

The character of innovative places: entrepreneurial strategy, economic development, and prosperity

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Abstract Why do investments in certain places yield jobs, growth, and prosperity while similar investments made in seemingly identical places fail to produce the desired results? Starting with the observation that innovation clusters spatially across a broad spectrum of industries, my work seeks to understand the mechanisms and institutions that promote the creation of useful knowledge. In my conceptualization, entrepreneurs, as the agents who recognize opportunity, mobilize resources, and create value, are key to the creation of institutions and the building of capacity that will sustain regional economic development. Entrepreneurs benefit from location. But entrepreneurs are also pivotal as agents of change that can transform local communities. The initial event or entrepreneurial spark that gives rise to prosperous regions is not deterministic nor do they automatically set in motion path dependencies that automatically yield successful places. What matters most is human agency—the building of institutions and the myriad public and private decisions that determine what I call the character of place—a spirit of authenticity, engagement, and common purpose.

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The question of why some places grow and prosper is a fundamental question in social science research. This question motivated Adam Smith's work, *An Inquiry into the Nature and Causes of the Wealth of Nations*, (Smith 1863) and is a major focus of the *new economic geography*. Understanding why investments made in certain places yield jobs, growth, and prosperity while similar investments made in seemingly identical places fail to produce the desired results is a motivating theoretical question. Yet, the academic motive pales when compared to the public policy imperative: significant resources are invested in policies and initiatives with the objective of creating well-paying jobs and providing high quality of life.

Starting with the observation that innovation clusters spatially across a broad spectrum of industries, my work seeks to understand the mechanisms and institutions that promote the creation of useful knowledge. In my conceptualization, entrepreneurs, as the agents who recognize opportunity, mobilize resources, and create value, are key to the creation of institutions and the building of capacity that will sustain regional economic development. Entrepreneurs benefit from location. But entrepreneurs are also pivotal as agents

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of change that can transform local communities. The initial event or entrepreneurial spark that gives rise to prosperous regions is not deterministic nor do they automatically set in motion path dependencies that automatically yield successful places. What matters most is human agency—the building of institutions and the myriad public and private decisions that determine the character of place. My observation is that entrepreneurial and private sector actions can be transformational and affect the prosperity of places. What I am calling the character of place—a spirit of authenticity, engagement, and common purpose is the particular feature that differentiates successful places. I hope to bring new ideas into our discussion of economic development and considerations of strategies to affect the prosperity of places.

In this paper, I would like to highlight how the actions of entrepreneurs define the character of place and how entrepreneurs contribute to regional economic development—it is the missing piece in our conceptualization of regional ecosystems. I would like to highlight distinctions between economic growth—the simple increase in aggregate output and economic development—and the movement to a higher, more productive and prosperous growth trajectory. I hope to draw attention to the need for greater inquiry into the industrial genesis of places of prosperity as deliberately constructed, with a role for the private sector and a complementary and essential role for government as a vehicle for collective action. Through telling stories, I hope to draw attention to the need for more appreciative theorizing and investigation of the industrial genesis of regions in order to ultimately understand what creates sustainable economic advantage.

1 A Viking Saga

I would like to offer a Viking Saga as an illustrative example but not of the type of Viking story that is usually told in Scandinavia. Instead, this saga takes place in the most unlikely city in the United States—Greenwood, Mississippi. About a 100 years ago, Greenwood was the prosperous capital of the cotton industry but mechanization favored the open spaces of west Texas and globalization favored imports. In a familiar story of economic restructuring that is repeated around the world, Greenwood fell upon hard times. Located in the Mississippi Delta, Greenwood

was a small city in the poorest region in the poorest state in the United States. In such a situation, it is difficult to engineer a comeback. Diminished places suffer a lack of tax base to fund investment in education and infrastructure. Federal and state government programs were available but in Greenwood's case, as in many others, it proved difficult to restructure the economy and to recover from the loss of a once prominent industry.

Viking Range Corporation is an appliance company that manufactures high-end professional kitchen appliances for residential and commercial use—it is the Mercedes Benz of kitchen appliances and developed a cult-like following in the American culinary market. Viking originated the professional segment of kitchen appliances with the introduction of the first stainless steel range for home use in 1987. The opportunity, realized by Fred Carl, a fourth-generation building contractor, was that as Americans were building larger houses they wanted gourmet kitchens. The prevailing stove at the time was a low-cost low-quality appliance—an undifferentiated commodity product made from rolled sheet steel. Consumers wanted something that looked and cooked like commercial stoves; however, due to extensive venting and electrical requirements, commercial stoves were precluded from residential use. After designing a prototype that combined commercial power and quality with the styling and safety of a residential range, Fred Carl gathered financing from local investors and incorporated Viking Range Corporation.

To begin manufacturing the first stoves, Fred Carl employed what has become a well-accepted strategy—outsourced contract manufacturing. But then, he did something unexpected—he decided to move his manufacturing in-house. The reasons were to ensure quality and also to maintain control over the production process. And even more unexpected, Fred Carl located the manufacturing operations in his hometown of Greenwood Mississippi. Entrepreneurs are known for identifying opportunity that is not obvious to others. Fred Carl brought a devotion to his product with an allegiance to his local community.

The result was the employment of 1,500 workers, with numerous benefits and educational opportunities and sales of \$200 million by 2000. Fred Carl partnered with a local community college to train the welders and electricians the factory required. This innovative

company created an entire line of range hoods, then stainless steel appliances, then outdoor grills, and then cookware and small appliances. Fred Carl retrofitted former cotton warehouses to serve modern manufacturing functions and revitalized Greenwood's downtown. The Viking Corporate Headquarters consists of a collection of historic buildings. Buyers coming to Greenwood had no place to stay so he bought and renovated an historic hotel, making it a destination with a renowned restaurant. This was followed by the establishment of cooking schools in 20 cities to encourage fine cuisine and the use of Viking ranges. By 2007, Viking Range had sales in 82 countries, one measure of success. As a different metric of success, Viking had a 99 % retention rates for its employees. Moreover, Viking, along with a handful of other local manufacturers, had transformed the local community by reinvigorating the downtown and paying higher than minimum wage.

The early history of Viking Stove defies the prevailing wisdom. Fred Carl's story indicates that there is no limit to ingenuity. Even the most mundane industries in the most unlikely places can transition to greater opportunity. Fred Carl is indicative of a class of entrepreneurs who are dedicated to conducting business differently, with an emphasis on increasing prosperity in their home communities. This exemplifies an attachment to place and community that seemingly defies short-term profit maximizing behavior and speaks more to an altruistic set of objectives. It is an open question as to whether these firms are behaving altruistically or whether they are making investments with a longer time horizon. But most notably, the impact of these types of entrepreneurial actions as part of strategic decisions is absent in our considerations of regional ecosystems and the factors that contribute to regional vibrancy.

Our imagination and policy prescriptions still focus on what we might call the Silicon Valley model. Many places attempt to create vibrant economies by following the rather simple recipe that involves a heavy dose of venture capital funding, research universities as a driving force, concentrations of skilled talent, and an open culture—the factors associated with current functioning of Silicon Valley. None of these factors existed in Greenwood Mississippi in 1987. But that did not prevent an entrepreneur, with a strong attachment to a community and a commitment to a place, from creating good jobs and prosperity.

2 The missing piece of the regional economic development puzzle

The actions of entrepreneurs and indeed all private sector actors are notably missing from consideration about regional economic development. In an attempt to harness the natural tendency for innovative activity to cluster spatially governments around the world provide cluster-building incentives. Lerner's (2009) provocatively titled, *The Boulevard of Broken Dreams*, finds that government efforts to transform regional economies often fail to live up to their promise. Lerner suggests that government venture capital programs work best when they involve significant private sector involvement. But beyond public–private partnerships, the actions of entrepreneurs and the policies and strategies they employ may be transformational for places.

In early work, I found that entrepreneurs actively engaged with their local environments to build relationships and advocate for resources to support their growing businesses—build a cluster while building a firm (Feldman 1999). Recognizing the importance of the local ecosystem, entrepreneurs developed a geographic community of common interest around their technology. Industrial ecosystems are an efficient way to organize industrial activity but building an industrial cluster should be a means to an end—not an end to itself. In the case of Fred Carl, and others like him, there is an attachment to place that defines traditional economic logic. Entrepreneurs excel at being able to identify opportunities that are not obvious to others. Their familiarity with the history and context of a place may enable entrepreneurs to see opportunity that is not obvious to others and defies traditional analysis. But this perception of opportunity that is not obvious to others is the essence of entrepreneurial advantage. And when entrepreneurs act upon place-based opportunity, they are in a position to apply their skills and potentially create prosperity and economic change. Certainly, the contemporary efforts of Tony Hsieh (founder of Zappos) in downtown Las Vegas or Dan Gilbert (founder of Quicken Loans) in Detroit can best be described as the application of an entrepreneurial mind-set to changing local economies.

The literature has focused on questions related to how firms benefit from location and agglomeration economies. But consider turning that question on its head by asking *how the actions of firms affect the*

places in which they are located. Internal organizational practices such as providing educational benefits and skill enhancement training, profit-sharing opportunities, and good working conditions certainly affect the vibrancy of place and the quality of capacity in a local community. In the pursuit of profits, there are private sector policies and actions that benefit places and others that are rent-seeking and destroy regional prospects. The effect of the actions of firms is a notably missing piece of the puzzle in the consideration of regional economies.

The logic of industrial clustering suggests that agglomeration economies and nonpecuniary knowledge spillovers benefit local firms. As such, firms receive an intangible subsidy that is difficult to price but empirically demonstrated to have value. Firms that benefit from external economies have a choice. They may either behave opportunistically and engage in rent-seeking behavior, deriving as much benefit from the location as possible and exhausting all potential benefit, or firms may behave benevolently and invest in resources and institutions that perpetuate the advantage, and contribute to the self-reinforcing cycles of economic growth.

The notion that investors believe in some other purpose than immediate short-term profits can also be seen in *Start-up Nation*, Senor and Singer's (2011) depiction of Israel's economic miracle. Certainly, in the formative years, Israel was not an attractive place for investments if only potential return on investment was considered. Yet, investment did flow into the country driven not by short-term monetary returns but reflecting a variety of religious, emotional, and altruistic motives. What is interesting about Senor and Singer's story is the way that every disadvantage is turned on its head to become a source of opportunity—that is the essence of the entrepreneurial mindset. But fundamentally the stories highlight how certain individuals can take a long-term view and make investments that are driven by a sense of duty and a belief in a future vision, rather than short run returns.

My observation is that in successful places, there are individuals that assume the role of *regional champions*—individuals who live and work in a region and take responsibility for stewardship of the place. This was the lesson of the Viking Saga and I would like to suggest that it is a general trend. In the management of technology in large companies, a

product champion takes responsibility for furthering the development and promotion of a new product in order to improve commercial success. A product champion shepherds all the aspects of development with the objective of introducing a competitive product that will achieve high market share. A product champion is desirable because it is easy for inertia, lack of coordination, and the immediacy of short-term goals to obscure long-range objectives in complex organizations. As a corollary of a project champion, regional champions could serve a similar function at the community or regional level.

2.1 Regional champions

Often, the story of successful places is predicated on the story of an individual who was instrumental in creating institutions and making connections that were transformational for a local economy. Certainly, Fred Terman is often credited as having the vision to create Silicon Valley. As Dean of Engineering at Stanford, Terman was in a strong position to influence the course of events. Most famously, Terman had a garage that he lent to two of his students, Bill Hewlett and Dave Packard. Fred Terman was educated at MIT, but he moved to the relative backwater of Palo Alto, where Stanford was a respectable regional university. Terman returned to his home—the place he grew up and where his mother lived. Against predictions that he was throwing away his career, Terman demonstrated an attachment to place that was seemingly irrational at the time but worked out rather well, in large part due to his actions, or consider George Kozmetsky, who championed entrepreneurship in his adopted hometown of Austin Texas. The founder of Teledyne, Kozmetsky, created the Institute for Innovation, Creativity, and Capital (IC2) at the University of Texas and mentored over 260 computer companies in Austin. Any reading of the biography of these individuals highlights their connection to community and efforts that extend beyond immediate profit maximization. Perhaps motivated by altruism or attachment to a place or community, these individuals made a difference in the economic fortune of a place.

Ewing Marion Kauffman offers another example of a local champion. He was born and raised in Missouri and lived in Kansas City. After what the literature defines as a strategic disagreement while working as a salesman for a pharmaceutical company, Kauffman

started his own pharmaceutical company. Rather than locate in the Philadelphia–New Jersey corridor, where the industry was concentrated, Kauffman decided to stay in Kansas City, a rather unlikely place in the 1950s. He named his company Marion Laboratories Inc., using his middle name rather than his last name to add legitimacy. When he sold his company to Merrell Dow in 1989, the company had grown to become a global diversified health care giant with \$1 billion in sales and employment of over 3,400. Marion Laboratories was a generous employer and is noted to have provided educational and training benefits, profit-sharing plans, and employee stock options before these were the norm in start-up companies. By 1968, 20 of Marion's employees had become millionaires, including a widow in the accounting department. After the merger with Merrell Dow in 1989, hundreds of employees had become millionaires (Morgan 1995). The impact on the Kansas City economy was significant.

Kauffman was a leading benefactor of Kansas City. Although he was not interested in baseball, he purchased the Royals in 1968 to bring major league baseball back to the city under the belief that a team was required to be considered a major city. Rather than a vanity play, Kauffman invested to make the Royals a team that developed young players. The Kauffman Foundation, while well known for developing entrepreneurship as a topic of academic study, has a strong local profile contributing to education, the arts, and social programs in Kansas City. Numerous entrepreneurs make this transition from offering good employment benefits to promoting local causes to creating philanthropic foundations (Feldman and Graddy-Reed, forthcoming).

Bo Burlingham, a writer for INC magazine, uncovered a similar phenomenon of entrepreneurs who choose to focus on more satisfying business goals rather than concentrating on the demands for continuous growth and the short-term pressures to exceed last quarter's earnings. Burlingham discovered that instead of starting a company with the single goal of maximizing profits, these entrepreneurs focused on goals like creating a great product, providing a great place to work with great customer service, and making contributions to the quality of life in their local community. Burlingham found that entrepreneurs were motivated to find more enriched and satisfying lives. This involved doing business differently. Burlingham wrote a book entitled, *Small Giants: Companies that choose to be*

great instead of big, that created a worldwide movement that shares practices about how to build a different type of company (Burlingham 2007).

One of Burlingham's examples takes place in another unlikely city, Buffalo, New York, and involves the singer turned entrepreneur Ani DiFranco. DiFranco could have signed with any of the big record labels but instead she started her own recording label, *Righteous Babe Records*. She located the company in her hometown. DiFranco uses small local companies to press her CD's and print all the album liners, posters, and tens of thousands of T-shirts, even though she could have the work done more cheaply elsewhere. This local outsourcing has spread wealth in the local community. In addition to the record company, DiFranco has converted an abandoned church into a concert hall, created a headquarters for a touring company, and started a retail store. James W. Pitts, the president of the Buffalo Common Council, said in the New York Times newspaper, "the most laudable achievement of Ms. DiFranco was simply coming home. Hometown girl makes good and doesn't forget where she comes from. Obviously the impact that she has made as entertainer, performer, and philosopher is extraordinary. But to come back here is a testament not only to her talent but her future—and Buffalo's future." But rather than an altruistic act, there are mutual gains. DiFranco was motivated to give some back to her home community but she also recognizes that by living her life away from the Hollywood glitz, she could relate to her audience in a more authentic manner.

The early history of Silicon Valley certainly demonstrates this generosity. The Silicon Valley model of venture capital emerged not so much as a way to make money, although that certainly did happen, but as a way of engaging with the community and staying actively involved with the technology. This is exemplified in the life story of Eugene Kleiner, founder of Kleiner, Perkins, Caufield, and Byers, and wonderfully codified in the documentary, *Something Ventured* (<http://www.somethingventuredthemovie.com/>).

Unfortunately, many MBA students who wish to become venture capitalists now believe that profits and transactions are more important than relationships and the joy of being engaged with a technology. The successful Silicon Valley Venture Capital model can be interpreted as creating social capital that leverages investment capital. While some may dismiss this

example as simply being in the right place at the right time, it is central to understand that opportunities are created and the capabilities are socially constructed. Silicon Valley did not have a clear early advantage in the computer industry. Examining the history, it is clear that Silicon Valley's advantage was deliberately constructed over time (Lécuyer 2008).

3 The need for greater theoretical development

The literature has made important strides in understanding the benefits that agglomeration economies provide to entrepreneurs and to firms as well as the characteristics of ecosystems that support innovation. But the conventional wisdom about the attributes that define successful regional economies falls short in both theory and policy prescriptions. My own thinking has evolved over time, and this paper provides an opportunity to place my work in perspective. For me, the most rewarding aspect of research is that every answered question leads to several more questions that require different avenues of inquiry.

In *The Geography of Innovation* (Feldman 1994), I found that industrial clusters were a pervasive and persistent feature in the organization of economic activity. At that time, prevailing theory emphasized the importance of resources as an explanation for the location of industrial clusters, arguing that innovative activity tends to cluster in regions where resources relevant to the performance and survival of firms are most abundant. Many resources have been included, such as the presence of skilled labor and access to transportation, proximity to markets and input suppliers, the presence of universities and research organizations, and institutional supports for entrepreneurial activity. The consensus in the literature is that firms, especially young science-based entrepreneurial startups, benefit from the location. Lacking the resources of their larger counterparts entrepreneurial firms benefit from knowledge spillovers and external resources in their local environment (Feldman 1994; Audretsch and Feldman 1996). There is an entire literature that specifically examines the role of universities in technology-based economics, although universities are certainly important as sources of skilled labor, new ideas, and as social spaces. Universities can certainly enact policies to promote entrepreneurship (Bercovitz et al. 2001; Feldman et al. 2002). But universities are

only one piece of the puzzle of economic development: necessary but not sufficient.

The idea that every place wants to be the next Silicon Valley can be seen in the proliferation of places with colorful names. Yet, it seems highly unlikely that any place can become successful using the Silicon Valley model, which is predicated on a series of reinforcing institutions and relationships that developed over time. One economic development mistake that we are moving beyond is to assume that the key to success is to adopt the conditions observed in Silicon Valley—an active research university, strong venture capital investment, and lots of networking events. These are the attributes of a fully functioning innovative ecosystem that not only reflects about 40 years of development but that is not easily transferred to others, especially small and under resourced places. The truth is that it is impossible to compete against Silicon Valley using the Silicon Valley model.

Endogeneity is always a concern when considering regional economies. Entrepreneurial firms and resources develop in tandem to form systems of innovation or ecosystems—a few of the names used to capture the interdependent nature of development. Causality is difficult to attribute. Indeed, the actions of entrepreneurs create and augment the resources that define successful clusters and that is why the many efforts that attempt to emulate Silicon Valley fail (Feldman et al. 2005). A successful regional innovation system is the result of a coevolutionary process or what Pontus Braunerhjelm and Feldman called *Cluster Genesis* (Feldman and Braunerhjelm 2006), an edited volume that collected perspectives on how localized industrial economies originated and developed. Most importantly, as entrepreneurial firms define an industry in a specific location, the local resources taken together are greater than the sum of their parts. Moreover, they are not easily replicated elsewhere.

Another related strand of the literature on regional industrial development considers the importance of path dependence, tracing the origins of industrial clusters to some random seeding or historical accident that ignites positive feedback. Steve Klepper made important contributions to this literature. The mechanism is that entrepreneurial spawns inherit practices from successful parent firms, which in turn makes them successful. By locating close-by, a parent firm cluster develops. This hints at the importance of

business practices while not examining them explicitly. This explanation leaves little room for human agency and institution building. While organizational practices certainly are difficult to change, they are not immutable (Bercovitz and Feldman 2008). Moreover, organizational practices are not replicated with perfect fidelity but are moderated by entrepreneurial characteristics and adapted to changing conditions (Feldman et al. 2014).

In addition, studies of successful firms and places do not account for counterfactual examples. Consider, for example, Eastman Kodak, which did not generate an agglomeration of similar firms because it actively discouraged spinoff activity, which inhibited the development of a rich quilt of suppliers and related firms in the region. Of course, this was something that Jane Jacobs predicted in 1969: the firm's strategy was to the detriment of Rochester New York and perhaps contributed to the firm's own demise (Jacobs 1969). It is an interesting thought experiment to imagine whether an ecosystem of innovative entrepreneurial firms colocated and engaged with the next generation of technology might it have changed Kodak's misstep with digital photography. Early success or technology leadership is simply no guarantee that technology-based economic development will follow (Feldman and Romanelli 2013). What seems to matter is the capacity to build on early events or accidents through entrepreneurial actions and the construction of institutions conducive to the industry.

It is difficult to study regional phenomena because the action takes place in firms. The actual configuration of the spatial agglomeration defies political jurisdictions and government accounting units. Think about Silicon Valley as an example. We all know where it is located. But Silicon Valley does not exist on any conventional map. It is defined by the location of firms and institutions. Its boundaries are fluid, growing over time to follow land-use patterns and transportation arteries, crossing political boundaries to define a set of spatially related and interdependent firms. To really understand geographic clustering requires examining firms and entrepreneurs as well as other key institutions and individuals. There is an unfortunate disconnect between the theoretical definition of region as an integrated continuous geographic unit and the political and government statistical units for which data are readily available. Examining larger and available geographic units can

mask cross-border activity and can also obscure the microgeography or proximate considerations that are important for innovative activity. Microgeography is important to understand innovative clusters: what appears to be a cluster at the county level may indeed be several geographically (and often technologically) distinct clusters, each with different social relationships and unique needs.

Social capital has gained importance as an explanation for the vibrancy of place. The concept was operational in Annalee Saxenian's *Regional Advantage* (1996). Certain places have higher levels of trust and greater interaction, which leads to more openness and greater innovation. While it is difficult to argue with the basic premise, these constructs are difficult to measure and seem preordained. The construct of social capital comes from sociology: capital suggests the existence of an asset while the qualifier social suggests that benefits accrue to being connected to a network or community. The idea is that individuals in better-connected places enjoy higher returns to their ideas and investments because the backbone of the entrepreneurial economy is specific individuals who make connections and become the conduits for knowledge spillovers (Feldman and Zoller 2012). However, more than knowledge flows, these key connected individuals, brokers, or dealmakers may, through their actions, create conditions conducive to activity in their industry. Individuals with high social capital may also be in position to create conditions that contribute to local prosperity and quality of life.

Social capital is also the basis for the formation of communities important to establishing emerging technology in place. In researching the origins of the concentration of the biotech industry in Cambridge Massachusetts, specifically Kendall Square, arguably the most densely concentrated agglomeration of private biotechnology firm activity in the world, Nichola Lowe and I surprisingly uncovered a contentious early debate that centered on the fear of genetic engineering, the early name used for the technology (Lowe and Feldman 2008). The City of Cambridge passed a regulation in 1976 that was more onerous than national standards at the time and engendered great discussion and notoriety. While seemingly this regulation should have deterred industry location, the process of learning about the technology and understanding its potential created consensus in a community of common interest (Feldman and Lowe 2008).

While there is great concern over business climate and calls for reduced government, in this case, regulation limited firm liability by providing standards and expectations, making Cambridge more attractive. Moreover, public discussion and debate about regulating the industry may inform citizens and local officials about the potential of the industry and what it requires to move forward. Developmental pathways for new technologies, firms, and industries are intertwined or endogenously determined as common language and meaning are created, and complementary and subsidiary products develop. The social process may be most important in constructing vibrant local economies.

Unfortunately, considerations of firm strategy are fixated on competition, ignoring the range of firm actions and activities that affect the vibrancy of a place. Michael Porter's *Competitive Advantage of Nations* (Porter 1990) focuses on the well-known five forces, which unfortunately restricts strategy to concerns about competition. Within clusters, the operative strategic concern is localized competition between firms that is seen to spurn greater innovative activity. But strategy can be fined more broadly and it is useful to consider alternative definitions. Kenneth Andrews (1999:52) defines strategy as "... the pattern for decisions that ... defines the kind of economic and human organization it is or intends to be and the nature of the economic and noneconomic contributions it intends to make to its shareholders, employees, customers and communities." This broader definition covers a wider range of behaviors and also includes communities as consideration. This harkens back to an older conceptualization of strategy. The literature on corporate social responsibility attempts to bring these considerations back to the discussion. But the idea that firm strategy can have fundamental impacts on the vibrancy of place deserves greater study.

4 The need for new models of development

The fortunes of industries and regions are deeply intertwined. Places benefit when industries and firms grow and places suffer when firms and industries decline. One prevailing explanation relies on the dynamics of the industry life cycle. Notably, absent are considerations of the actions of entrepreneurs as agents of change and the role that entrepreneurs, or

more broadly firm strategy might play in regional economies and the vibrancy of place.

The need for new models can be illustrated in Michael Lewis' book *Moneyball: The Art of Winning an Unfair Game* (2004). The book is about baseball but the example also challenges conventional wisdom. The Oakland Athletics (A's) baseball team, from the city across the San Francisco Bay from Silicon Valley, was unable to compete by trying to buy the best players. Winning teams like the New York Yankees spent three times as much on payroll. Talented players that were identified and cultivated by the A's were subsequently recruited to other more profitable teams. Recognizing that a new strategy was needed, the book argues that the Oakland A's realized that it was more important to get to base than to hit home runs. A team constructed from players who were undervalued by the market could win games, with their constrained budget. Baseball insiders thought this strategy would not work but it did. The team went on to play-offs and in the process changed the way that baseball recruiting is done.

This seems to be the essence of strategy—finding a different way of accomplishing your objective. The industrial genesis of North Carolina's Research Triangle Park (RTP) provides an example of technology-based economic development that follows what might be called a Moneyball model. The idea of the RTP originated in the private sector in the mid-1950s. It was an audacious grand idea to use the three universities that anchor the RTP to attract R&D operations to a state that was at the bottom of per capita income in the United States. The idea was championed by the private sector, specifically a real estate developer named Romeo Guest who had seen what was possible when he attend MIT. Implementation proved to be difficult and the for-profit venture went bankrupt. The Governor, Luther Hodges, a former textile mill executive believed in the idea and created a public-private partnership to manage the park—an instrumental and creative response. In North Carolina in the 1950s—in a similar story that was repeated around the world—students were given a train ticket along with their college diploma. One articulated objective for RTP was to increase local employment opportunities. Early on the decision was made to stick to the target of attracting R&D operations even though manufacturing offered politically important employment. The recruitment of R&D operations was intensely personal and

local champions advocated and lobbied large firms until the idea gained traction. It took 6 years to attract IBM, the first company to locate in the park.

The remarkable vision of developing technology-intensive employment persisted through changes in governors and political parties. This was accompanied by a long history of adaptive and responsive public policy that transitioned from the recruitment of R&D operations to creating institutions and conditions conducive to entrepreneurship (Lowe and Feldman 2013). The industrial genesis of the RTP is the story of the attraction of large multinational firms to locate their R&D operations and then encouraging start-up firms once these large firms went through the inevitable mergers and acquisitions, layoffs, and restructurings (Feldman and Lowe 2014). The entrepreneurial economy developed in concentric rings around the park, in a variety of industrial parks and reconfigured old industrial spaces. The strategy of technology-based economic development did pay off, although demonstrating that economic development takes time and consistent effort.

In many ways, the RTP can be seen as a *Moneyball* Region: its success defies the conventional wisdom. Rather than traditional venture capital, the RTP region has attracted proportionally more corporate VC. Traditional venture capital financing is not patient investment but demands high returns and relies on returning funds back to investors in a limited time period of usually 7–10 years. In contrast, corporate VC investment seeks out strategic technologies and promising opportunities related to the corporation. The outcome is likely to be acquisition rather than pursuing initial public offerings (IPO). Acquisition by the corporate investor may not be a bad outcome if it brings additional investment and retains jobs.

Mergers or acquisitions are viewed by the conventional wisdom as a less desirable outcome for entrepreneurial companies. The gold standard is the IPO, which is highly correlated with reliance on traditional venture capital financing. In the absence of traditional VC, money companies are likely to grow more slowly or to grow through mergers. In the RTP region, mergers and acquisitions have led to greater employment growth and additional investment in the region. Acquiring companies recognized that the value of their acquiring asset was worth more kept in place rather than dismantling the operations. Acquiring firms have made additional investments in the region.

Using conventional measures like venture capital investment raised or number of IPO in the region does not rank well. But it is a prosperous place, once again due to a different model.

Often when the conventional factors do not account for differences in the economic performance of places, we attribute the difference to culture. But culture, rather than fixed and imputable, is socially constructed and defined. Cultures also change over time. One of the interesting questions is how place changes from being static to being entrepreneurial. Reliable and robust data are, once again, difficult to find. It is difficult to accurately measure attitudes. In addition, we do not know the number of potential or latent entrepreneurs, those individuals who have the ideas to start companies but for some reason are not starting companies. To begin to provide some insights into this question, Janet Bercovitz and I used data on academic scientists to consider factors that influenced them to break with tradition and begin to engage in activity with commercial potential (Bercovitz and Feldman 2008). At universities, the initial decision to become entrepreneurial and engage in technology commercialization requires an invention report or invention disclosure, which is an observable action. It turns out that this activity is very concentrated in a few departments and among different cohorts of faculty. Looking at similar universities and controlling for a variety of factors, we found that individuals were most influenced by the behavior of the individuals with whom they interact the most—their peers exerted the strongest influence. Norms of behavior become accepted and routine. To extrapolate to spatial communities, this helps us understand local culture. Peer pressure reinforces what is perceived as socially desirable. These influences appear to be strongest locally.

Culture changes and evolves—it may be rather slow, like turning a tanker, but it should not be viewed as intractably fixed. Norms, standard operative procedures, and culture are influenced by expectations and education. I am an optimist to hope that better business practices will diffuse within local communities and change the culture to be more entrepreneurially and invested in building local resources. Imagine how the world might change if business school education would take a longer-term view that valued ecosystems and focused on the role of effective institutions grounded in norms of openness, tolerance for risk,

appreciation for diversity, and confidence in the realization of mutual gain for the public and the private sector. But certainly, this requires different ways of thinking about the economy and the objectives of economic development.

5 A new logic of economic development

Over the past 40 years, there has been great debate about how to best allocate resources to achieve economic progress (Feldman et al. 2014). In contrast to our understanding of economic growth, which is perhaps more dependent on the market, economic development, the product of institutions, and collective action are not as clearly defined. Whereas economic growth is a simple increase in aggregate output, Joseph Schumpeter (1934) in the *Theory of Economic Development* argues that economic development positions the economy on a higher-quality growth trajectory and is achieved through innovation and entrepreneurship.

Discussions of economic development have evolved over the past 50 years from a preoccupation with lagging regions and eradication of poverty to a new focus on innovation and international competitiveness that is universally relevant to the full range of communities. For too long, economic development has been associated with lagging regions and poverty eradication, often with an international focus. Yet, the concept of economic development is increasingly relevant in advanced economies. All regions are vulnerable to economic restructuring and need to consider how to adapt to the changing economy. Places once prosperous have been humbled by international competition and struggle to redefine themselves. Even places currently doing well realize their economic base could quickly evaporate, leaving them insecure about future prospects. Continual restructuring is now the new norm, and the universal concern is how to best secure an economic future. The concept of economic development is now relevant to the full range of nations, places, and communities.

With so much at stake, there is a need to strive for consensus about the role of government in the modern economy and how to best move society forward. Building successful regional economies is a complex and long-term endeavor. Governments around the world have engaged in providing technology-based

economic development incentives to stimulate innovation and entrepreneurship. The literature has scrutinized government's actions, questioning the prioritizing of place-based policies in favor of people-based policies and ignoring the reality that people live in communities and have attachment to places. When government investments yield high rates of return, then the allegation of preferential treatment or *picking winners* is raised. Alternatively, when government investments in the poorest places are evaluated and the short run rates of return are low, then the allegation is that money has been wasted even as Mariana Mazzucato's *Entrepreneurial State* (2013) demonstrates the long run impact of government investment. The literature evaluating government role often comes to the conclusion that government efforts are only successful when enlisted in public–private partnerships. Is it realistic to expect that government can make a difference if the private sector is not actively engaged? It is only in working together with a vision of prosperity and high quality of life that any community or place can make progress.

It seems that to move forward, we need a consensus definition of economic development and a vision for the type of world we would like to live in and leave to our children. In work with the Economic Development Administration, US Department of Commerce, we have defined economic development as the expansion of capacities that contribute to the advancement of society through the realization of individual, firm, and community potential. Economic development can be measured as a sustained increase in prosperity and quality of life realized through innovation, lowered transaction costs, and the utilization of capabilities toward the responsible production and diffusion of goods and services. Economic development requires effective institutions grounded in norms of openness, tolerance for risk, appreciation for diversity, and confidence in the realization of mutual gain for the public and the private sector. Economic development is essential to creating the conditions for economic growth and ensuring our economic future.

Let me return to Viking Stove. I would be disingenuous for not revealing the more recent history. In 2013, with declining new housing construction and remodeling and faced with increased competition for other white goods producers who introduced their own lines of stainless steel high-quality stoves, Fred Carl sold Viking to the Middleby Corporation, a private

equity firm. Employment cuts and outsourcing to China followed. If entrepreneurs are seen as active partners in economic development efforts, then their activities could be incentives. Entrepreneurship is certainly important to the economy but I worry that our attention and policy initiatives focus on starting companies—not on growing them or even providing timely assistance to aid their continued operations. Large corporations deemed too big to fail and of national economic importance are targets of government assistance. However, there are few policy interventions aimed at small- and medium-sized established firms that are often the backbone of local economies.

In sum, entrepreneurial attachments and investment, government capacity building, and local communities of common interest define the character of place. In my conceptualization, geography provides a platform to organize resources toward a specific purpose. While firms are one well-known way to organize resources, location provides a viable alternative—a platform to organize economic activity and human creativity. Geographic places have history and context that is meaningful to people. More than facilitating face-to-face interaction and the exchange of tacit knowledge, geography enhances the probability for serendipity—the chance for something unexpected to have a profound and transformative impact. Advantage and economic development, rather than physically determined by natural resources, now accrue to places that build knowledge and expertise. Understanding these dynamics will enable better policy making. I hope with this essay, I encourage others to join the inquiry.

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References

- Andrews, K. R. (1999). The concept of corporate strategy. In N. Foss (Ed.), *Resources, firms, and strategies: A reader in the resource-based perspective*. Oxford: Oxford University Press.
- Audretsch, D. B., & Feldman, M. P. (1996). R&D spillovers and the geography of innovation and production. *The American Economic Review*, 86(3), 630–640.
- Bercovitz, J., & Feldman, M. (2008). Academic entrepreneurs: Organizational change at the individual level. *Organization Science*, 19(1), 69–89.
- Bercovitz, J. E., Feldman, M. P., Feller, I., & Burton, R. M. (2001). Organizational structure as a determinant of academic patent and licensing behavior: An exploratory study of Duke, Johns Hopkins, and Pennsylvania State Universities. *Journal of Technology Transfer*, 26(1–2), 21–35.
- Burlingham, B. (2007). *Small giants: Companies that choose to be great instead of big*. New York: Penguin Group.
- Feldman, M. P. (1994). *The geography of innovation*. Boston: Kluwer.
- Feldman, M. P. (1999). The new economics of innovation, spillovers and agglomeration: A review of empirical studies. *Economics of Innovation and New Technology*, 8(1), 5–25.
- Feldman, M. P., & Braunerhjelm P., eds. (2006, 2007). *Cluster genesis: Technology-based industrial development*. Oxford: Oxford University Press.
- Feldman, M. P., Feller, I., Bercovitz, J., & Burton, R. (2002). Equity and the technology transfer strategies of American Research Universities. *Management Science*, 48(1), 105–121.
- Feldman, M. P., Francis, J., & Bercovitz, J. (2005). Creating a cluster while building a firm: Entrepreneurs and the formation of industrial clusters. *Regional Studies*, 39(1), 129–141.
- Feldman, M. P., & Graddy-Reed, A. (forthcoming). Local champions: entrepreneurs' and the vibrancy of place. In *Handbook of research on entrepreneurs' engagement in philanthropy-perspectives*. Elgar.
- Feldman, M. P., Hadjimichael, T., Kemeny, T., Lanahan, L. (2014). *The Logic of Economic Development*.
- Feldman, M. P., & Lowe, N. (2008). Consensus from controversy: Cambridge's biosafety ordinance and the anchoring of the biotech industry. *European Planning Studies*, 16(3), 395–410.
- Feldman, M. P., Lowe, N. (2014) *Firm strategy and the wealth of regions*, Working Paper.
- Feldman, M. P., & Romanelli, E. (2013). Organizational legacy and the internal dynamics of clusters: The US human biotechnology industry, 1976–2002. In *Knowledge and the Economy* (pp. 207–230). Springer, Netherlands.
- Feldman, M. P., & Zoller, T. D. (2012). Dealmakers in place: Social capital connections in regional entrepreneurial economies. *Regional Studies*, 46(1), 23–37.
- Jacobs, J. (1969). *The economies of cities*. New York: Basic Books.
- Klepper, S. (2011). Nano-economics, spinoffs, and the wealth of regions. *Small Business Economics*, 37(2), 141–154.

- Lécuyer, C. (2008). *Making silicon valley: Innovation and the growth of high tech, 1930–1970*. Cambridge, MA: MIT Press.
- Lerner, J. (2009). *Boulevard of broken dreams: Why public efforts to boost entrepreneurship and venture capital have failed—and what to do about it*. Princeton: Princeton University Press.
- Lewis, M. (2004). *Moneyball: The art of winning an unfair game*. New York: W. W. Norton & Company.
- Lowe, N. & Feldman (2013). *Riding the waves: Economic development strategy and tools*, Working Paper.
- Lowe, N., & Feldman, M. P. (2008). Constructing entrepreneurial advantage: Consensus building, technological uncertainty and emerging industries. *Cambridge Journal of Regions, Economy and Society*, 1(2), 265–284.
- Mazzucato, M. (2013). *The entrepreneurial state: Debunking public vs. private sector myths*. Anthem Press, London.
- Morgan, A. (1995). *Prescription for success: The life and values of Ewing Marion Kauffman*. Kansas City, Missouri: Andrews and McMeel.
- Porter, M. (1990). *The competitive advantage of nations*.
- Porter, M. E. (2008). *Competitive advantage: Creating and sustaining superior performance*. New York: Simon and Schuster.
- Porter, M. E. (2011). *Competitive advantage of nations: Creating and sustaining superior performance*. New York: Simon and Schuster.
- Saxenian, A. (1996). *Regional advantage: Culture and competition in Silicon Valley and Route 128*. Harvard: Harvard University Press.
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Transaction Publishers (vol. 55).
- Senor, D., & Singer, S. (2011). *Start-up nation: The story of Israel's economic miracle*. New York: Random House Digital Inc.
- Smith, A. (1863). *An inquiry into the nature and causes of the wealth of nations*. Edinburgh: A. & C Black.