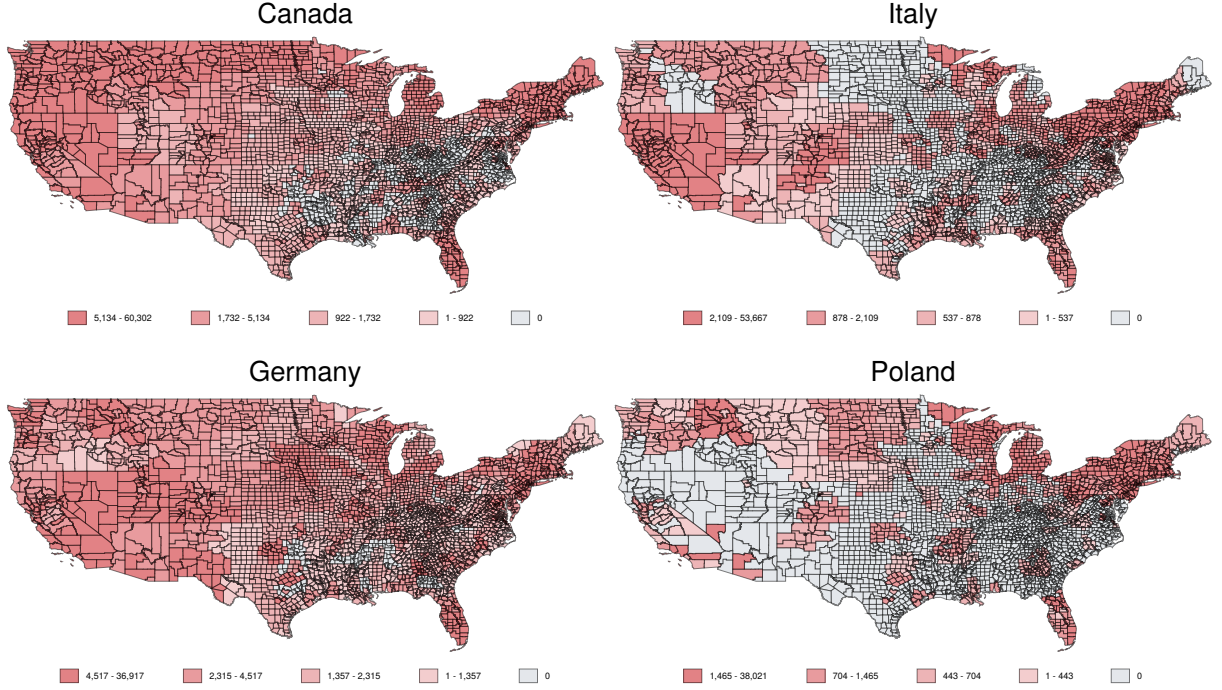


Figure 2: Top four birthplaces of Wisconsin's foreign-born population in 1970 and their presence in the rest of the US. Units are residents per one million. County boundaries harmonized to 1990. Sources: IPUMS USA (Ruggles et al., 2025) and Burchardi, Chaney and Hassan (2019) for county harmonization.

tion.[§] The vector $\mathbf{X}_i$ is a vector of individual level controls. All regressors are interacted with the Wisconsin state indicator and the regressions are run on full US samples so that Wisconsin-specific effects are estimated precisely. I report both the US and Wisconsin coefficients to facilitate comparison.

Causal Effects. The causal effect of migration on Wisconsin resident outcomes is $\beta_0 + \beta_1$. To obtain unbiased estimates of this object, we must adopt an empirical design that acknowledges the non-random allocation of migrants across space. For example, y_i may be the individual's wage. If wages are influenced by a location's unobserved production amenities and migrants are attracted to high wage locations, the correlation between wages and migration rates could be entirely spurious. We need to use sources of variation in the data which are not driven by local conditions.

The preceding discussion regarding migrant diffusion gives us exactly that. To formalize

[§]The minus one in the subscript indicates that the previous Census wave's county population count is used. This is the appropriate base population because the migration rates reported in the decadal Census will be migration between $t - 1$ and t .

that discussion, consider an accounting identity,[¶]

$$\frac{M_c}{N_{c,-1}} = \sum_o s_{c,-1}^o \times \frac{M_c^o}{F_{c,-1}^o}. \quad (2)$$

This says that the migration rate in a county can be decomposed as a weighted-average of growth rates across migrants of various origins. The weights $s_{c,-1}^o$ are the share of an origin's migrants in the local county population and $F_{c,-1}^o$ is the local stock of migrants from that origin. As mentioned, the origin-specific migration rates in (2) contain local factors pulling migrants towards a particular county. We can attempt to remove this variation by considering,

$$B_c = \sum_o s_{c,-1}^o \times \frac{M_{c' \notin \mathcal{S}(c)}^o}{F_{c' \notin \mathcal{S}(c)}^o}. \quad (3)$$

The variable B_c is identical to the county migration rate (2) except now the rate of migration is that for all counties outside the state in which county c resides. (2) and (3) will be correlated through common push factors such as wars and political developments in these origin countries. I will thus instrument for $M_c/N_{c,-1}$ using B_c in the regressions. Additionally, I will use enclave shares that predate the cross-section of the analysis by three decades. For example, for the two cross sections I study below, 1930 and 2000, I use 1900 and 1970 shares, respectively.

Data and Sample. I retrieve 5% samples of the decadal Censuses for 1930 and 2000 from IPUMS USA (Ruggles et al., 2025). I restrict each sample to US residents who are 16 years of age and older and are currently in the labor force. I further restrict the sample to households, thereby removing individuals living in group quarters such as prisons or dormitories.

A summary of the data is given in table 1. The median age of the samples under analysis is remarkably stable over time. The difference in the age composition of the Wisconsin and national labor forces narrows by the modern period in 2000. The difference between Wisconsin and national incomes is also stable over the 70 years between our two cross sections with Wisconsin incomes being slightly below the national average. The share of the national and Wisconsin labor forces falling into various demographic categories is also reported. Two major demographic shifts stand out, the female share of the labor force rose over the period from 1930 to 2000 as women increasingly entered the labor force. Most pertinent to this analysis is the fall in the foreign-born population share as previous foreign

[¶]The identity comes from recognizing migration as a flow. That is, $M_c := F_c - F_{c,-1}$. Then,

$$\frac{M_c}{N_{c,-1}} = \frac{F_c - F_{c,-1}}{N_{c,-1}} = \sum_o \frac{F_c^o - F_{c,-1}^o}{N_{c,-1}} \times \frac{F_{c,-1}^o}{F_{c,-1}^o}.$$

Collecting terms and noting that $s_{c,-1}^o := F_{c,-1}^o/N_{c,-1}$ yields the identity.

born stocks dwindled and failed to recover under the unprecedented immigration quotas of the 1920's. However, the immigrant share in 1930 is likely overstated as not all counties in 1930 could be mapped to 1990 counties.[‡]

	National 1930	Wisconsin 1930	National 2000	Wisconsin 2000
Age	37.38	37.77	39.45	39.46
Income	2,357.93	2,239.04	30,786.42	28,857.77
Female	0.22	0.19	0.47	0.47
Unemployed	0.09	0.07	0.05	0.04
Foreign-born	0.19	0.18	0.14	0.04
Non-white	0.09	0.01	0.22	0.08
Observations	1,950,237	53,771	6,718,931	142,526

Table 1: Weighted means using IPUMS-provided person weights. Female, Unemployed, Foreign-born and Non-white are 0/1 indicators, so their means are labor force shares. The 1930 Census did not collect income figures so that income for 1930 is OCCSCORE; an IPUMS constructed variable corresponding to the median income for reported occupations.

The Effects of Immigration. Tables 2 and 3 run a set of regressions estimating the effects of the state's migration rate on domestic born and foreign born workers. Table 2 estimates equation (1) on the 1930 sample and table 3 does the same for the 2000 sample. Both sets of regressions take as their outcome the IPUMS-provided OCCSCORE; a variable which records the median 1950 annual income of an individual's reported occupation. Since this variable is available in both Census waves, I focus on it here as a way to measure occupational upgrading or the effect on resident income due to migration. I report both the Wisconsin-specific estimates as well as the national ones for comparison.

Columns one and two of table (2) demonstrates that, historically, migrants tended to drive occupational upgrading; residents in counties with a one-percentage point higher rate of migration experienced about a \$40 increase in their income (column two row one). Additionally, columns three and four assess how this effect splits across natives and foreign-born workers. Taking natives as the reference category, natives gain \$41 additional dollars of income from a 1 percentage point increase in the rate of migration while foreign born workers gain an additional \$23 on top of that. These are non trivial gains for a state with an average income of \$2,240 in 1930 (see table 1).

[‡] These counties tend to be in low foreign-born areas.

	Wisconsin (1) OLS	Wisconsin (2) IV	Wisconsin (3) OLS	Wisconsin (4) IV	National (5) OLS	National (6) IV	National (7) OLS	National (8) IV
Immigration rate (M/N, per 100)	33.67*** (2.709)	38.88*** (8.339)	35.82*** (2.734)	41.17*** (8.638)	4.950*** (0.466)	5.097*** (1.307)	5.866*** (0.552)	6.152*** (1.176)
Immigration rate (M/N, per 100) x Foreign-born			22.64*** (2.928)	22.61*** (6.756)			1.715* (0.887)	-1.939 (3.118)
Foreign-born	-222.2*** (31.24)	-242.8*** (30.85)	-54.02 (48.31)	-3.034 (49.27)	-286.9*** (12.19)	-288.9*** (19.64)	-170.1*** (20.61)	-51.40 (87.30)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
First-stage F		27.29		4.08		27.29		4.08
Observations	1,364,305	1,364,305	1,364,305	1,364,305	1,364,305	1,364,305	1,364,305	1,364,305

Table 2: Wage regressions, 1930. The outcome is OCCSCORE, IPUMS's occupation-based measure of earnings potential, expressed in hundreds of 1950 dollars. Columns (2), (4), (6), and (8) instrument this rate with the leave-out Bartik described in equation (3). All specifications control for age, sex, race (non-white), foreign-born status. Columns (3)-(4) and (7)-(8) additionally interact the immigration rate itself with foreign-born status, so the "Immigration rate" row reports the effect for domestic-born workers and "× Foreign-born" the incremental slope for foreign-born workers. Standard errors clustered at the county level are reported in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The gains from the migration reported in the previous paragraph give historical credence to the notion that foreign and domestic-born workers act as complements in production (Peri and Sparber, 2009). This is the case when foreign and domestic-born workers tend to specialize in different tasks within an industry or occupation. New migrants may specialize in manual tasks where their language skills are less relevant thereby incentivizing domestic workers to enter managerial positions where their communication skills will be most valued.

The contemporary period offers a different source of gains from migration. Table 3 runs the same regressions as table 2, but on the 2000 sample.** Notice first that immigrants in both the national and Wisconsin economies tend to be paid more than natives (row four). This is true even after controlling for years of schooling. Immigrants in table 2 tended to be paid less than natives although there we could not control for years of schooling as the variable was not reported in the 1930 Census. Nevertheless, immigrants in the contemporary period tend to be positively selected in terms of human capital relative to the native population. In the national economy this leads to native gains (row one table 3) but is null in Wisconsin. The gains from migration in contemporary Wisconsin are thus likely to show up through the positive externalities that come with injections of human capital into an economy.

**The reader may notice that the IV regressions utilizing the variation in equation (3) are not reported. This is because in the contemporary period, migrant enclaves like those reported in the maps become very weak predictors of a county's migration flows. This "weak instrument" problem can severely bias estimates. I thus report only correlational evidence by OLS.

	Wisconsin (1) OLS	Wisconsin (2) OLS	National (3) OLS	National (4) OLS
Immigration rate (M/N, per 100)	-1.053 (9.427)	-0.609 (9.221)	3.728*** (0.910)	5.845*** (0.806)
Immigration rate (M/N, per 100) x Foreign-born		-15.38 (21.46)		-2.050*** (0.716)
Foreign-born	164.6*** (21.64)	240.8*** (88.26)	17.01* (9.069)	129.1*** (13.93)
Controls	Yes	Yes	Yes	Yes
Observations	5,706,579	5,706,579	5,706,579	5,706,579

Table 3: Wage regressions, 2000. The outcome is OCCSCORE, defined identically to table 2 for comparability across census waves. All specifications control for age, sex, race (non-white), foreign-born status, and years of completed schooling, each interacted with the Wisconsin indicator. Columns (2) and (4) additionally interact the immigration rate itself with foreign-born status, so the "Immigration rate" row reports the slope for domestic-born workers and "x Foreign-born" the incremental slope for foreign-born workers. Standard errors clustered at the county level are reported in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Conclusion

This paper studies the labor market effects of immigration to Wisconsin across two different eras of the state's history; 1930 and 2000. In the earlier period, I exploit the historical diffusion of immigrant settlement across the country to construct a shift-share instrument for a county's migration rate, isolating variation driven by push factors in migrants' countries of origin rather than by local conditions that could confound a simple correlation between migration and wages.

The two periods tell different stories about how immigration benefits Wisconsin's economy. In 1930, higher local migration rates raised the incomes of both native- and foreign-born workers, with foreign-born workers gaining somewhat more than natives. This is consistent with the idea that newly arrived and native-born workers specialized in complementary tasks (Peri and Sparber, 2009). By 2000, this particular channel is no longer detectable within Wisconsin specifically, even though it remains visible in the national data. What is detectable is a substantial and robust wage premium for Wisconsin's foreign-born workers over natives, a premium that survives controlling for years of completed schooling and so is unlikely to reflect only the educational attainment of immigrants. The more plausible interpretation is that today's immigrants to Wisconsin are positively selected on human capital in ways schooling alone does not capture, and that the state's gains from immigration now come substantially through the externalities such workers generate rather than

through the task-specialization channel of a century ago.

Taken together, the findings suggest that immigration has been, and continues to be, an economic asset to Wisconsin, even as the specific mechanism through which that benefit accrues has evolved alongside the changing composition of the state's immigrant population.

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