Closing Heaven's Door: Evidence from the 1920s U.S. Immigration Quota Acts

Philipp Ager[1]   Casper Worm Hansen[2]

AEA Meetings 2018, Philadelphia

January 7, 2018

[1]University of Southern Denmark

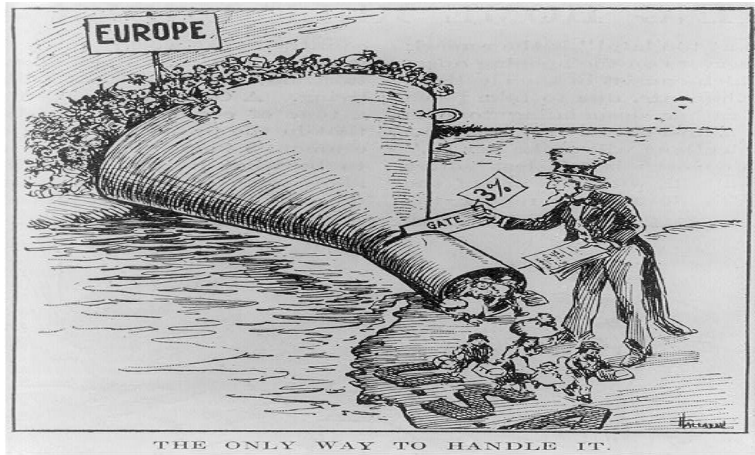[2]University of Copenhagen

Introduction

Figure: A cartoon by Hallhan in 1921 showing funnel bridging Atlantic with top at Europe crammed with emigrants and bottom at U.S. with Uncle Sam permitting immigrants to trickle through (Source: Library of Congress)

Introduction

Quota system

1. Emergency Quota Act (Johnson Quota Act) of 1921
2. Immigration Act (Johnson–Reed Act) of 1924

▶ Abruptly ended an unprecedented era of unrestricted immigration from Europe to the US (Goldin, 1994)

▶ Can be used to evaluate the causal effects of immigration on the U.S. economy (Abramitzky and Boustan, JEL forthcoming)

▶ First paper to evaluate how the quota system influenced key drivers of economic growth and local labor markets during the period 1900-1940

⇒ *Contributes to the understanding of how immigration restrictions affect the U.S. economy from a historical perspective*

Introduction

Empirical strategy

▶ We exploit two sources of variation:

1. *Time:* quota system allows a before/after quota comparison of the outcomes of interest

2. *Cross-sectional:* quota system favored immigration from the Americas and Western Europe, and hereby influenced local economies differently via past settlement locations of immigrant groups

▶ The classical shift-share (Bartik) approach would exploit all immigration shocks (domestic and abroad)

▶ Our strategy isolates policy-driven variation in immigration inflows to the U.S.

Main Findings

Counties and cities

▶ Areas more exposed to the quota system experienced declines in:

1. Immigration and population growth
2. Labor productivity

Individual Level

1. White native workers living in more quota exposed counties experienced earning losses (pushed into low-wage occupations)
2. Black workers living in the same counties experienced an upward movement in occupational wage status $\Rightarrow$ black-white income convergence
3. Fewer marriages and lower fertility among of 1st and 2nd-generation immigrant women

Related Literature

▶ Economic consequences of immigration in the US (Borjas, 1994, 1999, 2014; Card, 1990, 2009, 2012; Cortes, 2008; Saiz, 2003; Peri, 2012; Cadena and Kovak, 2016)

▶ Economic consequences of immigration restrictions (Goldin, 1994; Timmer and Williamson, 1996; Chen 2015; Greenwood and Ward, 2015; Massey, 2016; Abramitzky and Boustan, 2017; Clemens et al., 2017; Tabellini, 2017)

▶ Immigration in American history (Abramitzky and Boustan, JEL forthcoming; Carter and Sutch, 1999; Hatton and Williamson, 1998)

▶ Long-run effect of immigration during the Age of Mass Migration (Ager and Brueckner, 2013, 2017; Nunn et al., 2017)

▶ Cultural economics literature (Fernanzdez and Fogli, 2009; Abramitzky et al., 2016; Grosjean, 2014; Bandiera et al., 2016)

Immigration Quota Acts of 1921 and 1924

- *Emergency Quota Act of 1921*

    - Restricted annual number of immigrants from any nationality to 3% of each foreign-born group living in the U.S. in 1910

    - Quota system asymmetrically affected European immigration flows due to the National Origins Formula

- Revision in 1924 $\rightarrow$ *Immigration Act of 1924*

    - Ceiling was reduced from 3% to 2% of the foreign-born stock

    - Based on foreign-born stock of 1890 instead of 1910

    - Almost prevented immigration from Southern & Eastern Europe (e.g., quota for Russians dropped from 24,000 to 2,000)

    - Amendments to 1924 Act (in 1927, but effective in 1929):

        - Annual quota was fixed to a total of 150,000 immigrants

        - National origins plan based the quota allocation by country on the national origins of the white population in the 1920 Census

- Quota system in place until 1965, when it was replaced by the Immigration and Nationality Act

Data: Outcomes

▶ County-level outcomes (1900-1940, every decade):

  ▶ Number of immigrants by location (IPUMS)
  ▶ Foreign-born share and population (Haines, 2010)

▶ Individual-level outcomes (1900-1940, every decade; repeated cross section):

  ▶ Occupation-based earnings scores of native workers (IPUMS; Lebergott, 1964; Collins and Wanamaker, 2014)
  ▶ Internal population movements, fertility, and marriage (IPUMS)

▶ City-level outcomes (hand collected from Census of Manufactures for 1909, 1914, 1919, 1925, and 1929):

  ▶ Manufacturing value added per worker
  ▶ Horsepower per worker

Data: Quota Exposure

▶ We measure the shock (in terms of restricting immigration) as:

$$Quota\ exposure_c = \sum_{n=1}^{N} \frac{FB_{nc}}{Pop_c} \times \max\left(\frac{\overline{IM}_{n,10-14} - \overline{Q}_{n,22-30}}{\overline{IM}_{n,10-14}}, 0\right) \quad (1)$$

▶ $\frac{FB_{nc}}{Pop_c}$ is the foreign-born share of nationality n in county (or city) c measured in 1910

▶ Expression in parentheses measures the "bite" of the quota system for nationality $n \Rightarrow$

  ▶ $\overline{IM}_{n,10-14}$ is the average annual pre-WWI immigration flow for the years 1910-1914
  ▶ $\overline{Q}_{n,22-30}$ is the average annual quota number for the years 1922-1930

▶ **Idea:** *Quota exposure* captures the potential exposure of local immigration networks to the Immigration Quota Acts
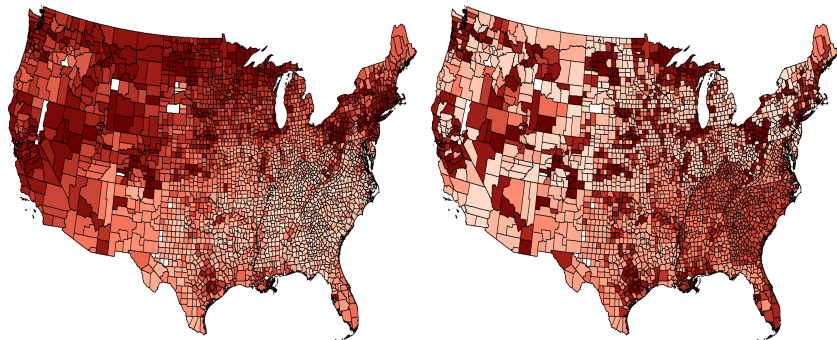
Data: Quota Exposure

Figure: Quota Exposure

Strategy: FB Share and Population (county)

▶ Estimation equation (event study):

$$y_{ct} = \sum_{j=1900}^{1940} \alpha_j \ Quota \ exposure_c \times I_t^j + \lambda_c + \phi_{st} + \varepsilon_{ct}, \quad (2)$$

where

  ▶ y_{ct} is the FB share or ln population in county c in time period $t = (1900, \ldots, 1940)$

  ▶ Quota exposure$_c$ is interacted with a full set of time-period fixed effects (1920 is omitted)

  ▶ λ_c and ϕ_{st} are county and state-by-time fixed effects

  ▶ ε_{ct} is the error term

▶ We use several modified versions of estimation equation (2)

Event Study – Population Dynamics (county)

Event Study -- Population Dynamics after the Introduction of the Quota System

Foreign-Born Share
Period 1900-1940

ln(Population)
Period 1900-1940
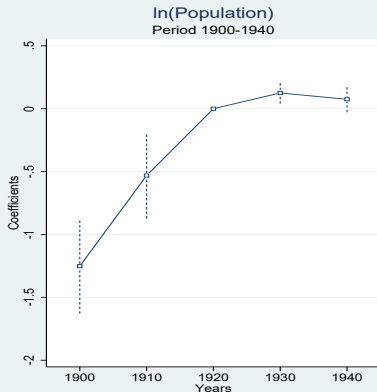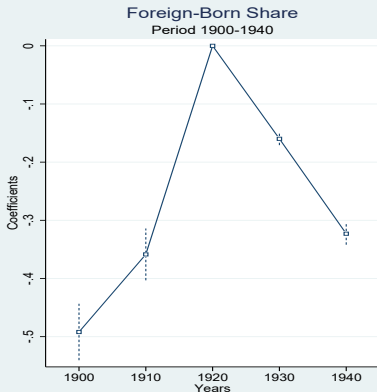
► Magnitude: 1 SD more quota exposure ($=11\%$ more affected FB share) $\rightarrow$ annual pop. growth rate falls by 0.3% points
  ► MEAN annual pop.growth (1920-1930) $= 0.66\%$ and (1930-1940) $= 0.51\%$
  ► Direct effect on immigration can explain 33% of the total pop. growth effect

Event Study – Fertility (individual level)

Event Study -- Fertility Behavior after the Introduction of the Quota System
Period 1900-1940
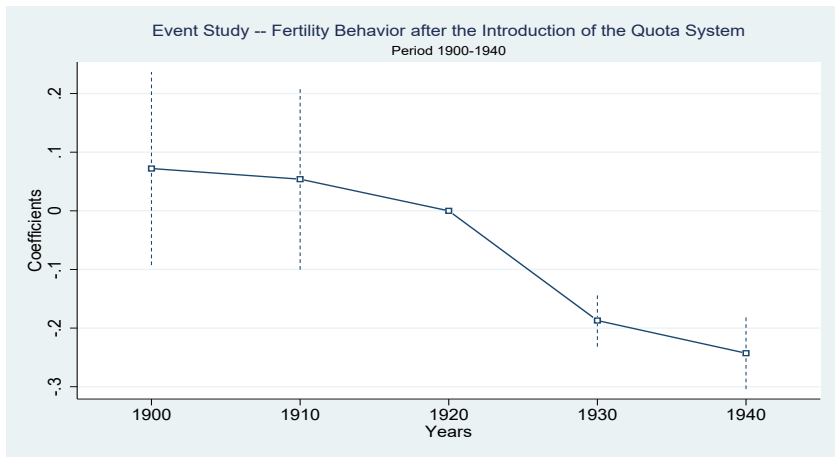
▶ Magnitude: 1 SD more quota exposure (= 17% more affected FB share) $\rightarrow$ 0.03 fewer children per women aged 15-49:
  ▶ Fertility declined with 0.12 children (in our sample)
  ▶ Results are entirely driven by 1st & 2nd generation immigrants (consistent with Angrist, 2002)

DiD Results: Earnings Scores (individual level)

		Dependent variable: Lebergott Earnings Score					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Quota exposure x I^{post}	-0.135***	-0.144***	-0.0883***	-0.139***	-0.0323	-0.143***	
	(0.0238)	(0.0240)	(0.0291)	(0.0269)	(0.0248)	(0.0237)	
Quota exposure x I^{post} x black						0.142***	0.145***
						(0.0401)	(0.0370)
Joint Effect						-0.001	
						(0.0498)	
Sample	All	Lives in state of birth	Lives out of state of birth	Men	Women	All	All
WWI exposure x I^{post}	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Literacy Act of 1917 exposure x I^{post}	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,569,014	1,113,921	455,075	1,205,260	363,734	1,568,797	1,582,488
R-squared	0.642	0.659	0.583	0.572	0.754	0.647	0.657

Notes: The table reports "non-flexible" DiD estimates. The observations are at the individual level over the decades 1900 to 1940. The sample spans 15-65-year-old workers. The outcome variable is the Lebergott earnings score; see Section 3 for further details. Quota exposure is the sum over N foreign-born shares in a county, c, each interacted with the corresponding quota intensity. See Section 4.3 for the construction of WWI exposure and exposure to the Literacy Act of 1917. All regressions include county fixed effects, time fixed effects, and state-by-time fixed effects. The set of individual controls includes the following indicator variables: marital status, place of residence (rural/urban), gender, race (black/white), literacy. We further include birthplace and age effects. Columns 6 and 7 further include quota exposure, WWI exposure, and the Literacy Act of 1917 each interacted with a dummy for race (black), race-by-time fixed effects, and race-by-county fixed effects. County-by-time fixed effects are added to the specification in column 7. Constants are not reported. Standard errors (in parentheses) account for arbitrary heteroskedasticity and are clustered at the county level. *** p<0.01, ** p<0.05, * p<0.1.

Event Study – Earnings Scores (individual level)

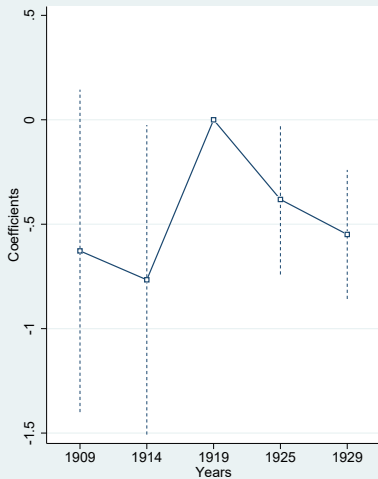Event Study -- Earnings Score after the Introduction of the Quota System

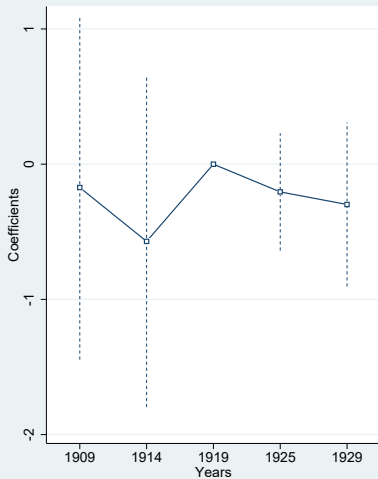Based on Annual Earnings Data reported in Lebergott (1964)

Native Earnings
Period 1900-1940

Black-White Earnings-Convergence
Period 1900-1940
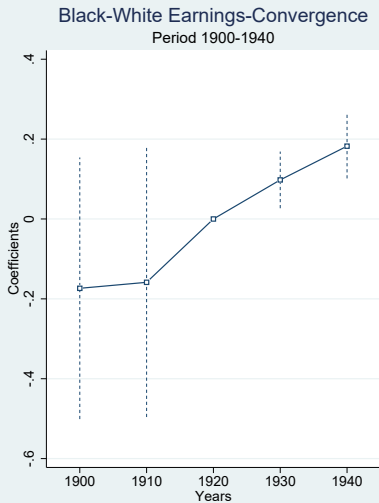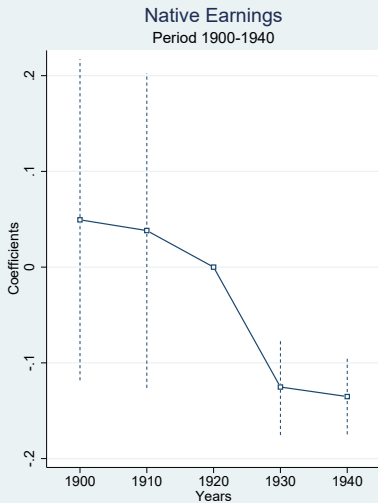
Event Study – Manufacturing Sector (city level)

Event Study -- Manufacturing Sector after the Introduction of the Quota System

Robustness

▶ Bartik-style approach confirms main findings

▶ Alternative quota exposure measure based on predicted immigration streams yields similar results

▶ No evidence that more quota affected counties received more internal (interstate) migrants, but counties harder hit by the WWI labor supply shock received more African-Americans in-migrants

▶ In more quota affected areas native workers were more likely to take up "immigrant" jobs

▶ Alternative earnings score measures yields qualitatively similar results (1940 earnings score)

Conclusion

▶ Quotas reduced foreign-born share, population growth and fertility

▶ Native workers living in counties more exposed to the quota system were pushed into lower-wage occupations

▶ White workers moved down on the occupational ladder, while black workers improved their relative standing in more quota affected areas

⇒ Evidence of some black/white "income convergence" before 1940s (e.g., Margo, 2016)

▶ Labor productivity losses in cities with larger pre-quota migration networks of the affected nationalities