Creating New Businesses in America
The Determinants of and Returns to Entrepreneurship

Raj Chetty, Harvard and NBER
Gaia Dossi, UCL
Matthew Smith, US Treasury Department[1]
John Van Reenen, LSE, MIT, and NBER
Owen Zidar, Princeton and NBER
Eric Zwick, Chicago Booth and NBER

March 2026

[1]This research was conducted while the author was an employee at the U.S. Department of the Treasury. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author and do not necessarily reflect the views or the official positions of the U.S. Department of the Treasury. Any taxpayer data used in this research was kept in a secured Treasury or IRS data repository, and all results have been reviewed to ensure that no confidential information is disclosed.

OPPORTUNITY INSIGHTS

Introduction: What are the Drivers of Entrepreneurship?

- Entrepreneurship is widely viewed as a key engine of growth and a pathway to the American Dream [Schumpeter Aghion King Levine Davis Haltiwanger; Alger]

- Growing concern about declining business dynamism: startup rates have fallen significantly in past 30 years [Pugsley and Sahin 2014, Decker et al. 2014, Karahan et al. 2024]

- Despite extensive study, determinants of entrepreneurship and its returns remain unclear
  - Lack of large-scale panel data on business founders, especially on **star firms** that drive job growth

- We study determinants of and returns to entrepreneurship by building a new panel on universe of firm founders in the U.S. using tax records

Outline

1. Describe **characteristics** of entrepreneurs in America

2. Analyze **determinants** of business founding rates using three research designs

3. Estimate **returns** for marginal founders to test for "missing" entrepreneurs

4. Quantify impacts of interventions to increase entrepreneurship in **general equilibrium**
   [extending Hsieh Hurst Jones Klenow 2019]



Data

A New Panel Dataset on America's Entrepreneurs

Firms

- C-corp, S-corp, partnership tax filings (1998-2022)
- Define founding event as date when the firm first has a non-owner employee
- Focus on "star" firms: in top 10% of subsequent revenues or employment in their birth cohort

A New Panel Dataset on America's Entrepreneurs

Firms

- C-corp, S-corp, partnership tax filings (1998-2022)
- Define founding event as date when the firm first has a non-owner employee
- Focus on "star" firms: in top 10% of subsequent revenues or employment in their birth cohort

Founders

- Owners in year firm started (K-1, 1125-E tax forms) [Smith Yagan Zidar Zwick 2019]
- Identify active founders by excluding owners without wage income from firm in first two years
- Data on 10 million founders (1000x prior surveys)



A New Panel Dataset on America's Entrepreneurs

Firms

- C-corp, S-corp, partnership tax filings (1998-2022)
- Define founding event as date when the firm first has a non-owner employee
- Focus on "star" firms: in top 10% of subsequent revenues or employment in their birth cohort

Founders

- Owners in year firm started (K-1, 1125-E tax forms) [Smith Yagan Zidar Zwick 2019]
- Identify active founders by excluding owners without wage income from firm in first two years
- Data on 10 million founders (1000x prior surveys)

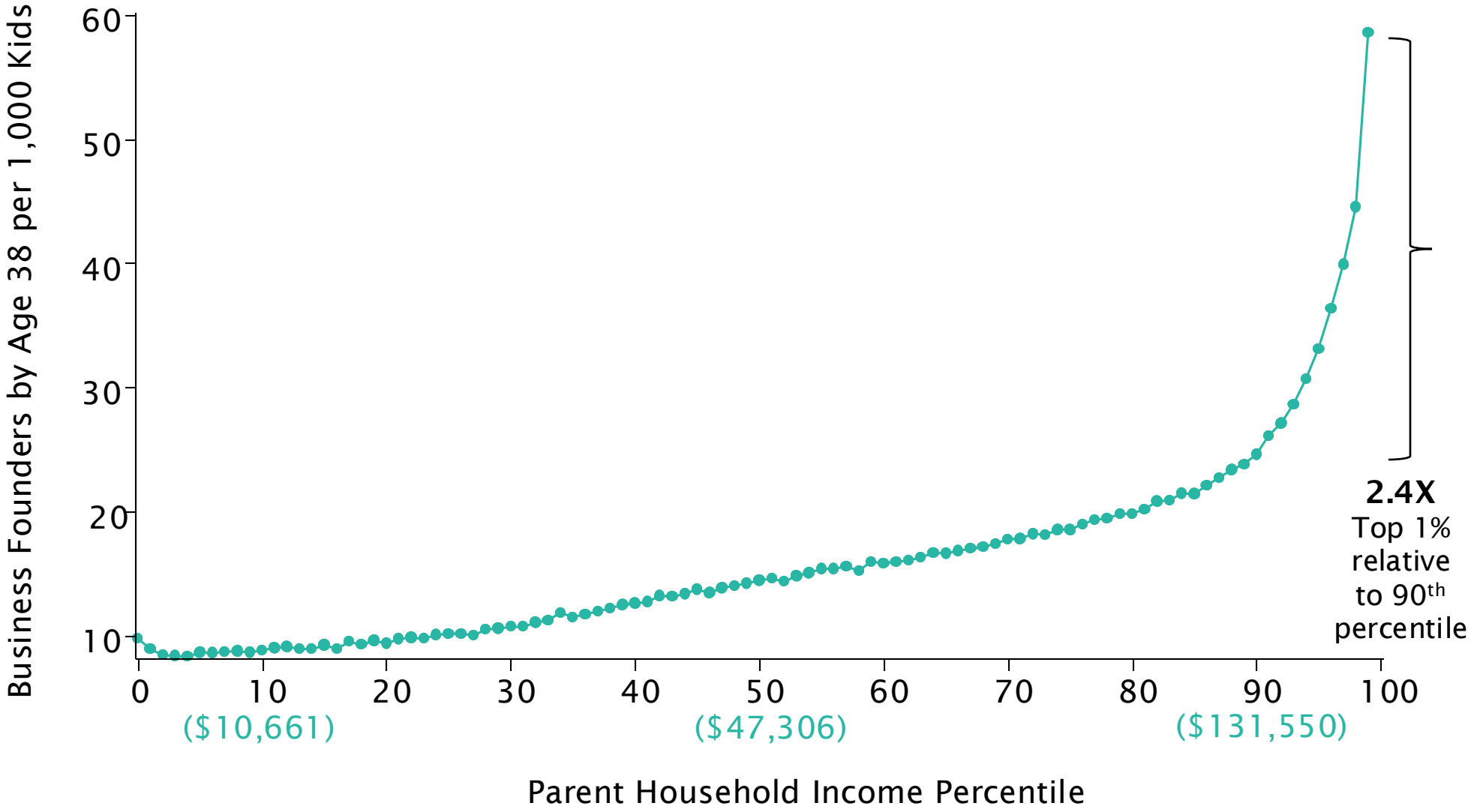
Founders' Characteristics

- Panel data on employment and income from 1040 tax forms
- Parent income and childhood location from 1980 birth cohort [Chetty Hendren Kline Saez 2014]
- ACT/SAT scores [Chetty Deming Friedman 2023]

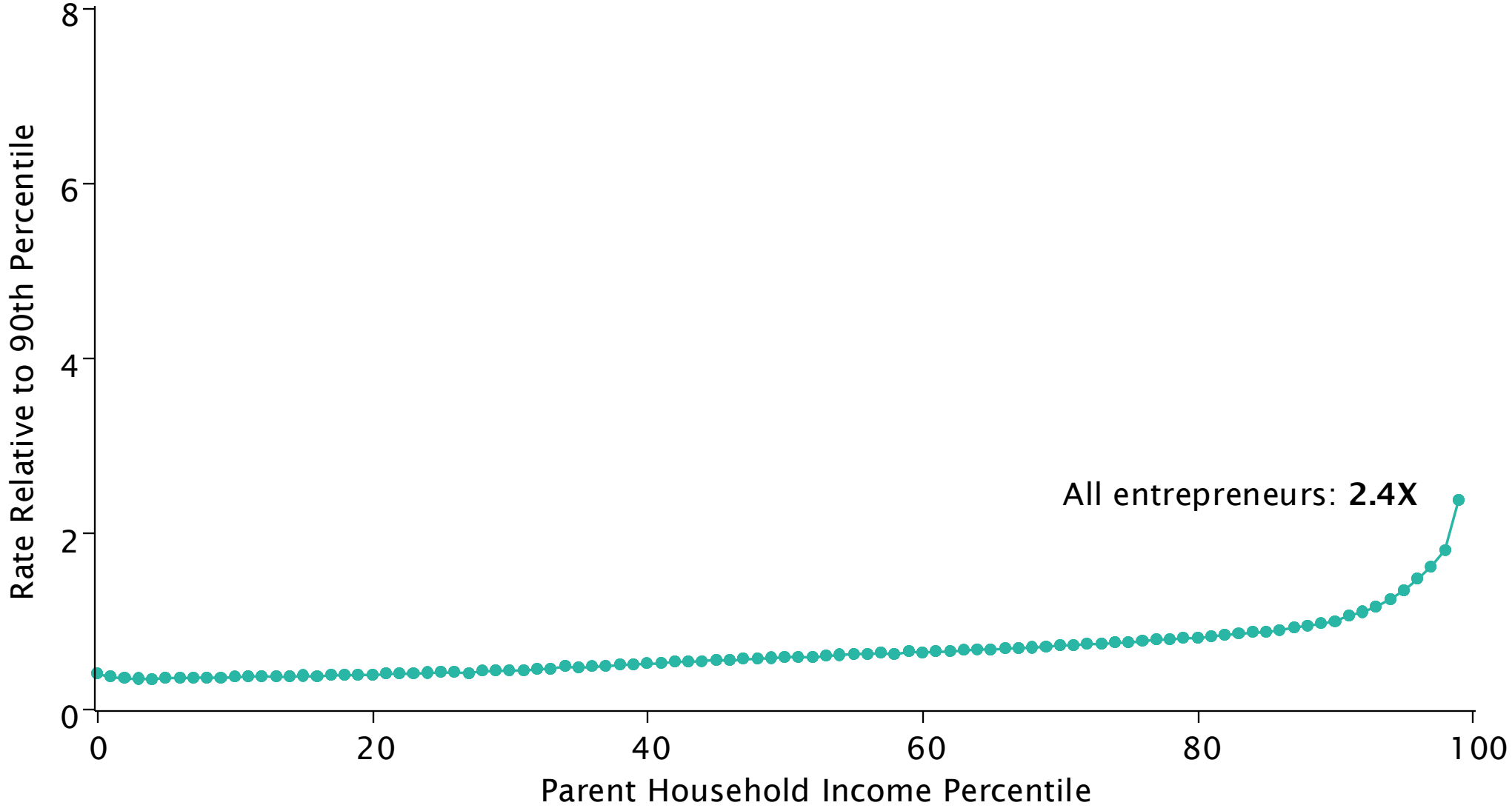


Who are America’s Entrepreneurs?

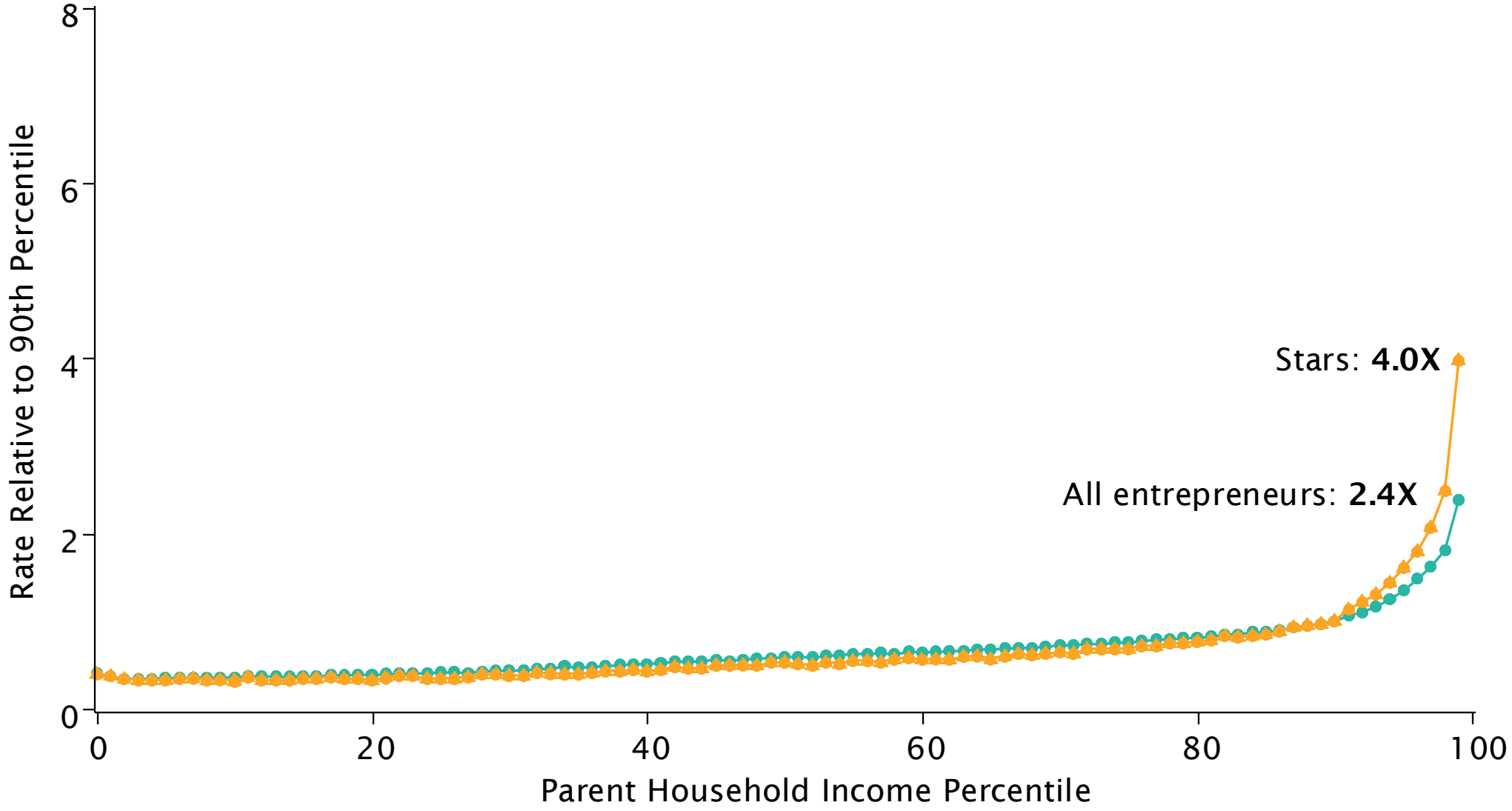
Entrepreneurship Rates by Parental Income



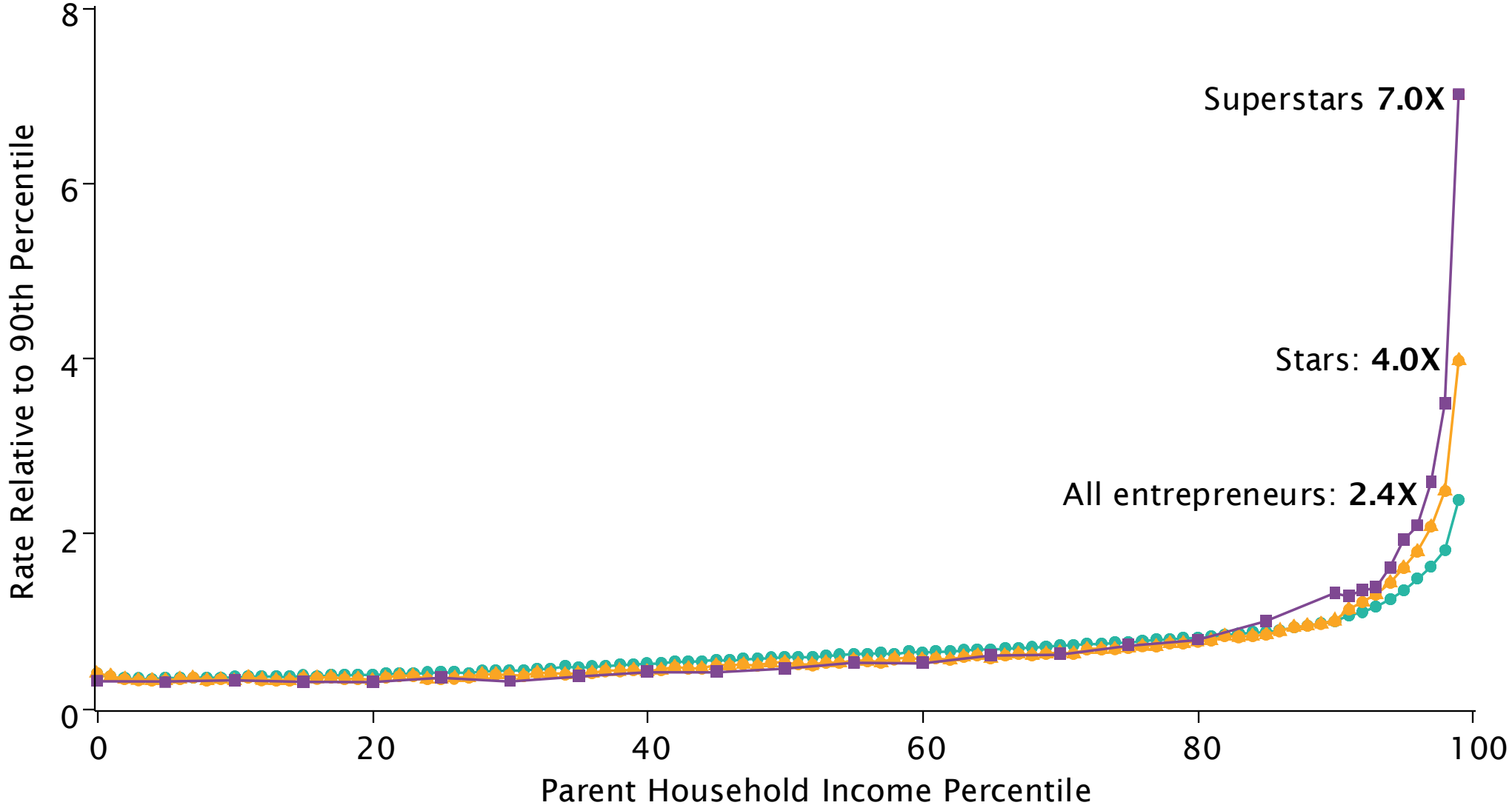
Entrepreneurship Gaps by Parental Income



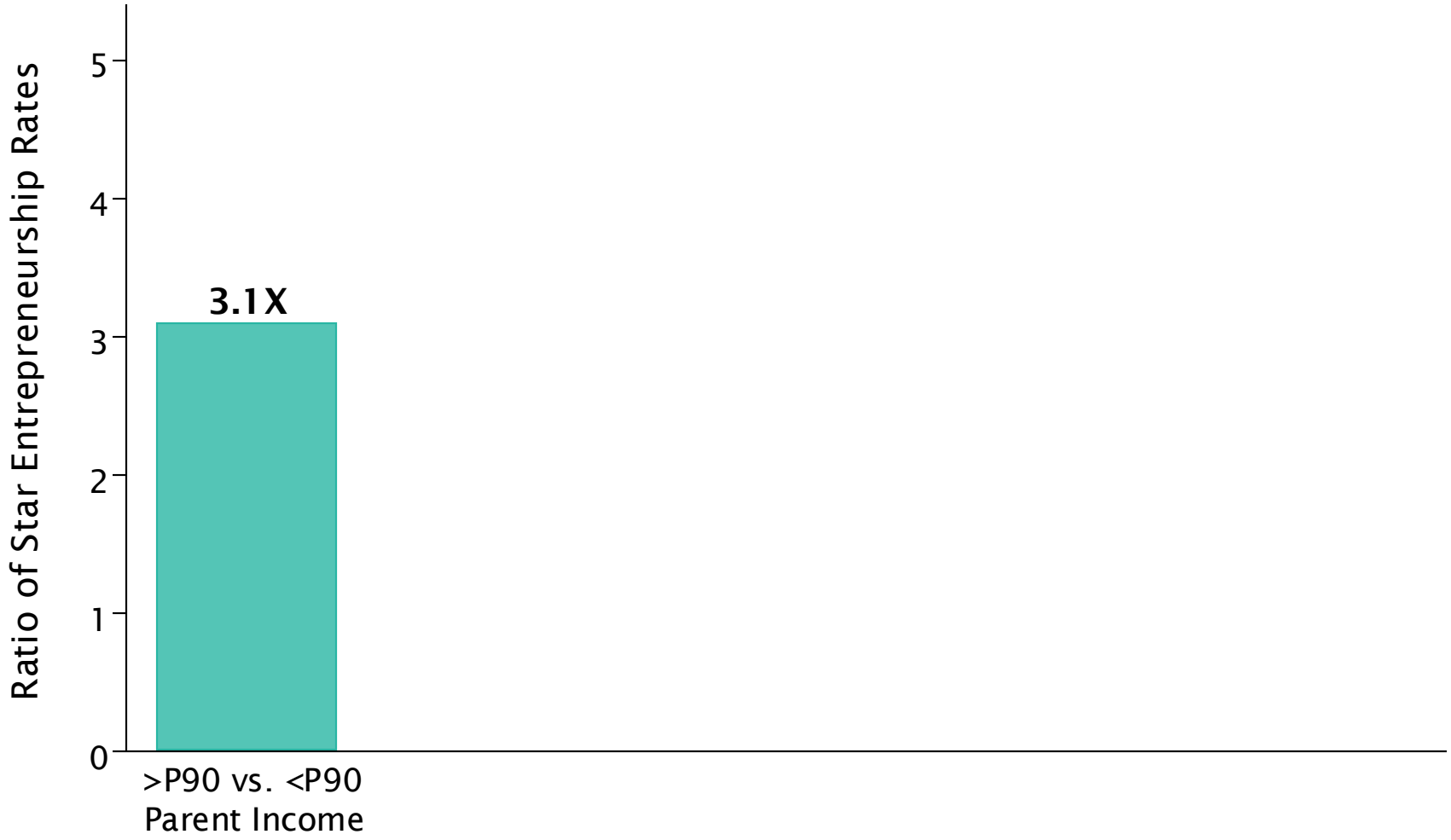
Entrepreneurship Gaps by Parental Income



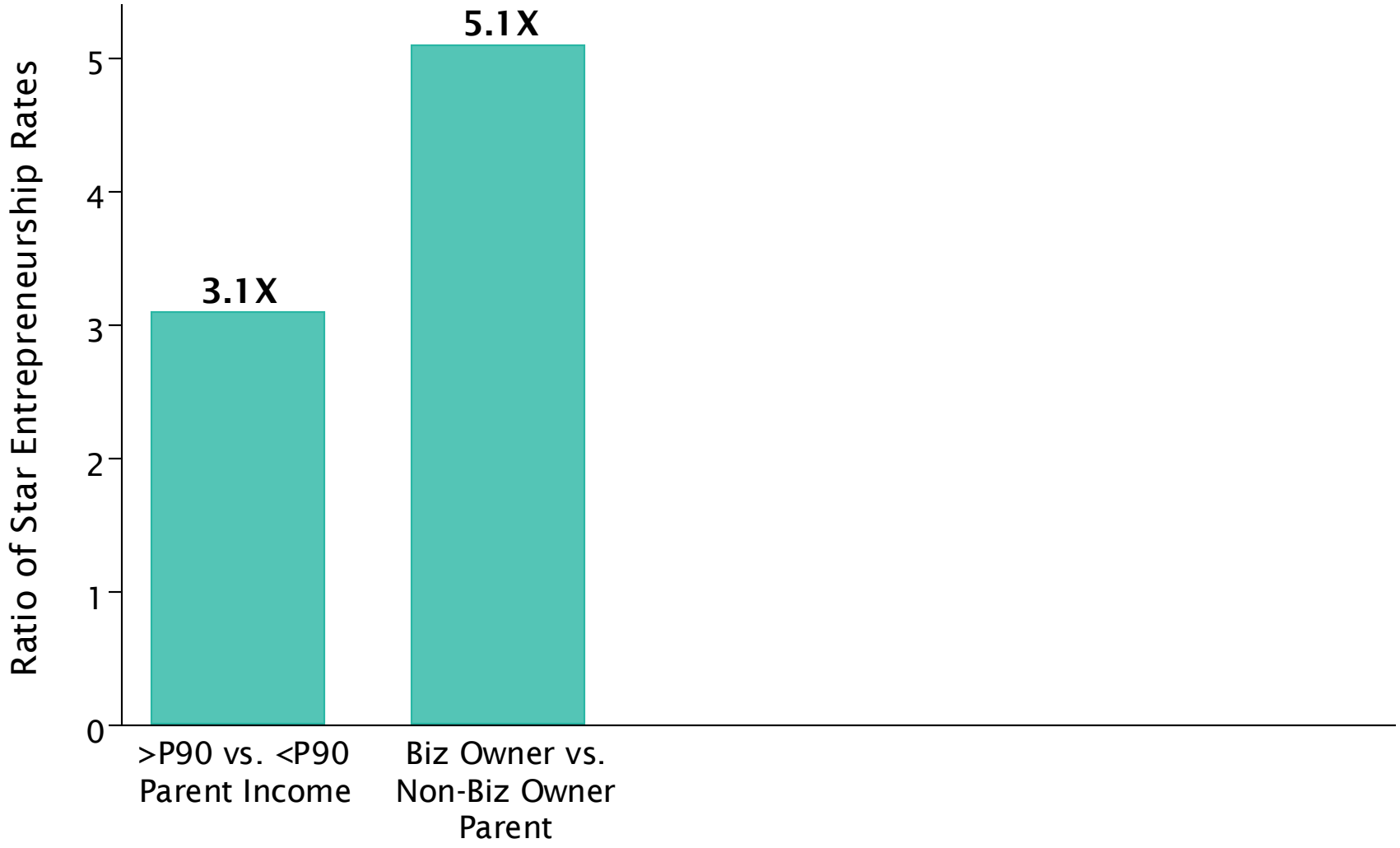
Entrepreneurship Gaps by Parental Income



Entrepreneurship Gaps by Group

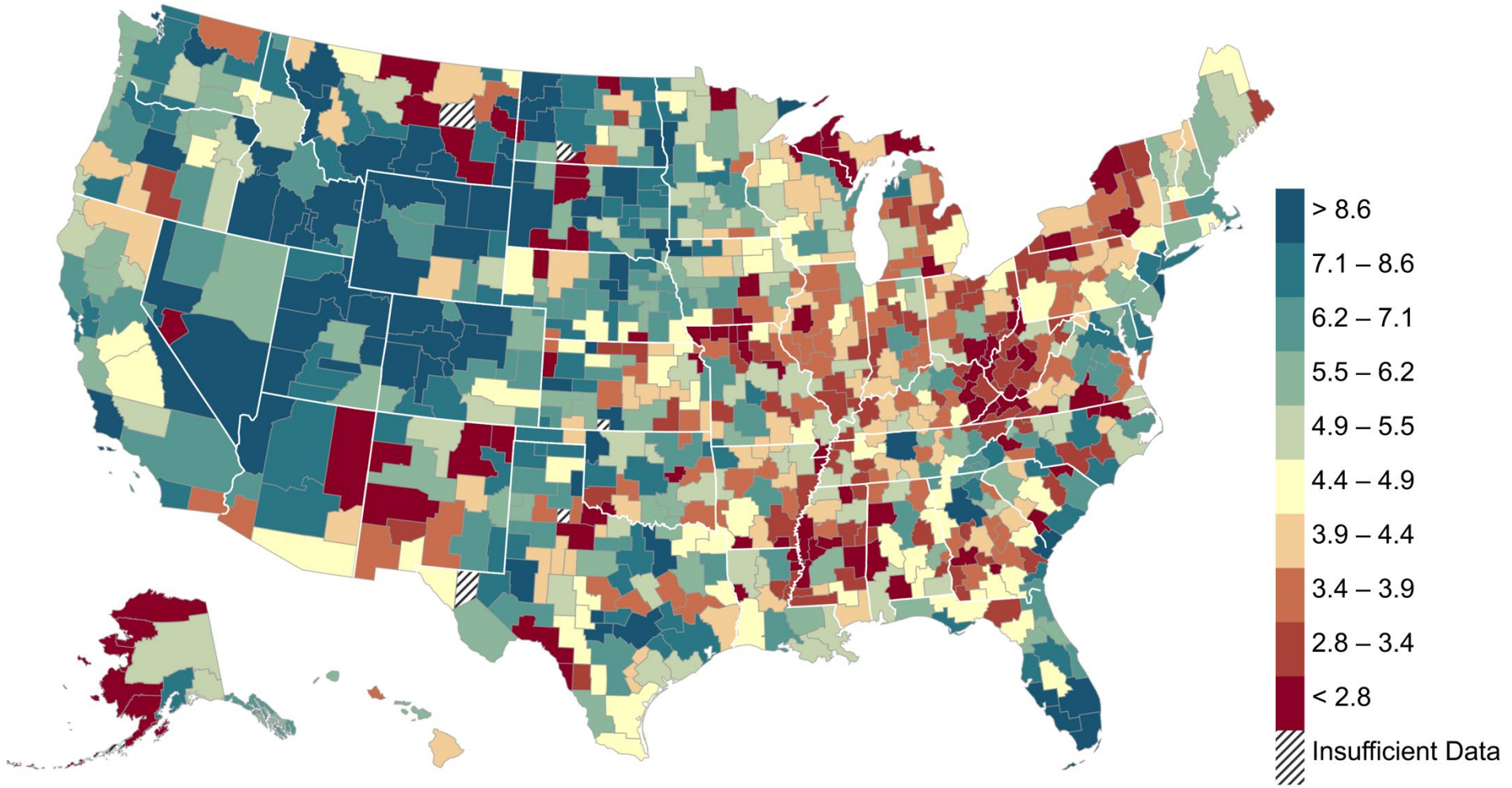


Entrepreneurship Gaps by Group

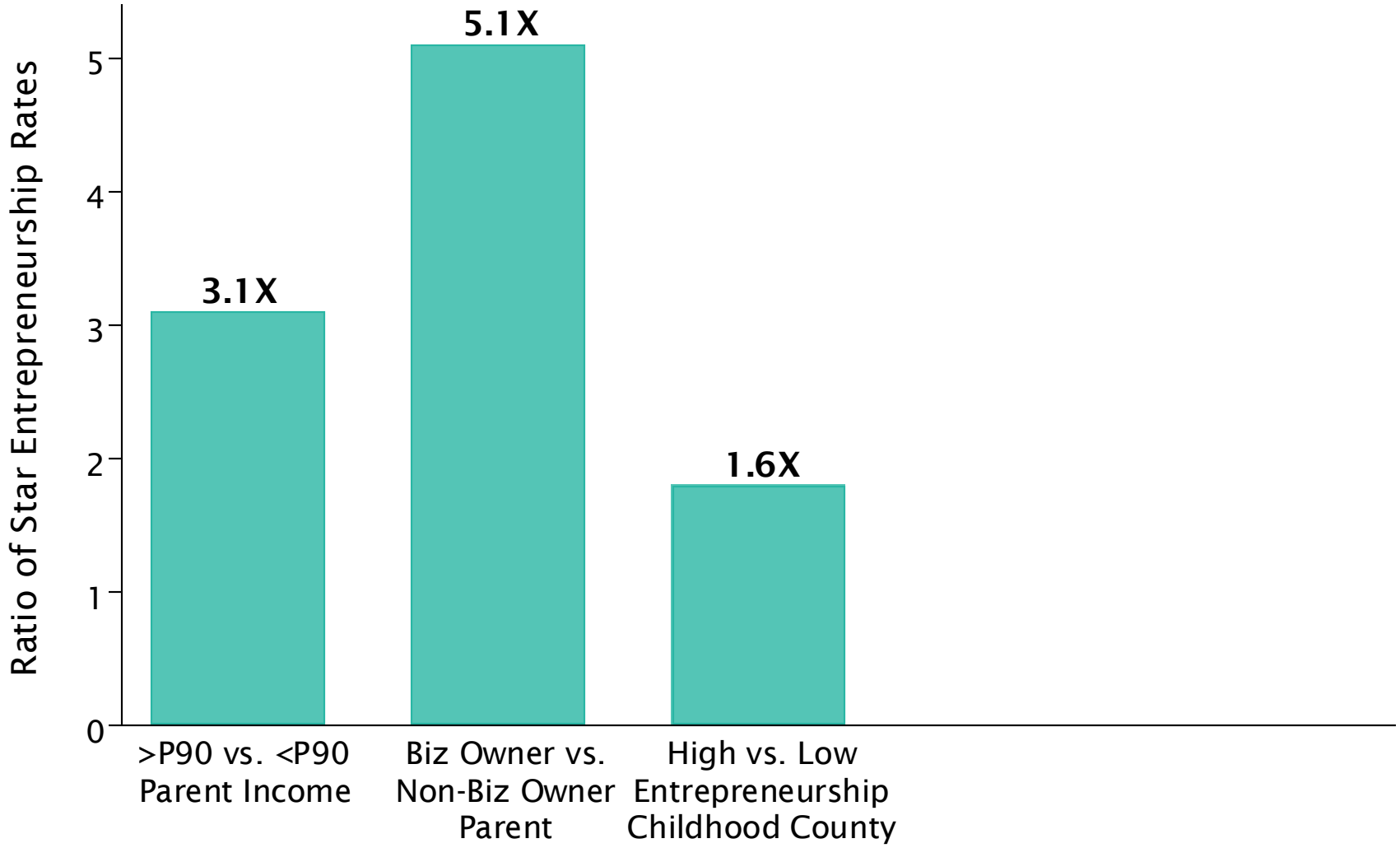


The Geography of Entrepreneurship in America

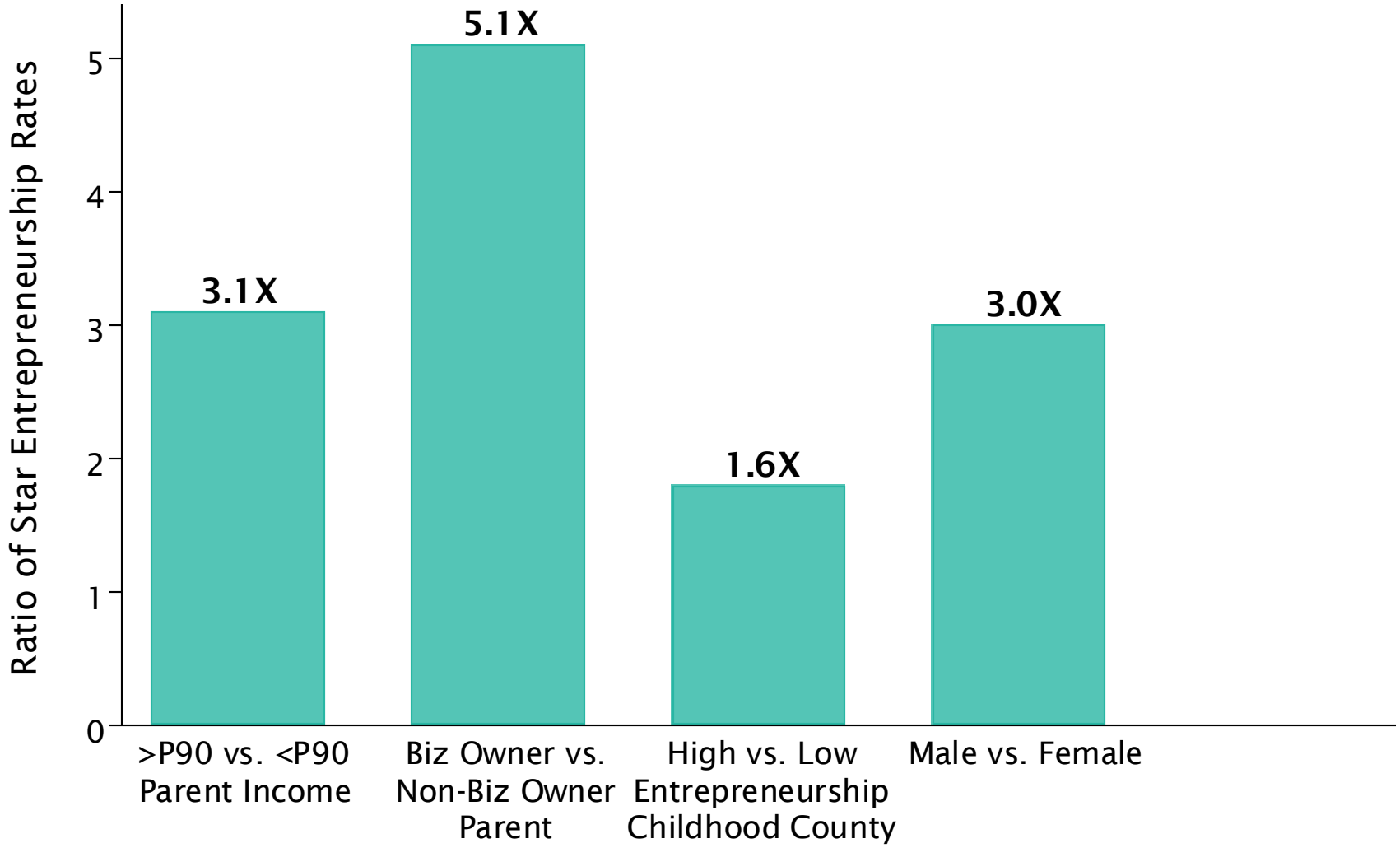
Number of Star Founders Between 2000-2022 per 1,000 Adults, by Commuting Zone



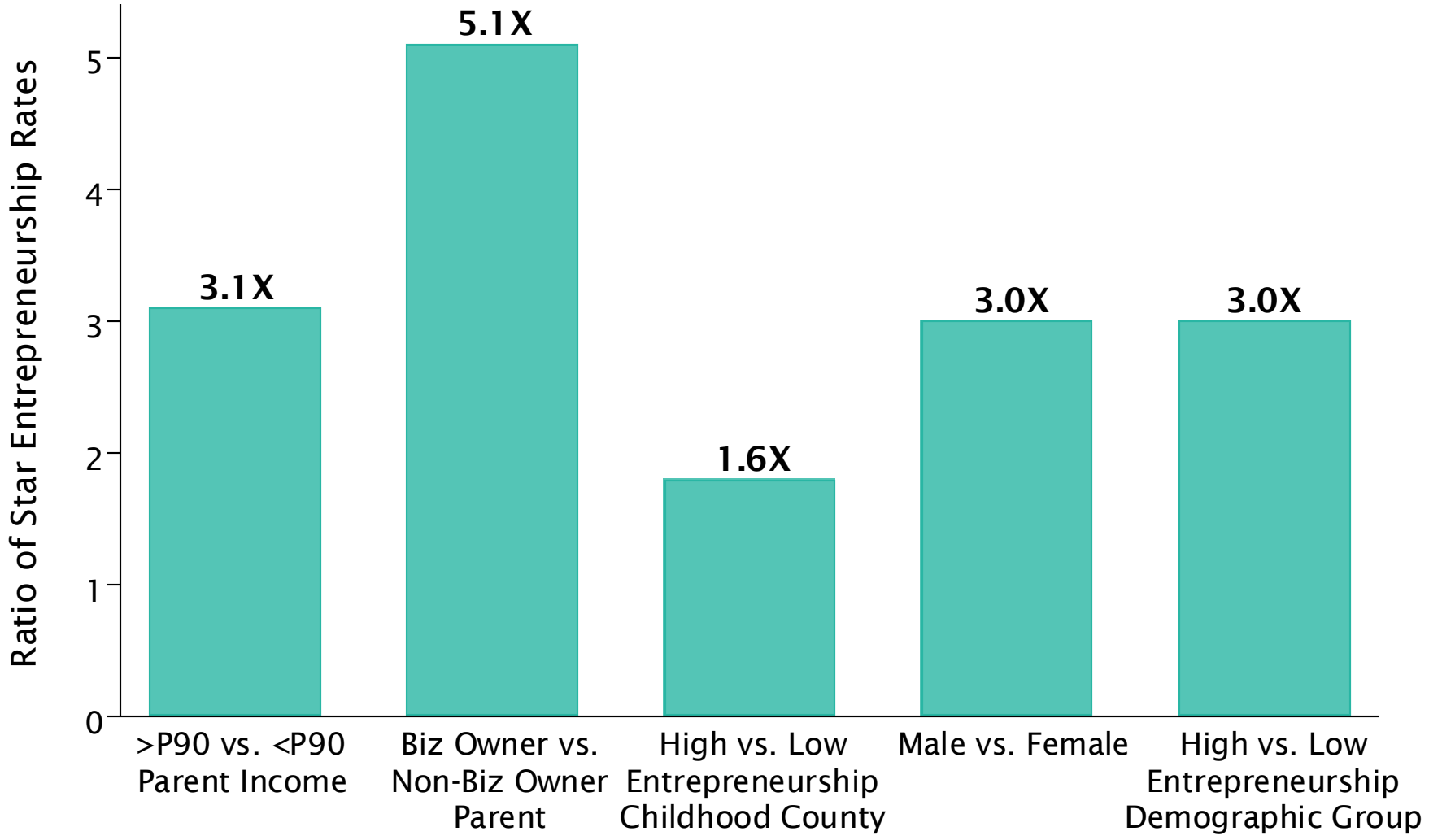
Entrepreneurship Gaps by Group



Entrepreneurship Gaps by Group



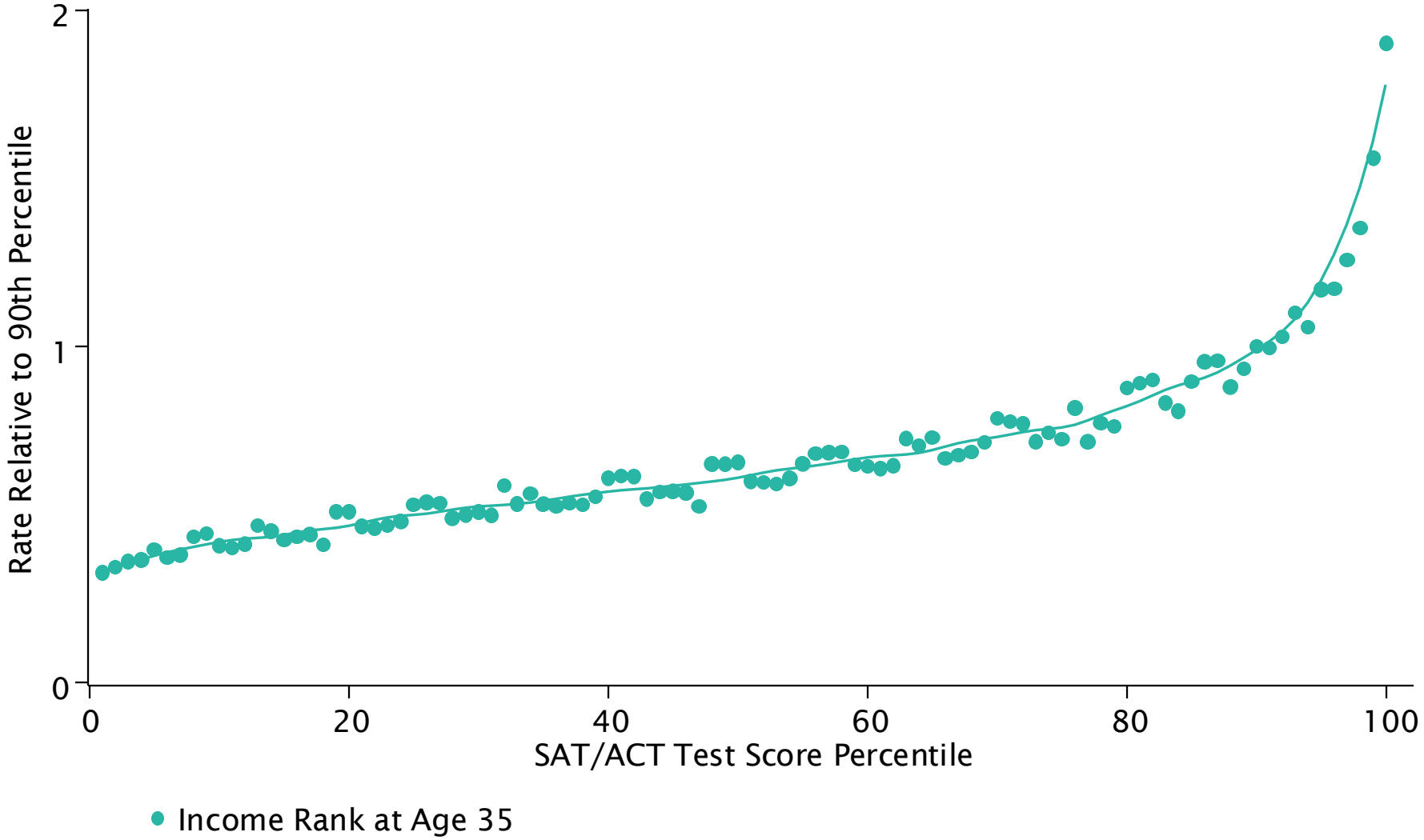
Entrepreneurship Gaps by Group



Determinants of Entrepreneurship

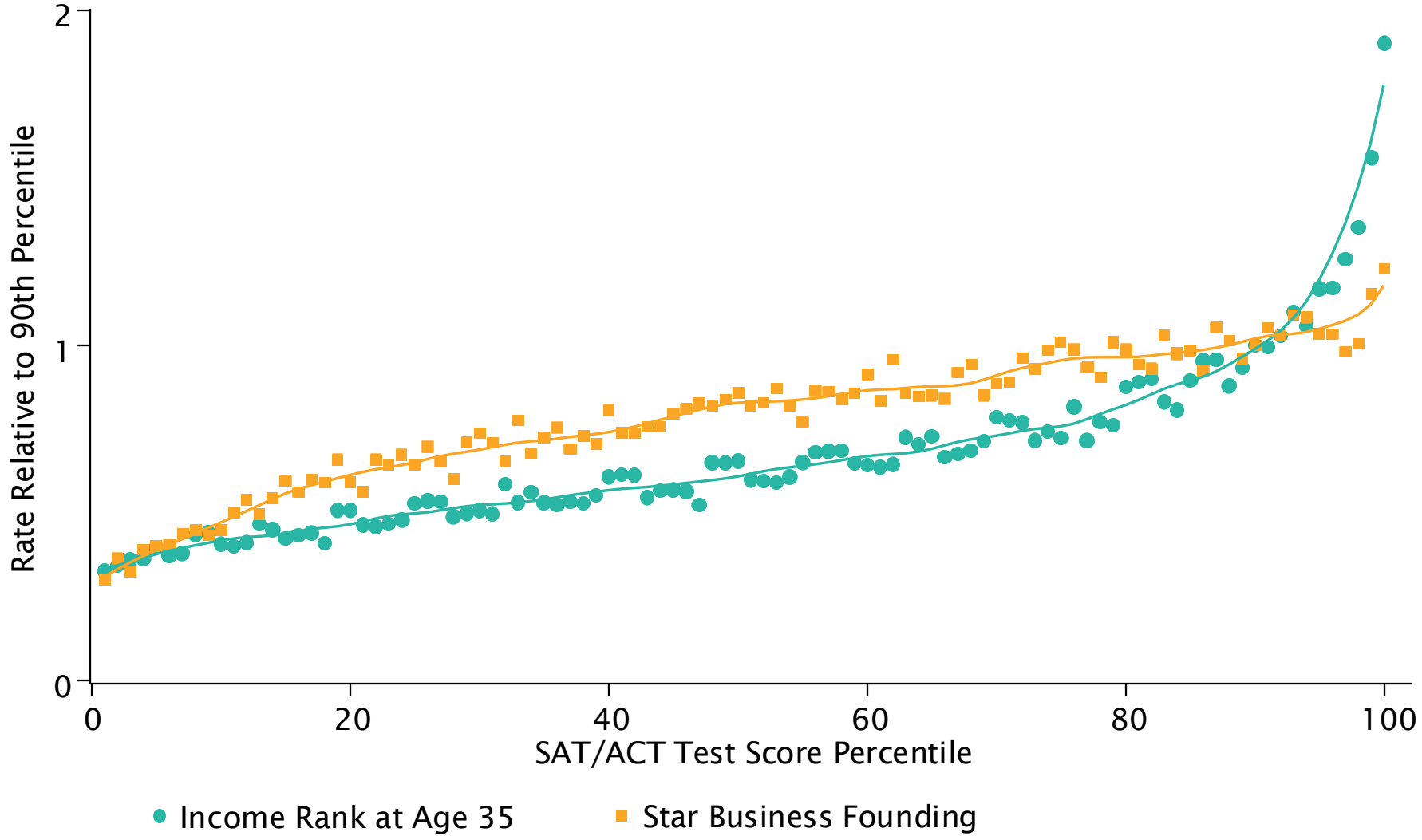
Entrepreneurship Rates and Income vs. Standardized Test Scores

Sample: 1978-1982 Birth Cohorts who take SAT/ACT



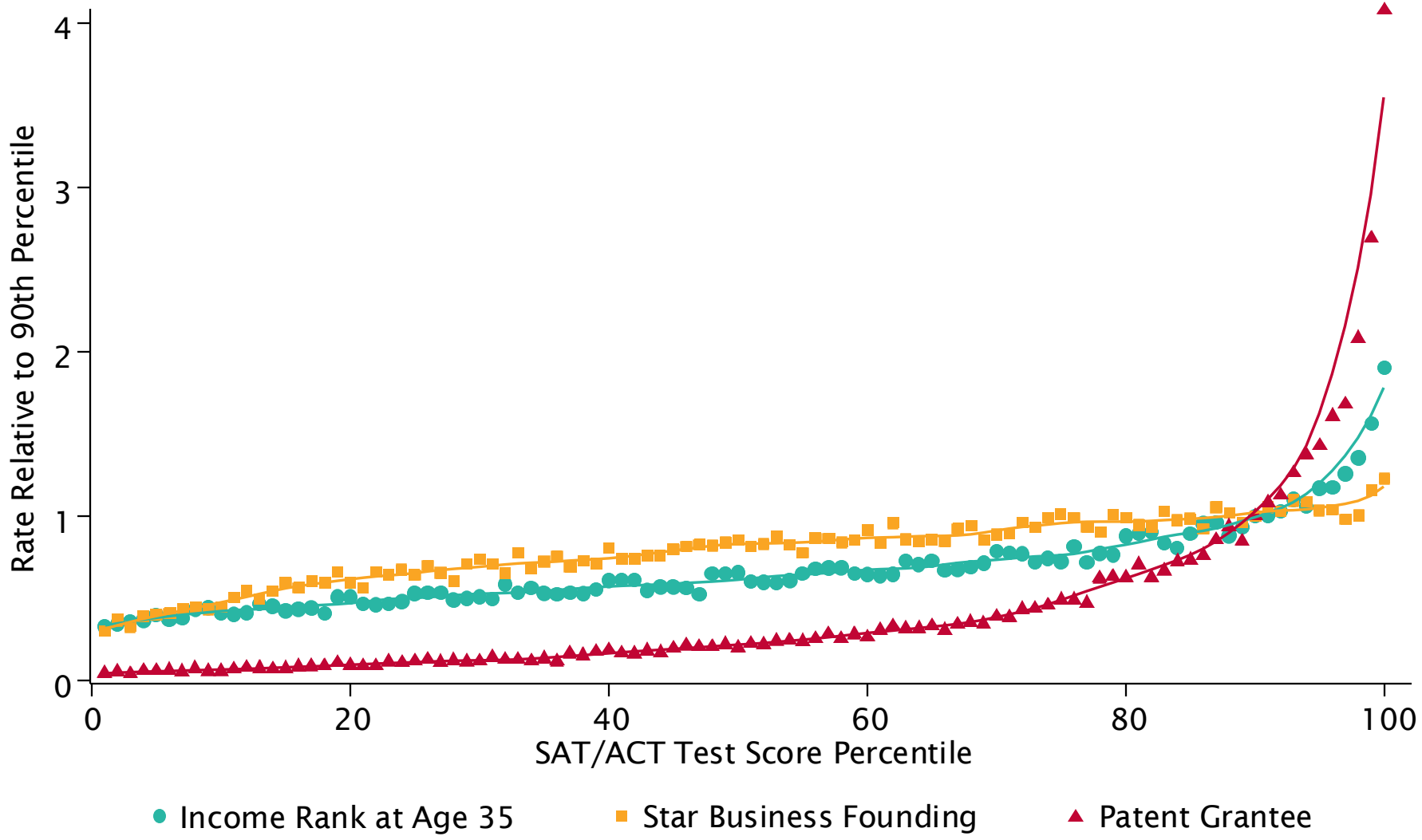
Entrepreneurship Rates and Income vs. Standardized Test Scores

Sample: 1978-1982 Birth Cohorts who take SAT/ACT



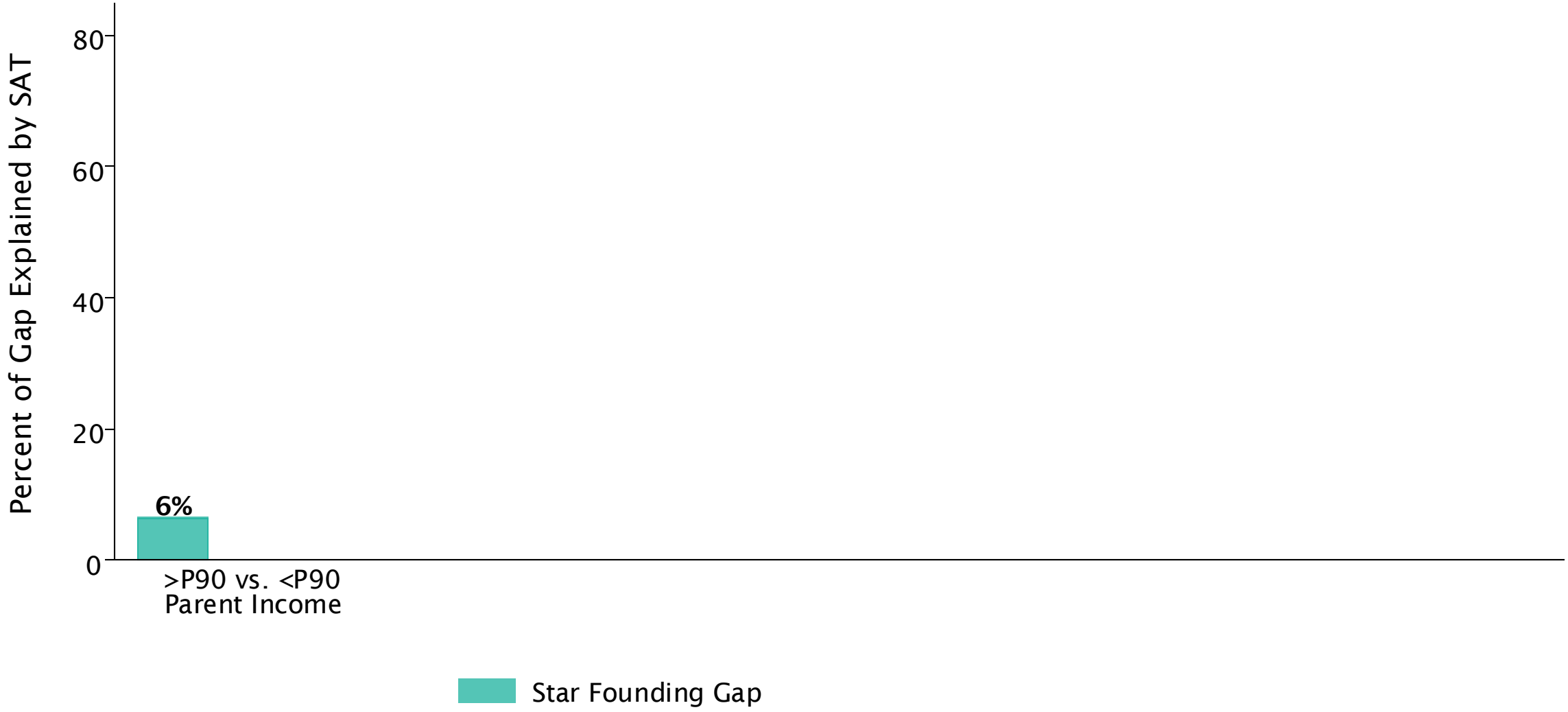
Entrepreneurship Rates and Income vs. Standardized Test Scores

Sample: 1978-1982 Birth Cohorts who take SAT/ACT



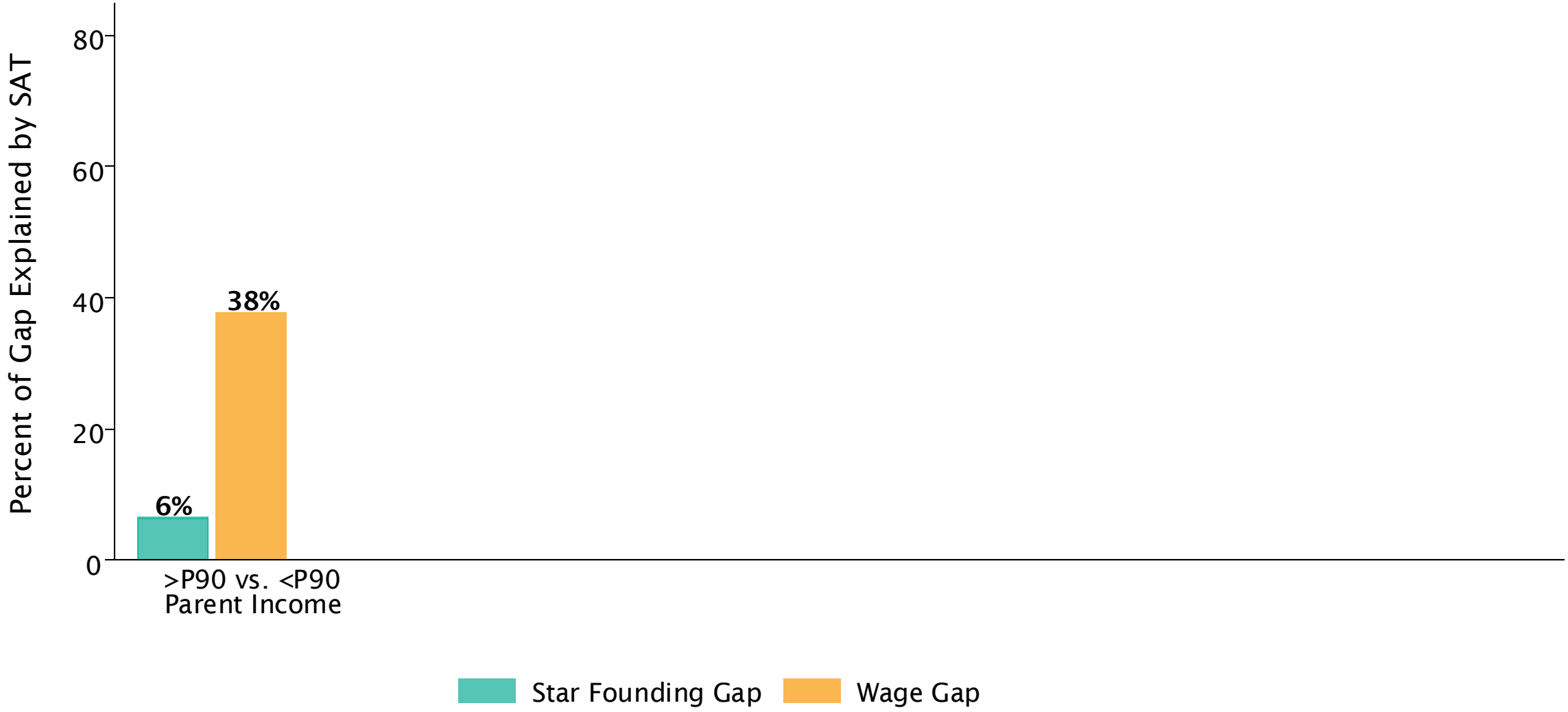
Entrepreneurship vs. Income Gaps Explained by Test Scores

Sample: Star Founders between 2000 and 2022



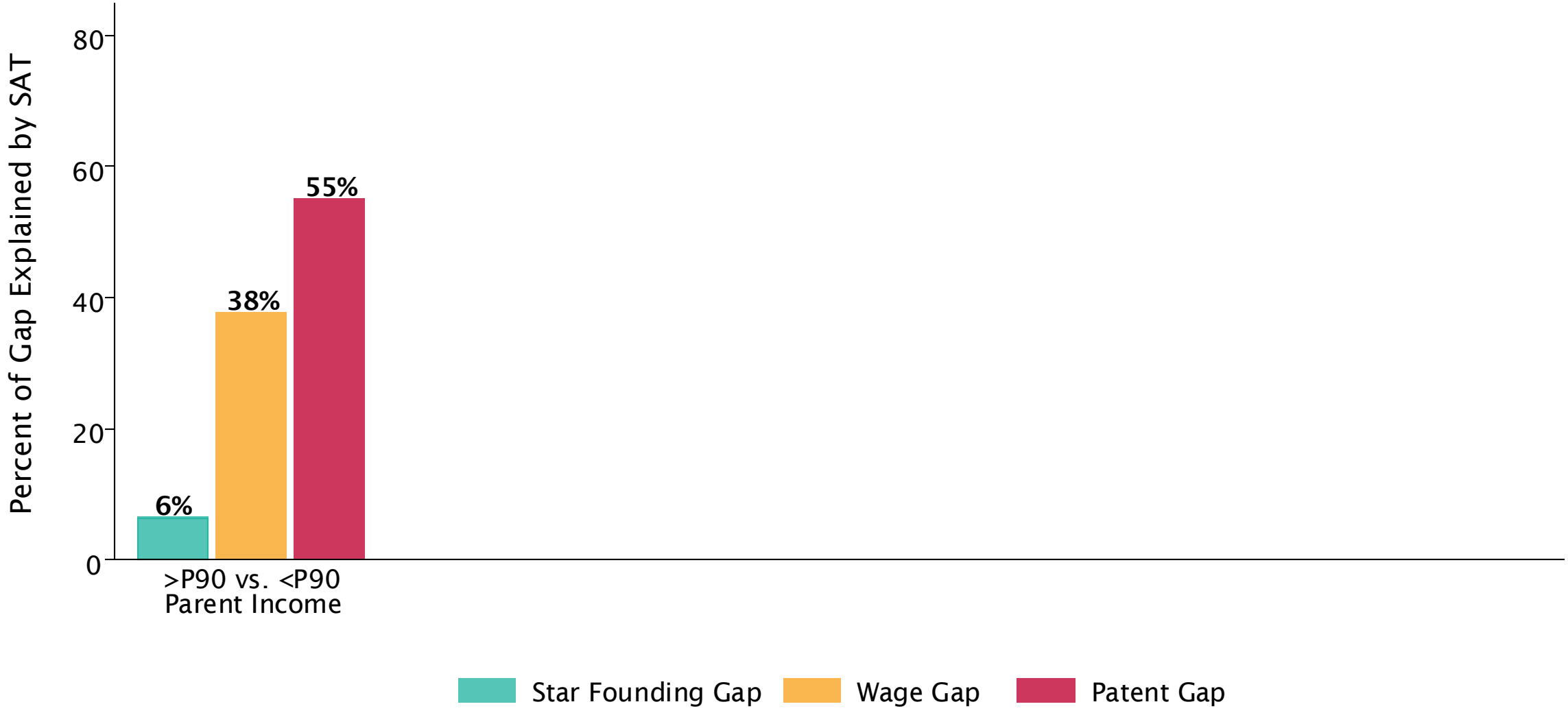
Entrepreneurship vs. Income Gaps Explained by Test Scores

Sample: Star Founders between 2000 and 2022



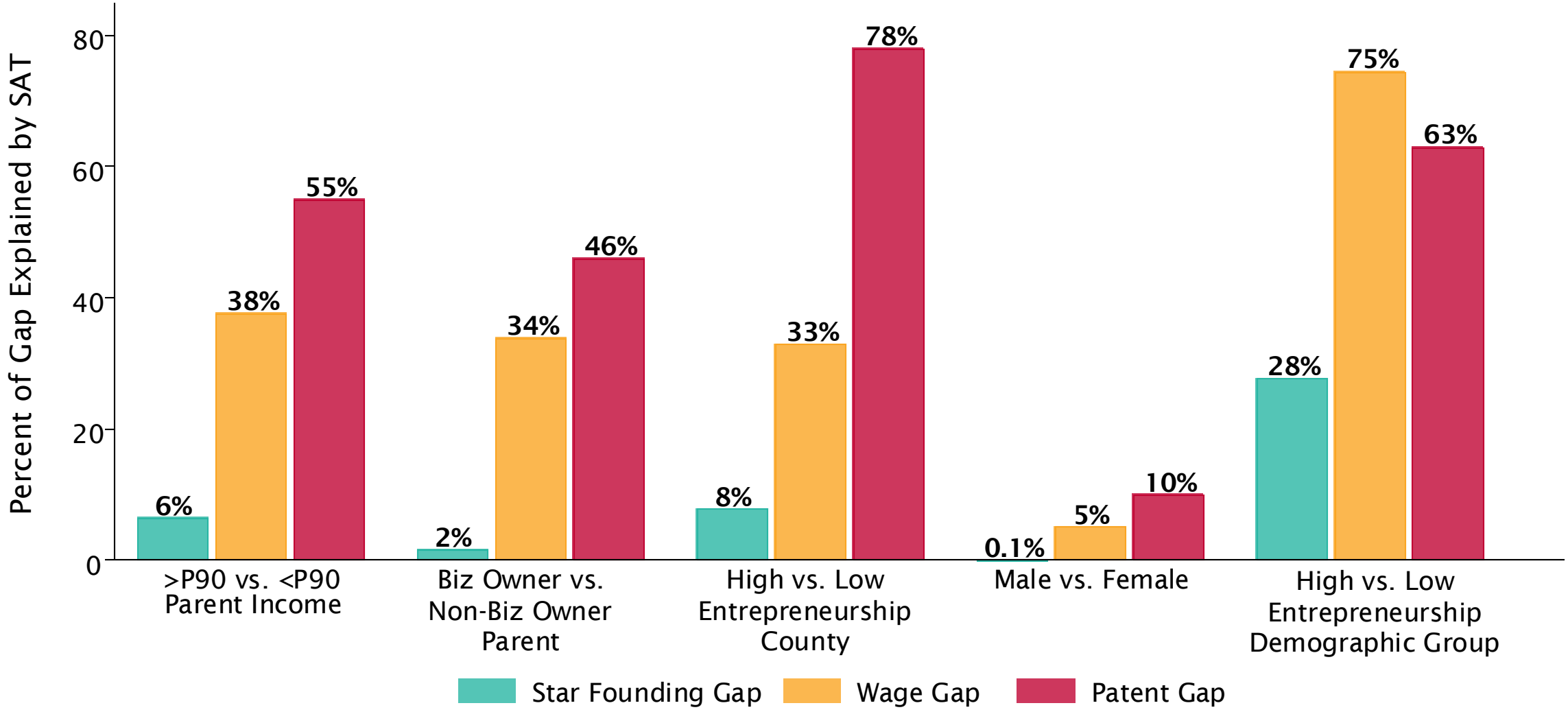
Entrepreneurship vs. Income Gaps Explained by Test Scores

Sample: Star Founders between 2000 and 2022

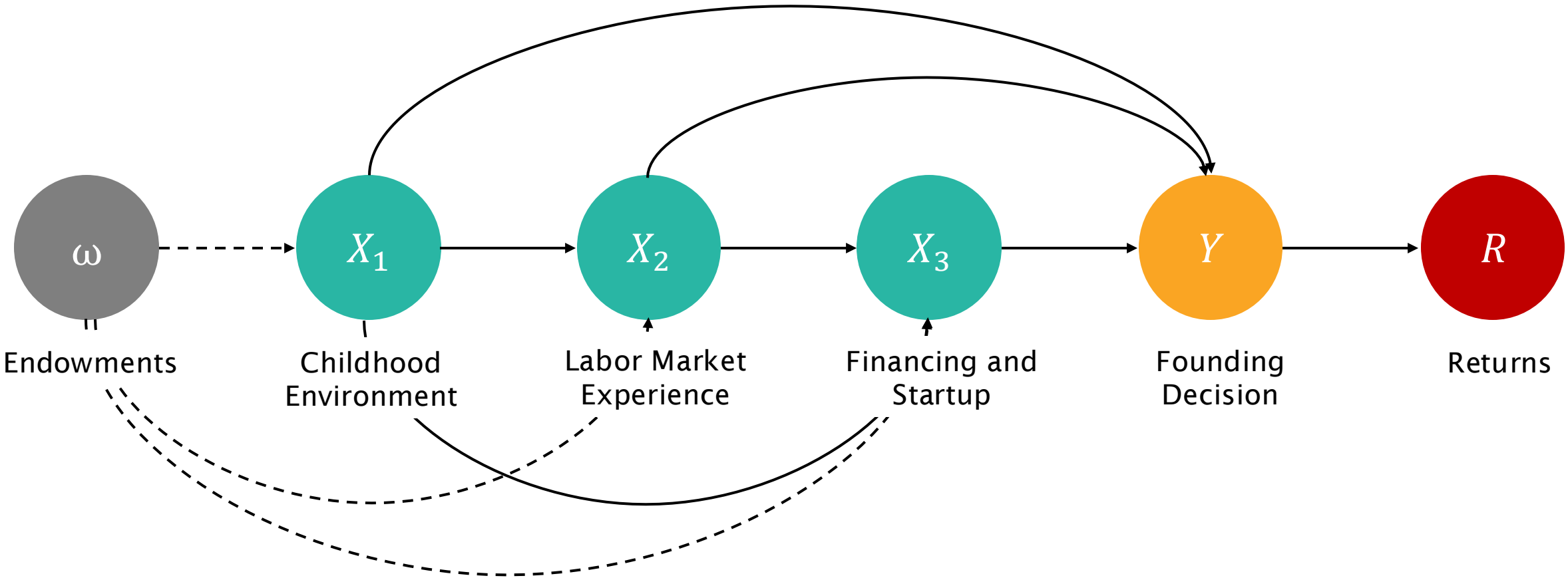


Entrepreneurship vs. Income Gaps Explained by Test Scores

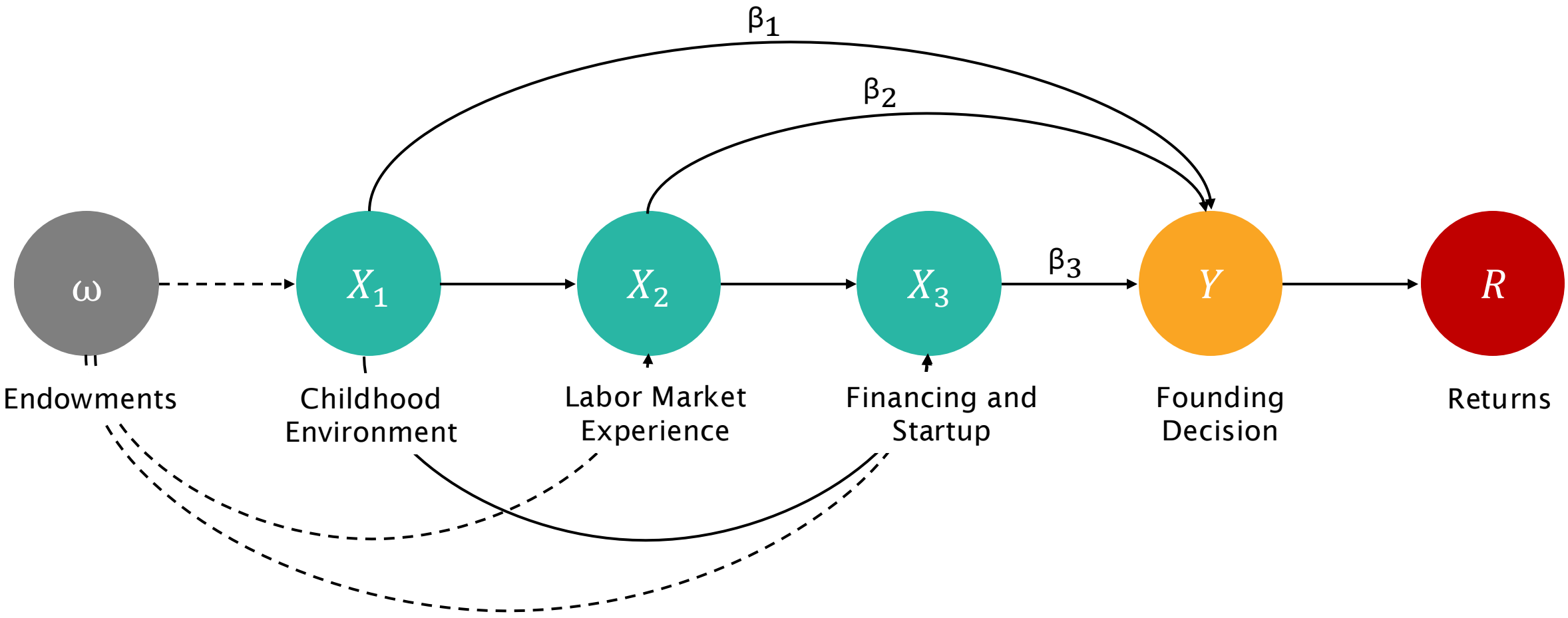
Sample: Star Founders between 2000 and 2022



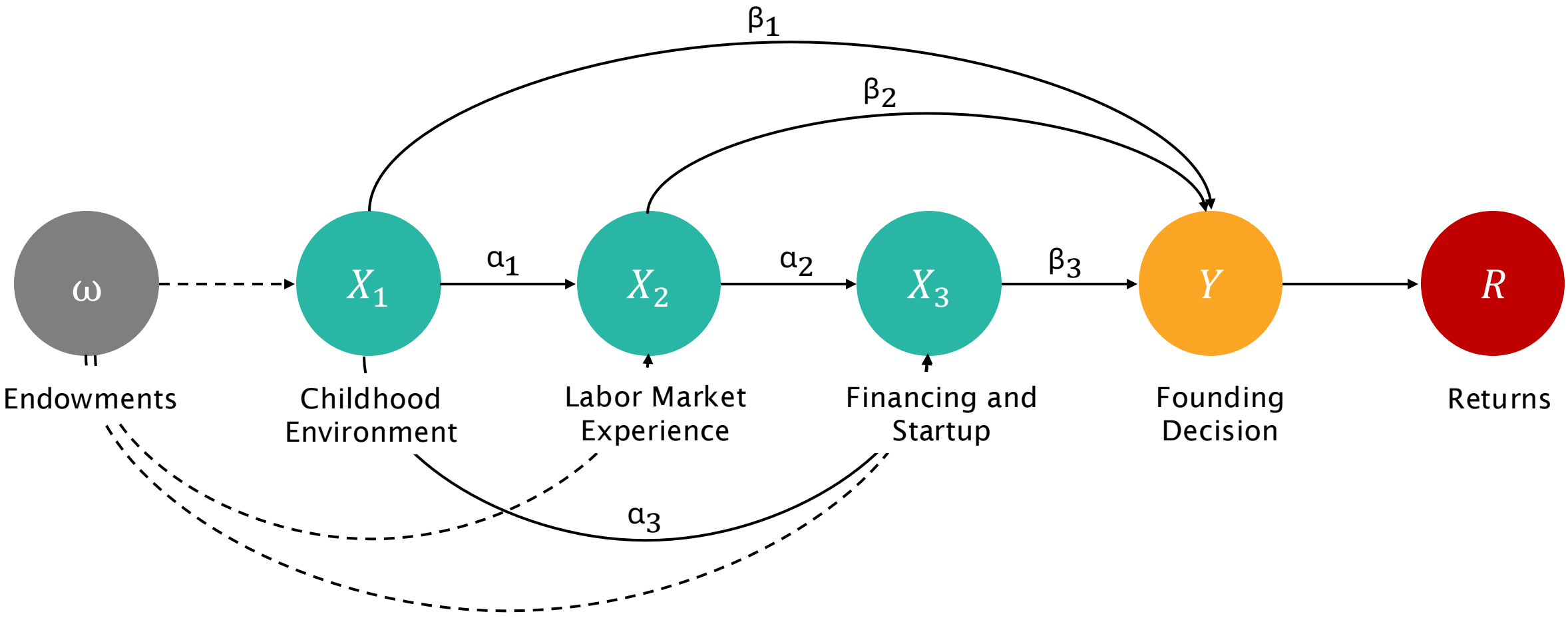
The Entrepreneurial Pipeline



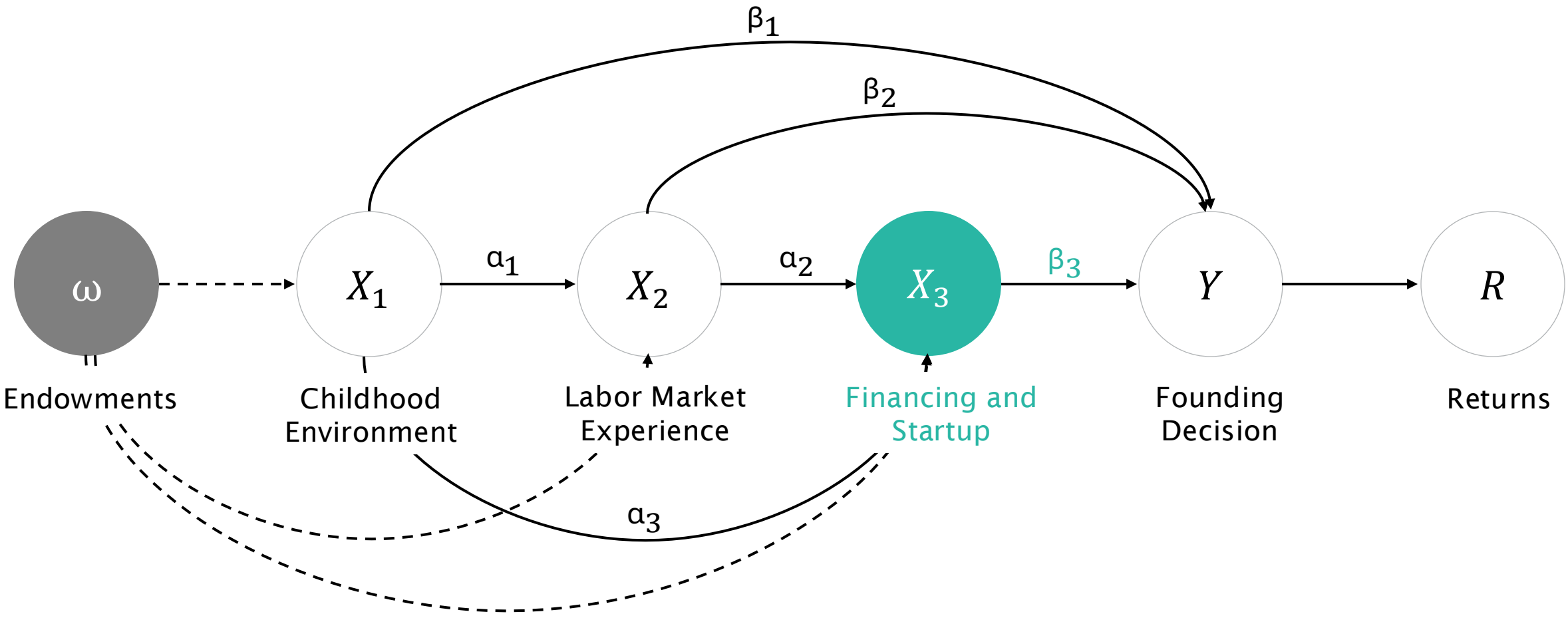
The Entrepreneurial Pipeline



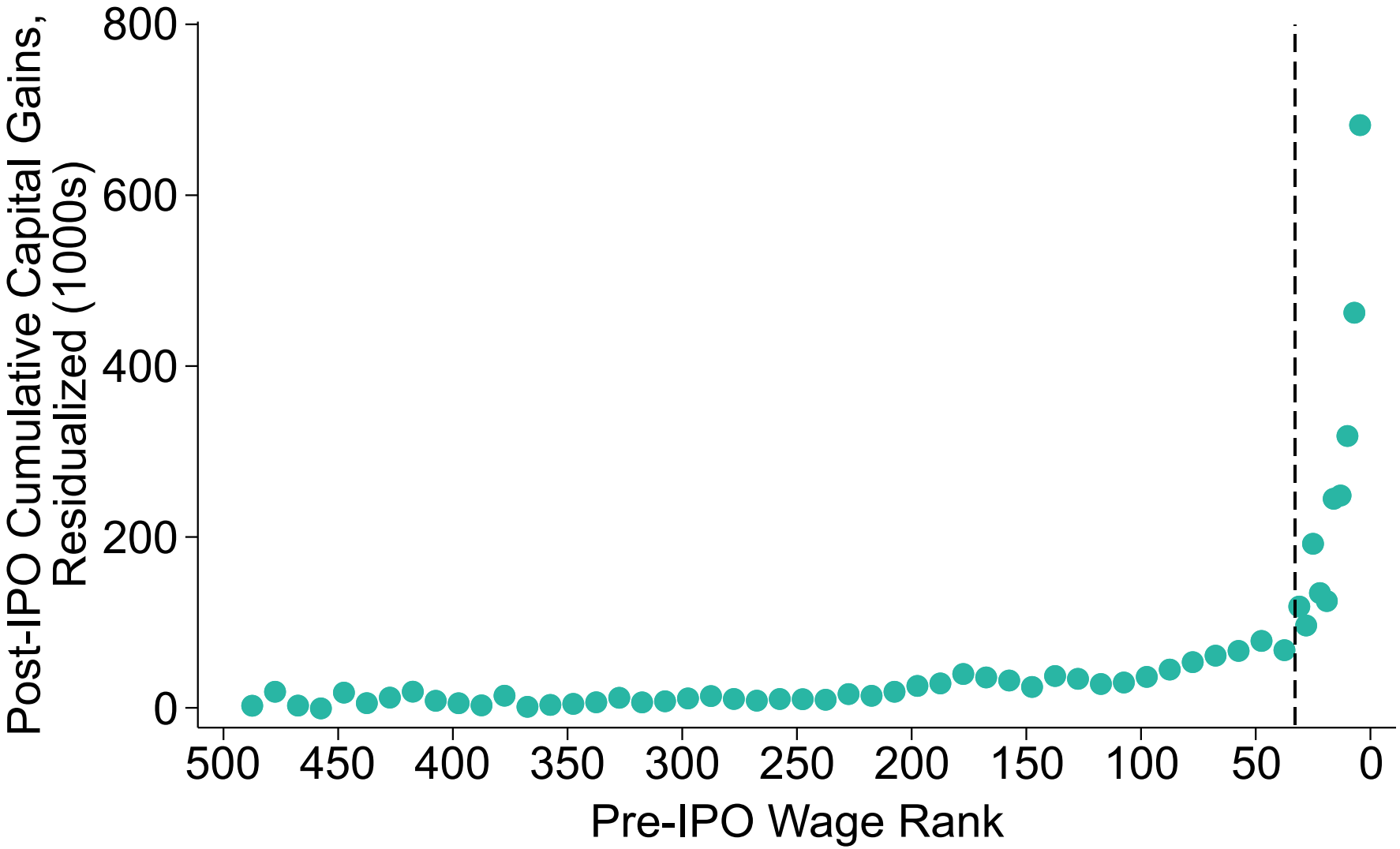
The Entrepreneurial Pipeline



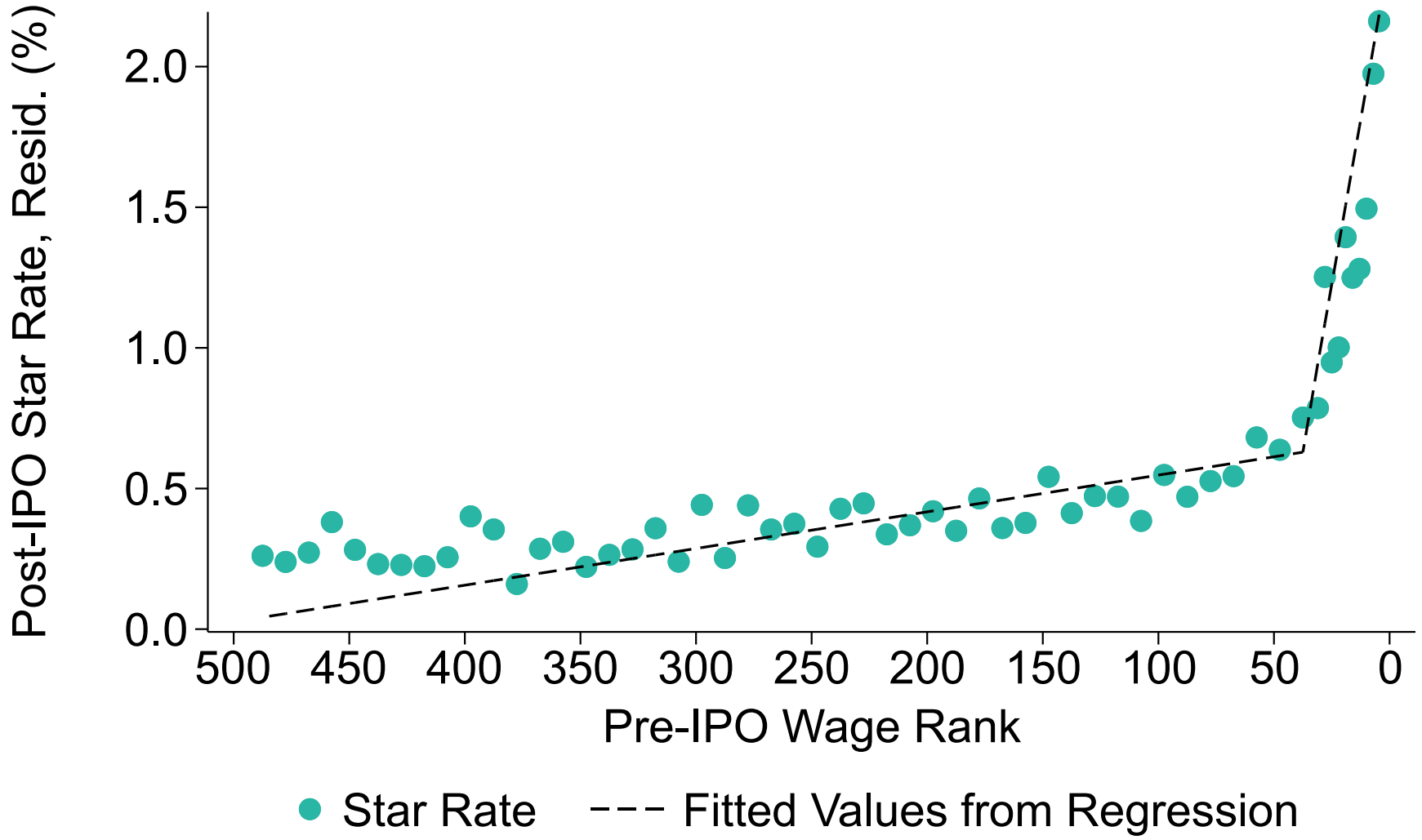
The Entrepreneurial Pipeline I: Liquid Wealth



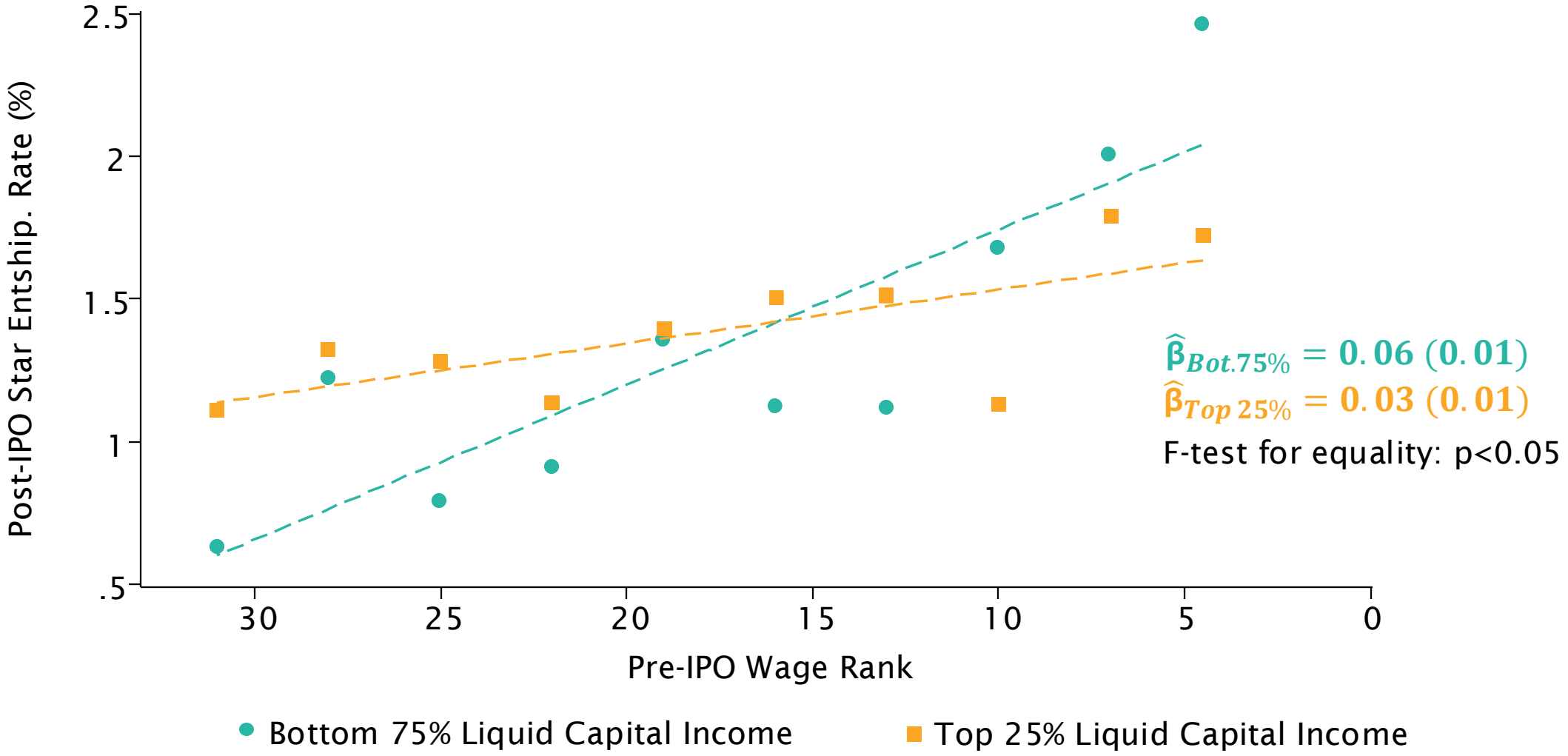
Wealth Windfall by Wage Rank in Initial Public Offerings



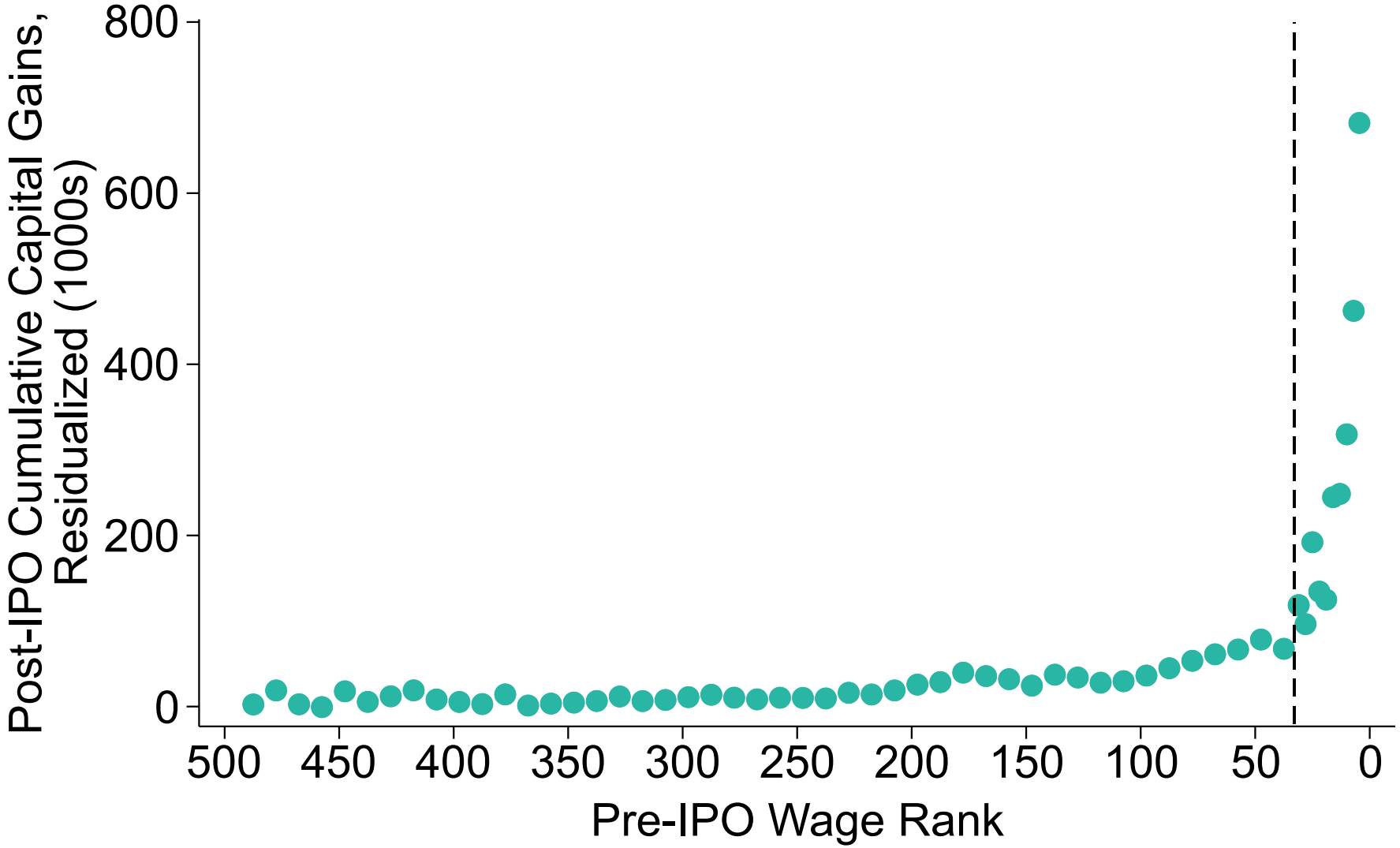
Impact of IPO Cash Windfalls on Subsequent Entrepreneurship Rates



Impact of IPO Cash Windfalls on Subsequent Entrepreneurship Rates



First Stage IPO Total Wealth Windfall



Change in wage rank of 10 positions increases IPO wealth by $3.66M

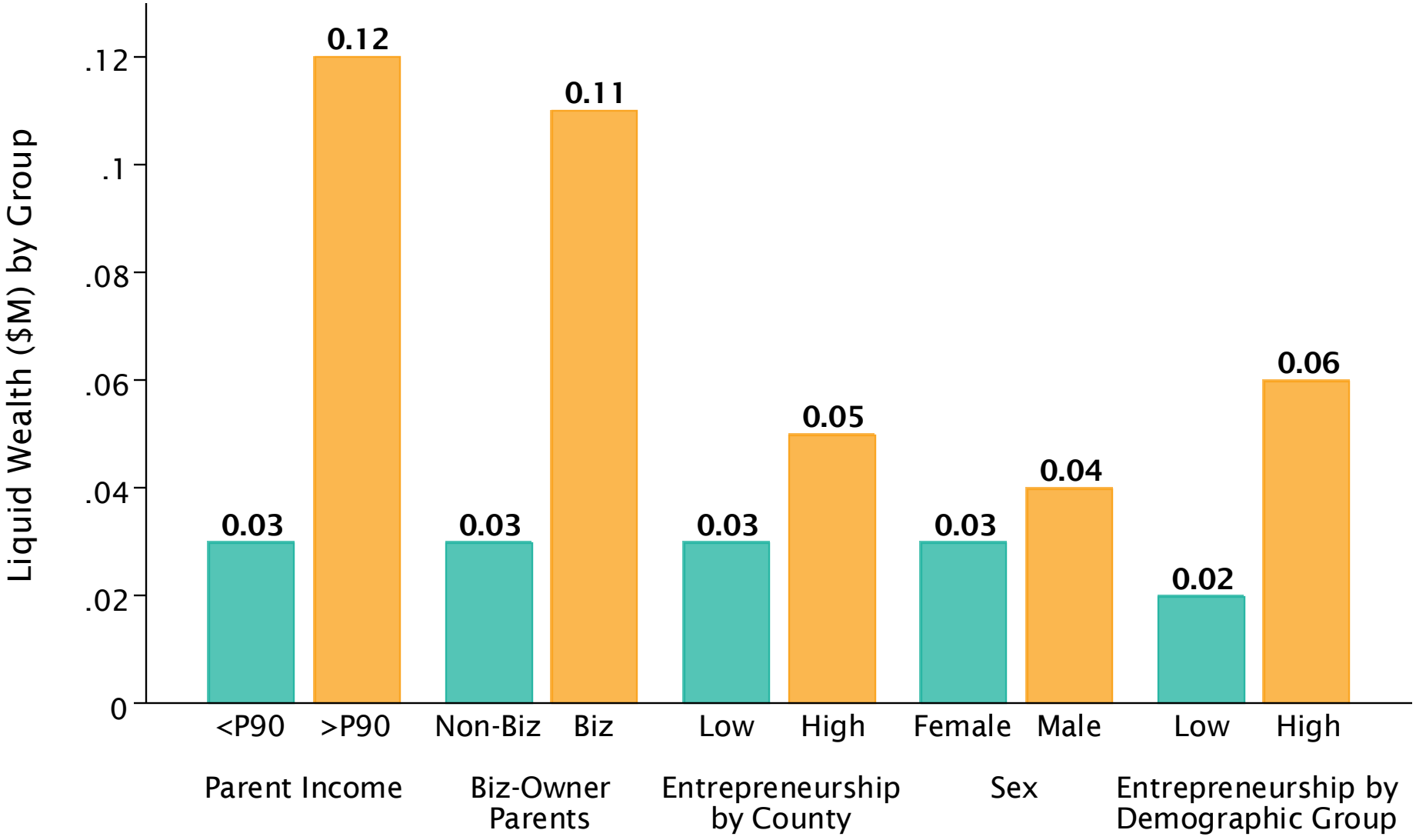
↓

Reduced form effect of 0.5% star ents per change of 10 positions

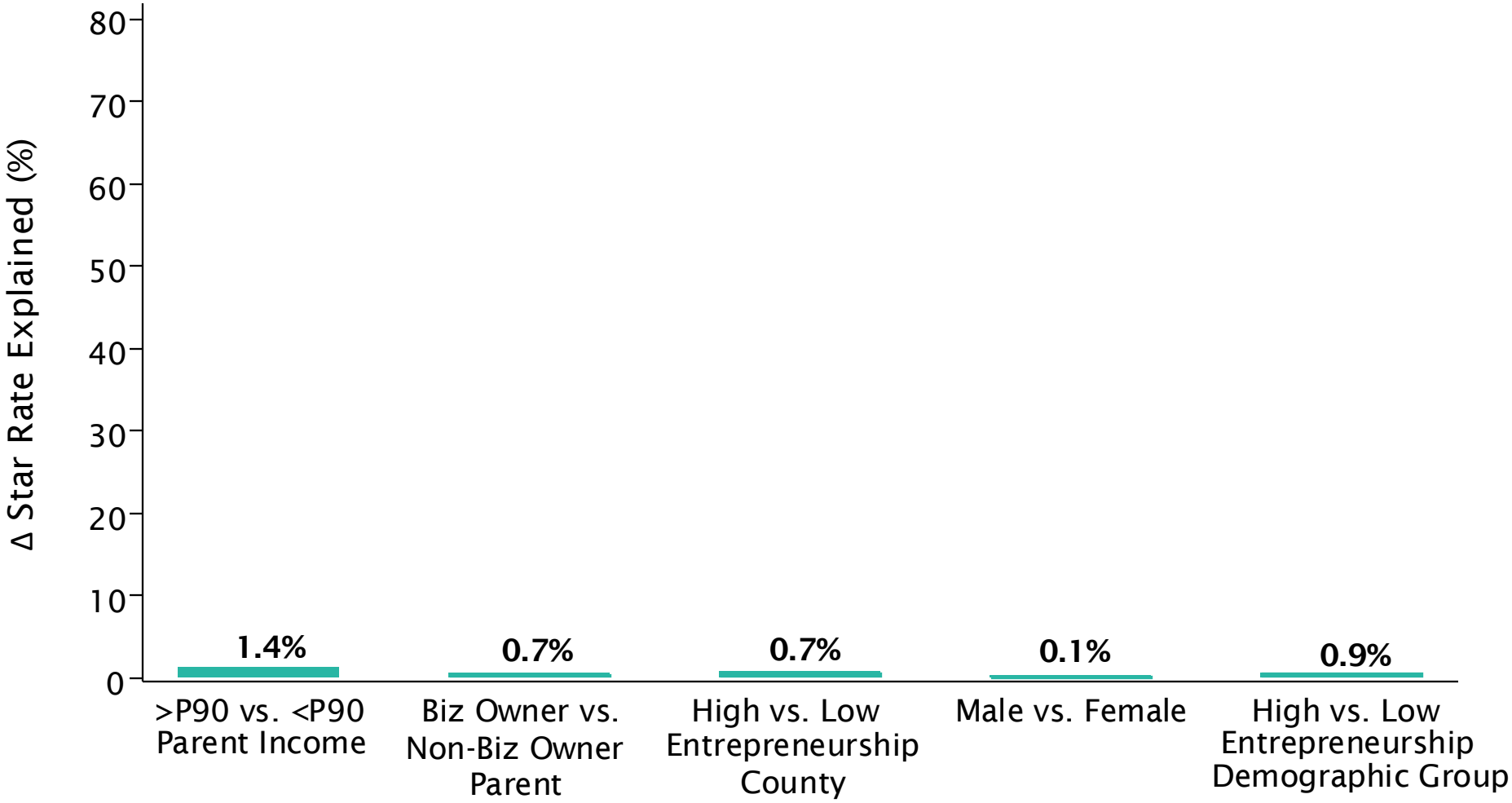
↓

$\hat{\beta}_3 = 0.1\%$ more star ents per $1M of liquid wealth

Gaps in Liquid Wealth by Group

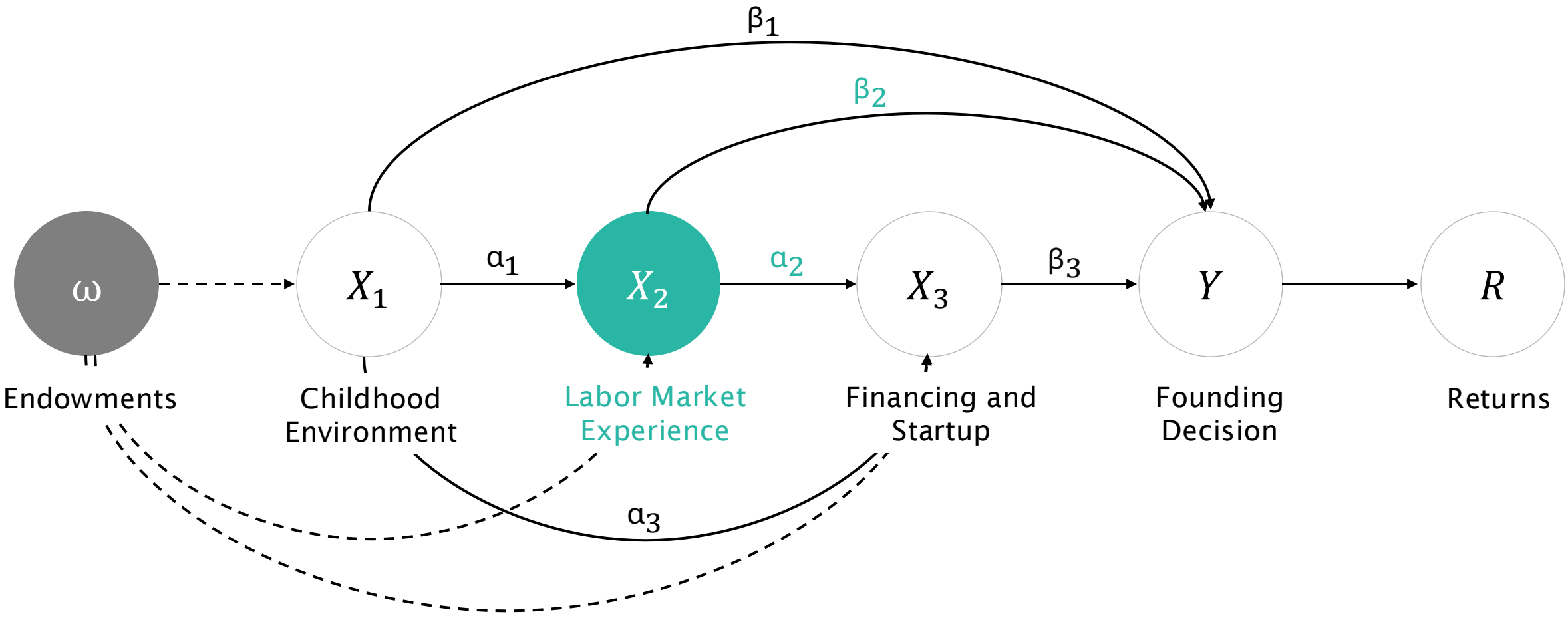


Differences in Wealth Account for a Small Share of Entrepreneurship Gap



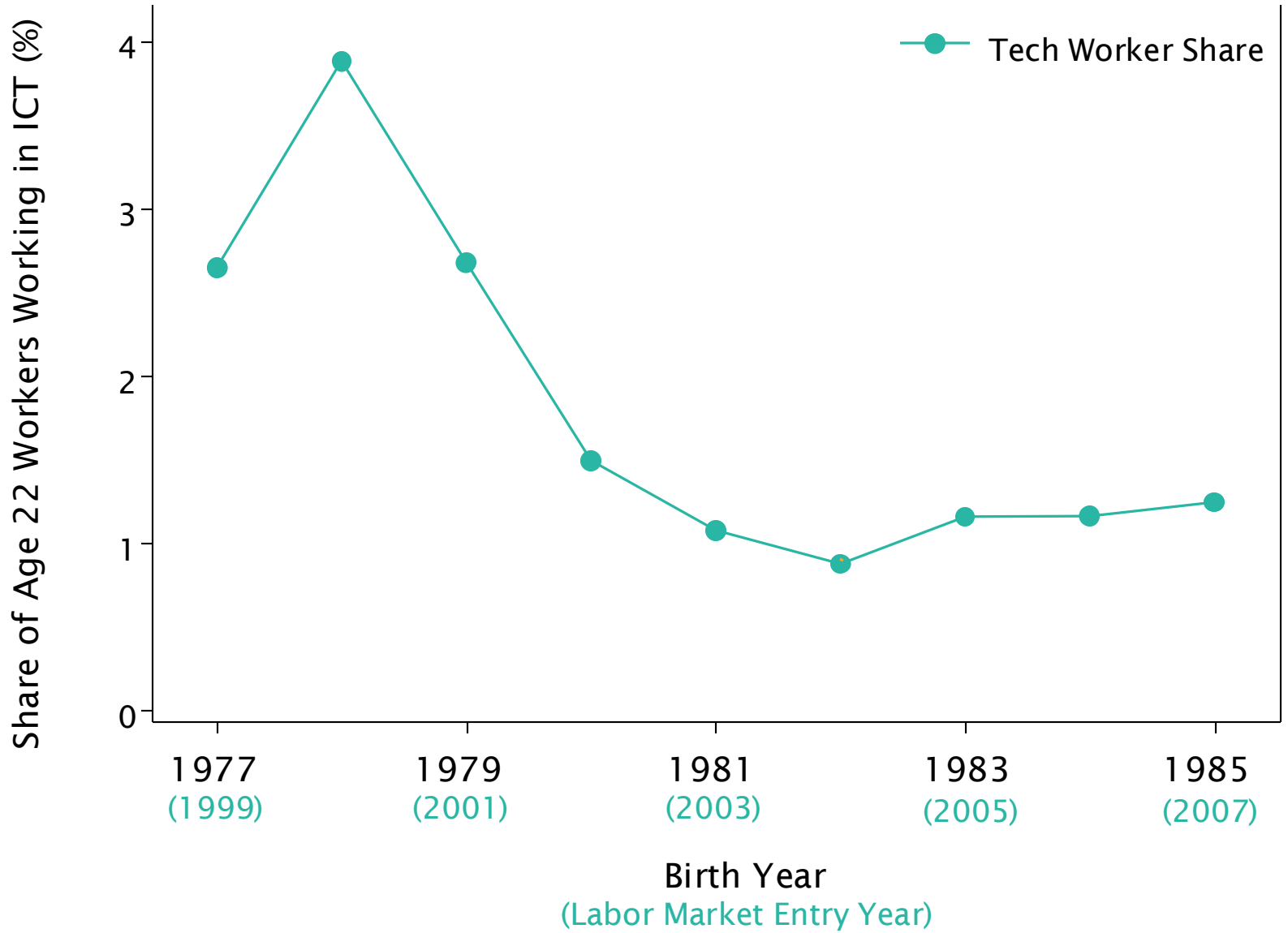
Share of Gap Explained by Liquid Wealth = $\hat{\beta}_3 \times \Delta$ Liquid Wealth / Δ Entrepreneurship

The Entrepreneurial Pipeline II: Labor Market Experience



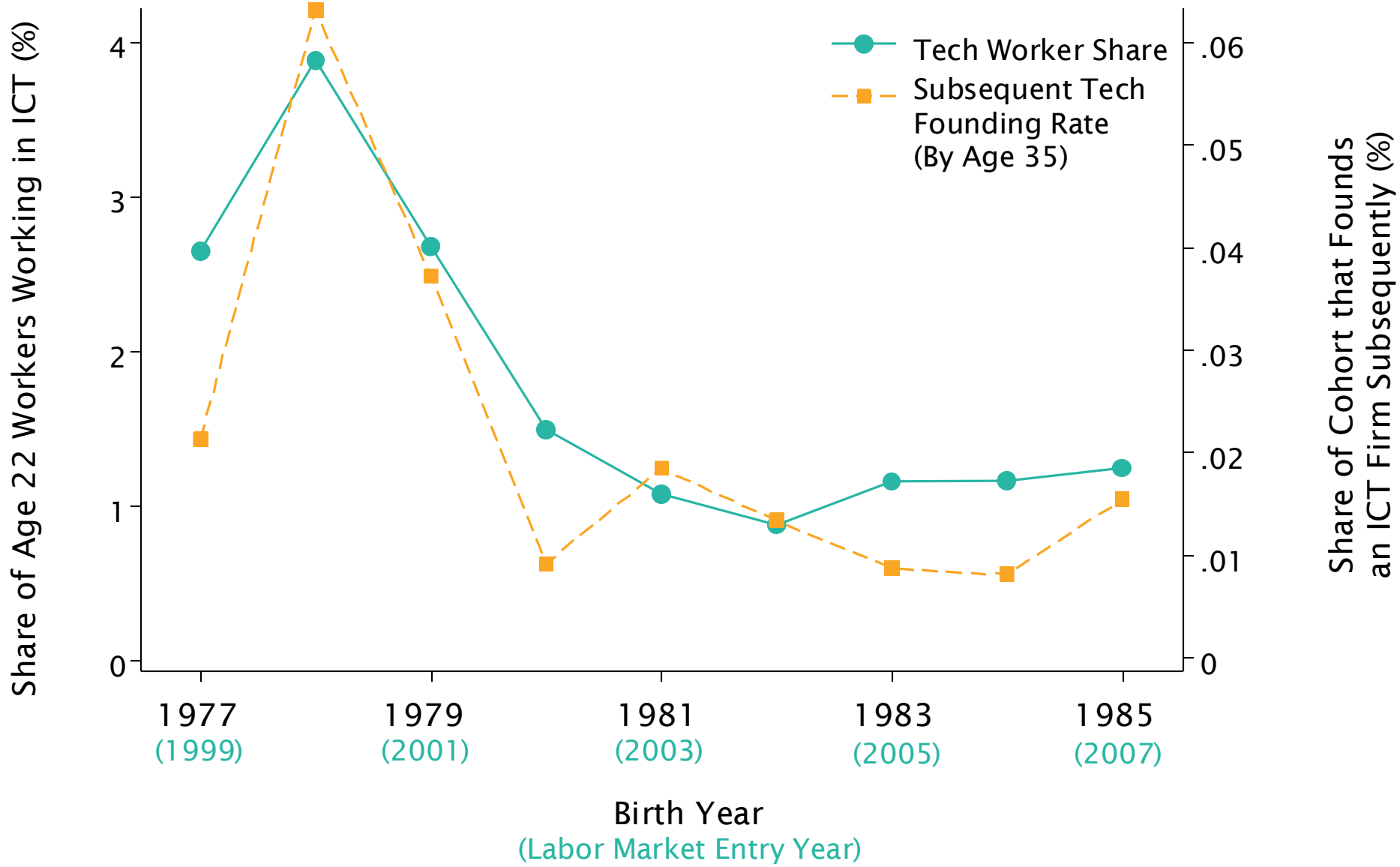
Impacts of First Job on Founding: Dot-Com Boom Illustration

Individuals Living in San Francisco at Age 22



Impacts of First Job on Founding: Dot-Com Boom Illustration

Individuals Living in San Francisco at Age 22



Estimating the Impact of Initial Labor Market Experience

Build on this example to investigate whether initial sector in which a person works affects overall founding rates, exploiting high-frequency labor demand fluctuations

Design: exploit fluctuations in labor demand across cohorts by sector within counties

- Some industries produce more entrepreneurs than others (e.g., computer design vs. semiconductor manufacturing; auto repair vs. auto manufacturing)
- If those industries are hiring more when you graduate from college in your county, are you more likely to become an entrepreneur?
- ID assumption: Cross-cohort fluctuations in demand by sector are uncorrelated with potential founding rates in subsequent years across cohorts



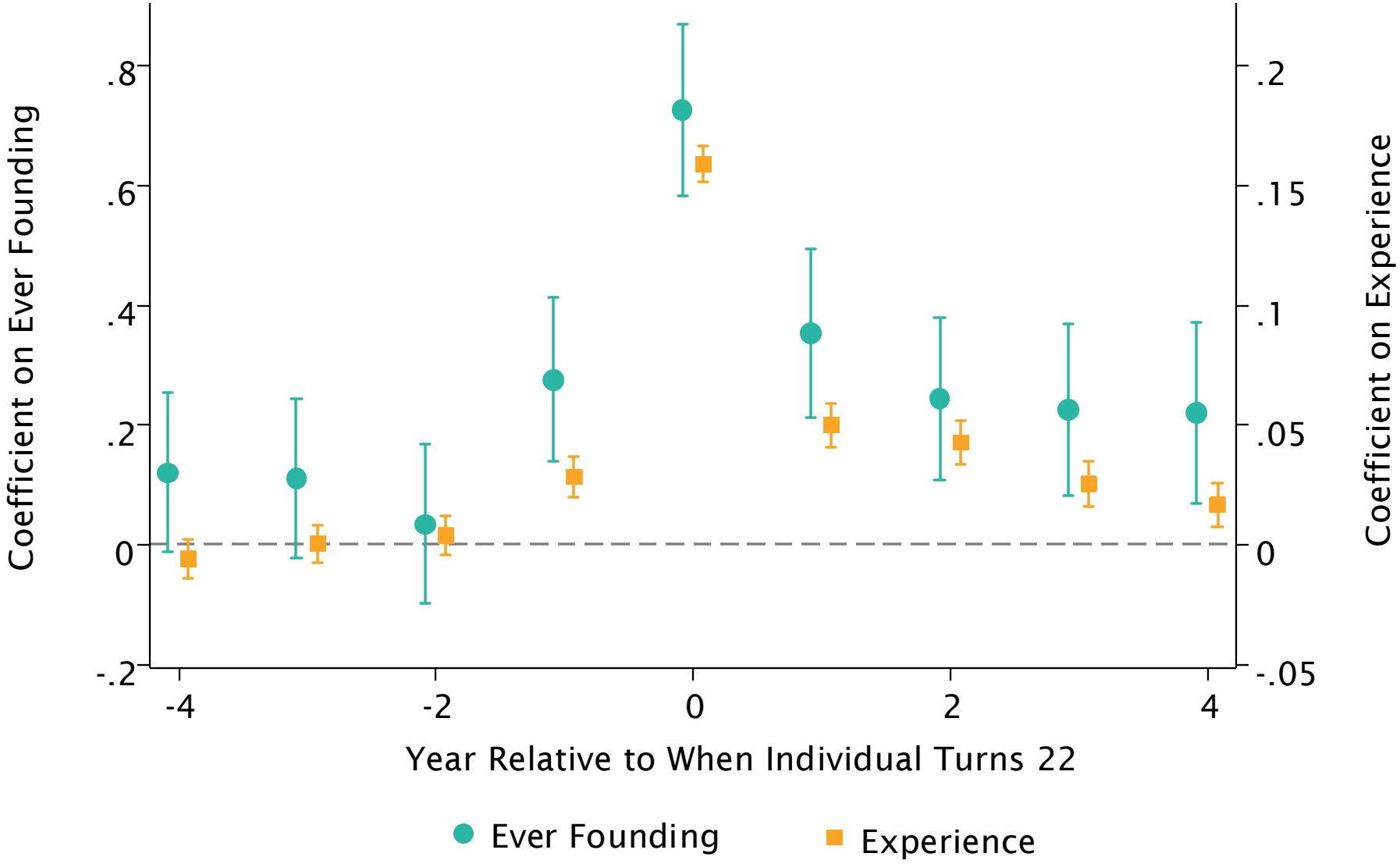
Impacts of Early Labor Market Experience on Business Founding Rates



Note: x and y variables are residuals from regressions on age 22 county and cohort fixed effects

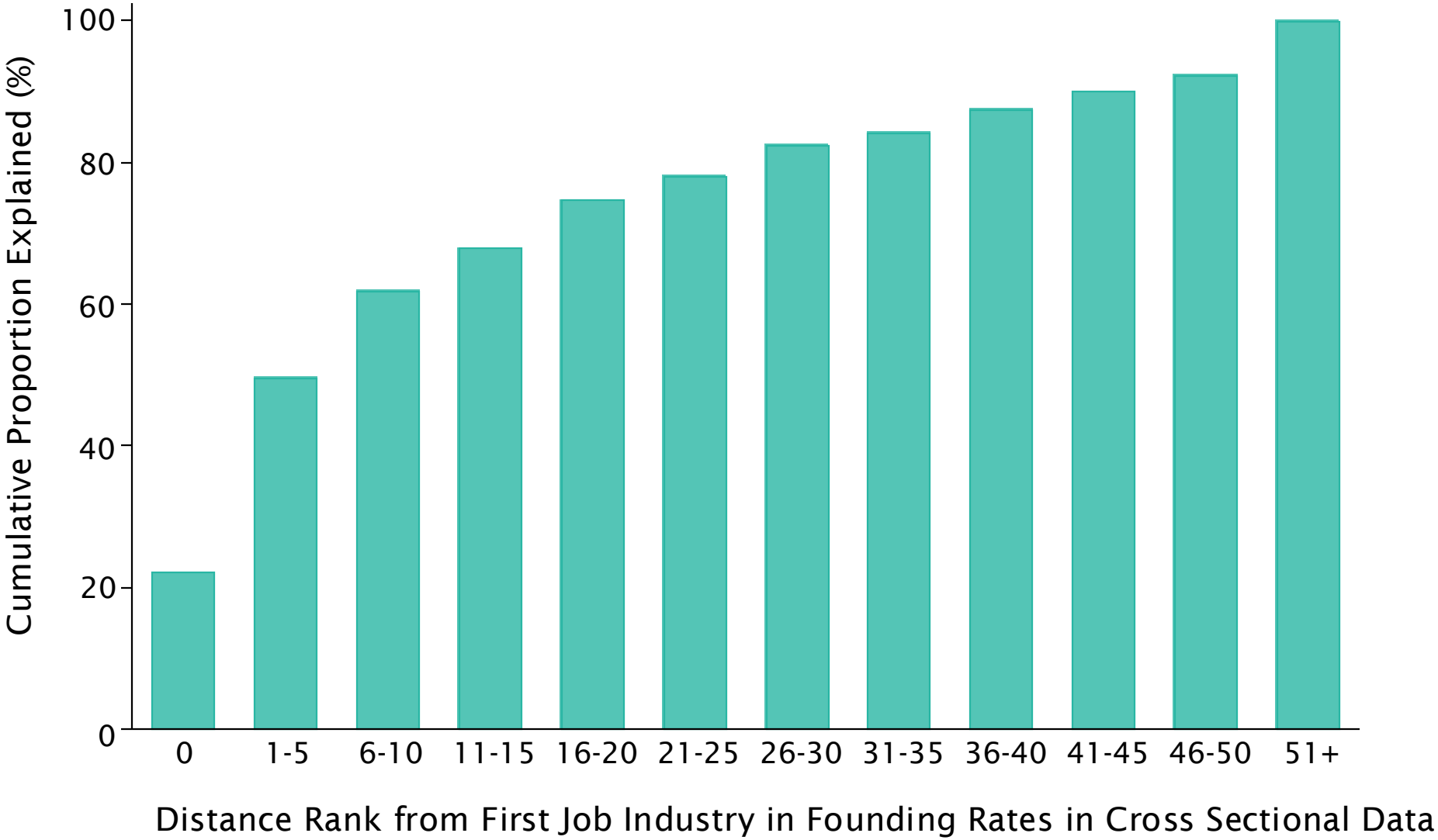
Impact of Labor Market Hiring Shocks on Subsequent Business Founding

Coefficients on Leads and Lags of Shocks from Separate OLS Regressions

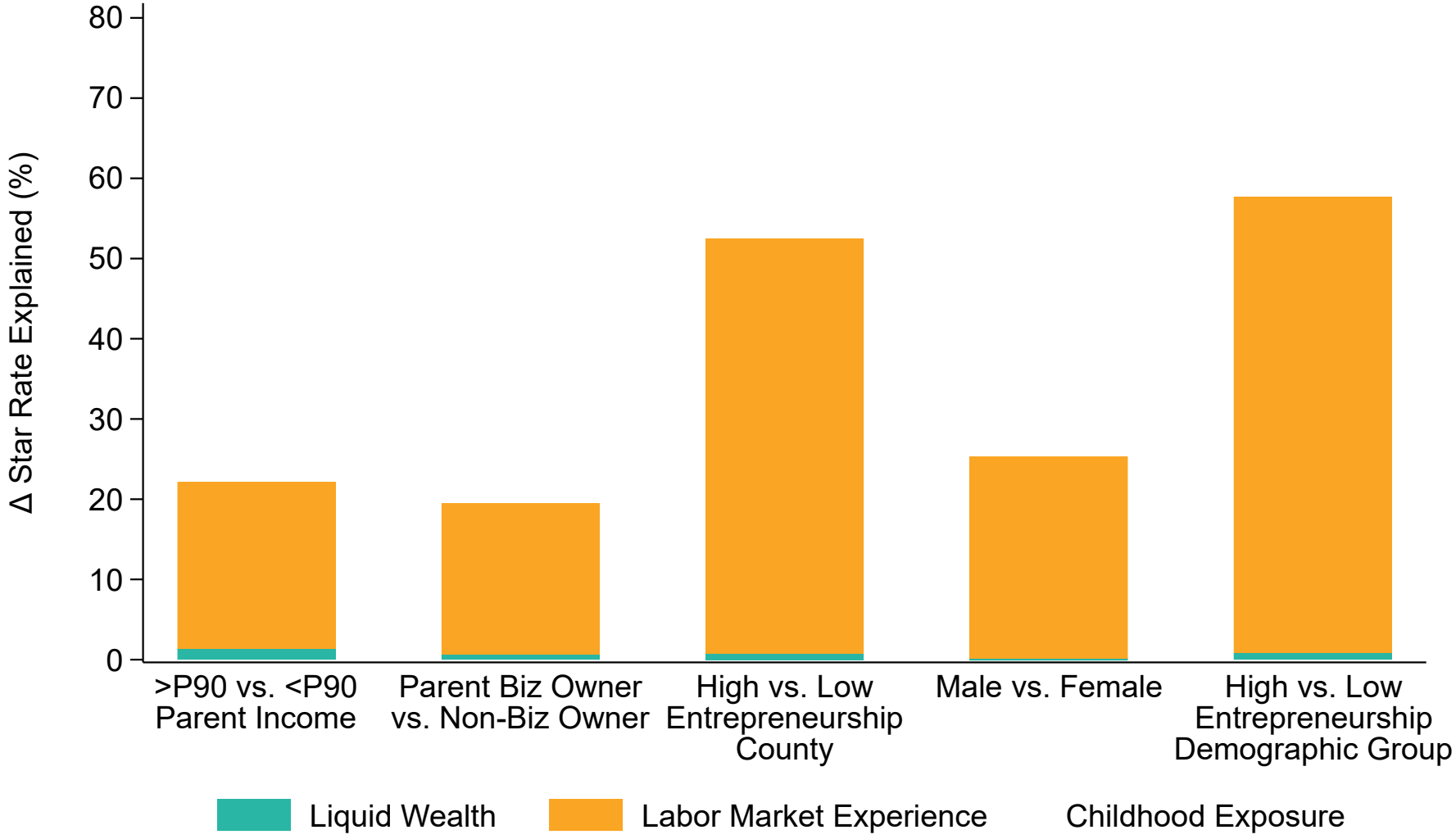


Impacts of Labor Market Experience on Founding Rates Across Industries

Distance Between Industry (4 Digit NAICS) of Business Founding and Industry of Initial Job

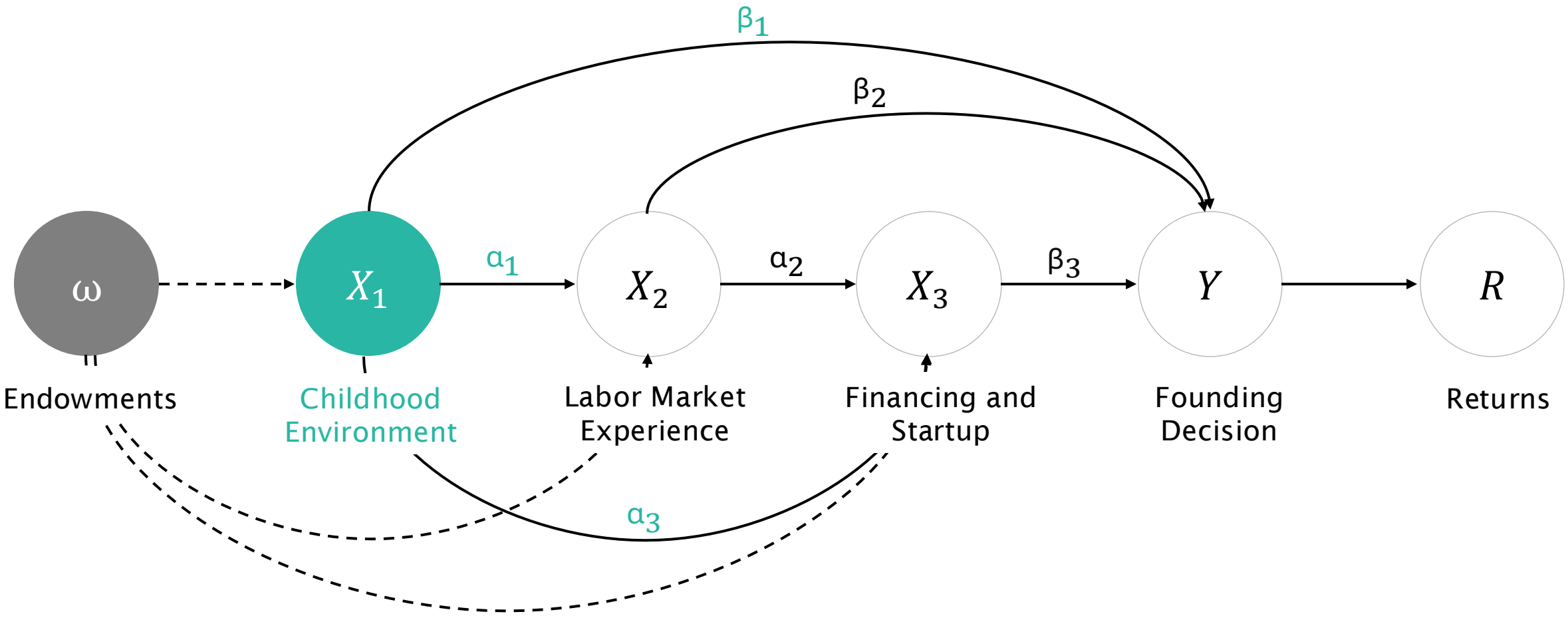


Initial Labor Market Experience Accounts for Large Share of Gaps



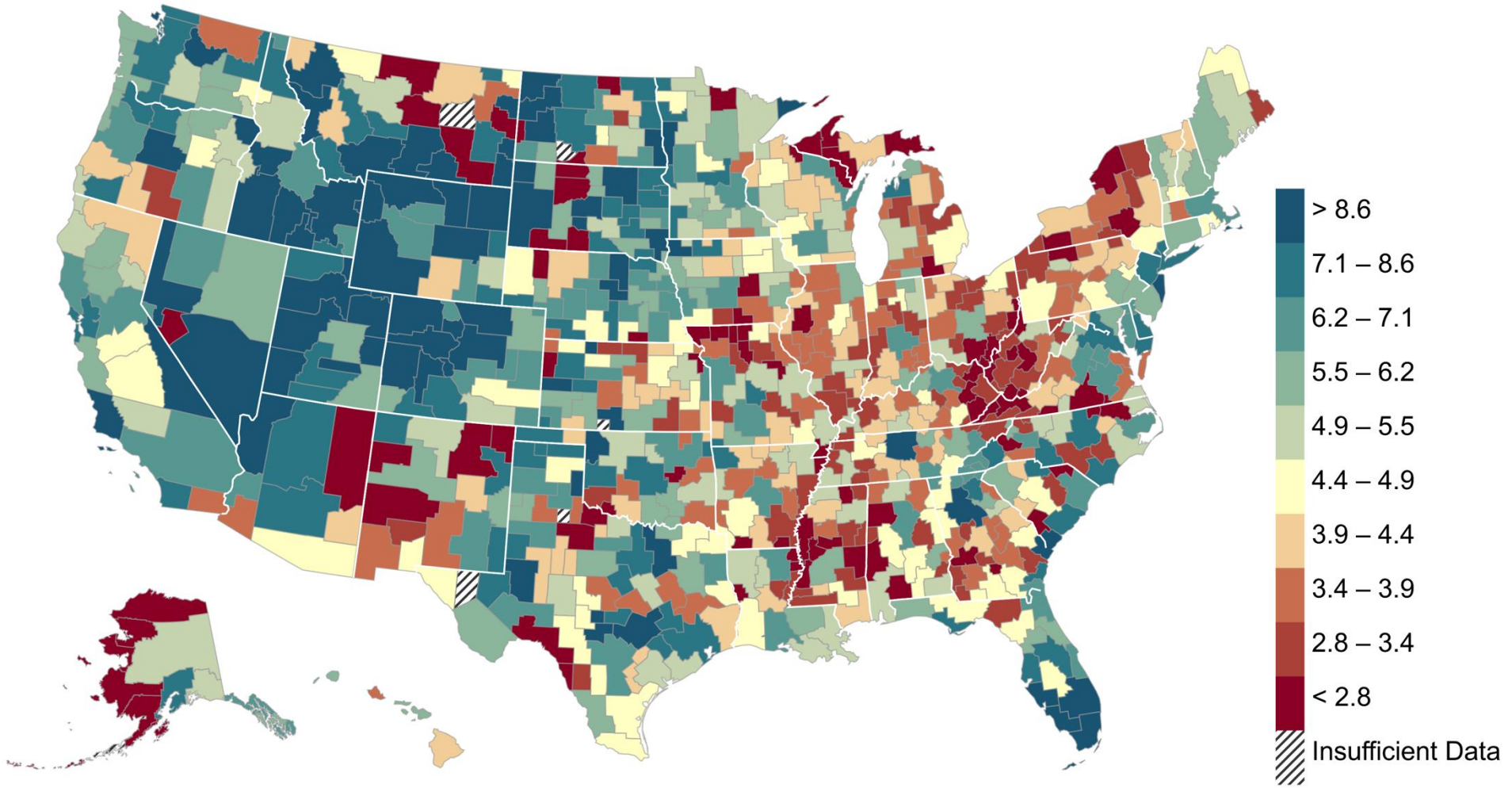
Share of gap explained by experience = $\hat{\beta}_2 \times \Delta$ Experience / Δ Entrepreneurship

The Entrepreneurial Pipeline III: Childhood Exposure



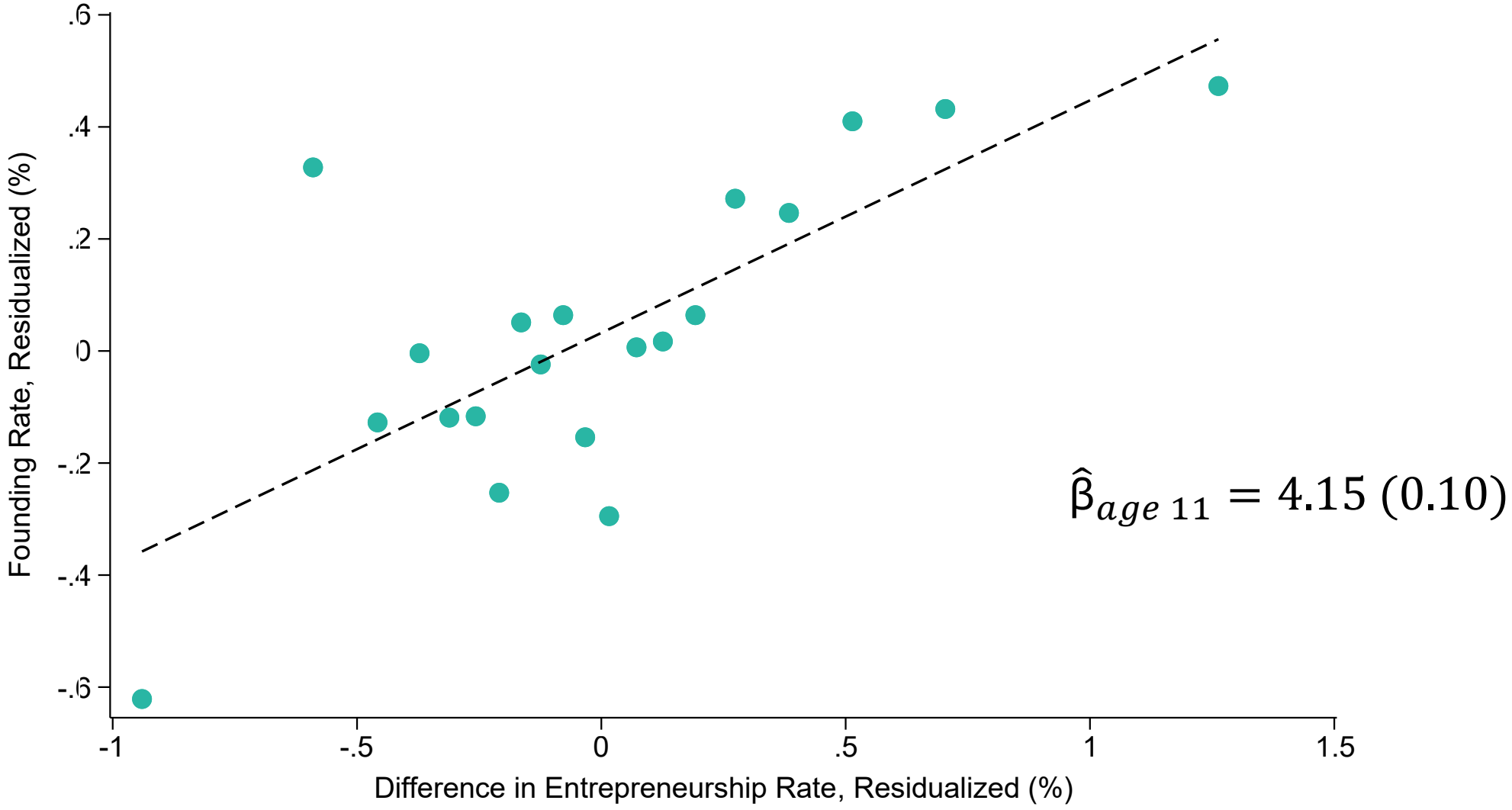
The Geography of Entrepreneurship in America

Number of Star Founders Between 2000-2022 per 1,000 Adults, by Commuting Zone

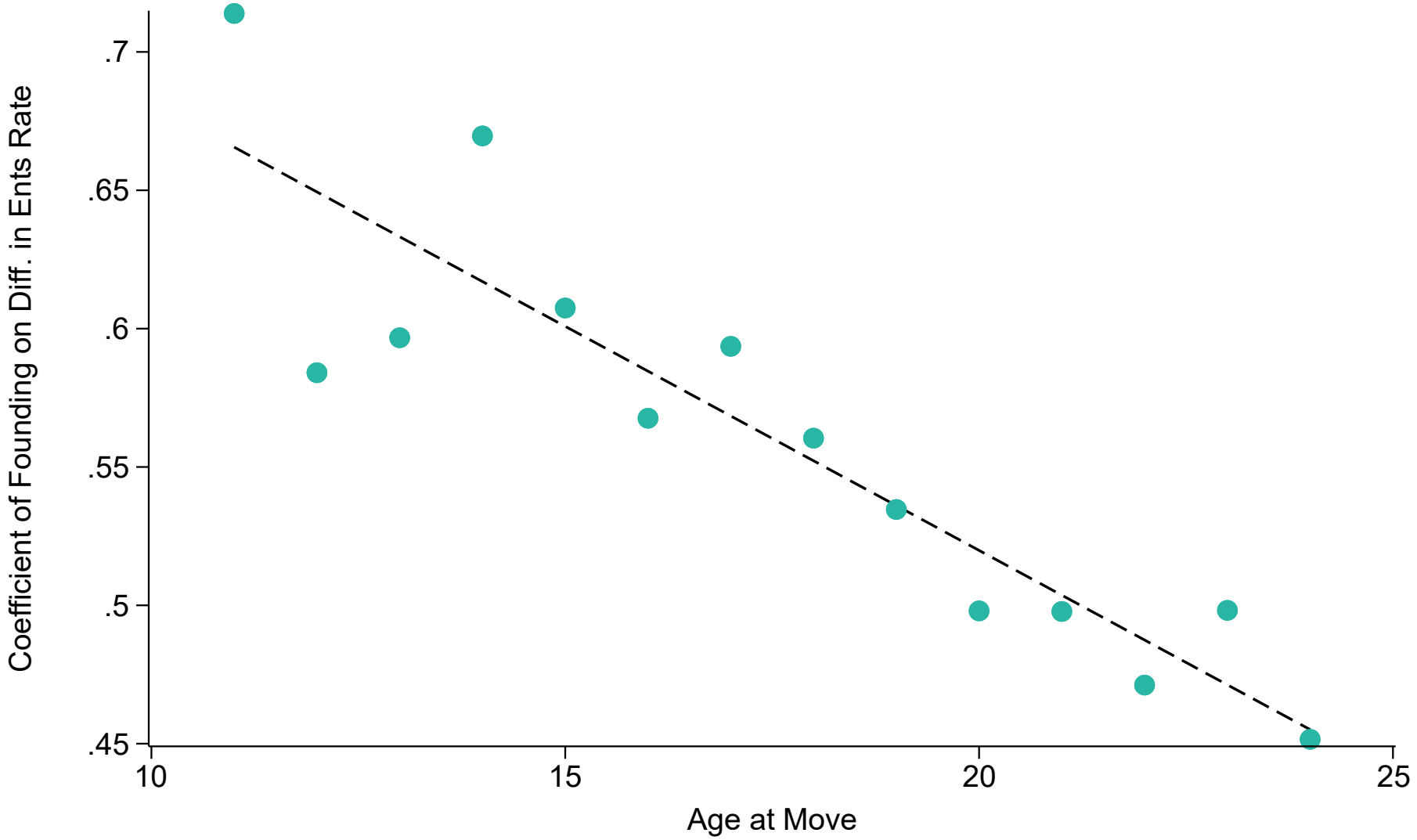


Effects of Exposure to a More Entrepreneurial Environment in Childhood

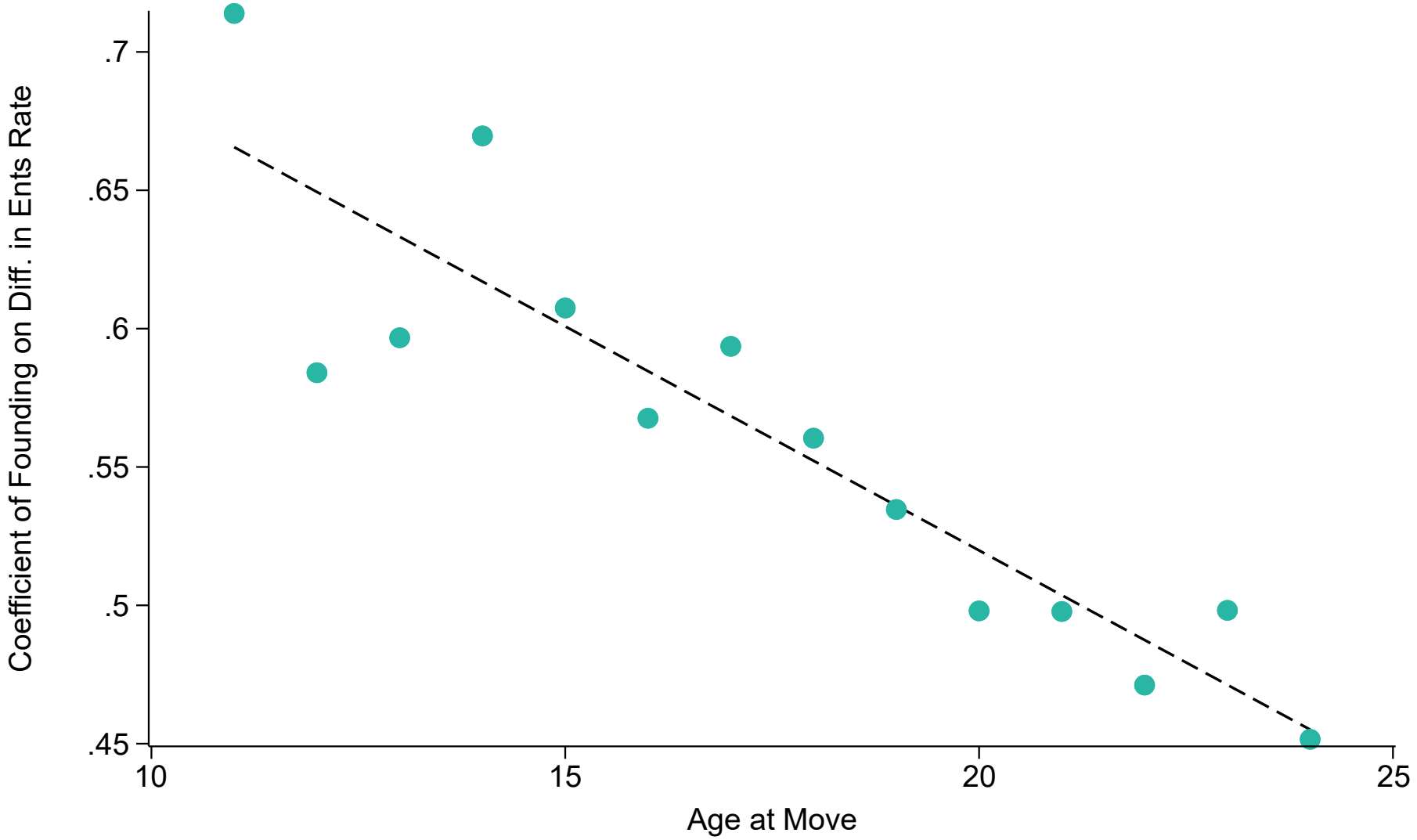
Movers at Age 11



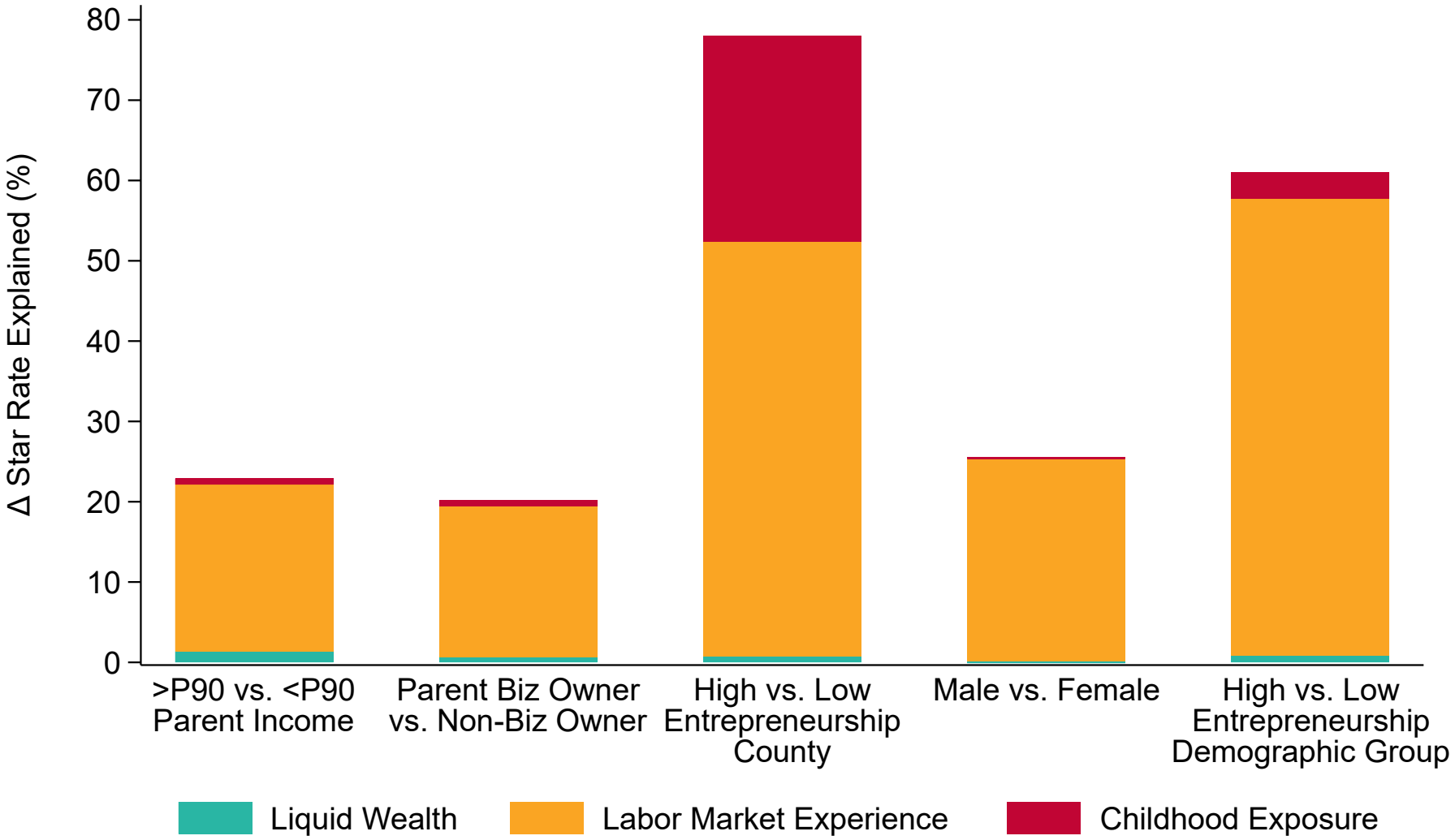
Effect of Childhood Exposure on Future Entrepreneurship: Movers Design



Effect of Childhood Exposure on Future Entrepreneurship: Movers Design

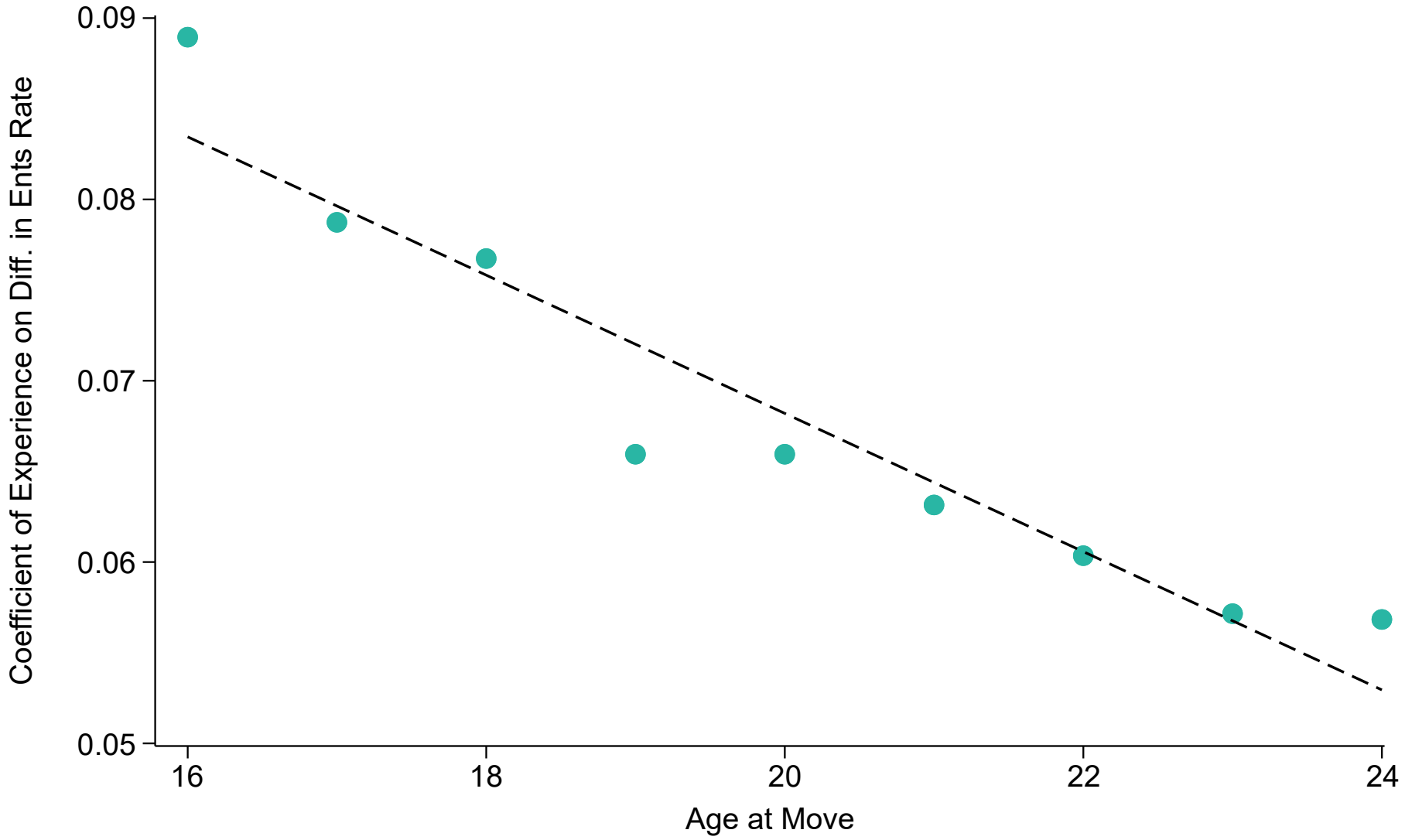


Differences in Childhood Exposure to Ents Explain Small Share of Gaps



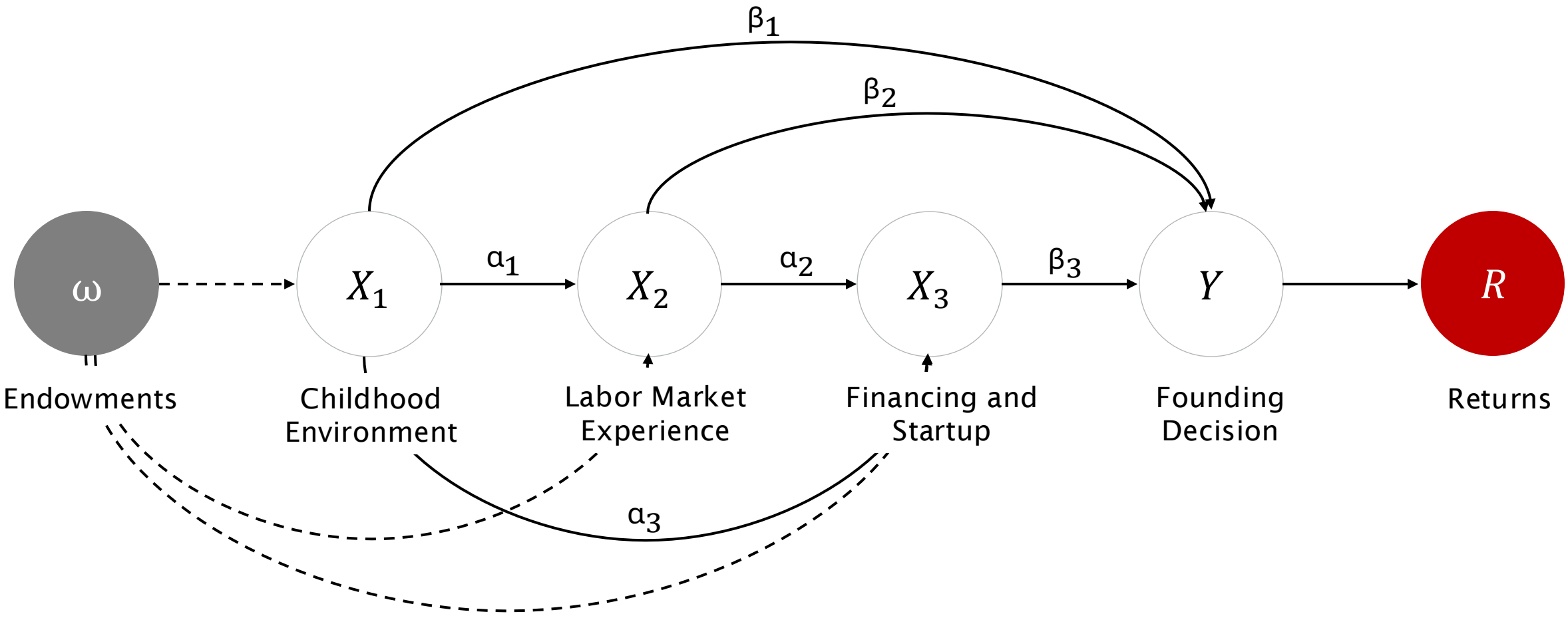
Share of gap explained by exposure = $\hat{\beta}_1 \times \Delta$ Exposure / Δ Entrepreneurship

Impact of Childhood Exposure on Entrepreneurial Experience in Labor Market

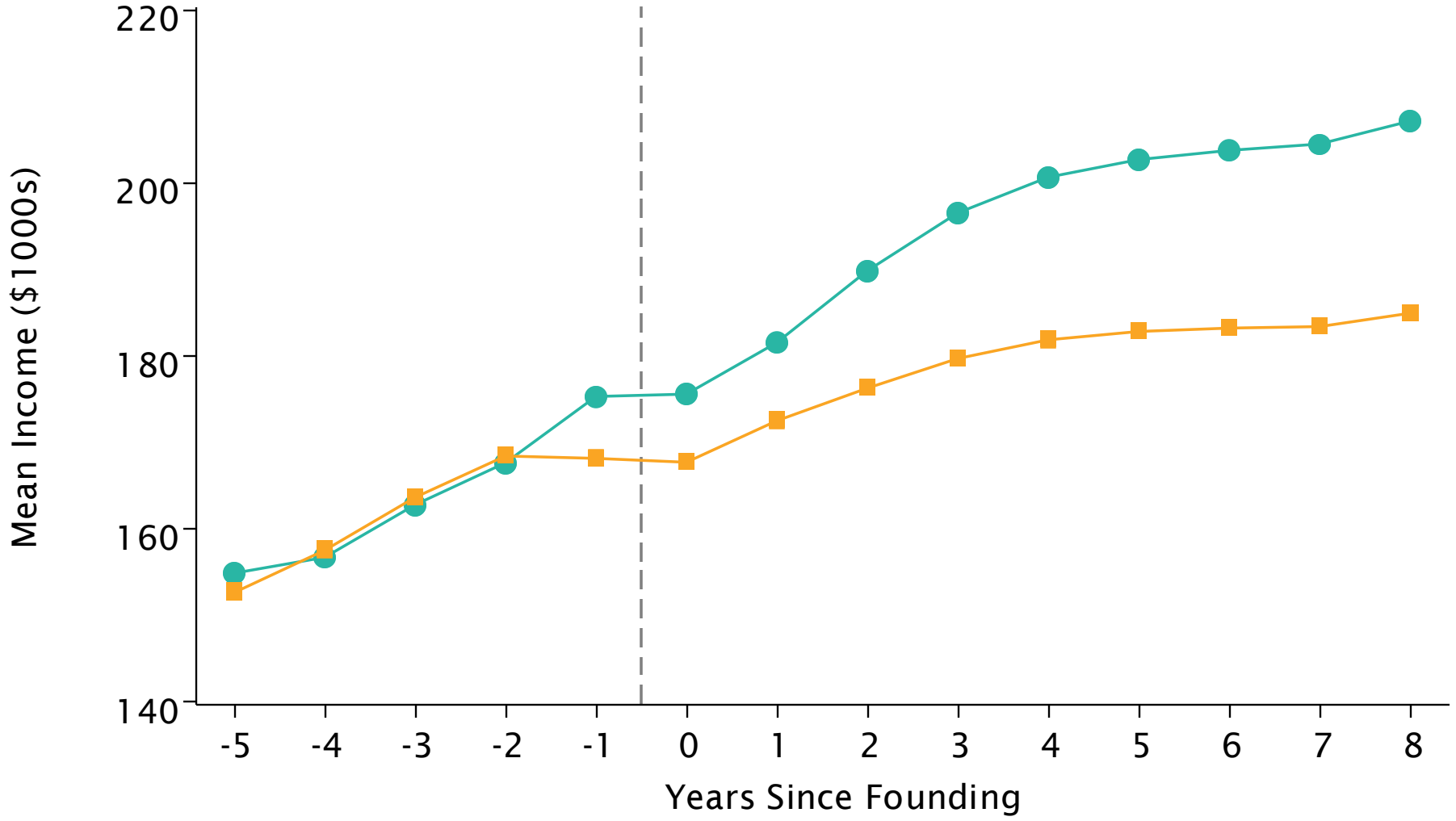


Marginal Entrepreneurs' Returns

The Entrepreneurial Pipeline: Returns

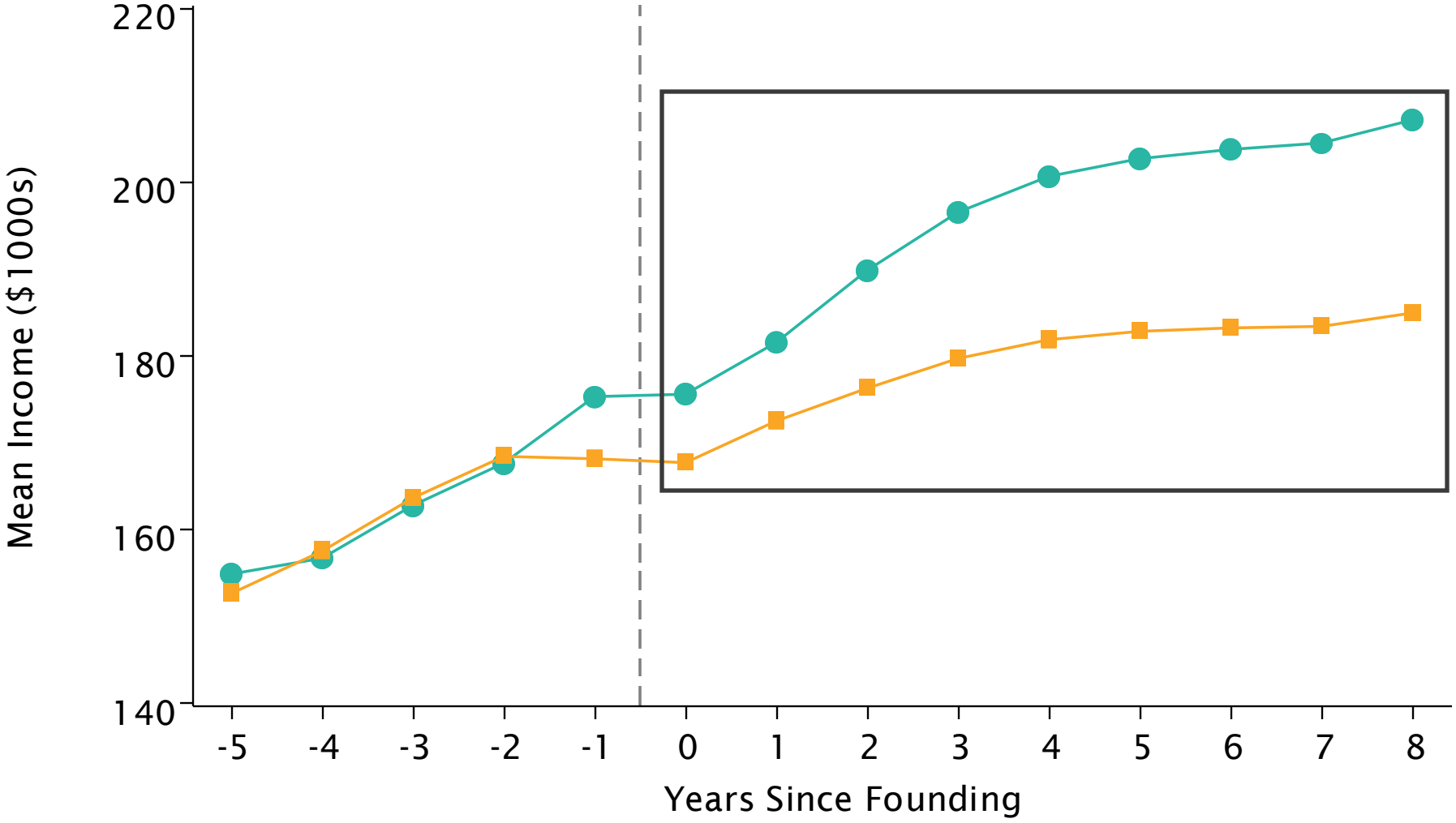


Average Financial Returns are Positive



(Workers with same: AGI vingtile and NAICS2 in the 3 years before founding, sex, filing status, age, region)

Average Financial Returns are Positive



Mean annual returns over 8 years of $16K (~9% baseline income)

(Workers with same: AGI vingtile and NAICS2 in the 3 years before founding, sex, filing status, age, region)

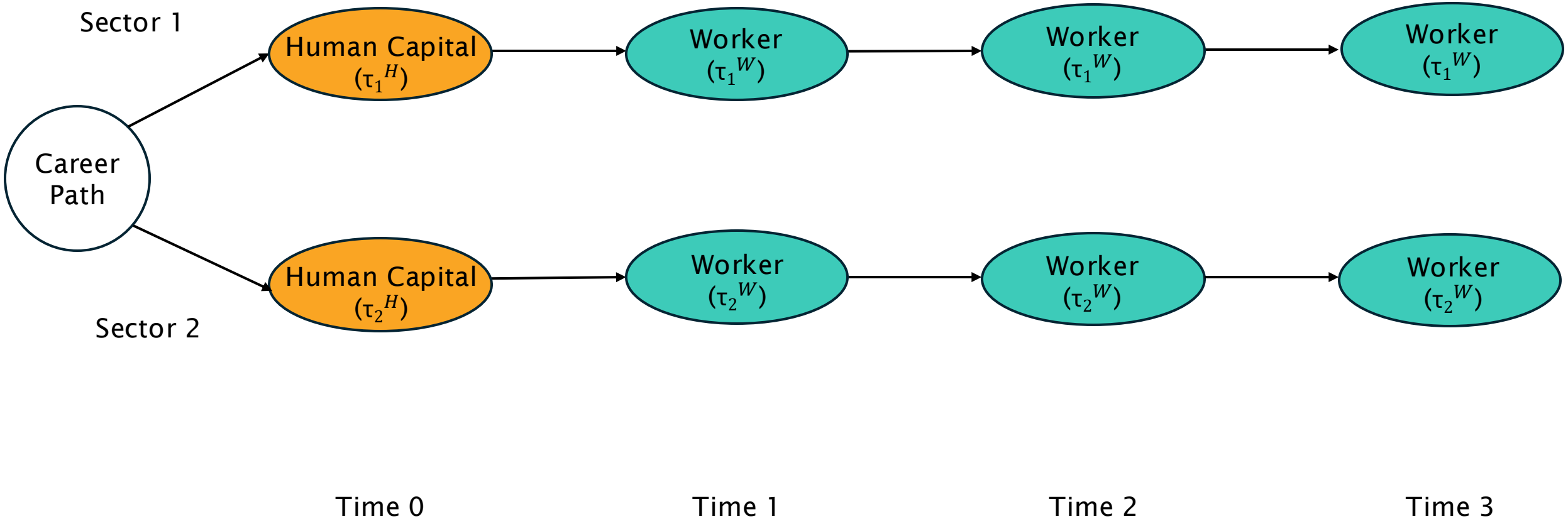
Are Returns of Marginal Founder Significantly Different from Average?



How Many Missing Entrepreneurs?

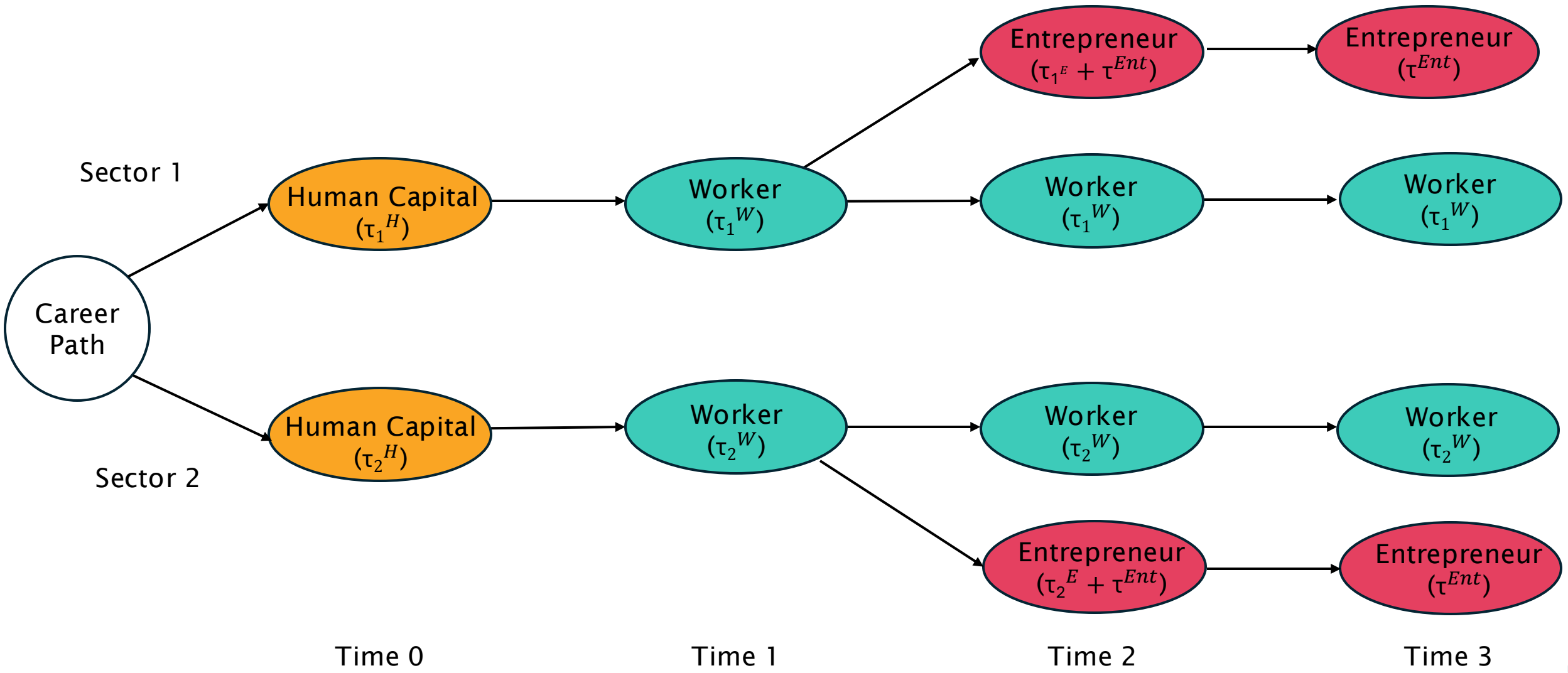
Effects of Removing Barriers for Under-Represented Groups in Equilibrium

GE Roy Model of sector choice built on Hsieh Hurst Jones Klenow (2019)

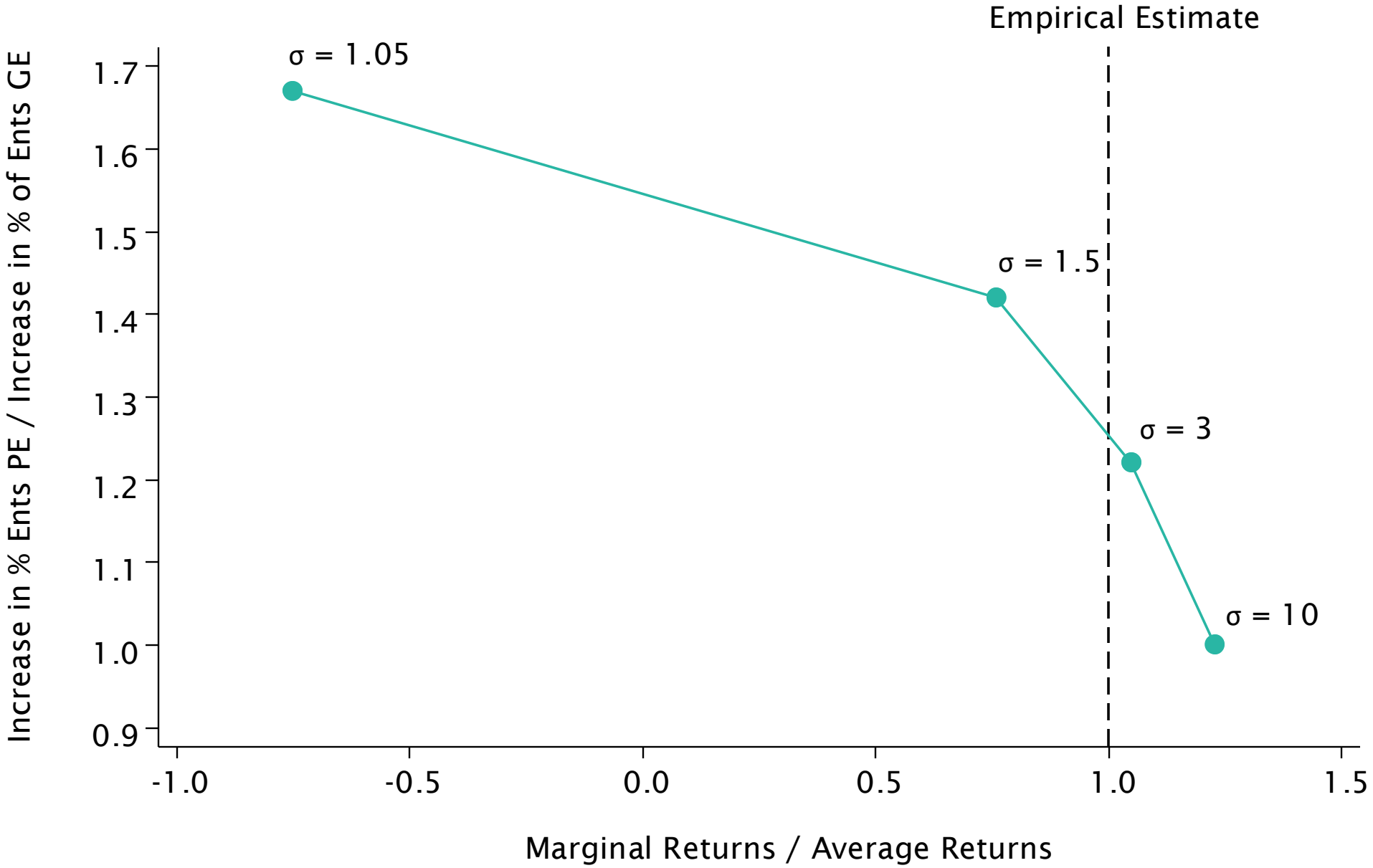


Effects of Removing Barriers for Under-Represented Entrepreneurs

GE Roy Model of sector choice built on Hsieh Hurst Jones Klenow (2019)

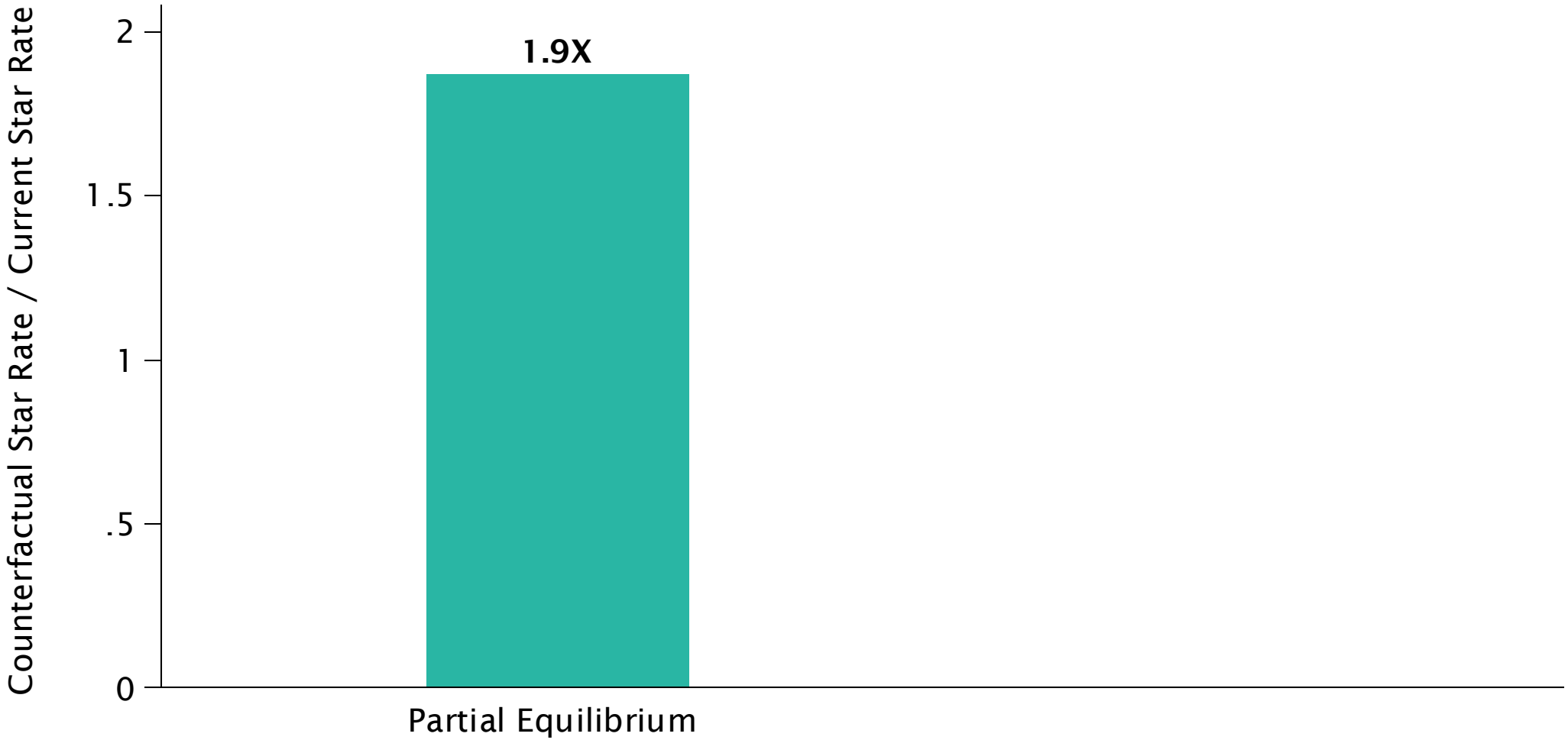


Cross-Sector Substitution Elasticities vs. Marginal Returns



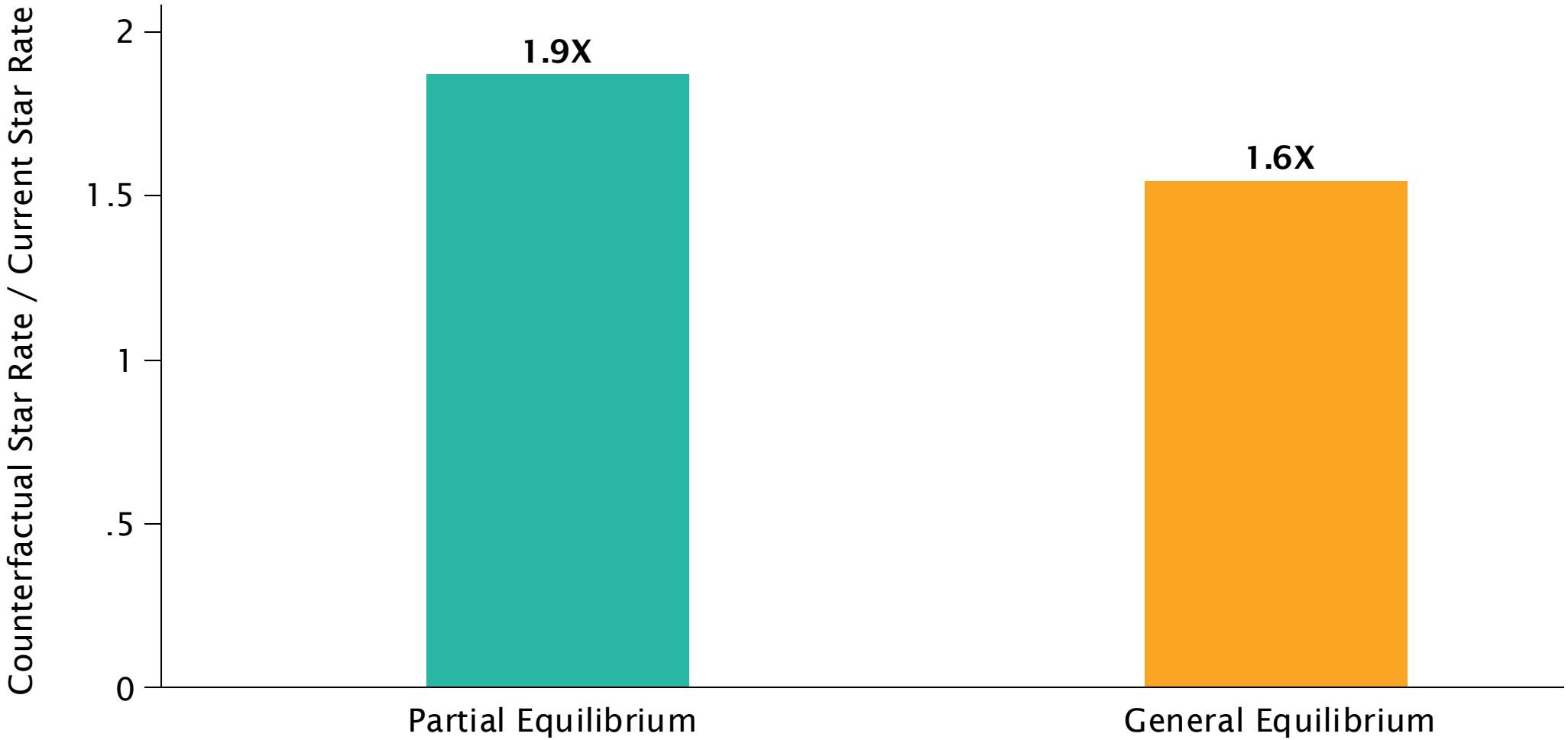
How Many Missing Entrepreneurs?

Effects of Equating Experience of all Groups to That of Top-Income-Decile High-Ent Men



How Many Missing Entrepreneurs?

Effects of Equating Experience of all Groups to That of Top-Income-Decile High-Ent Men



Implications for Increasing Entrepreneurship Rates

1. Many existing efforts to stimulate entrepreneurship focus on addressing gaps in financing at startup; our findings suggest these efforts may have modest impacts

2. Instead, closing gaps requires targeting upstream pipeline, particularly at point of labor market entry (e.g., apprenticeships, incubators)

3. Labor market experience mechanism could potentially generate self-perpetuating secular decline in entrepreneurship rates [Decker et al. 2014, Karahan et al. 2024]