

A photograph of a modern university building at night, with many windows illuminated. The building has a grid-like facade. The text 'Blindens UNIVERSITY' is visible in the top left corner.

How the Startup Economy is Spreading Across the Country

And How It Can Be Accelerated

A long-exposure photograph of a city street at night. The street is dark, and the sidewalks are visible. There are many light trails from cars and streetlights, creating a sense of motion. A statue is visible on the left side of the street.

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How the Startup Economy is Spreading Across the Country — and How It Can Be Accelerated

Michael Mandel¹ | Progressive Policy Institute | Prepared for TechNet | March 29, 2017

Executive Summary

It is March 2017. Square, the small business payments startup founded in 2009, is hiring for its customer support operation in St. Louis. Fintech startup Greensky, founded in 2006, is expanding in Atlanta. Seattle-based Zulily, the ecommerce startup founded in 2009 and bought by QVC in 2015, is hiring for its fulfillment center in Bethlehem, Pennsylvania, on the site of Bethlehem Steel's former main plant. Venture-funded Thread International, based in Pittsburgh, is staffing up its headquarters to help turn recycled plastics into fiber and yarn. Total Quality Logistics, a freight brokerage founded in Cincinnati in 1997, has 26 positions open in Ohio, 11 in Florida, and more elsewhere.

All across the country, entrepreneurs are founding and building new companies that use technology in innovative ways. The American startup ecosystem — the envy of the world — has spread outside of the coasts and high-profile tech hubs, such as San Francisco, Boston, and New York City, to other parts of the country. Startup activity is happening everywhere in cities and towns across America.

More than that, the startup culture of entrepreneurship, fueled by scalable technology, is spreading as well. Around the country, an increasing number of companies are describing themselves as “startups” when they advertise for workers.

In this paper, the Progressive Policy Institute (PPI) and TechNet explore the importance of the startup economy to job growth, not just in traditional technology hubs, but also in metro areas around the nation.

Startups play a critical role in our economy. Fast-growing startups offer the highest potential for job growth in our nation, creating jobs at faster rates than older companies.

Perhaps more important, the list of startups with dynamic growth go far beyond the traditional Internet and information technology area into other fields that are now increasingly reliant on information technology for their growth.

Technology is transforming every sector and industry.

As such, startups should be encouraged and policies should be put in place to support their growth.

This paper finds promising evidence that dynamism is returning to our economy. Based on our analysis of government data, the rate of net establishment formation — which includes both new business creation and the expansion of existing firms — started to accelerate in 2015 and continued through 2016.

Even more encouraging, this analysis also shows the “dynamism gap” between the large cities and the rest of the country is narrowing. **In 2015 and 2016, the regions outside the top 35 metro areas accounted for almost half of net new establishments.** That is a stunning turnaround. In the previous seven years, the parts of the country outside the big cities accounted for less than one-fifth of net establishment formation.

To further clarify the spread of economic dynamism and startup culture, this paper develops a new measure of the intensity of local startup ecosystems. The new measure, the Metro Startup Economy Index, identifies the top ten traditional tech hubs, including San Francisco, Seattle, New York, Boston, and Austin.

The new index also allows us to identify vibrant startup ecosystems in 25 “Next in Tech” metro areas, including Washington D.C., Atlanta, Denver, Dallas, Salt Lake City, Portland, and beyond. Many of these metro areas are not typically associated with startup growth but, in reality, have come to embrace startup culture.

The question becomes how to support these local startup ecosystems even further — and all the potential growth that it could bring in the future, if the right policies are followed.

This paper contends that the goal of America’s startup policy should be to spur the creation of one million new jobs in young companies each year.

That requires a multi-pronged approach, including:

- Increasing access to capital;
- Improving access to talent;
- Opening up access to markets; and
- Cutting red tape and instituting a pro-innovation regulatory and fiscal policy.

Policymakers on the national, state, and local levels should pay close attention to startups — encouraging their formation and removing the obstacles that halt or slow their growth.

Such startup-friendly policies do not necessarily require large amounts of money or incentives. They do, however, require governments to do things differently than before.

Taken together, these policy changes represent a significant change in our nation and could spur an additional one million additional jobs every year.

Part One: An Uptick in Economic Dynamism

It has been well documented that significant parts of our country have been struggling economically.²

Yet, there are initial indications that dynamism in our nation's economy may be starting to revive. The latest data from the Bureau of Labor Statistics shows that the creation of new establishments finally accelerated in 2015 and 2016 — not just in the leading tech hubs, but in smaller states and communities as well. Overall, the number of private-sector establishments increased by 2.5% in the first three quarters of 2016, the fastest rate of growth since before the Great Recession, and just below the 2.7% average rate of the 1990s.

More and more, we are seeing signs that communities and businesses around the country are embracing the startup culture of risk-taking and entrepreneurship. Individuals are founding, building, and expanding companies that use technology in innovative ways. One sign: an increasing number of companies are describing themselves as “startups” when they advertise for workers.

And why not? In the era of the Internet, talented information technology workers can be found in every metro area. Costs are lower, housing is cheaper, and the ethos of the startup economy is everywhere.

Today, startups are taking root across all 50 states and in every metro area, not just in the areas of traditional startup activity.

From Chicago to New Orleans, Nashville to Los Angeles, vibrant new companies are being formed that have the potential to become significant job creators — particularly if nourished and supported by the right public policies.

Every state and every city has the opportunity to participate in the startup revolution—what Washington D.C.-based venture capital firm Revolution and its founder Steve Case have called “The Rise of the Rest.”

Moreover, new opportunities are being created for startups as the IT revolution reaches out beyond the digital sector to transform physical industries, such as manufacturing, healthcare, retail, and transportation.³

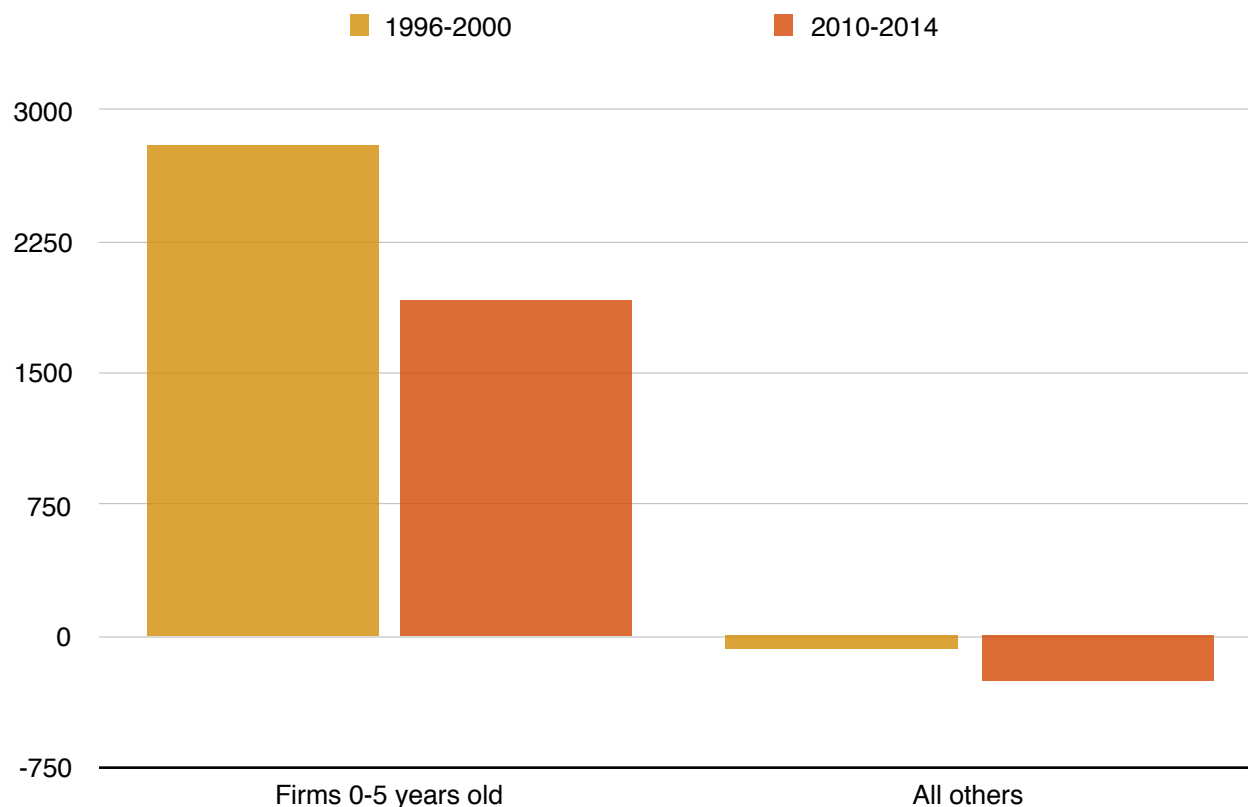
Xometry, founded in 2014 with offices in Maryland and North Carolina, uses its new online manufacturing platform to connect product designers to manufacturing facilities around the U.S. Combined with next-day delivery networks, such a platform has the potential to give American manufacturers a significant speed advantage against foreign rivals.

Similarly, Opternative, a Chicago-based startup founded in 2012, has built the first online eye exam, potentially unlocking an enormous market.

Even with these gains, the pace of startup creation is not nearly as fast as it could be.

A 2016 Wall Street Journal article highlighted a long-term decline in entrepreneurship that is contributing to stifled job growth.⁴ As Figure 1 shows, annual net job creation at young firms (five years old or younger) averaged 1.9 million jobs in the five years ending in 2014.⁵ By comparison, annual net job creation at young firms averaged 2.8 million jobs in the five years ending in 2000. To be sure, the late 1990s were a period of significant economic expansion, while 2009 to 2014 were part of the Great Recession. However, that is even more reason why we should reduce barriers to startup creation and growth.

Figure 1: Net Job Creation by Young and Old Firms
(annual average, thousands)



Data: Census Bureau, author calculations

Closing this “startup gap” of almost one million jobs per year at young firms should be the goal of national, state, and local policymakers.

This gap is why it is so important to encourage the formation of new firms that can grow quickly across the country and across a wide range of industries, not just in traditional tech hubs.

The key points for public policy consideration are: access to capital, access to talent, access to markets, and a pro-innovation regulatory and fiscal policy.

On the national level, startups are still hampered in raising funds by overly strict rules governing crowdfunding and investor tax credits.

Startups face a similarly difficult terrain in terms of talent. Computer science and STEM (science, technology, engineering, and math) should be taught in every school in America.

We must also tackle immigration reform and make it easier for immigrant entrepreneurs to build new companies in the United States.

Startups need access to overseas markets, which means supporting cross border data flows and limiting trade barriers.

The federal government needs to invest more in computer science education as well as research and development (R&D), which has been falling as a share of GDP. In addition, the U.S. needs to pay more attention to improving regulatory policy in a way that benefits innovative companies.

State and local governments have a vital role to play as well. Strong leadership can bring together universities and businesses to create the sort of talent pools that attract startups. Moreover, pro-innovation policy on the part of local political leaders can clear away some of the regulatory obstacles that hamper startup growth.

Indeed, startup policy, to be truly effective, must benefit the entire country.

Part Two: Understanding Today's Startup Economy

Every large company was at one time a startup, founded in somebody's kitchen, workshop, or storefront. History shows that even the fastest growing new companies take years, or even decades, to achieve economically significant scale.

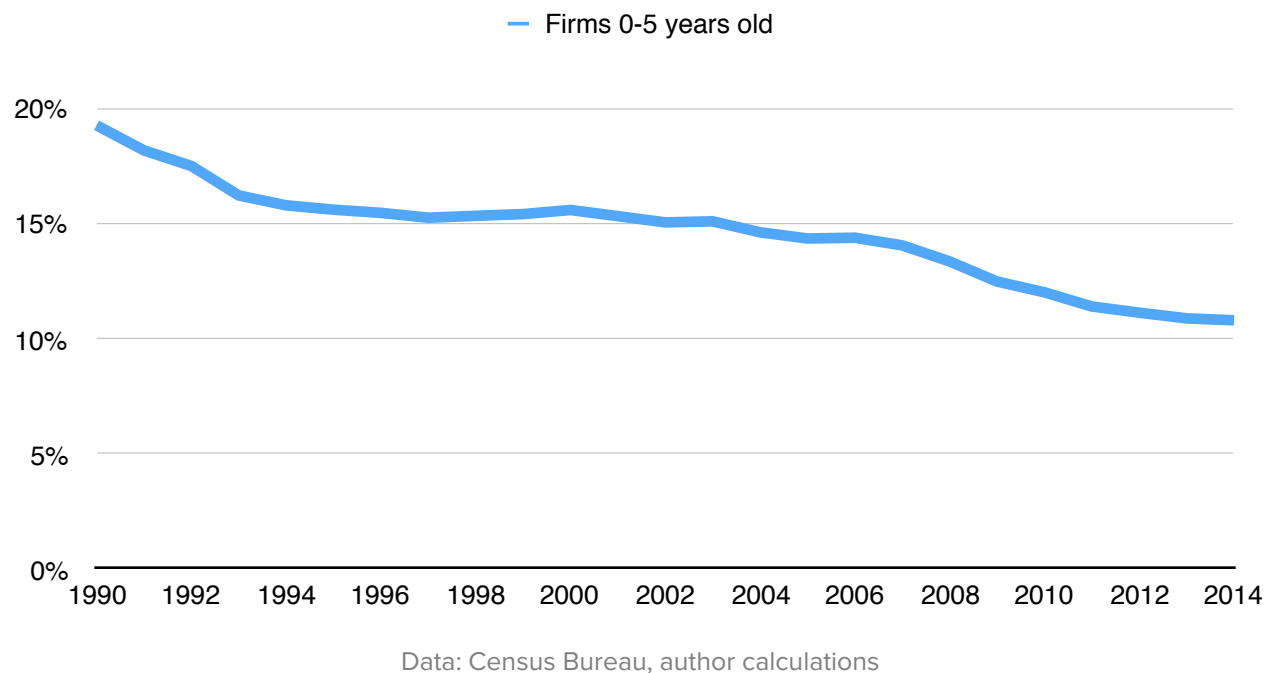
For example, General Motors used strong management and the adoption of new production techniques to become the dominant player in the greatest new market ever created, with a peak employment of over 800,000.

Similarly, Amazon had less than 9,000 workers five years after its 1994 founding. Today, Amazon has 340,000 workers, making it the fastest company to reach the 300,000 jobs mark ever.⁶ **The company has more than doubled its employment over the past two years.**

When seeking to understand today's startup economy, it is important to not be too dogmatic about arbitrary age cut-offs. As hard as it may be to remember, we are still less than a decade from the beginning of the smartphone revolution, and many of the potential winners of this era might still be in a young stage.

With this in mind, let us look at Figure 2, which reports on the percentage of employees working at firms five years old or younger. By that yardstick, the startup economy is shrinking. As late as 1990, almost 20% of Americans worked in young firms. As of 2014, the latest data available, that percentage is down to just over 11%. If we plotted the percentage of employment in firms 20 years old or younger, it would show a similar decline.

Figure 2: Young Firms Have A Falling Share of Workers
(share of employment at firms 5 years old or less)



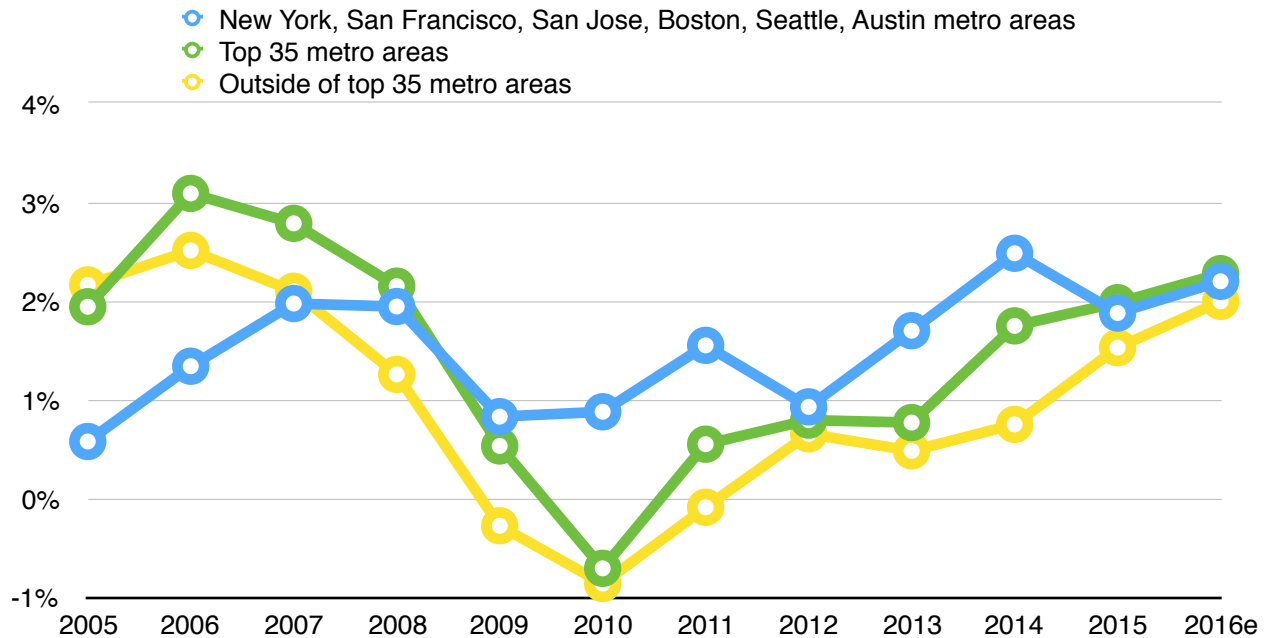
However, an analysis of different, more current data offers significant reason to believe that we are starting to see a revival of economic dynamism.

The Bureau of Labor Statistics collects information on the number of establishments by industry and by location. New establishments are created when a new firm starts up or an existing firm expands to new locations. Growth in new establishments is not the same as the creation of new firms, but it does show a dynamic economy.

During the Great Recession and afterward, net new establishment growth slowed to almost zero across most of the country, as Figure 3 shows. Between 2008 and 2013, the number of establishments in the top 35 metro areas grew by only 3%. Even worse, the number of private-sector establishments outside of the top 35 metro areas actually fell slightly, by 0.3%.

Meanwhile, the major tech hubs — the San Francisco Bay Area, New York City, Seattle, Boston, and Austin — continued to grow, although at a reduced rate. Between 2008 and 2013, these tech hubs added 67,000 new establishments, more than half of the national total during that time period.

Figure 3: Dynamism Starts to Revive
(two-year growth rate of private-sector establishments)



Data: Bureau of Labor Statistics, author calculations

Starting in 2015 and continuing in 2016, establishment growth accelerated not just in the tech hubs and the large cities, but also in the areas that had been lagging. Indeed, most of the establishment growth gap between the tech hubs and the rest of the country disappears. **Between 2014 and 2016, the areas in the U.S. outside the top 35 metro areas accounted for almost half of net new establishments.**

The gain in establishments does not correspond directly to an increase in startups. But, it is almost certainly true that each new establishment — coming from either a new business opening or from an existing business expanding — represents a revival of the same sort of dynamic environment that produces successful startups.

Moreover, we have to acknowledge that the entrepreneurial and innovative zeal that characterizes tech startups is not simply restricted to the classic, stand-alone business that goes public. Increasingly it is clear that a well-functioning startup ecosystem in a community will include a variety of different types of establishments: local new companies, offshoots of successful startups based elsewhere, entrepreneurial divisions of large corporations, and academic spin-offs.

Therefore, if we are looking for a revival of dynamism, we have to account for a broader definition of the startup economy that includes these five types of establishments:

1. New companies that use new technology and new business models to open up markets that did not previously exist. From this perspective, Avant, a Chicago-based fintech company, and Dallas-based Vinli, which makes connected car apps, are classic examples of startups.
2. Successful recent startups that have exited through acquisition by larger companies but still exist as separate establishments and maintain their startup ethos. For example, LinkedIn, launched in 2003 and acquired in 2016 by Microsoft, is expected to be run as a separate unit.⁷
3. Branch offices of startup companies headquartered in other parts of the country. In an era of connectedness, a startup such as Square, based in the Bay Area, has a St. Louis office that includes the head of direct customer support and fraud detection.
4. The ecosystem of venture capital firms and specialized accounting, legal, marketing, and staffing firms that help support startups. These firms are an extremely important part of the startup economy and ecosystem.
5. Cutting-edge units of larger companies that advertise themselves to potential employees as providing a “startup-like” environment.

This fifth category is perhaps the most interesting part of the startup economy. Large companies often want to locate their most forward-looking R&D and product development operations in areas with a strong startup culture.

That desire requires these companies to bill themselves as having a startup culture in order to attract the same innovative and entrepreneurial labor force that fuels startups.

For example, MTD Products, based outside of Cleveland, was recently looking for a project manager to join its “Autonomous Lawn and Garden Division,” which it billed to potential employees as a “high tech startup within the stability of a large, well established company.” Similarly, Walmart recently launched a tech incubator in Silicon Valley named Store No. 8, focused on launching new e-commerce startups. This establishment is part of the startup economy, even though Walmart itself is not.⁸

These dual personalities that big companies increasingly take on are an effort to invoke the entrepreneurial spirit directly from the startups that they collaborate with. They realize the urgency to reinvent themselves or cease to exist.

This unprecedented churn among established companies incited many large corporations to collaborate with the entrepreneurial ecosystem to develop and deliver the technologies and solutions transforming industries. These large companies have created innovation labs and corporate venture capital groups, and co-located near fast growing venture ecosystems. However, as our findings suggest, that activity is taking place beyond the coastal hotbeds in the Midwest and throughout the country, particularly in the enterprise sector.

One example of how this collaboration is taking place is TechNexus, a Venture Collaborative that finds, funds, and grows technology ventures in partnership with entrepreneurs and large companies. They are investing in hundreds of startups alongside dozens of large companies. This is part of a broader trend. For the fourth straight year, more than 1,000 venture investments involved corporate venture capital (CVC) participation.⁹ But most of the startup activity they are involved with, particularly that which is unique to the large company and transforming incumbent industries, is taking place outside of the three highest-profile tech hubs of Silicon Valley, New York, and Boston.

These dual personalities that big companies increasingly take on are an effort to invoke the entrepreneurial spirit directly from the startups that they collaborate with. They realize the urgency to reinvent themselves or cease to exist.

Part Three: Tracking the Geography of the Startup Economy

So far we have been using government data to analyze the startup economy.

In this section, we track the geography of the startup economy using what is known as “organic data” or “big data” — that is, data which is generated in the course of doing business.¹⁰

In particular, the universe of online job postings collected continuously by “job engines,” such as Indeed.com, which systematically crawl corporate career webpages and job boards looking for new want ads.¹¹ These are then assembled into a real-time, searchable database. As of March 2017, the Indeed.com database for the United States reported 3.3 million job postings.

These job postings contain considerable information about the job opportunities, including the skills needed and where the job is located. Moreover, job postings typically include the company’s own description of themselves.

How can we use this information to track the startup economy?

The key is that many companies that want to be part of the local startup ecosystem actually use the word “startup” in their job postings. For example, a search in early 2016 for Chicago-area job postings containing the word “startup” pulled up Scout Alarm, a home security company founded in 2014. In the job posting for a head of marketing, the company described itself as a “fast-growing and funded Chicago startup.”

Similarly, a recent search for Austin-area job postings containing the word “startup” included Umbel, an Austin-based company “helping companies ethically unlock the value hidden in their customer data.” Umbel described itself as “a high-energy, fast-growing startup ” in its recent job posting.

Or in Detroit, a search for job postings containing the word “startup” found DAQRI, a Los Angeles-based startup that is a leader in “augmented reality.” DAQRI was hiring for its new office in the Detroit area in order to expand its automotive-related business.

In effect, we can “survey” all employers in an area to see how many job postings use the word “startup” out of the total of all job postings in that area. We will use this result as an indicator of the intensity of the startup economy in that area.¹² For example, in California roughly 1.8% of job postings use the word “startup,” while in Iowa only 0.2% of job postings mention “startup.” This would suggest that California has a more developed startup ecosystem than Iowa, which is certainly true.

First, we apply this metric to the entire United States. **On a national level, we find that over the past two years there has been a surge in the percentage of job postings using the word “startup” to describe themselves or the job.**

Indeed.com reports that the percentage of job postings using the word “startup” increased by 60% from November 2014 to November 2016. This provides some support to our analysis in the previous section that suggests startup activity might have accelerated since 2014.

Next, we use this data to measure the intensity of the startup ecosystem for each metro area. Our new Metro Startup Economy Index is calculated by taking the percentage of job postings in a metro area containing the word “startup.”¹³ That percentage is then normalized by dividing by the median percentage for all metro areas analyzed, giving us the Metro Startup Economy Index for each metro area. (We analyzed the 100 largest metro areas, but only reported on the top 35). We ran the procedure in October 2016, and then again in March 2017, and averaged the results.¹⁴

Figure 4: The Tech Hubs
Metro Startup Economy Index - March 2017*

| Rank | Metro Area | Metro Startup Index |
|------|-------------------|---------------------|
| 1 | San Francisco, CA | 18.2 |
| 2 | San Jose, CA | 14.0 |
| 3 | Seattle, WA | 7.6 |
| 4 | New York, NY | 7.4 |
| 5 | Boston, MA | 6.4 |
| 6 | Austin, TX | 5.3 |
| 7 | Provo, UT | 3.6 |
| 8 | San Diego, CA | 3.5 |
| 9 | Chicago, IL | 3.5 |
| 10 | Los Angeles, CA | 3.5 |

*Online job postings containing the word “startup” as a share of all job postings, normalized to 1 for median of top 100 cities. Index averages data from October 2016 and March 2017. Data: Progressive Policy Institute, Indeed.com. Prepared for TechNet

Figure 4 shows the top ten metro areas, as measured by the Metro Startup Economy Index. It should be no surprise that San Francisco, San Jose, Seattle, New York, and Boston are at the top.

Indeed, if these metro areas were not at the top, we would worry that the Index was not giving an accurate picture.

Figure 5: The Next in Tech 25
Metro Startup Economy Index - March 2017*

| Rank | Metro Area | | Rank | Metro Area | |
|------|--------------------|-----|------|-----------------|-----|
| 11 | Washington, D.C. | 2.6 | 24 | Richmond, VA | 1.4 |
| 12 | Atlanta, GA | 2.5 | 25 | Charleston, SC | 1.4 |
| 13 | Denver, CO | 2.3 | 26 | Madison, WI | 1.3 |
| 14 | Salt Lake City, UT | 2.3 | 27 | Pittsburgh, PA | 1.3 |
| 15 | Portland, OR | 2.3 | 28 | Sacramento, CA | 1.3 |
| 16 | Dallas, TX | 2.1 | 29 | Charlotte, NC | 1.3 |
| 17 | Raleigh-Durham, NC | 2.0 | 30 | Baltimore, MD | 1.2 |
| 18 | Worcester, MA | 2.0 | 31 | Cleveland, OH | 1.2 |
| 19 | Philadelphia, PA | 2.0 | 32 | New Orleans, LA | 1.2 |
| 20 | Nashville, TN | 1.8 | 33 | Minneapolis, MN | 1.2 |
| 21 | Phoenix, AZ | 1.7 | 34 | Miami, FL | 1.2 |
| 22 | Houston, TX | 1.4 | 35 | Detroit, MI | 1.2 |
| 23 | Cincinnati, OH | 1.4 | | | |

*Online job postings containing the word “startup” as a share of all job postings by metro area, normalized to 1 for median of top 100 cities. Results average October 2016 and March 2017 data. Data: Progressive Policy Institute, Indeed.com. Prepared for TechNet.

Figure 5 reports on the next 25 metro areas on our list — what we have deemed the “Next in Tech.” The geographic spread is intriguing, including southwest metro areas such as Phoenix, Gulf Coast metro areas such as New Orleans, and Midwest metro areas such as Cleveland and Cincinnati.

For example, in New Orleans, zlien, founded in 2008, has garnered national attention helping construction companies navigate their often chaotic payment cycle. Torsh, a New Orleans company founded in 2011, is an education technology company aiming to improve instructional effectiveness.

In Baltimore, a startup called Everseat was hiring to help do sales for its new service providing better appointment management for doctors and a better experience for patients. In Charleston, a company named GoodUnited described itself to future employees as “the most disruptive startup in the nonprofit space,” helping turn one-time givers into repeat donors. And, in Cincinnati, big data startup Astronomer had a variety of positions open.

Part Four: The Link Between Job Growth and Startup Activity

State and local policymakers want to encourage startups in their regions because they presumably promote growth. Recent research from academic economists suggests that regions that produce more high-quality startups show better economic performance.¹⁵

Our analysis of the Metro Startup Economy Index shows a similar result. The top 25 metro areas, ranked by the Index, averaged 11.9% private sector job growth over the period from 2007 to 2016 (Figure 6). By comparison, areas with lower levels of startup activity averaged less than half that growth.

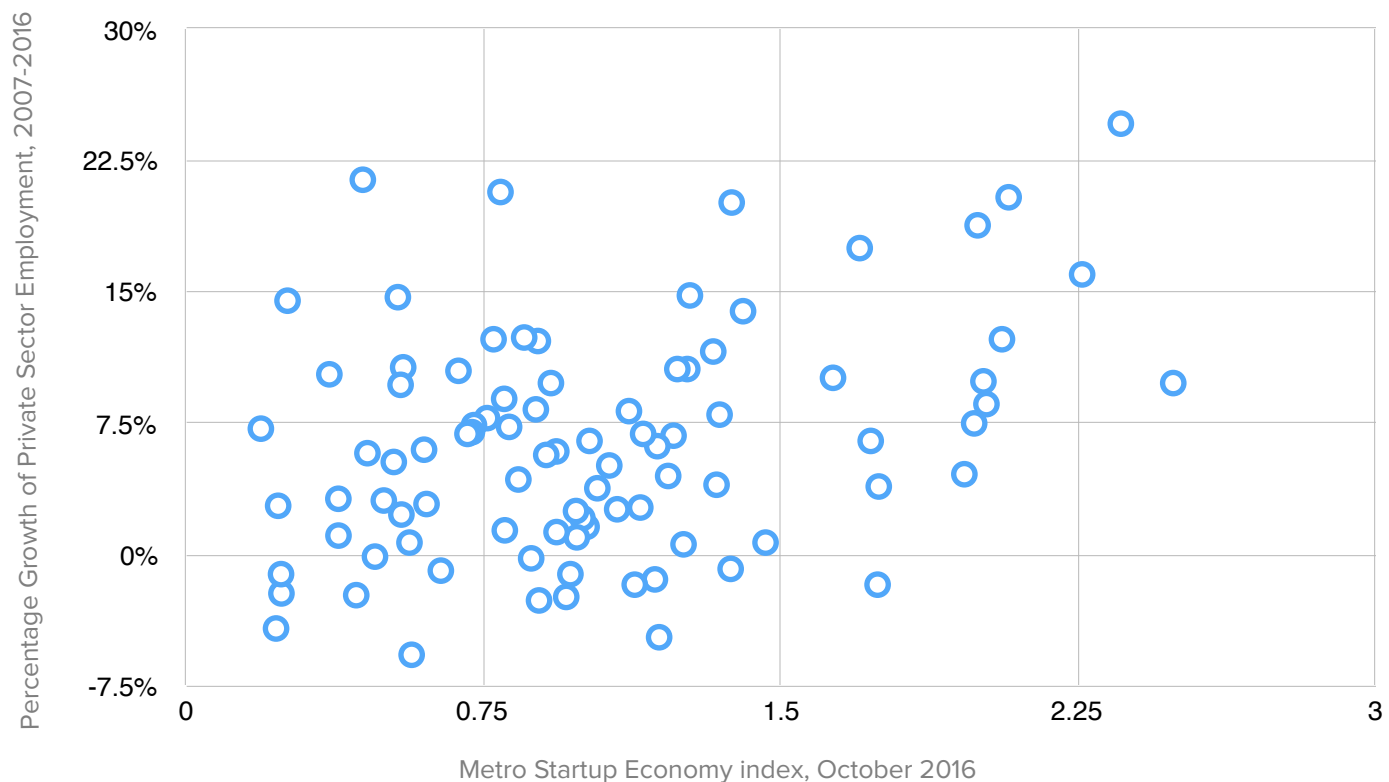
Figure 6: Startup Activity and Job Growth

| Metro Startup Economy Index | Average private job growth, 2007-2016* |
|-----------------------------|--|
| Top 25 Metro Areas | 11.9% |
| Second Quartile | 5.6% |
| Third Quartile | 5.7% |
| Bottom Quartile | 4.6% |

*2016 based on first eight months of year.
Data: Progressive Policy Institute, prepared for TechNet

To some extent, this result is being driven by the superlative economic performance of the top metro areas on the list, such as San Francisco and San Jose. Therefore, in Figure 7, we plot job growth versus the Metro Startup Economy Index for all major metro areas except the top ten.

Figure 7: Plotting Startup Activity vs Job Growth
(omitting top ten metro areas)



Metro Startup Economy Index, October 2016

*Omitting top ten metro areas Data: Census, Progressive Policy Institute, prepared for TechNet

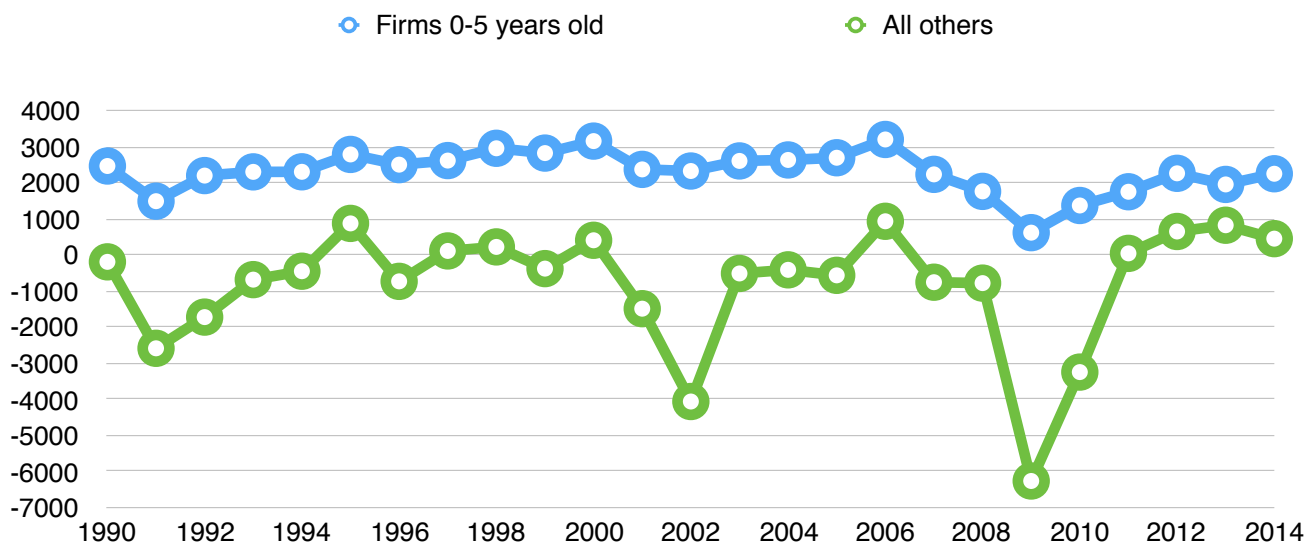
Looking at Figure 7, we can see that there is a clear correlation between job growth and the value of the Metro Startup Economy Index, even after we remove the top ten areas.

We anticipate being able to use this index in the future to track changes in startup performance across metro areas. Rather than waiting for lagging government data, we will be able to see in real time where state and local policies are making a difference.

The Need for Startup Policy

Economists have been accumulating more and more data that shows the economic importance of young, fast-growing companies. Figure 8, expanding on the results shown in Figure 1 earlier in this paper, shows that in the New Economy era — 1996 to 2000 — young firms contributed an average of 2.8 million net new jobs per year, even taking into account failures and closures. By contrast, in the five years ending 2014, the contribution of young firms averaged only 1.9 million per year. Focusing only on 2014 — the latest year available — companies in their first five years of life created 2.2 million jobs, while firms older than five years created only 450,000 jobs.

Figure 8: The Contribution of Young Firms to Job Growth
(net job creation, thousands of jobs)



Data: Bureau of Labor Statistics, author calculations

It is not just the labor market that has suffered. A January 2016 paper demonstrates that young, fast-growing firms have historically been major contributors to productivity and output gains.¹⁶ Thus, the weakness in new firm creation and expansion has been one reason why productivity growth has lagged in recent years. Reversing this trend should be a critical element of any policy program to drive growth.

Recent research points out that there are not only fewer new businesses, but also fewer new businesses are turning into high-growth young firms.¹⁷ A December 2015 paper noted that:

Since 2000 the decline in dynamism and entrepreneurship has been accompanied by a decline in high-growth young firms. The overall decline reflects a sharp drop in the 90th percentile of the growth rate distribution accounted for by the declining share of young firms and the declining propensity for young firms to be high-growth firms.

In other words, young companies, even successful ones, are finding it harder to get the kind of dynamic growth necessary to create jobs.

A similar conclusion was reached in a March 2016 study by Jose Guzman and Scott Stern of MIT that looked at what the researchers called “entrepreneurial quality”.¹⁸ They found that the likelihood that startup firms of a given quality level reach their potential “declined sharply in the late 1990s, and did not recover through 2008.” The researchers noted that:

...even as the number of new ideas and potential for innovation is increasing, there seems to be a reduction in the ability of companies to scale in a meaningful and systematic way.

The recent acceleration of establishment growth suggests that dynamism may be slowly starting to revive — but it is not enough.

Part Five: Creating Opportunity - The Need for Startup Policy

A strong startup community is inextricably linked to the health of the overall economy. Without young, fast-growing companies, it will be impossible to address some of our big economic problems: sluggish productivity, slow wage growth, and an overall lack of dynamism.

The first important point: startup policy is not about simply creating more small businesses. It is also about creating an environment in which the top startups can grow quickly and drive wealth within their communities. The goal of startup policy — both nationally and regionally — should be to clear the obstacles that make it harder for successful young businesses to expand quickly and create good jobs.

The latest research consistently confirms that quantity-based measures of entrepreneurship have little relationship to GDP growth.¹⁹ Indeed, many slow-growth countries in Europe, such as Greece and Italy, are proficient at producing small businesses that never expand.²⁰

The second important point: startups cannot simply be in information technology and biotech. They have to encompass the full range of physical industries, including healthcare, energy, food, and transportation.

The goal of a startup policy should be to spur the creation of an additional one million jobs in young firms each year. That requires a multi-pronged approach, including:

- Increasing access to capital;
- Improving access to talent;
- Opening up access to markets; and
- Instituting a pro-innovation regulatory and fiscal policy.

Let us look at each of these in turn.

Access to capital

Interest rates are still near historic lows, and venture capital flows, while off their 2015 highs, are strong. Yet many startups have trouble raising the money they need to grow, especially outside of the traditional tech hubs and industries. This obstacle produces an unfortunate clustering, where entrepreneurs outside of the main tech hubs have an incentive to move if they want to grow their businesses, even if they would rather stay in place.

One important step would be to take a fresh look at the overly strict rules on crowdfunding put into effect by the SEC in May 2016. In particular, investors were strictly limited in how much they could invest via “Regulation Crowdfunding” in any 12-month period. If these rules were eased up, startups would find it easier to raise money on a local level.

Startup formation would also be helped if Congress is able to reform the corporate tax system. An overall lowering of the corporate tax rate would help the most successful new businesses put more money back into their business and the economy, and free up capital for large companies to invest in new startup growth through corporate venture capital, angel investment, and R&D. However, as we write this paper, the prospects for tax reform are uncertain.

Access to talent

The biggest need of any startup is talent — highly skilled workers who are willing to take a chance on growth. In the broadest sense, that means continuing to improve the nation’s education system. Computer science and STEM should be taught in every school in America. Not only does there need to be an emphasis on basic STEM skills and coding skills, but also on the knowledge needed to start a business. Entrepreneurship has to be taught at an early age. Even if a student does not want to eventually set up a business, they have to be more entrepreneurial in the current job market.

This model has been implemented successfully in schools such as Chicago Tech Academy, an inner-city high school in Chicago focused on educating the next generation of entrepreneurs and STEM leaders. The school provides students with mentors from the startup community in addition to project-based learning to spur entrepreneurial thinking and integrating technology and computer science into all aspects of the curriculum. However, models like these for next-generation

education, which are adapting to and fueling the startup economy, need to be supported and implemented more broadly.

Similarly, the federal government and state governments need to invest more in research and development in order to fuel the next startup boom. Government funded R&D projects are the seed corn for the rest of the economy, providing not just ideas, but also highly-trained scientists and engineers to put those ideas into practice and start the next wave of new companies. The latest figures show that civilian government R&D spending has fallen to 0.5% of GDP, near a 50-year low.

That is not the way to build long-term startup momentum.

And, while immigration is a contentious subject these days, Congress needs to make it easier for immigrant entrepreneurs to build new companies in the U.S. Instituting a permanent startup visa program would help, even if broader immigration reform proves an insurmountable challenge. We need an immigration policy that encourages entrepreneurs to come and stay, rather than making them jump through hoops or wait in an endless line filled with red tape.

State and local governments have an important role to play as well. Improving education is important for creating a strong talent pool. But equally important is creating a welcoming atmosphere for skilled workers at startups and convincing them that your area has, or will have, a critical mass of startups. That is, skilled workers are more likely to come for work if they know they have a choice of jobs at other local companies if they choose.

The latest figures show that civilian government R&D spending has fallen to 0.5% of GDP, near a 50-year low.

In areas such as New Orleans after Katrina, we have seen that strong leadership can bring together universities, businesses, and local governments to create the sort of talent pools that attract creative young companies.²¹ Moreover, a pro-innovation policy agenda on the part of local political leaders can clear away some of the regulatory obstacles that hamper startup growth.

New York City offers an excellent example about how to use targeted media to draw talent to a city. While some people had talked about Silicon Alley in the 1990s, New York was not widely regarded as a tech hub until after the financial crisis. Then-Mayor Michael Bloomberg put into place a set of low-cost policies for attracting talent, which included:

...a conscious effort to create a tech community in the city, such as undertaking programs like the NYC Tech Talent Draft to attract engineering graduates to NYC companies. And in February 2013 Mayor Bloomberg and NYC Digital (part of the Mayor's Office of Media & Entertainment) launched the "Made in NY" marketing campaign to highlight local tech firms, along with the website wearemadeinny.com, which identifies NYC tech companies which are hiring.²²

Of course, to establish a long-term talent pool, Mayor Bloomberg also lured Cornell to set up a tech-focused campus on Roosevelt Island.

Access to markets

Successful startups need scale, and that means access to overseas markets. Startups, and small businesses in general, get more benefits from market access than big businesses do, since the big companies have the financial heft to more easily maneuver around trade barriers.

Work from the Progressive Policy Institute details how reducing trade barriers can help small businesses, and startups in particular. Writes PPI Senior Fellow Ed Gerwin:

The digital trade revolution is increasingly empowering entrepreneurs, small businesses, and consumers to themselves become global traders. At the same time, however, digital trade and global data flows face a growing wave of foreign barriers, while existing trade rules — most of which predate the Internet age — are often of limited help.²³

Reducing trade barriers is essential for boosting startup growth. Being able to find paying customers abroad and bring the money back allows startups to scale up that much more quickly.

Pro-innovation regulatory policy

Finally, the U.S. needs to pay more attention to improving regulatory policy in a way that benefits innovative companies. In terms of regulatory policy, the Progressive Policy Institute has repeatedly emphasized the need for policymakers to treat regulatory reform as an essential tool for boosting innovation and growth. That does not mean deregulation or gutting consumer protection. Rather, the Progressive Policy Institute has proposed a Regulatory Improvement Commission to remove obsolete or duplicative regulations that stand in the way of innovation and startup growth.²⁴

Similar efforts should happen at the state level to improve the business climate. Indeed, regulations weigh more heavily on startups than on larger companies because startups lack the resources to hire separate compliance officers. On the state and local levels, strong political leadership is needed to make sure that the regulatory apparatus knows that startups are to be encouraged, not forced out.

For example, in 2016 the Small Business Administration expanded its “Startup in a Day” initiative to nearly 100 communities:²⁵

This effort helps streamline licensing, permitting, and other requirements needed to start a business in their community, with the goal of enabling entrepreneurs to apply for everything necessary to begin within 24 hours.

On the state and local levels, access to markets is about ensuring that regulations do not excessively protect incumbents. That is a difficult balancing act.

Startup policy is about creating new industries and new jobs to replace the ones that have been disrupted by globalization and technology. For that reason, everyone in a region should support startups. This point is especially applicable to areas that have been hit hard by the loss of manufacturing jobs.

Conclusion

Let us be clear: we do not idealize startups as a panacea for all that ails us. Many startups fail, pursuing business plans that are, in retrospect, obviously and fatally flawed. At the other end of the spectrum, many large corporations have learned how to innovate at scale, enabling them to tackle the biggest societal problems. Still, larger, older firms, while still comprising the great majority of jobs, are by themselves not enough to propel a fast-growth economy.

In 2010, Robert Litan, then at the Kauffman Foundation, wrote a paper entitled, “Inventive Billion Dollar Firms: A Faster Way to Grow.” He argued that to increase the economy’s growth rate, we needed more startups that eventually grow to revenues of at least \$1 billion.

Litan was on the right track. To get the economy energized again, we must focus on startups like a laser beam. Those are the companies that can give the most lift to the job market and create the most opportunities.

Policymakers on the national, state, and local levels must pay close attention to startups — encouraging their formation and removing the obstacles to their growth. Put simply, this requires better regulatory policy, improved access to talent and capital, and better access to markets. Such startup-friendly policies do not necessarily require large amounts of money. They do, however, require governments to do things differently than before.

We need one million additional jobs annually from young firms.

It will not be easy — but it is the only way that the U.S. economy can grow.

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- ¹² As is typical with big data applications, the data stream is noisy. Our methodology inevitably picks up a certain number of job postings referring to duties such as needing to "startup" equipment. However, analyzing a national sample of job postings suggests roughly 80% of postings with the word "startup" do meet our criteria. In previous work, we call this the validation ratio. Because we normalize our results, the overall validation ratio does not affect the ranking of metro areas.
- ¹³ The counts are based on querying the Indeed.com database. Dividing by the total number of job postings ensures that there is no bias towards large metro areas.
- ¹⁴ In addition, we manually scanned the results for individual cities, potentially removing those cities that results differed greatly between the two samples.
- ¹⁵ The paper from Guzman and Stern found that a doubling of entrepreneurial quality in a region predicted an increase of 6.8% in GDP 11 years in the future.

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