Place-Based Policies and the Changing Geography of American Entrepreneurship

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EXTENDED ABSTRACT[1]

Abstract

The geographic concentration of high-potential entrepreneurship in the United States has changed substantially over the past five decades. Using updated estimates from the Startup Cartography Project (Guzman and Stern, 2020; Andrews et al., 2022) covering 44 states from 1970–2024, we document trends in the spatial distribution of entrepreneurship quality. We plan to investigate the role of place-based policies – including venture capital funding programs, state R&D tax credits, and federal research funding – in shaping the changing geography of high-potential entrepreneurship.

Keywords: place-based entrepreneurship, economic geography, place-based policy, venture capital, R&D tax credits

[1]This extended abstract summarizes preliminary results from an ongoing project. The descriptive trends and figures reported here are subject to revision as additional data are assembled. The full paper will present the completed policy dataset, refined empirical specifications, and finalized results.

1 Introduction

Where entrepreneurs start high-potential growth firms matters for economic growth. A growing body of evidence shows that the quantity and quality of entrepreneurship varies dramatically across regions, and that these regional differences have consequences for local and national economic performance (Guzman and Stern, 2020; Andrews et al., 2022; Botelho et al., 2026). The spatial concentration of entrepreneurship is shaped by agglomeration forces – knowledge spillovers, labor market pooling, and input-output linkages within industry clusters (Delgado et al., 2010, 2014; Chatterji et al., 2014) – as well as by the "character of place," including local institutions, entrepreneurial culture, and public-private partnerships (Feldman, 2014). Yet our understanding of how the geography of entrepreneurship has evolved over time – and what policies might influence the spatial distribution of high-quality startups – remains limited (Lerner, 2009, 2013).

This paper makes two contributions. First, we document trends in the quality of American entrepreneurship and its geographic concentration from 1970 to 2024, drawing on the most comprehensive estimates to date from the Startup Cartography Project (SCP). By focusing on the *quality* of entrepreneurship – the likelihood that new firms achieve significant growth outcomes – rather than simply the number of new firms, we capture changes in where high-potential startups are formed across the United States.

Second, we investigate the role of place-based policies in shaping the changing geography of entrepreneurship quality. A large literature examines the rationale for and effectiveness of place-based economic development programs (Kline and Moretti, 2014b,a), and a range of federal and state policies aim to promote innovation and entrepreneurship in specific regions. A number of studies have examined individual policy channels with an explicit focus on geographic incidence. State-level R&D tax credits increase the quality-adjusted quantity of entrepreneurship over a 10-year horizon (Fazio et al., 2020); federally funded R&D generates geographic spillovers, with Myers and Lanahan (2022) showing that Department of Energy research funding produces local knowledge spillovers, and Lanahan and Feldman (2018) demonstrating that state matching of SBIR funds increases regional innovation activity; federally funded university research generates local economic growth in technologically related industries (Hausman, 2022); investor tax credits stimulate entrepreneurial activity (Denes et al., 2023); increases in the supply of venture capital stimulate new firm creation and employment at the regional level (Samila and Sorenson, 2011); and accelerators increase the local supply of venture capital investment (Fehder and Hochberg, 2014).

A complementary body of work establishes the causal effects of federal innovation policies on firm-level or individual-level outcomes, without an explicit geographic focus. Early-stage SBIR grants approximately double a firm's probability of receiving subsequent venture capital (Howell, 2017) and raise wages at recipient small firms (Howell and Brown, 2023); reforms opening defense research to nontraditional contractors increase innovation (Howell et al., 2025); cuts to federal research funding reduce high-tech entrepreneurship by university researchers (Babina et al., 2023); corporate R&D generates entrepreneurial spillovers as employees leave to start new firms (Babina and Howell, 2024); and university ownership of intellectual property shapes the rate at which faculty become entrepreneurs (Hvide and Jones, 2018). Bloom et al. (2019) provide a comprehensive review of the broader innovation policy toolkit.

However, there is limited systematic evidence on how these policies collectively influence the spatial distribution of high-quality entrepreneurship over time. Guzman et al. (2024) develop a framework for understanding how place-based innovation policy interventions – such as the NSF Regional Innovation Engines program – can reshape regional innovation ecosystems through four strategic channels: investment and risk capital, R&D incentives and federal research funding, commercialization and acceleration programs, and human capital development. Our contribution is to assess these policy channels jointly within a unified empirical framework, exploiting the comprehensive long-run coverage of the SCP to evaluate how the full set of place-based innovation policies has shaped the evolving geography of high-quality American entrepreneurship.

2 Data and Empirical Methods

Our primary dataset is the universe of state business registrations in the United States from 1970–2025, obtained from Bizapedia. For each registration, we observe the business name, entity type, jurisdiction, principal address, and principal name. Our sample covers 44 states, temporarily excluding Illinois, South Carolina, Ohio, Wisconsin, Alabama, and Iowa due to missing zip code information.

We merge firms to intellectual property (patents and trademarks) from the United States Patent and Trademark Office (USPTO) and to mergers and acquisitions from SDC Platinum. Following the methodology in Guzman and Stern (2020) and Andrews et al. (2022), we estimate logistic regressions of firm growth outcomes on observable firm characteristics at the time of registration – including whether the firm name is eponymous, whether it is

incorporated as a corporation, whether it holds a trademark, and interactions of patent ownership with Delaware incorporation.

Table 1 reports odds ratios from the logistic regressions. The dependent variable is an indicator for whether a firm achieves a growth event (IPO or high-value acquisition) within 5 or 7 years of registration. The estimates are broadly consistent with those reported in earlier work by Guzman and Stern (2020) and Andrews et al. (2022), confirming that these observable characteristics remain strong predictors of firm growth outcomes in our updated and expanded sample. The predicted values from the first specification to construct measures of entrepreneurship quality.

Table 1: Logistic regressions of firm growth outcomes on observable characteristics

	Odds Ratios	
	Success (7yr)	Success (5yr)
Eponymous	0.276	0.264
	(0.009)	(0.010)
Corporation	3.172	3.325
	(0.031)	(0.037)
Short name	1.852	1.851
	(0.016)	(0.018)
Has trademark	6.214	5.939
	(0.163)	(0.169)
Patent only	29.213	29.227
	(0.705)	(0.793)
Delaware only	13.420	14.319
	(0.127)	(0.152)
Patent × Delaware	128.135	129.319
	(2.675)	(2.963)
State FEs	Yes	Yes
Observations	54,060,109	54,060,109
Pseudo R^2	0.171	0.172

Notes: Robust standard errors in parentheses. The dependent variable is an indicator for achieving an IPO or high-value acquisition within 7 or 5 years of registration, respectively. "Patent only" indicates the firm holds a patent but is not incorporated in Delaware; "Delaware only" indicates Delaware incorporation without a patent; "Patent × Delaware" indicates both.

We focus on the Regional Entrepreneurship Cohort Potential Index (RECPI), a measure of the quality-adjusted quantity of entrepreneurship that captures the total expected number of growth events from each annual cohort of new firms in a region.

To assess geographic concentration, we construct Lorenz curves of RECPI relative to popula-

tion across counties. For each year, we rank counties by their RECPI per capita (from lowest to highest) and plot the cumulative share of total RECPI against the cumulative share of total population. If quality-adjusted entrepreneurship were distributed in exact proportion to population, the Lorenz curve would coincide with the 45-degree line of perfect equality. Deviations below the diagonal indicate that a disproportionate share of RECPI is concentrated in a small number of counties relative to their population. We summarize the degree of concentration with the population-weighted locational Gini coefficient, defined as twice the area between the 45-degree line and the Lorenz curve. The Gini ranges from 0 (perfect equality) to 1 (all RECPI concentrated in a single county).

To study the role of place-based policies, we plan to compile data on four categories of policy interventions that vary across states and over time, following the framework in Guzman et al. (2024): (i) investment and risk capital, including public venture funds and tax incentives for angel and VC investors; (ii) R&D incentives and federal research funding, including state R&D tax credits, NSF, NIH, and SBIR/STTR grants; (iii) commercialization and acceleration programs; and (iv) human capital and workforce development. As described in Section 5, we propose summarizing these policy variables through three composite indices – a Federal Innovation Resources Index, a Policy Index, and a Business Environment Index – constructed at the state-year level. Assembling a comprehensive panel of these policy variables is a key component of the ongoing work in this project.

3 Trends in the Quality of Entrepreneurship and its Geographic Concentration

We begin by documenting national trends in the quality-adjusted quantity of entrepreneurship. Figure 1 plots the Regional Entrepreneurship Cohort Potential Index (RECPI), which captures the total expected number of growth events from each annual cohort of new firms. The figure reveals a striking long-run increase in the quality-adjusted quantity of entrepreneurship, with RECPI rising roughly tenfold from around 300 in 1970 to approximately 3,000 by the early 2020s. Growth was gradual through the 1970s and 1980s, with RECPI reaching about 1,000 by the late 1980s. The series then accelerated sharply in the late 1990s – coinciding with the dot-com boom – before falling back around 2001. A second expansion through the mid-2000s was followed by a dip during the Great Recession. Since 2010, RECPI has risen steeply and nearly continuously, reaching its peak around 2021–2022 before declining modestly in 2024. The overall pattern suggests that the national capacity for producing high-potential startups has grown substantially over the past five decades,

though with notable cyclical fluctuations tied to macroeconomic and technology-market conditions.

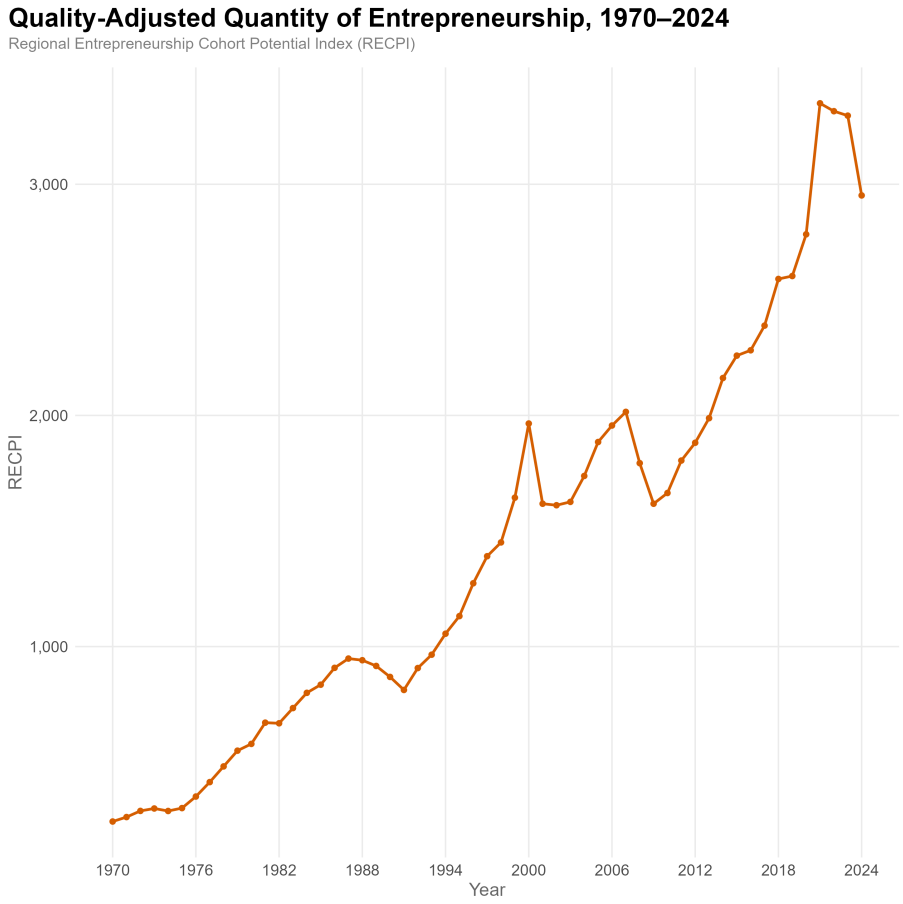


Figure 1: National trend in the quality-adjusted quantity of entrepreneurship (RECPI), 1970–2024. The figure plots the Regional Entrepreneurship Cohort Potential Index (RECPI), which measures the total expected number of growth events from each cohort of new firms.

Beyond aggregate national trends, a central question is whether the geography of quality-adjusted entrepreneurship has become more or less concentrated over time. Figure 2 presents Lorenz curves of RECPI relative to population for three benchmark years: 1970, 1990, and 2024. Counties are ranked by RECPI per capita along the horizontal axis. A curve further from the 45-degree line indicates greater geographic concentration. The figure shows that concentration was highest in 1970, declined by 1990, and remained at a similar level through 2024, suggesting that the geographic distribution of high-quality entrepreneurship became more dispersed over the sample period. To illustrate which counties drive the observed concentration, the figure highlights the five largest contributors to the Gini coefficient in 1970 and 2024. In 1970, Los Angeles County alone accounted for nearly 12% of the Gini,

followed by New York County (Manhattan) at 11%. By 2024, Los Angeles remained the top contributor at 13%, while San Francisco, New York, and Albany counties emerged as major contributors – reflecting the continued dominance of a small number of coastal hubs in high-quality entrepreneurship.

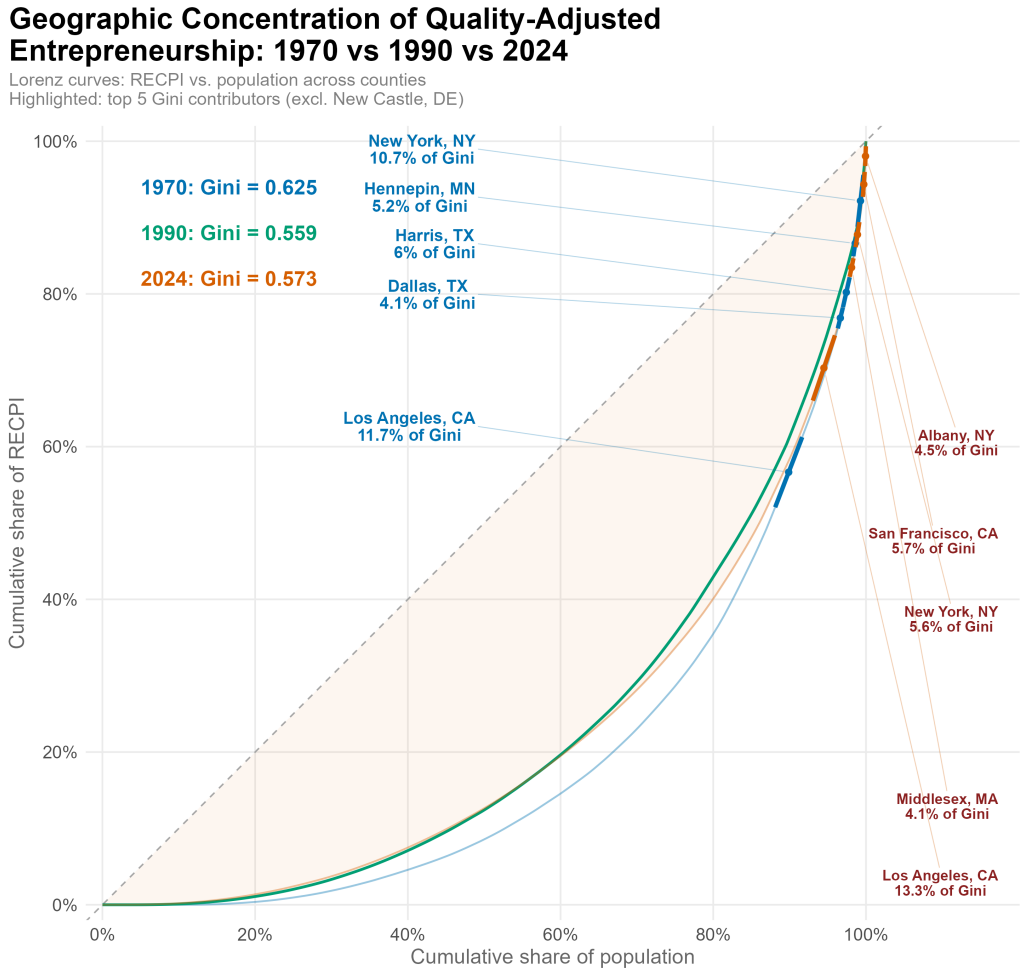


Figure 2: Lorenz curves of quality-adjusted entrepreneurship (RECPI) relative to population across US counties, 1970 vs. 1990 vs. 2024. Counties are ranked by RECPI per capita. Bold segments highlight the five largest contributors to the Gini coefficient in 1970 and 2024, with each county's percentage contribution to the overall Gini shown.

Figure 3 traces the full time series of the locational Gini coefficient from 1970 to 2024, providing a year-by-year view of how the spatial concentration of quality-adjusted entrepreneurship has evolved.

To complement the Gini coefficient – which captures concentration across the full distribution

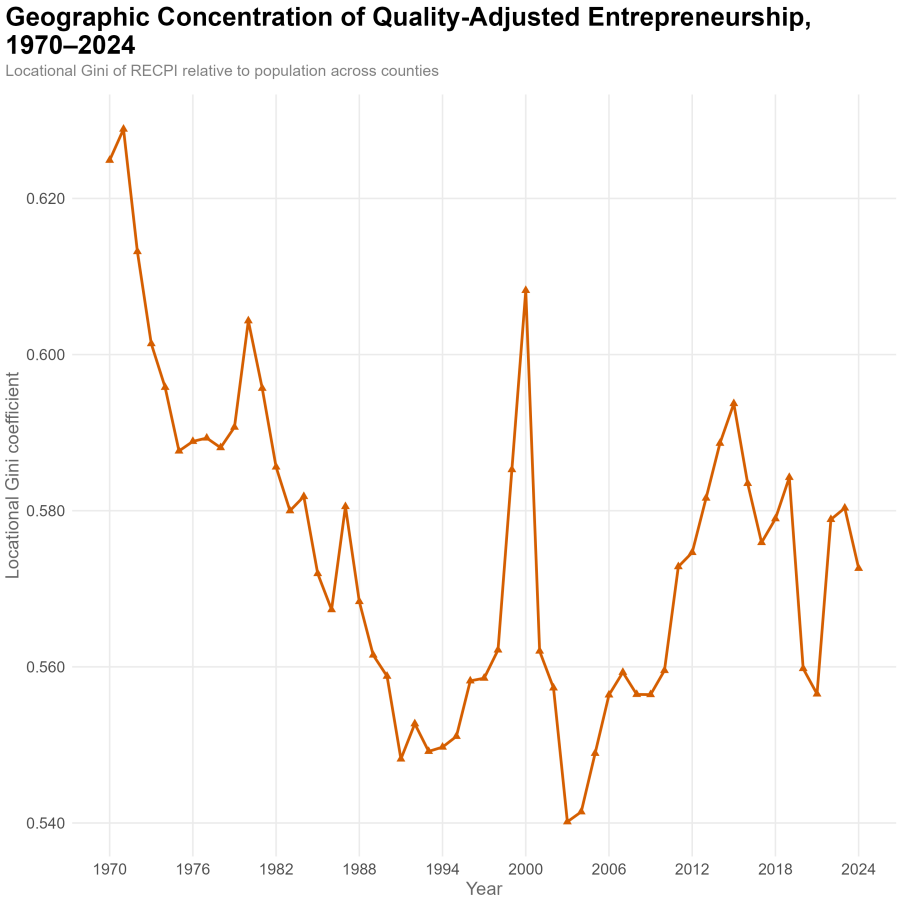


Figure 3: Geographic concentration of quality-adjusted entrepreneurship across US counties, 1970–2024. The figure plots the population-weighted locational Gini coefficient of RECPI relative to population.

of counties – Figure 4 examines concentration at the top of the distribution by plotting the share of national RECPI accounted for by the 10 highest-RECPI counties in each year. This measure directly captures the extent to which a small number of leading entrepreneurial hubs dominate the national landscape of high-quality startup formation. In 1970, the top 10 counties accounted for approximately 37% of national RECPI. This share declined through the 1980s and early 1990s, reaching a trough of roughly 29–30% around 1990–1994. The top-10 share then rose sharply during the dot-com boom before declining again, and experienced a second period of reconcentration in the 2010s. By 2024, the top-10 share had fallen back to around 31%.

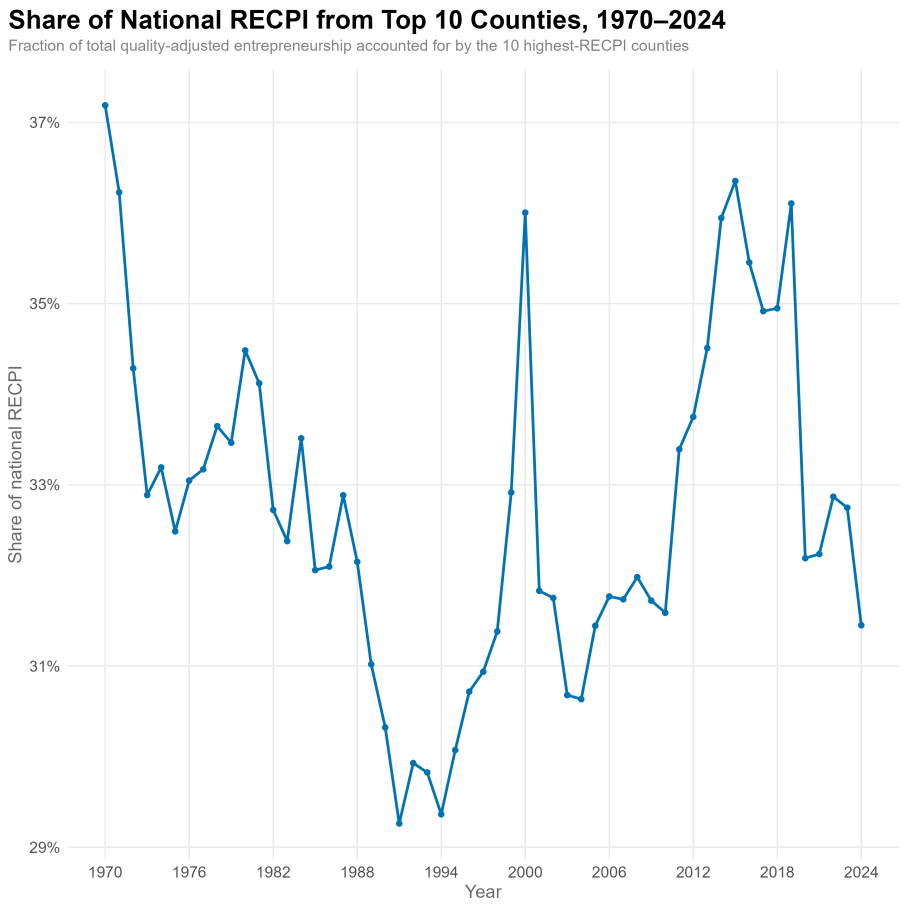


Figure 4: Share of national RECPI accounted for by the top 10 counties, 1970–2024. For each year, counties are ranked by RECPI and the combined share of the 10 highest-RECPI counties is plotted.

4 Place-Based Policies and the Geography of Entrepreneurship

The trends documented above raise a natural question: to what extent do place-based policies influence the spatial distribution of high-quality entrepreneurship? Guzman et al. (2024) identify four broad categories of strategic interventions that shape regional innovation ecosystems: (i) investment and risk capital, (ii) R&D incentives and federal research funding, (iii) commercialization and acceleration programs, and (iv) human capital and workforce development. We plan to investigate policy interventions across these categories that vary across regions and over time. This section describes the proposed policy variables and data collection strategy.[2]

4.1 Investment and Risk Capital

Many states have adopted policies aimed at increasing the supply of venture capital, including public venture funds, tax credits for angel and VC investors, and fund-of-funds programs. These programs seek to address the well-documented geographic concentration of venture capital, which is even more spatially concentrated than innovation itself (Chatterji et al., 2014). Samila and Sorenson (2011) provide evidence that increases in the supply of venture capital at the MSA level stimulate new firm creation, employment, and aggregate income, suggesting that policies expanding VC availability could have meaningful effects on regional entrepreneurship. Denes et al. (2023) provide direct evidence on one such mechanism, showing that state-level investor tax credits for angel and venture capital investments significantly increase entrepreneurial activity. We plan to compile a state-year panel of VC-related policy adoptions and examine whether state-level VC policies are associated with changes in the local quality of entrepreneurship, and whether they help explain the deconcentration or reconcentration of high-quality startups across regions.

4.2 R&D Tax Credits and Federal Research Funding

State R&D tax credits reduce the cost of research and development for firms, potentially encouraging innovation-intensive startups in states that offer more generous credits. Prior work has established that R&D tax credits have significant effects on private R&D investment (Bloom et al., 2019), and Fazio et al. (2020) provide evidence that state R&D tax credits increase both the quantity and quality-adjusted quantity of entrepreneurship over a 10-year

[2]This section draws heavily from Guzman et al. (2024), where the policy framework was introduced.

horizon. Corporate R&D activity may also generate entrepreneurial spillovers, as Babina and Howell (2024) show that employees exposed to corporate R&D are more likely to become entrepreneurs, with implications for how R&D incentives shape regional startup ecosystems. Since the adoption and scope of these credits varies substantially across states and over time, they provide a natural source of variation for identifying the effect of innovation incentives on regional entrepreneurship quality. We plan to collect data on the timing and scope of state R&D tax credits and assess whether states that adopt or expand these credits experience increases in the quality of their startup cohorts, as measured by RECPI.

The geographic allocation of federal research funding – through agencies such as the NSF, NIH, Department of Defense, and the SBIR/STTR programs – shapes the local knowledge base and human capital available to entrepreneurs. Regions that receive more federal research funding may benefit from knowledge spillovers, trained researchers who become founders, and the development of technology that can be commercialized. Myers and Lanahan (2022) show that publicly funded R&D through the Department of Energy generates substantial local knowledge spillovers, and Lanahan and Feldman (2018) demonstrate that state matching of SBIR funds increases regional innovation activity.[3] Hausman (2022) demonstrates that federally funded university research generates local economic growth in technologically related industries. We plan to assemble data on the geographic distribution of federal research funding and examine whether it is associated with the spatial distribution of entrepreneurship quality, and whether changes in the geographic allocation of federal funding predict subsequent changes in the concentration of high-quality entrepreneurship.

4.3 Commercialization and Acceleration Programs

Commercialization and acceleration programs – including incubators, accelerators, and technology transfer initiatives – provide mentorship, networking, training, and access to funding that can help early-stage ventures scale. As Guzman et al. (2024) emphasize, these programs are particularly valuable in regions where strong innovative capacity and entrepreneurial talent exist but where start-ups lack the networks and early-stage support required to scale. Over the past decade, publicly supported accelerator programs have proliferated, and emerging evidence suggests they can increase survival, employment growth, and follow-on funding

[3]Several studies document the causal effects of federal research funding at the firm or researcher level. Howell (2017) finds that winning an early-stage SBIR grant roughly doubles the probability of subsequent VC financing; Howell and Brown (2023) shows positive wage effects at small firms receiving such grants; Howell et al. (2025) finds that broadening eligibility for defense R&D contracts spurred innovation among nontraditional contractors; and Babina et al. (2023) document that idiosyncratic negative shocks to federal funding reduce university researchers' likelihood of founding high-tech startups.

for participating firms. At the federal level, programs such as the NSF I-Corps and the SBA's Regional Innovation Clusters have sought to build regional capacity for translating research into commercial ventures. We plan to examine whether the adoption and expansion of state and federal commercialization programs is associated with changes in the quality-adjusted quantity of entrepreneurship across regions.

4.4 Human Capital and Workforce Development

The availability of skilled human capital is a foundational input to regional innovation ecosystems. Regions with stronger universities and a larger supply of STEM-trained workers tend to produce more high-quality entrepreneurship (Hausman, 2022). Policy interventions in this category include federal graduate research fellowships, state investments in higher education and workforce training, and programs designed to attract and retain skilled workers. As Feldman (2014) argues, the actions of entrepreneurs and the institutions they build are central to transforming a region's economic trajectory, and the local supply of individuals with the skills and motivation to start innovative firms is a key determinant of whether a region develops a vibrant entrepreneurial economy. We plan to investigate whether variation in human capital policies across states – such as investments in research universities and STEM workforce programs – is associated with changes in the spatial distribution of high-quality entrepreneurship.

5 Preliminary Empirical Strategy

A central challenge for evaluating the joint impact of place-based policies on the geography of entrepreneurship is that no consistent, comprehensive regional-level policy index exists over the full span of our sample period (1970–2024). While individual policy variables – such as R&D tax credit rates or SBIR grant counts – are available for portions of this period, their coverage, definitions, and geographic granularity vary substantially across sources and over time. To address this challenge, we propose constructing three composite indices that capture distinct dimensions of the regional policy and institutional environment for entrepreneurship. An important design choice that remains to be resolved is the geographic unit of analysis: while many policy variables are defined at the state level, others (such as federal research funding to specific universities or local venture capital activity) vary at finer geographic scales. We have yet to determine whether the indices will be constructed at the state or county level, and this decision will depend on the availability and granularity of the underlying data sources.

5.1 Construction of Regional Policy Indices

Federal Innovation Resources Index. Tartari and Stern (2021) show that the level of federal resources allocated to research institutions in a given region varies considerably over time. We plan to construct a *Federal Innovation Resources Index* at the state-year level that captures the intensity of federal commitments to innovation in each region. This index will aggregate inflation-adjusted measures of federal research funding from the NSF, NIH, Department of Defense, Department of Energy, and other agencies; SBIR and STTR awards to firms and research institutions; and federal funding to universities and national laboratories. The key identification insight is that changes over time in the level of Federal resources allocated to a region are plausibly exogenous to the pre-existing level of local entrepreneurship, conditional on region fixed effects.

Policy Index. We plan to construct a *Policy Index* that captures the scope and breadth of state-level innovation and business incentive programs. This index will draw on the Panel Database on Incentives and Taxes (PDIT) compiled by Bartik (2017), which provides a comprehensive accounting of business incentives for economic development offered by state and local governments, including investment tax credits, R&D tax credits, property tax abatements, job creation tax credits, and customized job training subsidies. We will supplement the PDIT with data on state-level venture capital programs, angel investor tax credits (Denes et al., 2023), and other innovation-oriented incentives. By combining these sources, we aim to construct a time-varying measure of the overall policy effort each state directs toward promoting innovation and entrepreneurship.

Business Environment Index. We plan to construct a *Business Environment Index* that captures broader features of the regional environment relevant to entrepreneurship, beyond direct policy interventions. This index will incorporate measures of local venture capital availability – including VC fundraising and investment flows – as well as indicators of the density of research universities, the presence of accelerators and incubators, and workforce characteristics such as the share of STEM-educated workers. This index serves as a control for the baseline attractiveness of a region to entrepreneurs, allowing us to isolate the incremental effect of policy interventions from the underlying business environment.

5.2 Empirical Specification

Our proposed empirical strategy exploits variation in the timing and intensity of policy adoption across states and over time. Following Tartari and Stern (2021), we plan to implement

two complementary empirical approaches to estimate the impact of changes in the regional policy environment on the quantity and quality of entrepreneurship.

We first examine a fixed effects panel estimator:

$$Y_{rs} = \alpha_r + \beta_s + \delta X_{rs-1} + \gamma Z_{rs-1} + \varepsilon_{rs} \tag{1}$$

where Y_{rs} is a measure of the quality-adjusted quantity of entrepreneurship (e.g., RECPI) in region r and period s, α_r are region fixed effects, β_s are period fixed effects, X_{rs-1} is a vector of lagged policy index variables (the Federal Innovation Resources Index, the Policy Index, and the Business Environment Index), and Z_{rs-1} is a vector of lagged time-varying regional controls (e.g., population, income, industry composition). This specification estimates the relationship between the lagged level of policy resources and entrepreneurship, controlling for fixed differences between regions and common period effects, and controlling for other observable location-specific characteristics. The inclusion of lagged policy variables allows for a meaningful gap between policy adoption and its impact on the local entrepreneurial ecosystem.

However, as Tartari and Stern (2021) emphasize, entrepreneurial ecosystems are themselves dynamic: a positive shock to entrepreneurship in one period may persist into the next, and the lagged dependent variable is itself correlated with the changing policy environment. To account for these dynamics, we also consider a first-differences specification:

$$\Delta Y_{rs} = \Delta\beta_s + \lambda \Delta Y_{rs-1} + \delta \Delta X_{rs-1} + \gamma \Delta Z_{rs-1} + \eta_{rs} \tag{2}$$

This specification assesses how *changes over time* in the policy environment influence subsequent *changes* in the quantity or quality-adjusted quantity of entrepreneurship. By focusing on changes rather than levels, we allow for correlation over time in the level of X and Z, and the inclusion of the lagged change in the dependent variable accounts for the dynamic nature of entrepreneurial ecosystems. Since both ΔY_{rs-1} and η_{rs} contain ε_{rs-1}, OLS estimates of λ are biased; we can address this using the level Y_{rs-2} as an instrument for ΔY_{rs-1}, following an instrumental variables approach.

We plan to compare results across the fixed effects and first-differences estimators to assess the robustness of our findings to different assumptions about the data-generating process. We also plan to consider both levels and concentration measures (e.g., the locational Gini coefficient) as outcomes, and to explore heterogeneity in policy effects across regions with different baseline characteristics.

6 Discussion

Understanding the role of place-based policies in shaping the geography of entrepreneurship has important implications for both economic theory and policy design. As Kline and Moretti (2014b) emphasize, the welfare effects of place-based policies depend on whether they generate genuine agglomeration spillovers or merely redistribute activity across space. If the spatial concentration of high-quality entrepreneurship is driven in part by policy choices, then there is scope for policy to promote a more geographically dispersed distribution of innovative startups. Conversely, if concentration is primarily driven by agglomeration economies that are difficult to replicate through policy (Chatterji et al., 2014; Delgado et al., 2016), then place-based interventions may have limited effects on the overall spatial distribution of entrepreneurship quality.

This extended abstract presents preliminary evidence on the trends in entrepreneurship quality and its geographic concentration. Using updated estimates from the Startup Cartography Project covering 44 states from 1970 to 2024, we document a roughly tenfold increase in the quality-adjusted quantity of entrepreneurship over the past five decades, alongside fluctuations in its geographic concentration. The share of national RECPI accounted for by the top 10 counties has varied between roughly 29% and 37% over the sample period, suggesting alternating periods of geographic dispersion and reconcentration of high-quality startup formation.

A growing body of work examines individual policy channels with an explicit geographic focus – including state R&D tax credits (Fazio et al., 2020), geographic spillovers from federally funded R&D (Myers and Lanahan, 2022; Lanahan and Feldman, 2018), university research (Hausman, 2022), regional venture capital supply (Samila and Sorenson, 2011), accelerators (Fehder and Hochberg, 2014), and investor tax credits (Denes et al., 2023) – while a complementary literature establishes the causal effects of federal innovation policies at the firm or researcher level (Howell, 2017; Howell and Brown, 2023; Howell et al., 2025; Babina et al., 2023; Babina and Howell, 2024; Hvide and Jones, 2018). Guzman et al. (2024) provide a conceptual framework organizing these interventions into four strategic channels. Our contribution is to bridge these two strands of the literature, assessing place-based policies jointly within a unified empirical framework. We propose constructing three composite indices – a Federal Innovation Resources Index, a Policy Index, and a Business Environment Index – to capture the multidimensional regional policy environment, and plan to exploit the comprehensive long-run coverage of the SCP to evaluate how the full set of place-based policies has shaped the evolving geography of high-quality American entrepreneurship.

APPENDIX

A Updating the Startup Cartography Project Dataset

This appendix describes the procedures used to update and extend the Startup Cartography Project (SCP) dataset to cover 44 states from 1970 to 2024.

A.1 Data Sources

Our primary data source is the universe of state business registrations obtained from Bizapedia. The raw data contains the business name, entity type, jurisdiction of formation, principal address, and principal name for each registration. We supplement these records with intellectual property data (patents and trademarks) from the USPTO and mergers and acquisitions data from SDC Platinum.

A.2 Entity Type Classification

We classify business registration records into five broad categories: (1) corporations (including benefit corporations); (2) limited liability companies (LLCs); (3) partnerships (including LLPs, LPs, professional associations, sole proprietorships, and general partnerships); (4) non-profits (including non-stock corporations, associations, government entities, trusts, and religious organizations); and (5) names and licenses (including DBAs and name reservations). We retain only the first three categories in our analysis sample.

A.3 Geographic Assignment

Each firm is assigned to a county based on its principal address zip code. We temporarily exclude Illinois, South Carolina, Ohio, Wisconsin, Alabama, and Iowa from our sample due to missing or incomplete zip code information in the business registration records for these states, which prevents reliable county assignment.

A.4 Merging with Intellectual Property and Growth Outcomes

We merge business registrations to USPTO patent and trademark records using firm name matching procedures. We identify growth outcomes – IPOs and high-value acquisitions – by merging to SDC Platinum. These merged indicators serve as both the dependent variables

in our logistic regressions and the basis for computing realized growth events used in the REAI.

A.5 Construction of SCP Indices

Following Guzman and Stern (2020), we estimate logistic regressions of growth outcomes on observable firm characteristics at the time of registration (Table 1). The predicted probabilities from these regressions are used to construct the RECPI (sum of predicted growth probabilities for each region-year cohort). The REAI is computed as the ratio of actual growth events to RECPI.

A.6 Population Data

We merge county-level population data from the Bureau of Economic Analysis (BEA) to compute per-capita measures and population-weighted locational Gini coefficients.

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