Entrepreneurship and Urban Success: Toward a Policy Consensus

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INTRODUCTION

Like all politics, all entrepreneurship is local. Individuals launch firms and, if successful, expand their enterprises to other locations. But new firms must start somewhere, even if their businesses are conducted largely or exclusively on the Internet.

Likewise, policymakers at local and state levels increasingly recognize that entrepreneurship is the key to building and sustaining their economies' growth. Although this is a seemingly obvious proposition, it represents something of a departure from past thinking about how local, state, or regional economies grow. Historically, state and local policymakers have put their energies into trying to attract existing firms *from somewhere else*, either to relocate to a particular area or to build new facilities there. Such "smokestack chasing"—or, in this cleaner era, simply "firm chasing"—often has degenerated into what is essentially a zero-sum game for the national economy. When one city or state offers tax breaks or other financial inducements to encourage firms to locate new plants or headquarters, and succeeds, some other city or state loses out in the process.

Local, state, and regional economic development *centered on entrepreneurship*, however, is a fundamentally different phenomenon. The formation and growth of *new firms*, especially those built around new products or ways of doing things, wherever this occurs, is clearly a *positive sum game*, not just for the locality, but for the nation as a whole. A brief look at the various "high-tech" or innovative clusters that have grown up around the country—from Silicon Valley to Austin, Research Triangle Park (N.C.), San Diego, Boise, Denver, Madison, Route 128 around Boston, and northern Virginia, to name just a few—demonstrates this. The U.S. economy as a whole clearly has benefited enormously from the innovative products and services the major companies from these various "hubs" or "clusters" have introduced to the country.

Indeed, the same now can be said about the world. High-tech, high-growth clusters in India, China, Taiwan, Ireland, Israel—again, just to name a few—are powering economic growth not only in these countries, but throughout the world. Some clusters have firms that have become essential components of a worldwide supply chain (Friedman, 2005). Others have become or are becoming leaders in new product and services development. Still others are doing both.

A key lesson from this activity is that clusters are important to the growth of local, regional, and national economies. Moreover, clusters exhibit virtuous cycles; successful firms attract suppliers and service providers (lawyers, accountants, financiers, and financial institutions), and, in turn, spin off other successful startups. Universities often, but not always, are at the heart of this process, birthing new ideas and training the workforces needed to implement them. And, while the Internet facilitates increasing economic activity that spans huge distances, clustering is still very much in evidence. Proximity still matters.

Thus, it is no surprise that policymakers at all levels of government, and in governments of nations throughout the world, frequently end up asking the same question: “What can we do to create the next ‘Silicon Valley’ (or any one of the other clusters already mentioned)?” There are three broad answers to this question, and all have their adherents in the academic literature.

One approach is that economic growth at the local, state, or regional levels is driven largely, if not exclusively, by serendipity, with perhaps some contribution from attractive geography. In retrospect, the launch of the semiconductor industry first by Fairchild and later refined by Intel that jump-started Silicon Valley essentially was accidental. Even Stanford University’s celebrated role has been questioned (Bresnahan and Gambardella, 2004), although both Stanford and its Bay Area rival, the University of California at Berkeley, since have hosted many faculty and students who have gone on to create new enterprises. (Indeed, the reverse may be the key point: Both Bay Area universities have benefited from the emergence and growth of many high-tech firms in the region). California’s good weather also probably played a role in attracting some of the original talent who made the Valley into what it later became. But good weather is not always required. The auto industry’s development in and around Detroit in the early decades of the last century also was serendipitous (Klepper, forthcoming).

A key implication of this view is that if high-tech clusters are matters of chance and geographic luck, then there is little or nothing that policymakers can do to *creat*e them. However, even advocates of this “serendipity view” are likely to concede that policy later plays a role, even an important one, in fostering the *growth of clusters once they have been accidentally seeded or formed.*

A second view, aptly summarized in a famous line from the baseball movie “Field of Dreams,” is “If you build it, they will come.” This is the notion that local and state governments, perhaps with help from the federal government, *can increase the odds* that “serendipity will strike.” In regional development, the equivalents of the baseball stadium in the movie are broad, general investments, especially those in local education at the K-12 and university levels; infrastructure (roads, parks, recreational facilities, telecommunications); city size; and, increasingly, broadband connectivity. Education is important for reasons already given. Infrastructure is important (and, in the case of roads and telecommunications, a necessity) because it helps make a location an attractive place to in which to live and work. Holding other factors constant, larger cities may be more attractive than smaller ones because they promise a wider variety of jobs and amenities that can be especially appealing to highly educated workers in innovative firms and industries.

A third view is that even more-aggressive, more-targeted interventions, beyond the generic investments envisioned in the second view, are required to maximize the chances an entrepreneurial cluster will emerge. Examples of such policies include direct government grants to support any number of activities; income tax

credits for “angel investors” (typically high-net-worth individuals who invest in small or new businesses that conduct a certain portion of their business in the state); establishment of state-sponsored venture capital funds for new businesses generally or those in certain sectors (such as bio-technology); enhanced support of university research or teaching in specific fields where commercialization opportunities are perceived to be significant; the construction and maintenance of “incubator” facilities (offices where small or new businesses can share overhead expenses); and the provision of coaching and mentoring services for entrepreneurs.

This essay provides a guide to policymakers and citizens to what is known about the effects of various local and state policies aimed at fostering entrepreneurially driven growth. There is also much we do not know; thus, the essay identifies subjects that require further research. Before discussing these topics in further detail, we recommend keeping in mind several broad lessons from the academic literature.

First, there are no “silver bullets” or “one-size-fits-all” policies for creating entrepreneurial clusters. The varied histories of clusters within and outside the United States attest to this.

Second, although conventional wisdom suggests that having a strong research university is a key to stimulating local growth, this bit of “wisdom” needs qualification. Clearly, strong universities *can* stimulate growth by cultivating enterprising faculty, educating students who become entrepreneurs and those entrepreneurs’ employees, and transferring ideas that are commercialized by local area entrepreneurs. But having a strong locally based research university is not a necessary condition for such clusters (the emergence and rise of Microsoft, Amazon, and Starbucks in Seattle, for example, had little to do with the University of Washington), nor is it sufficient (the Boston area, host to some of the nation’s leading universities, has not been as vibrant in incubating high-growth businesses as Silicon Valley has been).

Third, localities and states should pursue sound “build it and they will come” policies—building strong local educational systems and institutions, and developing supporting infrastructure—because these components are important for citizens and businesses, regardless of whether they stimulate the formation or growth of new companies. All people, whether they work for themselves or others, want to live where their children will be well-educated, other government services are efficiently delivered, roads are well-constructed and maintained, and there is ample access to the latest technological infrastructure. That some new enterprises may be attracted in the process by all of these things should be viewed as a bonus. But it is important to recognize that waiting for serendipity to strike under any set of policies requires a tolerance for uncertainty (it may not happen) and patience (it may not happen for a long time).

Fourth, there is little evidence that governmental expenditures or targeted tax credits aimed at developing clusters from scratch have been successful (at least to date). Rather, as we elaborate more fully below, the general regulatory and business climate seems to be a far more important factor (*The Economist*, October 13, 2007).

Fifth, successful entrepreneurial clusters tend to develop new sets of problems that, left unaddressed or inadequately addressed, can threaten their continued growth. As more firms and employees are attracted to a given locale, it is possible, if not likely, that traffic congestion, pollution, and rapidly increasing real estate prices, among other issues, will follow. Eventually, successful locations can price themselves out of the market, with prices and wages so high that productive activity, including entrepreneurial activity, moves elsewhere. This isn't necessarily bad for the entire economy; it even may be healthy as economic activity becomes more evenly distributed throughout the country. But the peaking and subsequent decline of a particular cluster may entail a national loss as well, if it fragments the talents and other resources that once contributed to its success.

In what follows, we elaborate on these themes. But first we review relevant evidence relating to entrepreneurship across regions or metropolitan areas, and linkages between entrepreneurship and urban/regional success. Such information provides a useful background for assessing specific policy issues.

While evidence on the effectiveness of various policies is relatively thin, we find that the strongest consensus supports streamlining of local regulatory approvals and limits on progressive taxation at the state and local levels. Several other local policies also should facilitate entrepreneurial growth: congestion pricing to relieve traffic congestion; investments in local schools, amenities, and transportation infrastructure; and limited recognition by states of non-compete clauses in business contracts. There is as yet little evidence to support the targeted government support of research, particular industries, or firms.

ENTREPRENEURSHIP ACROSS CITIES

A country's level of entrepreneurship ultimately reflects a single decision by every entrepreneur about whether to work for someone else or to strike out on his or her own. A city's level of entrepreneurship reflects two decisions. First, individuals need to decide to become entrepreneurs. Second, individuals need to decide to locate their businesses in a particular city. In some cases, the second decision is a matter of default—for example, when a person already living in a particular city decides to stay there while starting his or her business. In other cases, the second outcome follows a conscious decision to move to an area that is friendlier to entrepreneurship.

Local policy supporting entrepreneurship needs to account for both types of decisions. It must recognize that individuals have a choice about whether to start their own businesses and a choice about where to locate those businesses. The differences in entrepreneurship rates across space do not simply reflect the impact of government policies toward entrepreneurship; they also reflect the sorting of people over space.

For this reason, the impact of pro-entrepreneurship policies generally will be higher at the local than at the national level. Consider any intervention that makes entrepreneurship more attractive than being an employee. The direct effect of this policy on the level of entrepreneurship will work in exactly the same way in the city or in the country. However, by increasing the relative returns to entrepreneurship, a local policy also will attract more entrepreneurs. Thus, the returns to good policies at the local level are particularly high and the costs of anti-entrepreneurial policies also are more severe.

There is much debate in the literature about the suitable measure for entrepreneurship. For example, should one count all those who report being self-employed, separately incorporated entities, or subsets of either measure that concentrate on just the firms posting or most likely to seek rapid growth? We do not seek to resolve this controversy here, but instead offer two measures which, together with some additional data, we believe help shed light on the connections between entrepreneurial activity and urban success.

ENTREPRENEURSHIP MEASURED BY SELF-EMPLOYMENT

One admittedly imperfect measure of entrepreneurship is the *self-employment rate*, which captures entrepreneurial activity but not the extent to which entrepreneurs are successful. Table 1 shows the ten metropolitan areas in the country that have the most extreme levels of self-employment. Four of the five metropolitan areas with the highest self-employment rates are in Florida. The metropolitan areas with the lowest self-employment rates are spread throughout the United States.

Table 1
Shares of-Self Employment by MSA - All Industries

Highest	Share Self-Employed	West Palm Beach-Boca Raton-Delray Beach, FL	10.81%
		Miami-Hialeah, FL	8.69%
		Fort Lauderdale-Hollywood-Pompano Beach, FL	8.48%
		Sarasota, FL	8.00%
		Honolulu, HI	7.76%
Lowest	Share Self-Employed	Dayton-Springfield, OH	2.91%
		Springfield-Holyoke-Chicopee, MA	2.97%
		Memphis, TN/AR/MS	3.00%
		Lancaster, PA	3.10%
		San Jose, CA	3.20%

Source: Integrated Public Use Microdata Series (2000).

To be sure, there are limits to using the self-employment rate to measure entrepreneurship. Such a measure captures all types of business owners, whether they are replicating what others have done but in a different location or market, or are offering or using innovative products, services, and/or methods of production and delivery. This important distinction is made in the Ewing Marion Kauffman Foundation's "On the Road to an Entrepreneurial Economy: A Policy Guide." It would be ideal if we had a measure of the activity of innovative entrepreneurs in particular, because it is these entrepreneurs who make the greatest contribution to economic growth over the long run. However, sufficiently refined data to measure the activity of only these entrepreneurs are unavailable.

The use of the self-employment measure of entrepreneurship also can entail some geographic anomalies. San Jose, Calif., known for the entrepreneurship of Silicon Valley, has one of the country's lowest self-employment rates. This fact does not necessarily mean that Silicon Valley is not entrepreneurial, but, rather, that the high level of entrepreneurship in the information technology sector apparently does not extend more widely to other pursuits. It also might mean that Silicon Valley firms have especially good advisors and/or incorporate so quickly that they no longer show up in the self-employment statistics.

Despite these shortcomings, we use self-employment rates to give a statistical picture of business ownership across locations. We recognize that the self-employment rates cannot capture innovative entrepreneurship (a small subset of overall entrepreneurial activity), but it is a related outcome and the best available statistical measure of entrepreneurial activity by location.

The range of self-employment rates across cities actually is pretty modest. Table 1 illustrates that all but eight metropolitan areas have self-employment rates between 2.9 percent and 7.8 percent. In 2000, the standard deviation of self-employment rates across metropolitan areas was only 1.3 percent.

The homogeneity in self-employment rates masks considerable heterogeneity within some sectors. Table 2 shows the ten most extreme metropolitan areas based on self-employment in the industrial sectors of "mining, utilities, and construction." More than a sixth of all workers in this sector are self-employed in some places, while less than 4 percent of all workers in this sector are self-employed elsewhere. Similarly high variability occurs in retail trade, food services, and accommodation.

Table 2
Shares of Self Employment by MSA - Mining, Utilities, and Construction

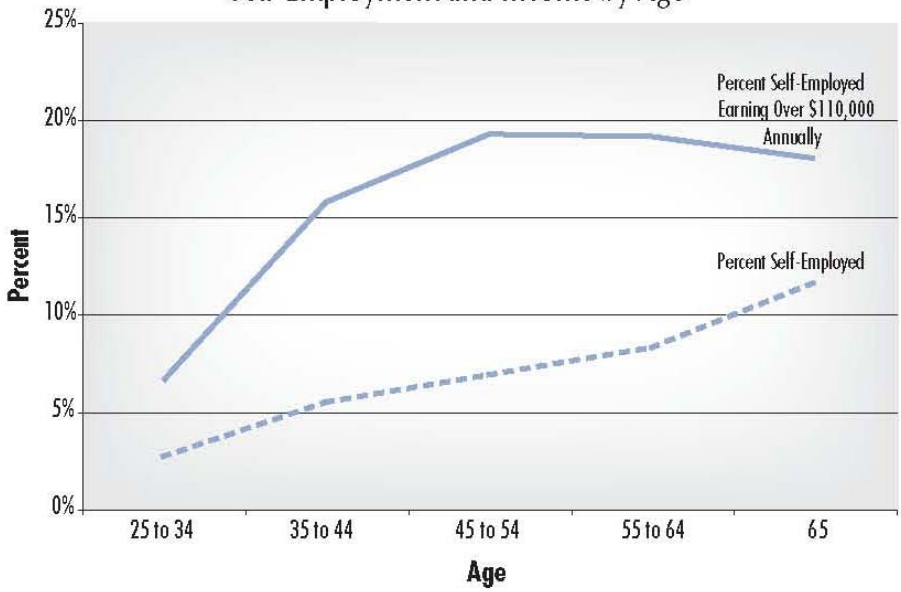
Highest	Share Self-Employed	Providence-Fall River-Pawtucket, MA/RI	20.49%
		Fort Wayne, IN	20.17%
		Honolulu, HI	19.29%
		Rochester, NY	18.73%
		Youngstown-Warren, OH-PA	17.77%
Lowest	Share Self-Employed	Modesto, CA	1.64%
		Las Vegas, NV	2.20%
		McAllen-Edinburg-Pharr-Mission, TX	3.35%
		Stockton, CA	3.75%

Source: Integrated Public Use Microdata Series (2000).

An area's industrial features and demographics explain much of the heterogeneity in self-employment rates across space. Across industries, self-employment is extremely common in highly skilled business services, such as law and health services. Self-employment is particularly rare in capital-intensive industries like manufacturing.

Age seems to be the best predictor of self-employment: Older individuals are much more likely to be entrepreneurs than the young. Figure 1 shows the self-employment rates by age categories across the United States. People who are still working at age sixty-five are 9 percent more likely to be self-employed than people who are working between the ages of twenty-five and thirty-four. Florida is such a bastion of self-employment, in part, because of its older residents. Figure 1 also shows that older entrepreneurs are more likely to be prosperous. The black line in the figure depicts the share of self-employed people who reported earning more than $110,000 annually, which is the 95th percent of the earnings distribution. Roughly 15 percent to 20 percent of self-employed individuals older than forty-five reported incomes at this level.

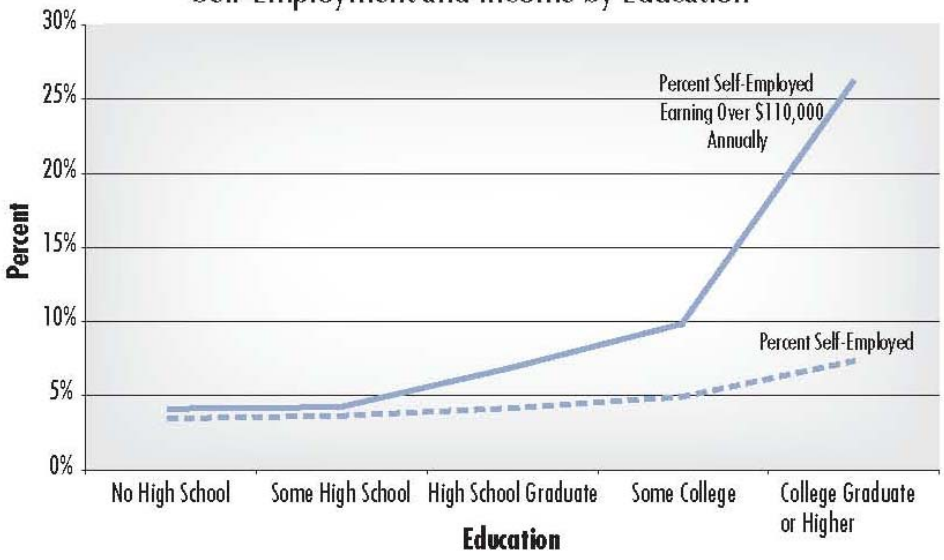
Figure 1
Self-Employment and Income by Age



Source: Integrated Public Use Microdata Series (2000)

The self-employment rate rises modestly with educational attainment (or "human capital"), as shown in Figure 2. More importantly, Figure 2 indicates that educational attainment is highly predictive of *successful* self-employment: The share of the self-employed earning more than $110,000 per year rises rapidly with years of schooling. These trends indicate that, although attracting educated people does not ensure that a region will have a substantially higher level of entrepreneurship, it does make it likely that its entrepreneurs will be more successful.

Figure 2
Self-Employment and Income by Education



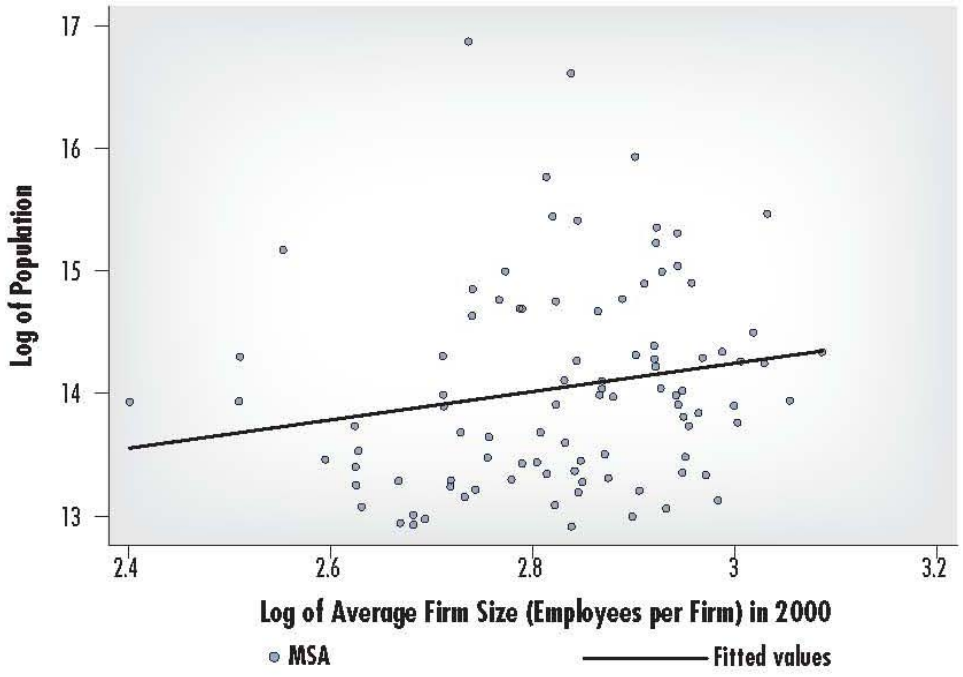
Source: Integrated Public Use Microdata Series (2000)

ENTREPRENEURSHIP MEASURED BY AVERAGE FIRM SIZE

Another measure of entrepreneurial activity is the *average firm size in an area*. In particular, the more firms that operate within any given area relative to total economic activity, the more "entrepreneurial" that region is likely to be. Accordingly, one may infer an area to be more entrepreneurial the smaller the average firm size (Loveridge and Nizalov, 2007). Of course, firm size also can be seen as a measure of competition in the area or as a measure of firm age, but these alternative interpretations of the variable don't preclude it from also capturing some part of what can be considered to be entrepreneurship.

Small firm sizes also are associated with two major urban characteristics: city size and city human capital. Figure 3 shows the relationship between the logarithm of metropolitan-area population and the logarithm of average firm size in the city, calculated using County Business Patterns (an annual series of economic data by industry). The figure indicates that while, on average, more education is associated with larger firm sizes, this is not true for certain industries, where more education is linked with smaller firm sizes and, thus, by this measure, with more entrepreneurship.

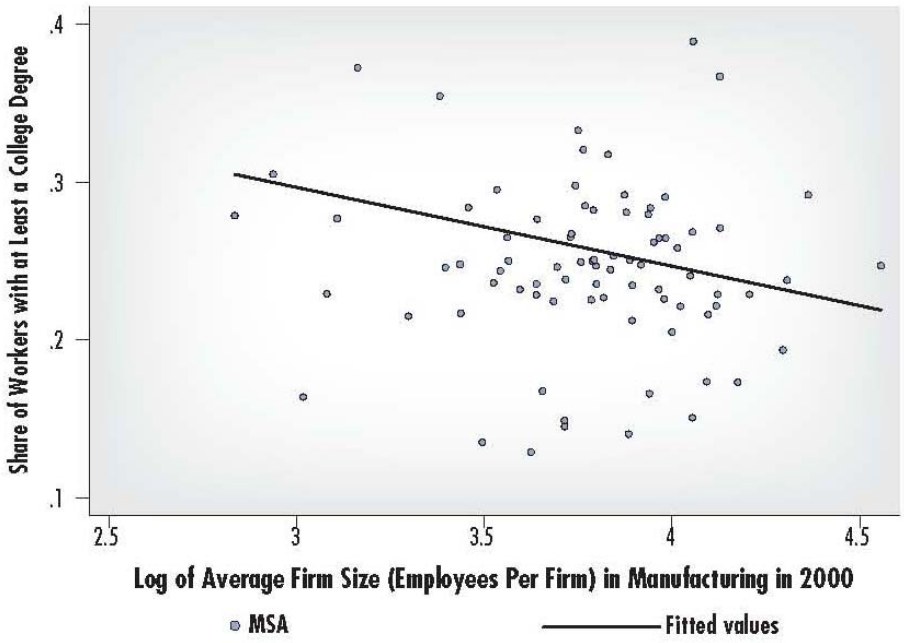
Figure 3
MSA Average Firm Size and Population



Sources: U.S. Census Bureau (2000) and County Business Patterns (2000)

Figure 4 shows the relationship between share of educated workers in the metropolitan area and the logarithm of average firm size in that area for the entire manufacturing industry. This figure, too, suggests that, as education increases, firm size declines, again suggesting a positive link between education and entrepreneurial activity (at least as measured by business ownership).

Figure 4
Relationship of Educated Workers
and Firm Size for Manufacturing



Sources: U.S. Census Bureau (2000) and County Business Patterns (2000)

ENTREPRENEURSHIP AND URBAN SUCCESS

These two basic measures of entrepreneurship—firm size and self-employment rates—also have a good track record of predicting urban success, as measured by employment growth across and within metropolitan areas.

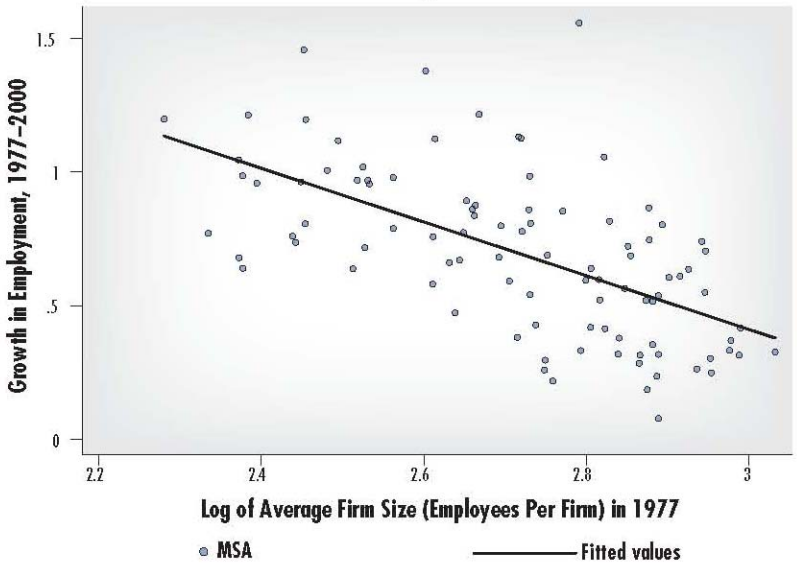
In particular, using data from County Business Patterns, we examined whether a statistically significant link exists between employment growth across the nation's 353 metropolitan areas over the 1977-2000 period, and average firm size or the self-employment rate. We found:

- A strong negative relationship exists between metropolitan employment growth and average firm size, both across the metro areas and within the metro areas by industry. This suggests that, as entrepreneurship becomes more frequent (firm size falls), employment grows faster. (See also Rosenthal and Strange, 2003).

- Similarly, a strong positive relationship exists between metro employment growth and the self-employment rate in the different metro areas, although this relationship is not apparent at the industry level.

The fact that entrepreneurship is linked with metropolitan-area employment growth does not tell us, however, which way the causation runs. Without more statistical work, we cannot determine whether entrepreneurship is driving regional economic success or whether it is other way around. Indeed, both propositions could be true. Whichever happens to be the case, we nonetheless find it important that entrepreneurship and regional economic success seem to be closely linked.

Figure 5
Relationship of Employment Growth
and Initial Average Firm Size



Source: County Business Patterns (1977 and 2000)

CULTURES OF ENTREPRENEURSHIP

One popular hypothesis is that cities differ in the degree to which they have a "culture of entrepreneurship;" that is, the area and the people who live and work there are open to new ideas and new business formation. In fact, there is abundant anecdotal information suggesting that "entrepreneurial networks" exist within some metropolitan areas but not in others (Saxenian, 1994). The notion behind these networks is that there are "spillovers" when people decide to start their own businesses: As more do, they make it easier for others to follow in their wake. Similarly, areas that are home to many successful entrepreneurs arguably are more likely than other locations to have larger pools of individuals who can

help form the teams that often are critical to the formation and growth of successful new companies.

The cultural hypothesis implies that policies promoting local entrepreneurship could provide considerable returns. Policies that encourage some people to become entrepreneurs might ripple through to support others who strike out on their own, leading to a "social multiplier." These effects may be particularly noteworthy in areas that are dense enough so that entrepreneurial networks are easy to form.

However plausible it may be, the notion that culture is important to entrepreneurship intensity in particular regions has yet to be rigorously documented. In part, this is because it is difficult to find data that accurately measure "culture" as the term is used here. More research on this topic surely is needed (Glaeser, 2007), although some recent findings do suggest that startups are more likely in areas where major entrepreneurial breakthroughs already exist (Klepper, forthcoming).

POLICIES TO PROMOTE ENTREPRENEURSHIP

Given the apparent link between entrepreneurial activity and regional economic success, as well as the zero-sum nature of trying to grow primarily by chasing firms, a natural question arises: What should cities and states do to promote growth from the "bottom up" through entrepreneurship? To answer that question, we review below seven areas of government policy that conceivably could affect entrepreneurial activity: education, local policies toward crime and amenities, physical infrastructure spending, legal infrastructure, general aspects of the tax code, targeted aspects of the tax code, and targeted spending on entrepreneurial activity.

In examining policies in these arenas, we have generally restricted ourselves to things localities do today, rather than novel and unlikely approaches. We also apply several key tests to these policies to determine whether states and localities should follow them:

- Do the policies favor one area over another? If so, they are "robbing Peter to pay Paul" and promise little or no improvement in national economic welfare.

- Do the policies increase entrepreneurship at the cost of the region or city as a whole? If so, they should not be adopted.

- Do the policies promise greater benefits than their costs and, if so, are the policies the best way to achieve the potential benefits? These tests are standard for assessing all government policies.

In sum, we find that only certain policies meet these tests. It is as important that policymakers avoid implementing unsuitable policies as it is that they adopt those that deserve to be pursued.

Education

The empirical link between education and entrepreneurship established above has strong conceptual roots. After all, entrepreneurs are in the business of implementing new ideas that generally are built on old ideas. Education, by definition, spreads those old ideas while conveying techniques for producing new ideas. Several studies have documented how knowledge generated by universities "spills over" to the private sector, with entrepreneurs often being the agents of change (Jaffe, 1989; Audretsch, Acs and Feldman, 1994).

Much of the focus on entrepreneurship education thus far has been concentrated at the university level. (The Kauffman Foundation has long supported entrepreneurship educational activities in many universities, and most recently has provided large multi-year grants to more than thirty universities to promote entrepreneurship instruction across the entire campus, not just in business schools.) State and local governments affect higher education in three important ways: through (1) direct funding of research, (2) subsidies of student costs, and (3) regulatory oversight.

How do these policies affect entrepreneurship?

Consider first the direct funding of research, such as the stem cell initiative in California and a similar one announced in Massachusetts, which seems to directly target production of new ideas. State support of research generally is modeled after the larger national programs, such as those administered by the National Science Foundation, which generally are thought to have helped spur American scientific creativity. For two reasons, however, direct research funding should be viewed more cautiously when carried out at the state or local level.

For direct research funding to have maximum social benefit, decisions about who gets funded and by how much should be guided by individuals with highly specialized knowledge and informed by a review process independent of politics. The National Science Foundation and the National Institutes of Health do their best to operate consistent with these conditions. Whether states or municipalities can do the same thing is debatable, however. For example, the recent Massachusetts initiative to spend on basic research was essentially free of peer review and supported the building of biotechnology clusters throughout the state, without taking into account whether and to what extent each area had suitable scientific capabilities.

An additional reason states and localities might want to leave basic research funding to the national government is that the new ideas resulting from such

research are a public good that travels readily over local boundaries. As a result, funding basic research is as likely to yield benefits for neighboring states as for the funding state. This may mean that funding basic research is a nice, altruistic thing for a state to do (provided it has sufficient funds and can direct them in an efficient manner), but it may not yield clear benefits for the state's own economic success.

The subsidization of students' higher education costs at the state level (in addition to any federal subsidies) may be more justified. Programs that make education more accessible to people from less-advantaged backgrounds may be desirable both to advance entrepreneurship and to enhance equity. The education of more people through these programs should increase the supply of potential entrepreneurs and those who want to work for them. Student loan programs also provide some indirect subsidy to colleges and universities in the state. This may have broader benefits for those living and working in the state, and especially for communities in which the institutions are located.

Still, even the best of student loan programs have their challenges. Debate continues about the efficacy of such programs in increasing enrollment rates. Localities that fund education also must worry about their students leaving the state after graduation. This worry would be more extreme in a smaller state, like Rhode Island, than in California. Accordingly, state subsidies of student costs are likely to be more suitable in the largest states that do best at retaining students after graduation.

A third way state and local governments interact with their educational institutions is through the regulatory process. In some cases, regulation directly relates to research, such as stringent controls that some jurisdictions have imposed on nanotechnology research. In other cases, the regulatory powers of state and local government can affect the abilities of colleges and universities to build laboratories and classrooms. In particular, some localities have used their regulatory power to extract significant financial contributions—"payments in lieu of taxes" or PILOTs— from wealthier universities that otherwise would not be obligated to pay property taxes.

Such regulation must not be used to impede or inhibit worthwhile endeavors. Lengthy and costly regulatory processes that hamper the construction of science buildings, for example, constitute a tax on innovation that not only may impair scientific research, but also may indirectly reduce entrepreneurship. The best way to avoid these outcomes is for states and localities to streamline their regulatory processes governing the approval of university construction projects (and science and innovation-related buildings in particular). Ideally, oversight should be vested in a single body that commits to decide applications within a set time period, such as ninety days.

Effective primary and secondary schooling are equally important for promoting entrepreneurship. In our increasingly complex economy, entrepreneurs cannot be successful without having acquired the basic skills taught through high school. In the companion "Policy Roadmap for an Entrepreneurial Economy," the Kauffman Foundation outlined ways K-12 education might be improved by embracing entrepreneurial concepts. Here we note that state and local policymakers may be able to use similar principles both to improve educational performance, and to train and attract entrepreneurs. For example, favorable tax treatment of private school tuitions may be a way of attracting education-oriented parents to areas with troubled public school systems. Magnet schools represent another way to attract educated parents, while ensuring that children from all socioeconomic backgrounds have access to the schooling they need to become successful innovators and entrepreneurs.

Finally, various cities have provided—through community colleges or other organizations—entrepreneurship training and mentoring to encourage individuals who want to start their own business to do so. Some of these programs targeted individuals who have lost their jobs and want to try working for themselves before going back to the labor market. The Kauffman Foundation has been supportive of these efforts, providing the widely used FastTrac entrepreneurship training curriculum. Most recently, the Foundation has developed its "Kauffman Coaches" program for mentoring minority entrepreneurs in selected cities. This program has the potential for much wider adoption for all entrepreneurs. Likewise, the U.S. Small Business Administration maintains "Small Business Development Centers" that provide information and mentoring to potential and actual entrepreneurs.

Despite the positive results of these training and mentoring programs, there is a need for more in-depth analysis of entrepreneurship training and mentoring approaches that are in place around the country. It is important to understand what works and what doesn't, so that all jurisdictions wanting to foster entrepreneurship through training and mentoring can get the maximum results from their efforts.

Assuring Personal Safety (Fighting Crime) and Other Amenities

Successful cities in 1900 were located in areas that had innate advantages as centers of production and transportation. Every one of the 20 largest cities in the United States in that year was located on a major waterway, which made sense in an era when transportation by water was so much cheaper than transportation by land. Over the course of the 20th century, transportation costs have plummeted. Today, there is no reason why production needs to locate near the Great Lakes, the Mississippi River, or even the Atlantic Ocean.

As transportation costs have fallen, firms and entrepreneurs have become more footloose. Increasingly, people have migrated to areas that are attractive places

to live, rather than productive places to work. Cities like Los Angeles rose because they offered splendid consumer amenities, like a temperate Mediterranean climate. The rise of “the consumer city” may offer further guidance for thinking about policies that will tend to support local entrepreneurship.

While good weather is certainly among the most important of local amenities, localities cannot influence it. There are, however, a host of other amenities, such as safe streets and short commutes, which local government policy decisions can affect. One striking fact over the past several decades is that many older cities, like Boston, Chicago, New York, and San Francisco, have experienced urban revitalization, largely driven by improvements in amenities that have attracted people to live and work in dense, urban cores.

Amenity-oriented policies could be especially important in attracting entrepreneurs. Property values tend to be higher in areas with lower crime rates, reflecting the fact that people are willing to pay to live in safer locations. Similarly, crime has been linked with the emigration of skilled urban residents. Crime reduction in older cities, like New York, is one reason those urban areas have become much more attractive residences for successful entrepreneurs.

Economists who have studied crime and ways to fight it generally agree on three propositions that are relevant to attracting and retaining entrepreneurs:

- Crime fighting requires resources. Policymakers should recognize that spending to combat crime, like spending on education, will help make the city more entrepreneurial. This fact does not mean that all spending on policing is good, but, rather, that the indirect effects of crime should be taken into account when determining the willingness to spend to deter crime.

- Crime fighting requires a high probability of punishment and some significant incarceration. Spending on crime needs to be targeted in ways that will increase the expected punishment of criminals (which is a product of the probability of punishment and time of incarceration). Incarceration, while necessary, also is extremely expensive. An entrepreneurial approach to crime reduction would focus more on jailing those criminals whose actions severely reduce the quality of life (namely, violent offenders) than those criminals whose actions are less likely to repel potential and actual entrepreneurship.

- No single approach to crime fighting is suitable for all places all the time. To the contrary, different techniques have worked in different locations. For example, Boston reduced crime in the 1990s with a community-oriented strategy that brought in both police and ministers to high-crime areas. New York reduced crime in the same period with a police-oriented strategy that emphasized stop-and-frisk tactics and information

technology. Cities should be free to experiment, though they should be able to learn from one another.

Personal safety is not the only amenity that attracts people to cities. Beautiful public spaces, good restaurants, and museums all can attract entrepreneurial people to specific areas. The desire to attract potential entrepreneurs is a justification for some spending in these areas, but we know little at this point about how rates of entrepreneurship respond to such spending. For this reason, cities interested in attracting and retaining entrepreneurs are likely to be more successful concentrating their scarce resources on a series of small, inexpensive ways of making their locales more attractive than concentrating resources on a limited number of expensive, amenity-enhancing projects (such as sports stadiums).

Further, as for universities, there is a case for rethinking regulations of cities, and thereby removing barriers to entry for new firms. In many cases, decades-old rules prevent redeveloping areas to appeal to newer tastes. Zoning, for example, often restricts mixed-used developments that are potentially appealing to many people. Eliminating obsolete rules and committing to a fast, clear approval process is a low-cost way of making it possible for private entrepreneurs to increase the quality of life in a particular locale.

A side benefit of improving the regulatory approval process for restaurants, entertainment venues, and retail shops, in particular, should be an increase in entrepreneurship levels in those important sectors. Moving to a streamlined regulatory system offers the possibility of both improving city amenities and increasing the entrepreneurship levels in the amenity-oriented sectors of the economy, which in turn should attract entrepreneurs interested in other sectors.

Physical Infrastructure and Transportation

Physical infrastructure is essential to supporting a modern economy. Goods cannot be produced nor services delivered without roads and other transportation facilities. Similarly, our information-based economy requires an increasingly sophisticated communications infrastructure to permit the near-instantaneous transmission of data, voice and video messages, signals, and images.

Transportation infrastructure has an especially important role to play in supporting entrepreneurship. Among other things, transportation investments may be seen as amenities that make a place more desirable to residents and firms and, thus, to entrepreneurs. In addition, transportation (and communication) investments also help spread ideas that form the basis of new businesses.

Goods and ideas flow both across and within metropolitan areas. Transportation links for moving goods across regions, however, have become less important over time, and this trend probably will continue. In the 19th century, New York and

Chicago rose to prominence largely because they had a comparative advantage in moving goods over space. Today, those advantages are irrelevant and manufacturing is increasingly centered in low-cost areas, often far from America.

Instead, moving people across regions has become increasingly important to the economic health of the firms for which these people work and the cities in which they live. Because they connect highly skilled people across metropolitan areas, airports are an especially valued element of local infrastructures. Indeed, one of the most striking trends in urban development over the past thirty years has been the rise of edge cities built around airports. Given the high costs and the diminishing benefits of building goods-related infrastructure, localities are likely to reap larger payoffs from investing in infrastructure aimed at cross-regional transportation that facilitates the movement of people more than goods.

Most local transportation infrastructure spending, however, facilitates movement within metropolitan areas; and much of that movement, of course, is focused on roads and alternative forms of public transit, such as light rail. Although many believe public transit to be superior to private passenger automobile transportation, most of the economic research on this subject finds that light rail has a low or negative benefit-cost ratio, especially relative to improvements in bus transportation.

Accordingly, given the enormous expense of building new roads, our reading of the evidence is that policymakers should first look to improve the efficiency of existing roads before building new ones. Congestion pricing is an attractive way to reduce traffic congestion in highly dense, highly populated areas (such as in London, where it already is in use). In other, less-dense locations, greater use of highway tolls is a more promising alternative. Where tolls are used, they should reflect the social costs of driving, with higher charges in peak hours.

Finally, in our information age, communications infrastructure also is important, if not critical, to the economic success of localities and regions. The much-heralded success of call centers and back-office processing firms in various countries throughout the world is a testament to the importance of communications facilities. In the United States, probably the most-discussed form of local communication infrastructure is wireless access. A number of localities have experimented with building wireless (“Wi-Fi”) systems on their own, rather than relying on private telecommunications carriers. It is too early to tell whether these efforts will prove successful; a number of localities have found the technical difficulties to be greater than anticipated. Nonetheless, however it is accomplished, building a cutting-edge communications infrastructure is likely to be key to the economic health of cities and metropolitan areas—and the entrepreneurs who conduct business in them—throughout the United States for years to come.

Legal Infrastructure

In some respects, legal infrastructure is as important as physical infrastructure in affecting the success of entrepreneurial endeavors. As outlined in the Kauffman Foundation's Policy Roadmap for an Entrepreneurial Economy," no firm or its owners can operate at any meaningful scale without knowing that the fruits of success will be protected, contracts with third parties (customers and suppliers) will be enforced (if needed), and the rules governing business activity are reasonably efficient and stable.

In the local context, a key part of the legal infrastructure is being able to form a business and conduct new activities without excessive cost and regulatory delay. Toward this end, as suggested earlier, localities may best be able to streamline their regulatory processes by vesting responsibility for necessary construction and expansion in a single agency, with instructions to make decisions on applications within a fixed time period.

Other legal initiatives also may be important for entrepreneurship. It has been suggested, for example, that California's unwillingness to recognize non-compete clauses beyond a year or so is an important force driving entrepreneurship in Silicon Valley. When viewed as a local matter, such limited clauses very likely have this effect: Employees who have ideas for new businesses will not be unduly impeded by their employers from launching new companies. (Gilson, 1999; Stuart and Sorenson, 2003).

The effect of non-compete clauses at the national level, where firms are not as easily mobile as at the state or local levels, however, is more ambiguous and can only be settled with further study. Thus, it is an empirical matter which of two possible impacts of non-compete clauses predominate: whether such provisions deter would-be entrepreneurs from leaving established companies to launch their own start-ups, or the extent to which these provisions enable entrepreneurs to trust employees with their best ideas. Recent research about the origins of start-ups in both Silicon Valley (over the past several decades) and Detroit (many decades ago) suggests that spin-off companies result largely from frictions between employees-turned-entrepreneurs and their former companies, and not because the spin-off founders wanted to exploit intellectual property (Klepper, forthcoming). To the extent this is true, broad non-compete clauses would stifle entrepreneurship, making restrictions on those clauses beneficial.

State and local regulations also can affect entrepreneurship, as they do for other business activity. For decades, economists have argued that many forms of regulation help large businesses that can pay the fixed costs of meeting those regulations, but harm smaller firms. This view, which has a fair amount of support in the economics literature, suggests that business regulations, like those concerning employee benefits, can make entrepreneurship less attractive.

For this reason, as outlined in the earlier Roadmap, all regulations should pass two straightforward tests: that they reasonably promise to deliver more benefits than costs, and that they are crafted to be the least restrictive of the available alternatives. States and localities also may wish to consider exempting smaller businesses from certain regulations.

The Tax Code: General Policies

States and localities also level taxes on income, sales, and property. The overall level of these taxes and the structure of tax rates are important factors that affect the launch and growth of new businesses.

Although the overall level of taxes will tend to push all activity away from a locality, it will not necessarily reduce the level of entrepreneurship relative to non-entrepreneurship. Indeed, because owners of smaller businesses can find ways to deduct more personal expenses as business expenses, higher local tax rates can lead to higher rates of self-employment, although different results may obtain if entrepreneurship is measured differently. A safe presumption is that keeping local tax rates modest is as important for entrepreneurship as it is for economic activity more broadly.

Entrepreneurship also will be affected by business taxation. While higher business taxes tend to make entrepreneurship less attractive, lower business taxes make it more appealing. It may be that Florida's relatively low business tax rate (5.5 percent) is one of the reasons that self-employment is so high in that state. This fact suggests that keeping business taxes low relative to standard income taxes will be helpful in supporting entrepreneurship. Of course, this does involve a transfer between employed workers and business owners.

The progressivity of the tax system also can have an impact on entrepreneurship. Entrepreneurial income is likely more risky or variable than wage income. As the tax system becomes more progressive, the expected tax payments associated with high variance occupations also increase. Accordingly, the more progressive the tax system, however equitable it may be, the more likely it is to penalize entrepreneurship (Gentry and Hubbard, 2000).

At the national level, there is a painful tradeoff between the equity promised by more progressive taxation and the reduced incentives for high-risk entrepreneurial behavior that also can be the result of higher marginal taxes. This tradeoff continues to exist at the local level, where the cost of progressivity actually is much greater than at the federal level. The mobility of firms and high-income individuals across geographic locales means that when cities and towns try to tax the rich to fund the poor, their actions often can be counter-productive. If enough richer people and entrepreneurs flee high local taxes, cities can end up without the tax base needed to create more equity.

States and localities also use other taxes, such as property taxes, to fund their expenditures. If property taxes were pure land taxes, they also would be particularly efficient. However, in most cases, property taxes also are taxes on structural development, which acts as a disincentive to build. Since commercial building is an important input into many types of entrepreneurship (especially as the economy continues to move toward services and away from manufacturing), property taxes on commercially owned land should not be seen as harmless ways of raising revenue. Commercial property taxes surely will remain an important tool for raising revenue, but taxing that area too heavily will also carry costs.

Local sales taxes have the attractive feature of looking more like consumption taxes that reduce some of the incentive to save. However, in this age of the Internet, local sales taxes can discourage people to shop locally, and this may reduce the level of entrepreneurial retail activity at the local level (Goolsbee, 2000, in Vogelsang and Compaine, 2000).

As a final note, it is worth emphasizing that efficient government policies don't necessarily demand low tax rates, but do require that the revenues raised from taxation are being spent on services that taxpayers want. The goal is not to reduce taxes arbitrarily but to reduce spending on things that yield low returns.

Targeted Taxes and Targeted Spending

Taxes also may be levied in ways that target specific firms (property tax abatements, for example) or industries.

Some recent evidence shows that firm-specific tax breaks, in fact, can be instrumental in attracting firms or plants to given locations. However, there are two drawbacks to firm-specific tax incentives: They are susceptible to being introduced for political rather than purely economic reasons, and they possess a "zero-sum" aspect (since one community's gain is another's loss). For these reasons, we believe that states and localities should use firm-specific tax policy sparingly.

A more general policy is to offer tax breaks or subsidies to particular types of firms or industries, either entirely new ones or industries in which local firms may have an emerging advantage. Such policies have been tried by cities that have attempted to mimic Silicon Valley or to establish their own biotechnology clusters. Another variant on these policies is to offer tax breaks to firms locating in small geographic locales, such as enterprise zones. These policies may act either as redistribution to people living in these locales or create centers of idea creation that generate large spillovers.

The economic literature on these cluster-type policies has, on the whole, been quite negative. As in the case of firm-specific policies, these interventions require

good decision-making on complex topics where there is a great deal of political pressure. We believe, therefore, that a heavy presumption against the micromanagement of individual clusters by state and local governments is most appropriate.

A final targeted tax policy that is growing in importance is for states or localities to establish agencies that are specifically focused on economic development or even entrepreneurship. These policies seem to mimic Japan's Ministry of International Trade and Industry (MITI) at a local level. The existing literature on MITI suggests that it was somewhere between irrelevant and counter-productive, but this image may be unfair. Certainly, there is little clear evidence on these more local agencies, but here, too, the best presumption is that they are not likely to generate benefits exceeding their costs.

CONCLUSION

Overall, the policy recommendations for local entrepreneurship come in three categories: (1) interventions where action clearly makes sense, (2) interventions that will help entrepreneurship but where cost-benefit criteria still must be applied, and (3) interventions that are unlikely to be particularly productive.

The strongest consensus about the appropriate policy course occurs in the regulatory arena where there are significant gains to be had from adopting speedy and simplified regulatory approval processes. There also are reasons to favor limits on progressive taxation at the state and local levels. Congestion pricing that improves transportation speeds also would be a constructive step.

The interventions that appear to be important, but that need cost-benefit analysis, include local entrepreneurship encouragement and mentoring programs, and improvements to schools, local amenities, and transportation infrastructure. Local wireless access also falls within this category. The case against recognizing non-compete clauses also is promising.

Finally, the least-attractive options involve state policies that target spending either on research programs, or on particular industries or particular firms. Localities rarely have the requisite expertise required to make good decisions in this area.

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