

ORIGINAL RESEARCH

Left Off The Map: How Venture Capital's Geographic Concentration Perpetuates Rural Economic Stagnation

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Abstract

Venture capital has become a central engine of American innovation, yet its distribution is geographically concentrated, with the vast majority of funding flowing to a handful of Metropolitan hubs—Boston, New York, and the Bay Area. This paper examines how limited access to venture capital shapes a long-term economic trajectory of rural communities, arguing that the funding gap is not incidental but the product of a self-reinforcing feedback loop rooted in elite university networks, established industry clusters, and investor preference for geographic proximity. Drawing on federal and academic research on community development infrastructure capital, small business investment company (SBIC) programs, and regional economic data, this paper traces how the absence of institutional financial infrastructure in rural areas discourages entrepreneurship, accelerates “brain drain” among young talent, and locks local economies into a narrow set of low-growth industries such as agriculture and retail. This analysis also considers how the rise of AI-focused startups—which tend to generate fewer local jobs and traditional small businesses—may be widening the gap between urban and rural economic outcomes. In contrast, evidence from Community Development Venture Capital (CDVC) and SBIC-funded ventures suggests that even modest capital investment in rural areas can generate substantial employment growth and diversify local economies. Based on these findings, this paper recommends a full strategy for rural communities: cultivating community-based funding mechanisms such as crowdfunding, building durable local infrastructure including chambers of commerce, and expanding access to business lending to support entrepreneurship independent of traditional VC hubs.

Keywords: Venture Capital; Rural Economies; Entrepreneurship; Innovation; Urban/Rural divide

1. Introduction

In 2025, venture capital firms poured \$339.4 billion into the most innovative companies across the nation, revolutionizing fields such as biotechnology and creating new software to automate everyday life. Surprisingly, an overwhelming majority of those companies were headquartered in one of three major metropolitan areas: Boston, New York, and San Francisco or the greater Bay Area. Venture capital is often framed as the engine behind American innovation, the mechanism by which a good idea, regardless of where it comes from, gets a shot at becoming a real business. However, the concentration of money geographically tells a different story. For rural economies, the effects of an absence of venture capital don't stop at an entrepreneur not being able to realize their idea. In the long term, it can mean a town

stays reliant on the same handful of industries for decades, unable to attract the kind of experimental, high-growth businesses that VC dollars typically make possible elsewhere. Without that capital, promising ideas often never leave the ground, local economies stay narrow rather than diversifying, and young talent looking for opportunity has little reason to stay. This paper investigates how limited access to venture capital in rural communities shapes local economies over the long term and results in broader economic dependence on a few low-growth industries. Drawing on federal and academic research on community development venture capital, small business investment programs, and regional economic data, this paper examines both why the funding gap exists and what its downstream consequences look like for the communities it leaves behind.

2. Literature Review

The American venture capital system drives innovation in the United States and continues to lead emerging fields such as AI. Venture capital is a type of private equity funding that uses funds pooled from institutional investors and certain high-net-worth individuals to invest in early-stage companies in exchange for equity or partial ownership. Venture capital firms operate on the 'home-run model'; in short, this means that partners and investors don't expect to make their money back on the majority of the companies they invest in but instead rely on a small number of companies that produce outsized returns. This means most venture capital firms don't expect their investments to return on the majority of companies they invest in. In practice, over 75% of VC-backed companies fail or never return money to investors. However, this statistic overlooks how venture capital funding can positively impact the companies it invests in and the broader economy. On average, VC-funded firms see a ~475% employment growth over 10 years and growth of parent stock to the tune of 1,100% (Pensiakova et. al). While venture capital funds don't guarantee that the firm will succeed, it often provides the necessary backing for companies to develop groundbreaking technologies and pursue the potential of their business. Venture capital funds have helped companies such as Apple, Google, Meta, and Amazon develop into the juggernauts of industry they are today. Access to venture capital is associated with net positive outcomes for economies at large, even in industries not directly funded by venture capital money. A 2025 study found that VC investments are often associated with increased innovation output, enhanced productivity, and improved financial performance of SMEs (Kato). This enhanced productivity and the aforementioned increase in employment can have cascade effects on the broader economy, driving spending and diversifying industries through capital-backed innovation.

Venture capital firms are most often located in two major regions: The Bay Area and the Northeast corridor. VC firms also tend to invest in companies in one of five industries: software, biotechnology, medical devices and equipment, industrial/energy, and telecommunications. According to the National Venture Capital Association, nearly 40% of VC money in 2023 alone went to software, with the next biggest industries being commercial products and services and pharma/biotech, each accounting for 16% and 13%, respectively. These two characteristics of VC funding can be explained by its 'home-run' mode: because it invests in many companies at once, VC firms position themselves where startups are most likely to form and where innovation is backed by significant infrastructure. Being located in a major innovation hub gives venture capital early access to new startups, especially those in groundbreaking or emerging industries. One major factor that drives almost 50% of VC funding into these two regions is elite universities like Stanford, Harvard, and MIT. These institutions not only produce top talent in technology, medicine, and other groundbreaking fields, but also provide the perfect breeding ground for startups. Like-minded, ambitious, and talented young adults all in one place, backed by universities with endowment funds well over tens of billions, allow students to pursue ventures in an environment that encourages innovation and has the infrastructure to support large-scale projects through research labs and grants, alumni funds, and professors who are experts in their field. In fact, the technological hub known as Silicon Valley was developed by Stanford-educated innovators who were incentivised to start local tech companies in the 1920s and 1930s by Stanford professor Fredrick Terman. Stanford's Industrial Hub further solidified the Bay Area's connection to innovation, especially in technology. These elite

universities provide the funding, resources, and human capital that power these cities as major centers for innovation and entrepreneurship, which drives venture capital to move near them. Another major factor driving VC firms to cluster in major locations is the presence of established, high-yield industries such as biotechnology, finance, and software. Established industries mean entrepreneurs are more likely to innovate in those fields and have access to resources like industry-specific grants, awards, and mentors that can help a venture succeed. If a field is oversaturated or requires intensive product development, being near centers of innovation or large research labs increases the chance of success. Venture capital firms also tend to be near other venture capital firms as the industry relies on rapidly moving market information, which can be obtained more easily if the information is being spread to multiple locations near you. These factors create a positive feedback loop that strengthens the economies of cities with a high concentration of venture capital firms and encourages more innovation in those areas. However, that loop unintentionally excludes rural entrepreneurs.

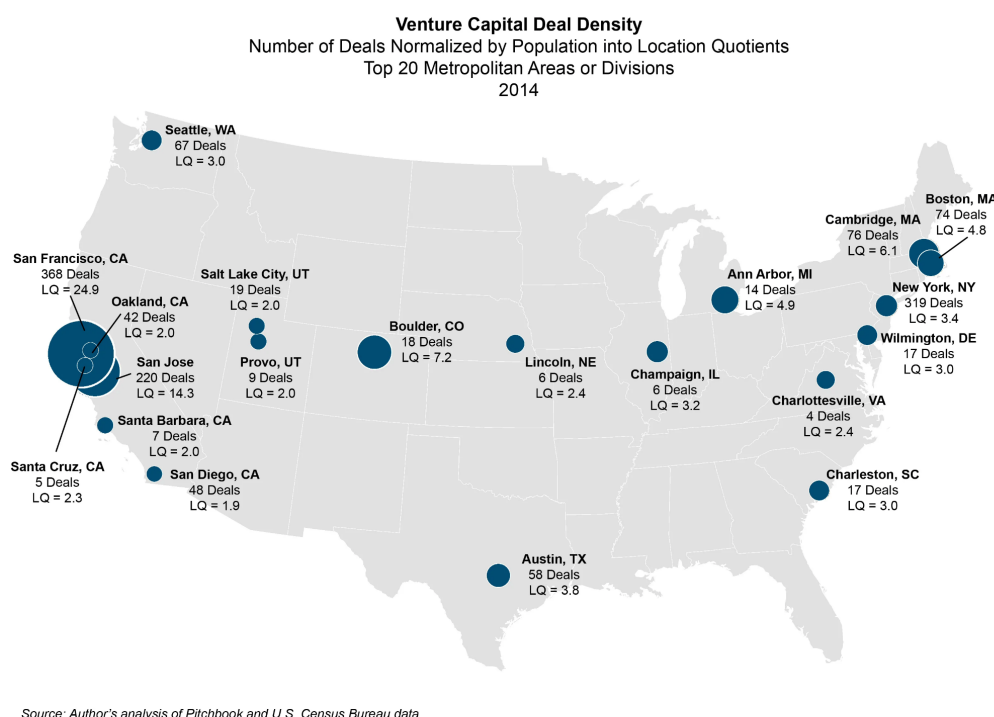


Figure 1. Map of Venture Capital Deals Normalized by Population, 2014. (Source: Brookings)

The positive effects of the feedback loop created by venture capital firms in cities like Boston have the opposite effect on rural economies. Most rural economies do not have established institutions or infrastructure that can support entrepreneurship and long-term growth in emerging fields. This leads to less innovation and entrepreneurship, which dissuades venture capital firms and other investors from investing in these underserved areas. Researchers in 2015 investigated the most important factors in rural entrepreneurship in Romania and found that, of all the variables, collaborations with institutions were present the least, having a mean of 0.09 on a 0-1 scale. This suggests that most rural entrepreneurs surveyed had little to no collaboration with institutions such as research labs or universities that could help foster innovation in fields that require extensive testing (Harpa 2015). Notably, the same research team found that entrepreneurs who had started innovation processes failed to complete their project, with a link being found between a lack of institutional support and collaboration and their failure. Fields such as biotechnology and AI, where the field is constantly being innovated and new products are being pushed out, mean that a lack of institutional support reduces the ability of rural entrepreneurs to compete with firms in well-funded urban areas. Limited access to capital exacerbates the income inequality between rural and urban areas. Li, Ni, and Li (2023) identify capital constraints and underinvestment as “the piv-

total factors limiting economic growth.”. This suggests that insufficient financial resources can function as a structural harm to rural economic development rather than reflecting existing differences in economic performance. Their paper further states that the “loss of rural capital directly leads to insufficient funds for rural economic development and construction, resulting in slow rural economic development” (Li et al 2023). This shows how a lack of capital in rural economies creates a self-fulfilling prophecy: rural entrepreneurs lack the funds to innovate and expand, so money is not invested in economies that desperately need innovation to diversify. Although the study was based on data from rural China, the same problem can be extended to the US, as the same pattern of investment is mirrored here. Large amounts of capital pour into financial and innovation centers such as Guangzhou and Shanghai; similarly, large amounts of capital in the US pour towards places such as Boston and San Francisco. Both countries face a rural-to-urban economic disparity that remains high despite the level of development across the country. The study attributes this to an outflow of capital from rural areas into urban areas. The paper states directly that “there is a significant positive correlation between financial development in rural areas and rural economic growth, and a negative correlation between the proportion of rural financial capital outflow scale to rural financial scale and rural economic growth” (Li et al, 2023). Furthermore, a study by the Federal Reserve Bank of Richmond found that rural areas struggle with unique problems such as a lack of available childcare, difficulty in housing development, and limited employment, which further limits the economic capabilities of rural economies. The literature above shows that rural underinvestment is a systemic problem driven by multiple factors. However, the primary factor is a lack of capital that stifles innovation in areas without access to infrastructure. Limited access to capital is associated with slower rural economic growth or may contribute to economic stagnation. As stated above, these rural firms compete with firms with billions of dollars in market value and top-of-the-line research labs and computer models that give them access to necessary capital. Without any form of industrial and consistent investment in these economies, they will continue to struggle with innovation. Poelhekke and Wache found that U.S. county-level study uses an instrumental-variable approach to examine whether VC investment produces broader local economic effects and finds that additional VC investment is associated with increases in new venture creation, employment, and payroll. Their study also found a causal link between VC investment and local economic activity (Poelhekke, Wache et al, 2026). However, because the study examines counties broadly rather than exclusively rural counties, it does not prove that VC investment necessarily produces the same effects in rural communities. There are limited studies specifically for rural areas; however nationwide there are studies that indicate there are direct and indirect economic growth impacts.

On the flip side, investing in rural areas has an outsized impact on local economies and benefits surrounding areas in many ways. The same Federal Reserve study found that community development venture capital investment, otherwise known as CDVC, can positively benefit rural areas as they can “spur self-sustaining growth through agglomeration economies, generate positive spillovers for the surrounding region, and enhance local human capital through social networks” (Kovner, 2025). This investment can counteract factors that stifle innovation in rural areas. Even non-VC investment, such as the Small Business Investment Company (SBIC) program, which helps to fund small businesses in the United States, can create jobs and help sustain local economies. Over the period from 1995 to 2014, they found that almost 3 million jobs were created from SBIC-funded ventures, with an average of \$14,500 invested per job (Pagalia, 2017). This shows how capital investment and job growth are directly correlated, which can support stagnating rural economies. When SBIC-certified VC firms invest in rural companies, they create and support job growth and promote innovation, which can help improve the overall economic conditions of rural economies and promote industrial diversification.

3. Discussion

The literature and findings support the idea that venture capital, either intentionally or unintentionally, excludes entrepreneurs outside of major metropolitan areas. As talented students, burgeoning entrepreneurs, and those capable of creating products that draw in investors move to these hubs—either to

pursue a world-class education at universities such as Stanford, Harvard, Berkeley, MIT, or Columbia or gain access to the multitude of resources available only in those areas (ie, biotech labs in Boston and AI research facilities in the Bay Area)—they create less of an incentive for venture capital to invest outside of those areas. If all the talent, resources, and mentorship that is needed to nurture ideas into billion-dollar companies is in one spot, there is less risk in giving money to entrepreneurs in those areas. This exemplifies the point that the most significant harm being done to rural entrepreneurs is a positive feedback loop that unintentionally dissuades potential investors from investing in unconventional areas. This positive feedback loop starts when money invested in areas with institutional support and existing financial infrastructure increases the probability of a firm becoming a ‘unicorn’. To increase the chances of an outsized return, VC firms pour more money into these ‘proven’ areas, meaning little to no money goes to places outside Boston, New York, and San Francisco. The loop, much like the albedo effect, exacerbates the problem as investing inside of these ‘hub-spots’ is consistently rewarded, strengthening the economies and industries invested in, which has the opposite effect on the ones left out of the picture.

These findings also demonstrate issues that keep the gap between rural and urbanized economies so large. Many small towns are built off of a few non-changing industries such as agriculture, livestock, and sometimes consumer goods (i.e., grocery stores and gas stations). These industries lack the potential for high growth, so most of these towns are stuck in the same stage of economic development they were 50 years ago. This means little to no money can be invested in things that would promote entrepreneurship and attract high-growth industries to their towns. A significant lack of financial infrastructure and a consumer base large enough to sustain a business often push rural entrepreneurs away from their hometowns in search of places better suited to support small businesses. Similarly, many talented high school students leave their small towns to pursue a degree at a larger institution that can meet their needs, especially if they want to pursue fields that require significant infrastructure, such as biotechnology. This contributes to a rural ‘brain drain’ as rural innovators leave their hometowns in search of a better network of entrepreneurs and more established financial systems to back them.

Most entrepreneurs in rural areas are significantly farther away from these hub spots than someone in a suburban area, and a lack of low-cost public transportation such as trains or buses in these areas also makes it harder for rural entrepreneurs to connect with potential investors. All of these factors are the primary contributors to the lack of innovative startups coming out of rural areas. Although COVID-19 and the subsequent pandemic have shifted some firms to fund virtually across the country, the majority of funding stays local, as in-person meetings, networking events, and facilities can increase the success of ventures. Venture capital’s home-run model means casting a wide net, but also investing in companies they can monitor closely to improve the chances of success, which often leads rural inventors to be left out of funding rounds.

The rise of AI is also significant, as companies have shifted their focus to primarily AI-based software startups that tend to have less outside impact on the economies where they are based. A study from the Bank of America Institute found that the number of businesses explicitly planning to hire employees fell by 4.4% in quarter 1 of 2026 (Bank of America, 2026); furthermore, the US Bureau of Labor Statistics found that AI contributed to a decline in job growth in a number of sectors, with entry-level roles being affected the most (US Bureau of Labor Statistics, 2024). The US Bureau of Labor Statistics also reported a concern that jobs like credit authorizers or medical transcriptionists are being readily replaced whereas there has been an increase in hiring of data scientists. 90% of all Y-Combinator startups are AI companies (Blum, 2025). When those startups are funded they do not contribute to an increase in payroll like their non-AI counterparts because they are not hiring more employees to scale up their operation. Traditionally, companies would have hired someone with coding experience to develop an app or create a website designed for higher traffic. Nearly one quarter of all startups surveyed by Y-Combinator stated that up to 95% of their code was generated through the use of LLMs (Y-Combinator, 2025). Now, those companies use AI to code their apps and websites, which leads to that job never being created. On the other hand, the majority of rural and small-town local businesses directly contribute to an increase in jobs locally, especially entry-level positions. This is because the overwhelming majority of businesses in small towns are retail and hospitality businesses (i.e. restaurants, boutiques, coffee shops, etc.). These

businesses primarily employ local residents and have entry-level jobs for local teenagers and college-aged young adults. Not only are the majority of VC dollars not being reinvested into their communities, but they are actively reducing available jobs and failing to benefit their communities on a large scale like traditional startups and businesses.

Employment in selected artificial intelligence- and information technology-related occupations, projected change, 2024–2034

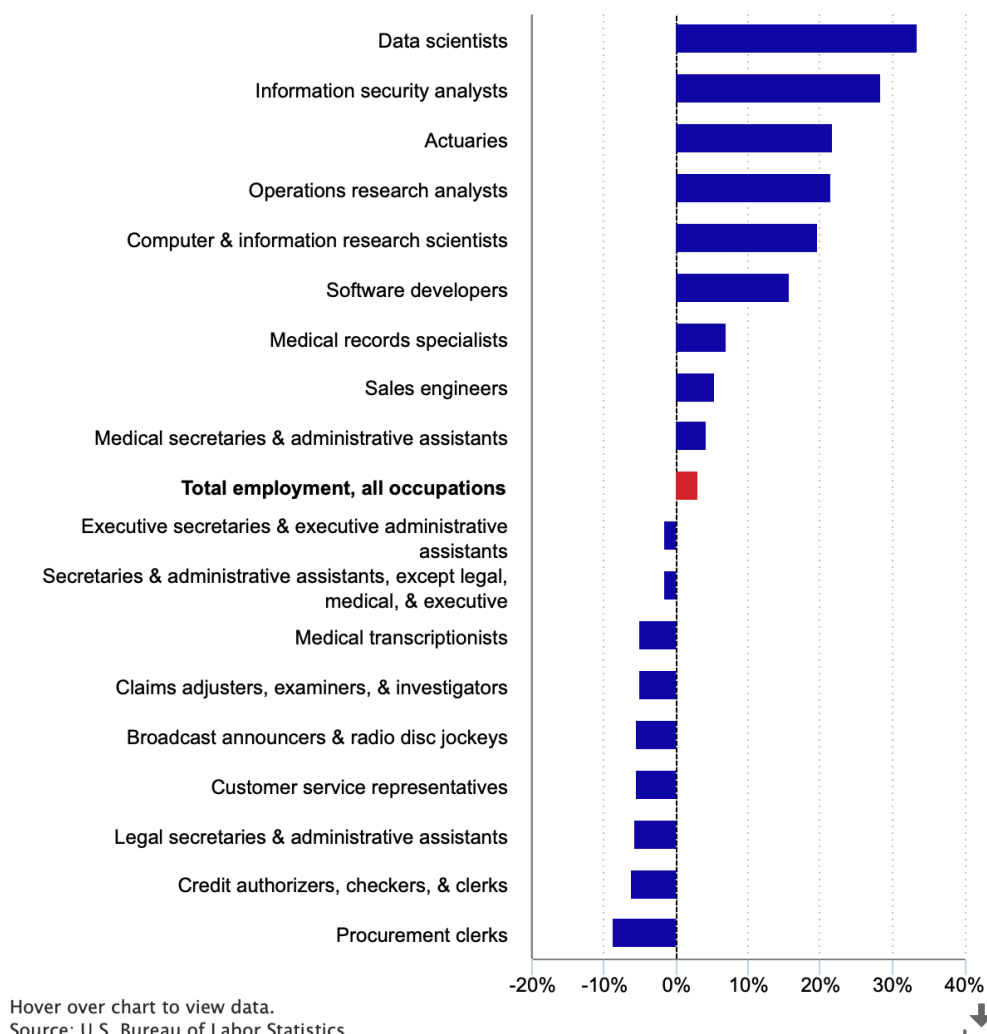


Figure 2. Employment in AI/Technology related jobs (Source: US Bureau of Labor Statistics)

Venture capital can fund businesses that not only provide a return on investment but also have positive impacts on local communities. Instead, these firms pour billions of dollars into an oversaturated market with limited social benefit. Funding smaller businesses and moving away from relying on the home run model would allow VC firms to have a more stable portfolio and contribute to improving small towns by providing long-term employment in areas lacking job growth.

Based on the information above, my recommendations for small towns and rural economies to help them attract venture capital funding and stimulate entrepreneurship are twofold. First, encourage community-based funding and develop the infrastructure needed to retain and grow local entrepreneurship. Corntinov's study highlights the impact of community-based funding, such as crowdfunding, in creating industries that might not have emerged without that support. By encouraging residents and other local business owners to invest in and support up-and-coming businesses, more isolated economies could diversify and create an environment that promotes entrepreneurship on a larger scale, especially in high-growth industries. Local governments can do this by encouraging community involvement, creating events that help residents get to know businesses seeking crowd funding, and highlighting up-and-coming

business owners' stories to increase visibility. Second, I believe small and rural economies should focus on building the infrastructure needed to support long-term entrepreneurship and small-business growth. This can be done by establishing a chamber of commerce, working with city council to develop initiatives and laws that promote the creation of local businesses, and reaching out to other local chambers of commerce in surrounding metro areas to build support and network. Although rural economies cannot compete with the infrastructure and resources provided to entrepreneurs in cities like San Francisco or Boston because of the university systems there, small towns and rural areas can make up for that gap by having the infrastructure needed to support long-term growth so entrepreneurs can stay in their homes and create businesses there. However, the primary limitation for this plan is the general lack of disposable capital in rural government and residents. Even factoring in outliers, most towns do not have the capital necessary to jumpstart entrepreneurship programs through crowdfunding, especially on a larger scale. SBIC loans and angel investors can help remove the initial barrier to entry, but this would require concentrated effort from entrepreneurs and wouldn't necessarily foster growth in entrepreneurial ventures in the aforementioned areas. Similarly, the infrastructure can include financial systems that support business loans and other financing options. Brick-and-mortar locations for banks are difficult to set up in rural areas because of a lack of resources and an available market, which makes it unattractive for banks to franchise in; larger banks (i.e., JPMorgan Chase & Wells Fargo) have the capacity for said locations but do not invest in rural areas because of the perceived lack of profitability. However, online banking is a rising option for entrepreneurs seeking financial backing. Increasing access to online banking within communities allows more people to access financing that was previously limited to them. This can be done by increasing internet access within an area and providing free internet and computers in community centers such as libraries. Through this, more entrepreneurs will be able to access business loans, and Chambers of Commerce can focus on establishing community relationships and networking rather than convincing banks to open a location near them. This infrastructure can also expand to include school programs and partnerships with local businesses that encourage students to pursue entrepreneurship and work in real business environments. As states are pushing for more CTE courses in schools and are providing more funding for programs such as the one proposed above, local school districts, in partnership with the Chamber of Commerce, could establish a practicum program where qualified high school seniors could work in a real business environment and gain experience in entrepreneurship without the full risk and responsibility of creating a venture, especially without institutional support. As someone who personally lives in a small town with all of these factors, many of my peers have decided to pursue a career in entrepreneurship because they know that our hometown has the resources and infrastructure to support them. If these factors are implemented in world and small-town economies that want to diversify and encourage entrepreneurship, I believe they will foster a town capable of hosting a variety of industries and supporting many small businesses, regardless of background or constraints.

4. Conclusion

In summation, venture capital's home-run model and existing infrastructure in urban areas, such as university systems and financial support, create hotspots of investing in a few key areas. This structural support creates an environment suited not only to nurturing ventures and entrepreneurs but also to building businesses capable of revolutionizing their fields. However, this process unintentionally excludes small-town and rural entrepreneurs, as they are outside of the hotspots and the resources they have to offer, putting them at a disadvantage as they are competing against firms for funding with years of research in university-backed labs and cutting-edge technology they do not have access to. This has ripple effects across small and local economies across America, as these economies have consistently low economic and industrial growth. This can be attributed to the lack of resources and infrastructure to facilitate growth outside of a few major industries, which include agriculture and retail. However, when invested in rural economies, venture capital can have an outsized impact on the communities it supports. Studies have shown that venture capital-funded businesses have a higher chance of employing residents long-term and can contribute to larger economic trends in the area, promoting even more businesses to open

up. Venture capital can fuel businesses that drive positive social change by investing in rural economies and small towns. Although the outcome may not be as outsized as the unicorns from urban areas, the slower but consistent growth of these businesses is a meaningful addition to many firms' portfolios because it helps stabilize investment risk. Local governments and agencies can also help promote venture capital and other forms of investment in their local areas by promoting crowdfunding and creating infrastructure to help support local businesses, such as chambers of commerce and increasing access to financial services and financing options. Venture capital is in a stage of growth right now with the rise of AI and the complete change of the technology available to the general public. Instead of focusing all the money and effort into a few burgeoning industries, I believe that this era is an opportunity for venture capital firms to diversify their portfolio and begin investing more meaningfully in smaller towns and rural economies—not only as a method for social good through community reinvestment, but as a way to promote sustainable economic changes across the areas of the United States previously left behind, forced to maintain dying industries at the expense of their potential.

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