

Entrepreneur Experience and Success: Causal Evidence from Immigration Wait Lines

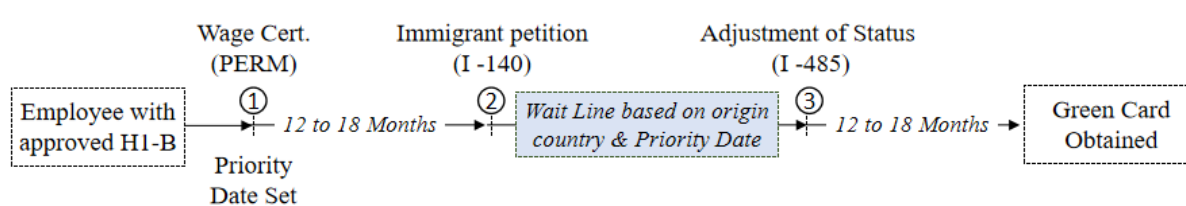
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1. Abstract

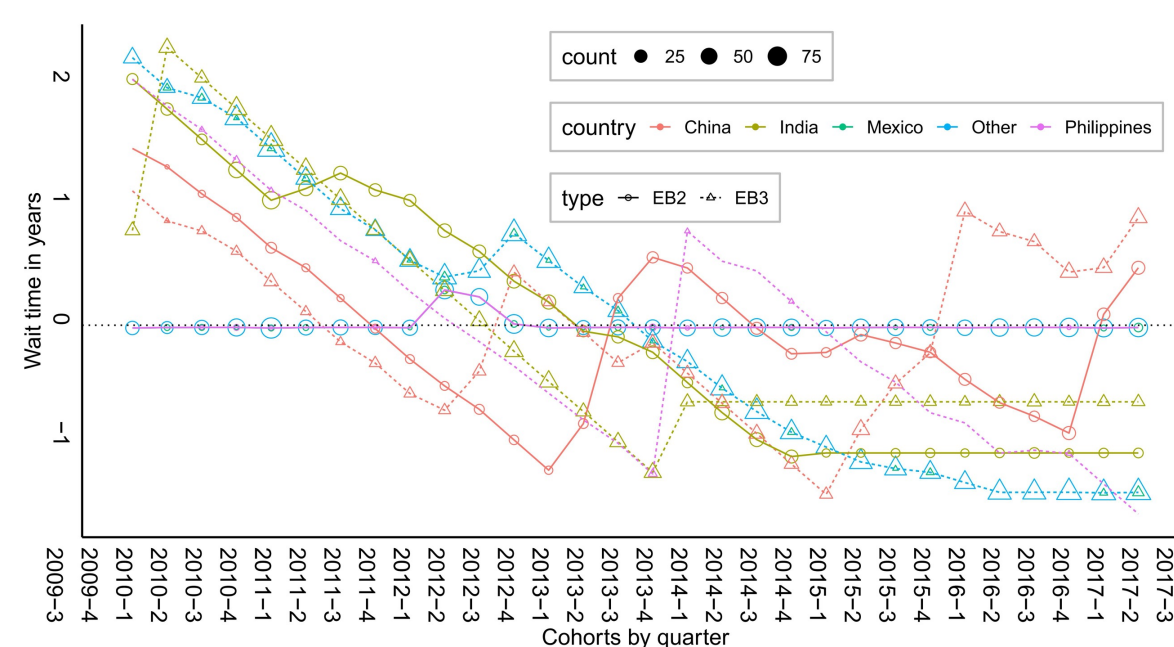
This paper investigates the causal impact of entrepreneurs' prior experience on startup success. Employing within-country changes in Green Card wait lines to instrument for immigrant first-time entrepreneurs' experience, we uncover that startups led by more experienced founders demonstrate superior funding, patenting, and employee growth. The larger initial team size, facilitated by the improved ability to recruit former colleagues, explains the observed startup success. Our findings imply that each extra year of experience is worth \$200,000, underscoring a critical consideration for policymakers and Venture Capital funds.

2. Institutional Setting

Over 70% of legal immigrants enter the US annually utilizing employment-based visas such as H1-B and L1 (Jasso et al., 2010). A prerequisite for these visas is that the immigrant must serve as an employee for a qualified firm, one they do not themselves control. These immigrants must secure legal permanent residency, colloquially known as Green Cards (GCs), to establish and work full-time in their own startups. US immigration regulations restrict employment-based GCs to an annual quota of 140,000, with a maximum of 7% allocated to any single country per year. This cap has proven restrictive for countries with high demand, notably India, China, Mexico, and the Philippines, where demand for GCs far surpasses the country-based limit. Immigrants from these high-demand countries queue in first-come-first-served wait lines to obtain their GCs.



While across country GC wait time differences are large and persistent, forecasting wait times within a country, and across cohorts, is exceedingly challenging. Wait times can fluctuate due to several unpredictable factors such as overall GC demand in other categories and countries, policy implementation, and errors within the United States Citizenship and Immigration Services (USCIS). The within-country variation in these GC wait times serves as our instrumental variable for founder experience prior to their first startup.



3. Data

We compile the first dataset correlating the exact date of the Green Card (GC) application with each immigrant founder. We construct this dataset by obtaining individual PERM filings (the initial step toward employment-based GCs) from the DOL website. These filings contain detailed information on the employee's country of origin, current employment, location, work history, and education. We merge this data with founders' profiles from LinkedIn, which provide comprehensive educational and career histories. Furthermore, we merge this data with Crunchbase to acquire funding and startup outcomes, and with patent databases through fuzzy name matching. Our dataset encompasses 2,317 startup founders, with an average GC wait time of 3.5 years and an average experience of 10.7 years before their first startups.

4. Results

Our analysis reveals that greater founder experience benefits startups across various metrics. Specifically, each additional year of experience corresponds to a 13% increase in funding compared to the mean. This surge in funding results from both a greater frequency of funding rounds and a heightened likelihood of securing total funding exceeding \$100 million. Additionally, startups led by founders with an extra year of experience issue 4% more patents and garner 5% more citations than the mean, while also experiencing a 12% higher growth in their workforce. These benefits significantly elevate the likelihood of startup success. Notably, founders possessing one additional year of experience exhibit a 1-percentage-point (p.p.) higher probability of expanding their startups to over 1000 employees, a 1.5-p.p. lower probability of permanent employment drops, and a 0.7-p.p. higher probability of participating in an IPO.

	Funding			Patents		Employment		IPO	
	(1) Num. of Rounds	(2) Log(Funding Amount)	(3) Funding Amount ≥100M	(4) Log(Patents)	(5) Log(Citations)	(6) Log(Adjusted Citations)	(7) Log(Emp.)	(8) Emp. ≥1000	(9) IPO
Panel A: 2SLS									
Experience	0.192** (0.0838)	0.130** (0.0540)	0.0165** (0.00718)	0.0420** (0.0201)	0.0539** (0.0257)	0.0451** (0.0219)	0.119* (0.0641)	0.0111** (0.00535)	0.00696** (0.00336)
Panel B: OLS									
Experience	0.0373** (0.0171)	0.0427** (0.0151)	0.00460** (0.00195)	0.00486* (0.00276)	0.00672* (0.00381)	0.00589* (0.00319)	0.0571*** (0.0113)	0.00171** (0.000788)	0.000742 (0.000513)
Founder Citizenship FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Founder Degree Level FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm Cohort FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm State FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Obs.	7,380	7,380	7,380	18,505	18,505	18,505	16,755	16,755	13,683
First-stage F	26.77	26.77	26.77	54.05	54.05	54.05	51.05	51.05	31.09
Mean Outcome	2.14	15.3	0.06	0.19	1.30	0.26	177	0.04	0.01
Magnitude (%)	8.97	13.0	28.3	4.20	5.39	4.51	11.9	25.8	74.3

Moreover, we attribute this improvement to the enhanced ability of founders to attract larger and more skilled initial teams, drawing on their previous work experience. Entrepreneurs with more experience start larger firms with a greater number of co-founders, with a notable increase in the initial employees and co-founders sourced from the founder's previous colleagues. Consistent with this reasoning, we observe even stronger effects among groups with fewer pre-existing social connections, such as women and minorities.

	Panel A: Effects on Intermediate Variables					
	(1) Log(Initial Emp.)	(2) Log(CoFounders)	(3) Years to First Funding	(4) I{Same Industry}	(5) Continuity	(6) Novelty
Experience	0.0507** (0.0237)	0.0554** (0.0270)	0.0143 (0.0472)	0.0103 (0.0105)	0.00433 (0.00295)	-0.000427 (0.000575)
Founder Citizenship FE	Y	Y	Y	Y	Y	Y
Founder Degree Level FE	Y	Y	Y	Y	Y	Y
Firm Cohort FE	Y	Y	Y	Y	Y	Y
Firm Industry FE	Y	Y	Y	Y	Y	Y
Firm State FE	Y	Y	Y	Y	Y	Y
Obs.	2,019	1,987	885	2,134	1,136	1,244
First-stage F	74.68	73.25	34.00	74.28	38.80	39.95
Mean Outcome	4.97	2.82	1.22	0.34	0.20	0.24
	Panel B: Effects on Previous Colleagues					
	Previous Colleagues in Initial Emp.		Previous Colleagues in CoFounders			
	(1) I{Num.>0}	(2) Log(Num.)	(3) I{Num.>0}	(4) Log(Num.)		
Experience	0.0314*** (0.0118)	0.0380*** (0.0141)	0.0269** (0.0114)	0.0340*** (0.0126)		
Founder Citizenship FE	Y	Y	Y	Y		
Founder Degree Level FE	Y	Y	Y	Y		
Firm Cohort FE	Y	Y	Y	Y		
Firm Industry FE	Y	Y	Y	Y		
Firm State FE	Y	Y	Y	Y		
Obs.	2,019	2,019	2,019	2,019		
First-stage F	74.68	74.68	74.68	74.68		
Mean Outcome	0.35	0.78	0.32	0.45		

5. Conclusion and Discussion

Prior empirical research has identified a positive correlation between the age and experience of entrepreneurs and favorable startup outcomes (Chatterji, 2009; Klepper and Sleeper, 2005; Gompers et al., 2005; Agarwal et al., 2004; Azoulay et al., 2020). However, these findings cannot be interpreted causally as entrepreneurs endogenously choose the number of years of experience before their first startup. This paper seeks to understand the causal impact of prior work experience on entrepreneurial outcomes and we instrument for experience by leveraging unexpected variations in Green Card wait times within specific country-categories.

Our findings have significant policy implications for the design of incubators aimed at promoting startups. First, incubators should prioritize fostering social connections between founders and potential co-founders or employees. This is particularly crucial for fellowships and incubators where participants, such as college dropouts, may have limited opportunities to develop social networks organically. Second, these connections are especially valuable for minorities and women. Given the increasing focus on encouraging entrepreneurship among these groups, policymakers should consider strategies to enhance their social capital, whether through relevant work experience or other means.

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