

Importing Talent? Evidence from Immigrant-Owned Businesses in the U.S.

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Motivation

- ▶ Immigration is one of the most debated topics in economics and politics
- ▶ Views range from open borders to mass deportations
- ▶ ~**15%** of the US population is foreign-born (2025)
- ▶ Optimal immigration policy requires understanding how immigrants differ from natives

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Research Questions:

1. How do immigrants differ from natives in entrepreneurial talent?
2. How does immigration affect US business dynamism at the county-level?

Research:

- ▶ Build a span-of-control model with (i) talent heterogeneity by nativity, (ii) pre-entry talent uncertainty, and (iii) capital constraints
- ▶ Use 2007 Survey of Business Owners microdata to infer the shape of the talent distribution
- ▶ Estimate causal effects of immigration using a shift-share IV (Terry, Chaney, Burchardi, Tarquinio and Hassan, 2026)

This Paper

Research:

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Preview of Findings:

- ▶ Natives have a **heavier left tail** of managerial talent
- ▶ A 1% increase in county immigration $\Rightarrow$ +0.08% wages, +0.1% firm size, higher entry *and* exit
- ▶ Findings consistent with arriving immigrants being more talented than the existing population

Presentation Outline

- ① Background
- ② Theoretical Model
- ③ Model Evidence
- ④ Empirical Results
- ⑤ Discussion
- ⑥ Conclusion

Literature Review and Contributions

Span-of-control / entrepreneurship models:

- ▶ Lucas (1978) – baseline span-of-control model
- ▶ Azoulay, Jones, Kim and Miranda (2022) – immigrants positively selected on the **right tail**
- ▶ **My contribution:** focus on the **left tail**, add capital constraints, and pre-entry talent uncertainty

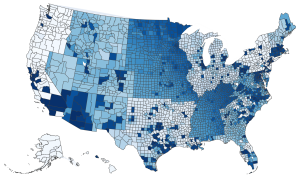
Empirical effects of immigration:

- ▶ Peri (2012), Terry et al. (2026), Burchardi, Chaney and Hassan (2018) – positive productivity, wage, and FDI effects
- ▶ Mahajan (2024) – immigration raises employment and firms at commuting-zone level
- ▶ **My contribution:** finer (county) geography, 1975–2010, new dimensions of dynamism (firm size, entry, exit)

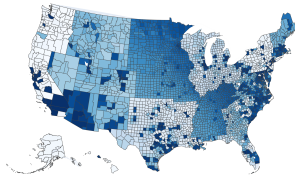
Data

- ▶ **Immigration shocks:** Terry et al. (2026) – county-level, 5-year intervals, 1975–2010 [▶ Maps](#) [▶ Summary Table](#)
- ▶ **Business-level microdata:** Survey of Business Owners 2007
 - ~13.4M weighted firms (restricted to Fully American / Fully Immigrant)
 - Identifies nativity of owners [▶ Summary Table](#)
- ▶ **Business dynamism:** Business Dynamics Statistics, county-year, 1978–2010
- ▶ **Wages:** QCEW annual average pay, county-level, 1990–2010
- ▶ **Population controls:** NBER Intercensal County Population (1970–2014)

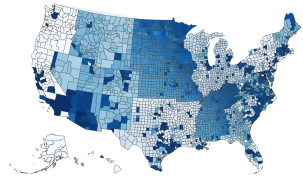
Immigration Shocks



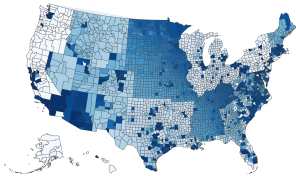
1975-1980



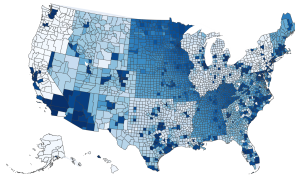
1980 - 1985



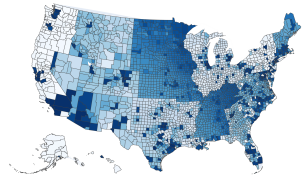
1985 - 1990



1990 - 1995



1995 - 2000



2000 - 2005

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Model Overview

Partial equilibrium extension of Lucas (1978) with four key frictions:

1. **Talent heterogeneity by nativity:** $\theta \sim F_n$ for $n \in \{N, I\}$
 2. **Pre-entry talent uncertainty:** individuals don't know their θ before entry
 3. **Mandatory one-period production:** entrants must operate before learning θ
 4. **Capital constraints:** labor demand capped at $\bar{\ell}(k) = \lambda k$
- Develop a single-period model with wages taken as exogenous.

Setup and Production

Individuals characterized by type (n_i, k_i) :

- ▶ $n_i \in \{N, I\}$: native or immigrant
- ▶ $k_i \in \mathbb{R}^+$: access to start-up capital

Talent draws: $\theta \sim F_n(\theta)$, i.i.d. across entry attempts

Transitory shocks: Incumbents face $z \sim H(z)$, $\mathbb{E}[z] = 1$

Span-of-control production:

$$y = \tilde{\theta} \ell^\alpha, \quad \alpha \in (0, 1)$$

where $\tilde{\theta} = \theta$ for entrants and $\tilde{\theta} = z\theta$ for incumbents.

Entrepreneur's Problem

$$\pi(\tilde{\theta}, k; w) = \max_{\ell > 0} \{ \tilde{\theta} \ell^\alpha - w \ell \} \quad \text{s.t.} \quad \ell \leq \lambda k$$

Optimal labor demand:

$$\ell^*(\tilde{\theta}, k; w) = \begin{cases} \left(\frac{\alpha \tilde{\theta}}{w} \right)^{\frac{1}{1-\alpha}} & \text{if } \tilde{\theta} \leq \theta^c(k; w) \quad (\text{unconstrained}) \\ \lambda k & \text{if } \tilde{\theta} > \theta^c(k; w) \quad (\text{constrained}) \end{cases}$$

- ▶ $\theta^c(k; w)$ is monotonically increasing in k
- ▶ More capital $\Rightarrow$ higher θ before hitting the constraint
- ▶ **Takeaway:** at high k , the constraint is slack $\Rightarrow$ firm size reflects true talent

Timing within a Period

1. Incumbents draw z ; exit if $\pi(z\theta, k; w) < w$
2. Workers observe (n_i, k_i) and decide whether to enter
3. New entrants draw θ and **must produce one period**
4. Surviving incumbents produce with effective productivity $z\theta$
5. End of period: new entrants stay if $\pi(\theta, k; w) \geq w$, else exit

Key exit thresholds:

- ▶ New entrants: $\theta^*(k; w)$ – talent below this $\Rightarrow$ exit
- ▶ Incumbents: $z^*(\theta, k, w)$ – low-talent firms more exposed to bad shocks

The Selection Gap and Proposition 1

Definition:

$$\Delta(n, k; w) \equiv \mathbb{E}[\ell \mid n, k, \text{age} = 2] - \mathbb{E}[\ell \mid n, k, \text{age} = 1]$$

Decomposition: Δ = truncation effect + shock-survival effect

- ▶ Low-talent entrants exit after age 1 $\Rightarrow$ age-2 mean is truncated above θ^*
- ▶ Surviving incumbents disproportionately high-talent

Proposition 1 (informal): Under a common-component assumption, a group with a **heavier left tail** has a **larger selection gap**. [▶ Proof](#)

- ▶ Difference is weakly increasing in k
- ▶ Maximized when capital constraint is slack $\Rightarrow$ **test on top capital bracket**

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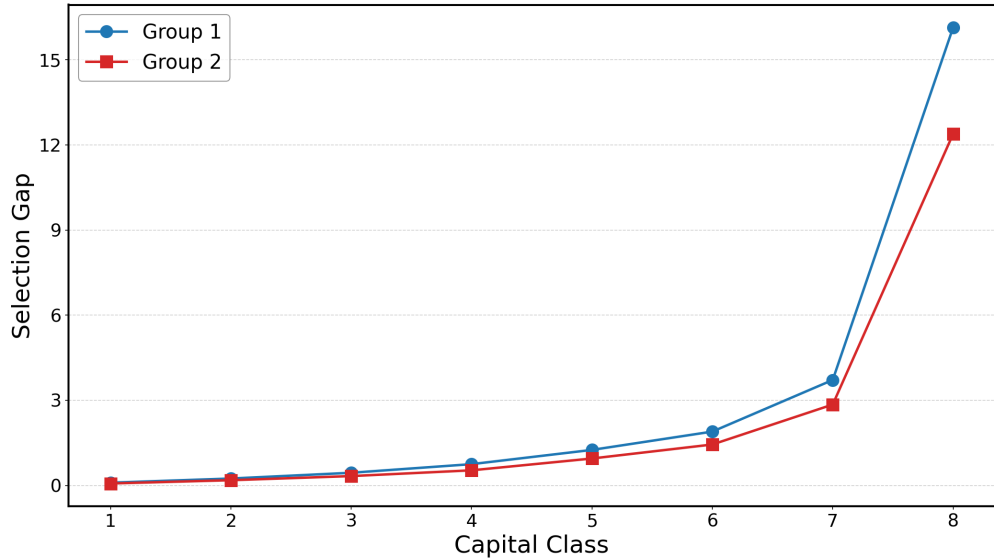
Validation with Simulated Data

Two groups, same mean, different variance:

- ▶ Group 1 $\sim \text{LogNormal}(\mu = 2, \sigma^2 = 16)$ – fatter left tail
- ▶ Group 2 $\sim \text{LogNormal}(\mu = 2, \sigma^2 = 9)$
- ▶ Same capital distribution, same wages

Result: Group 1 has larger selection gap, especially in top capital class consistent with the Proposition.

Simulated Selection Gap



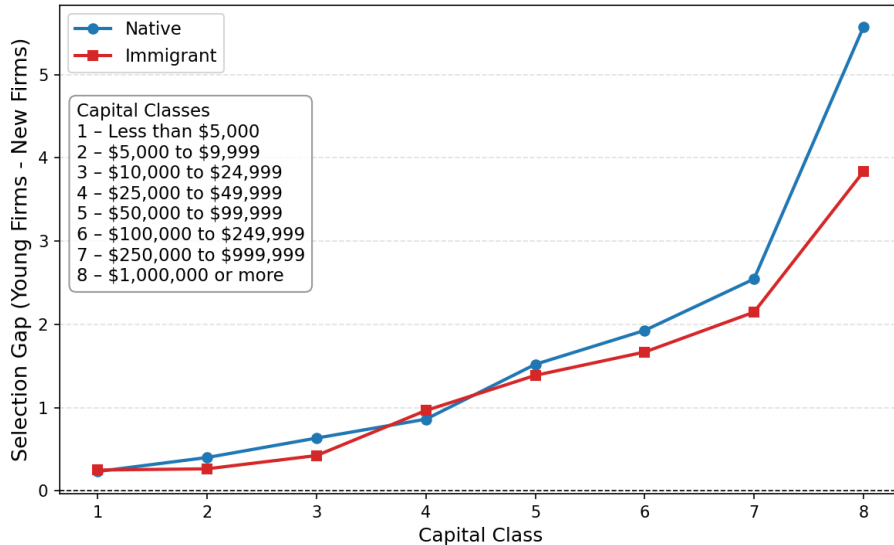
Empirical Selection Gap: Natives vs. Immigrants

Top capital bracket ($> \$1\text{M}$ startup capital); 1 model period ≈ 2 years.

	New Firms	Young Firms	Selection Gap
Native	6.41	11.98	5.57
Immigrant	7.30	11.14	3.83
Difference	-0.89	0.84	1.74

Interpretation: Natives more likely to enter, draw low talent, and exit $\Rightarrow$ heavier left tail for natives. Consistent with **positive selection of immigrants**.

Selection Gap Across Capital Classes



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Empirical Specification

Target equation:

$$Y_{d,t} = \delta_t + \delta_{s(d)} + \beta \cdot \text{Immigration}_{d,t} + \varepsilon_{d,t}$$

- ▶ $Y_{d,t}$: county-level outcome (wages, firm size, entry, exit)
- ▶ $\delta_t, \delta_{s(d)}$: time and state fixed effects
- ▶ 5-year intervals, 1975–2010

Endogeneity concern:

- ▶ Immigrants sort into high-dynamism counties
- ▶ Reverse causality: business activity $\Rightarrow$ immigrant inflows

IV Strategy: Shift-Share on Predicted Ancestry

Following Terry et al. (2026), building on Card (2001): Instrument uses **predicted ancestry** (not realized), derived from a model with three forces:

- ▶ **Push:** origin-country factors driving emigration
- ▶ **Pull:** county attractiveness (measured via European migrants)
- ▶ **Recursive:** immigrants settle near existing co-ethnics

Predicted ancestry interacted with contemporaneous inflows gives:

$$\hat{l}_{d,t} = \sum_o \hat{b}_t \cdot [\hat{A}_{o,d,t-1} \times \tilde{l}_{o,-r(d),t}]$$

Exclusion: pre-1975 ancestry uncorrelated with post-1975 county-level shocks to dynamism.

First Stage

	Non-European Migration		
	(1)	(2)	(3)
Immigration Shock	2.090*** (0.053)	2.094*** (0.056)	2.096*** (0.037)
N	21854	21847	21854
R^2	0.818	0.823	0.793
Geography FE	State	State	County
Time FE	Yes	Yes	Yes
State-Time FE	No	Yes	No

- ▶ Strong first stage, stable across specifications
- ▶ Instrument predicts Non-European migration tightly

Main Results: Immigration and Business Dynamics

	(1)	(2)	(3)	(4)
	Wages	Firm Size	Entry Rate	Exit Rate
Log(Immigration)	0.080*** (0.006)	0.101*** (0.006)	0.183*** (0.051)	0.117*** (0.019)
N	12388	18492	14923	14918
P-value	0.000	0.000	0.001	0.000

A 1% increase in county immigration over 5 years leads to:

- ▶ +0.08% average wages
- ▶ +0.1% average firm size
- ▶ +0.18 p.p. entry rate
- ▶ +0.12 p.p. exit rate

Heterogeneity and Robustness

Heterogeneity by Firm Age:

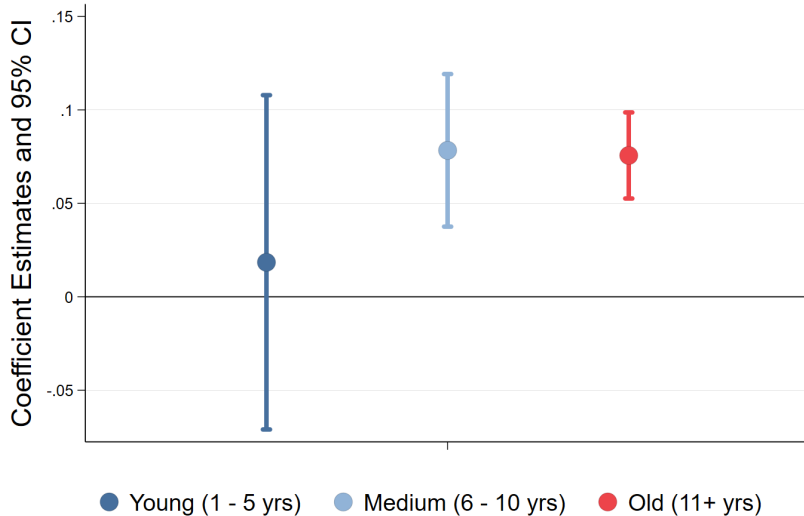
- ▶ **Exit rate:** increase driven by **medium (6–10 yrs)** and **old (11+ yrs)** firms – *not* new immigrant firms failing
- ▶ **Firm size:** increase roughly **uniform** across all age buckets

Robustness:

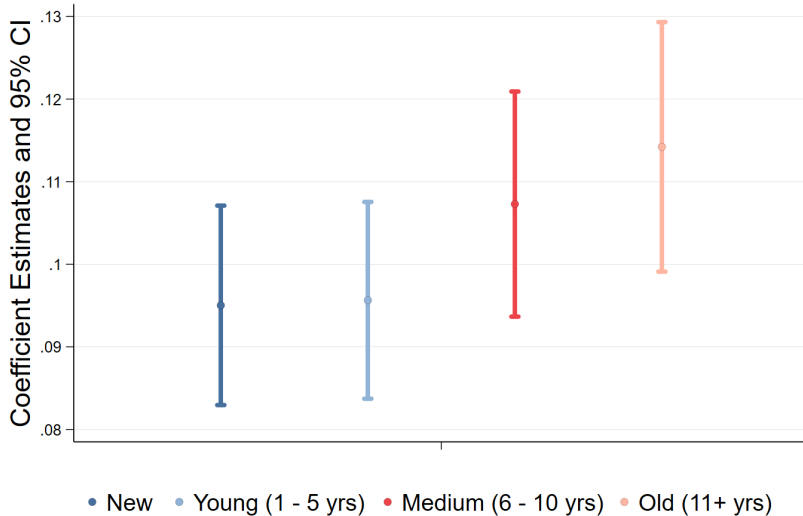
- ▶ Inverse hyperbolic sine transform: results unchanged [▶ Table](#)
- ▶ Controlling for population: coefficients stable [▶ Table](#)

⇒ Points to general equilibrium effects from more-talented entrants pushing out marginal incumbents.

Exit Rate by Firm Age

[Table](#)

Firm Size by Firm Age



► Table

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Reconciling Theory and Empirics

From Eq. (11): wages and talent cutoff θ^* will move together.

Story: arriving immigrants are more talented than existing stock:

1. **Wages** $\uparrow \Rightarrow$ talent cutoff for entry $\uparrow$
2. **Firm size** $\uparrow \Rightarrow$ more-talented managers demand more labor
3. **Exit rate** $\uparrow$ (**old firms**) $\Rightarrow$ marginal incumbents pushed out by higher wages
4. **Entry rate** $\uparrow \Rightarrow$ high-talent immigrants starting new firms

All effects transmitted through the **wage channel**, consistent with the left-tail evidence from the SBO data.

Limitations and Extensions

Limitations:

- ▶ Partial equilibrium – wage channel not explicitly derived
- ▶ No productivity growth channel (Peri (2016), Terry et al. (2026))
- ▶ No correlation between capital endowment and talent
- ▶ Does not address selection into becoming a migrant

Possible extensions:

- ▶ Differential capital access by nativity
- ▶ Endogenous migration choice
- ▶ Applying framework to other group comparisons (gender, education, age)

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Conclusion

Three Main Takeaways:

1. **Natives have a heavier left tail** of managerial talent – evidence from the selection gap in the 2007 SBO
2. **Immigration causally raises** wages, firm size, entry, and exit – consistent with positive selection on talent
3. **Framework generalizes** to any two-group comparison (gender, education, age) beyond immigration

Thank You !

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Proof Sketch of Proposition 1

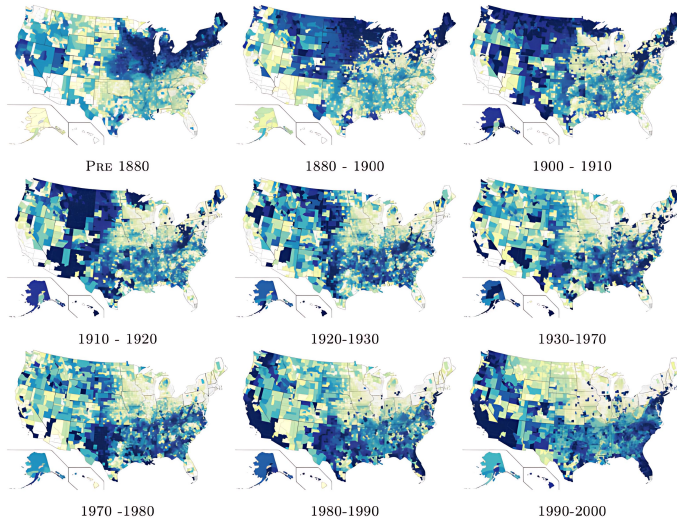
Under the common-component representation:

$$F_{n_j}(\theta) = p_j G_L(\theta) + (1 - p_j) G_H(\theta)$$

- ▶ Age-1 mean: $\mathbb{E}[\ell \mid n_j, \text{age} = 1] = p_j \mu_L + (1 - p_j) \mu_H$
- ▶ Age-2 mean: M_2 common across groups (integrates only above θ^*)
- ▶ $\Delta(n_1) - \Delta(n_2) = (p_1 - p_2)(\mu_H - \mu_L) > 0$

Monotonicity in k follows from $\ell^*(\theta, k; w) = \min\{(\alpha\theta/w)^{1/(1-\alpha)}, \lambda k\}$ being weakly increasing in k .

Migration Pattern History



Immigration Summary Statistics

	N	Mean	Min	Max	SD
Immigration Instrument	21987	0.000	-7.807	377.218	4.991
5-year Non-European Immigration	21987	1.418	-0.000	777.956	12.214
5-year Immigration	21987	1.614	0.000	825.411	13.332

All observations are at the county 5-year level. Immigration numbers are reported in 1000s.

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SBO (2007) Summary Statistics

	(1) All	(2) Fully American	(3) Fully Immigrant	(4) Mixed
Firm Age	10.40 (9.31)	11.17 (9.45)	7.89 (8.08)	10.19 (9.10)
Firm Size	2.25 (43.87)	3.22 (44.96)	2.09 (20.30)	5.29 (36.68)
Payroll	73.54 (1,448.12)	109.56 (1,668.95)	58.76 (743.13)	205.17 (2,319.76)
Receipts	414.80 (10,917.16)	594.50 (11,016.27)	377.23 (6,609.19)	967.57 (15,618.69)
Family Business	0.28 (0.45)	0.28 (0.45)	0.20 (0.40)	0.65 (0.48)
Couple-Owned	0.26 (0.44)	0.26 (0.44)	0.23 (0.42)	0.59 (0.49)
Home Based Business	0.54 (0.50)	0.55 (0.50)	0.41 (0.49)	0.45 (0.50)
Has Full Time Employees	0.25 (0.43)	0.27 (0.44)	0.28 (0.45)	0.39 (0.49)
Observations	26,392,237	11,706,283	1,769,548	424,057

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	Wages	Firm Size	Entry Rate	Exit Rate
IHS(Immigration)	0.128*** (0.009)	0.171*** (0.021)	0.342*** (0.099)	0.113** (0.047)
N	12471	18713	15093	15088
F-stat	7560.5	12059.1	9402.8	9404.5
P-value	0.000	0.000	0.001	0.020

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Population Controls

	Wages	Firm Size	Entry Rate	Exit Rate
Log(Immigration)	0.076*** (0.005)	0.109*** (0.012)	0.230*** (0.050)	0.105*** (0.035)
Population	0.000	-0.000	-0.000	0.000
N	12388	18489	14923	14918
F-stat	1721.1	2034.1	2140.3	2137.3
P-value	0.000	0.000	0.000	0.004

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Heterogeneity by Firm Age

Panel A: 5-year Average Exit Rate

	Young	Medium	Old
Log(Immigration)	0.018 (0.045)	0.078*** (0.020)	0.076*** (0.011)

Panel B: Log of 5-year Firm Size

	New	Young	Medium	Old
Log(Immigration)	0.095*** (0.006)	0.096*** (0.006)	0.107*** (0.007)	0.114*** (0.008)