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Venture Capital Investment in Secondary Cities Issues and Opportunities for Impact

By Carole Carlson and Prabal Chakrabarti

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Venture capital has been one of the major drivers of the U.S. economy. Using the State of the Inner City Economies database of the Initiative for a Competitive Inner City, we found that secondary cities – which we have defined as cities outside the 40 largest U.S. metro areas – have received far less than their proportionate share of private equity deals and dollars. By failing to attract capital at similar rates to larger cities, secondary cities are missing a major engine of job and wage growth. Notably, however, a number of secondary cities *have* managed to assemble the right combination of factors to significantly outperform their peers. To understand this better, we interviewed the leaders of 17 venture capital firms (including both national firms and regional firms and firms representing more than one-half of the top 10 investors in secondary markets). We also interviewed and surveyed 53 companies in secondary markets that successfully received venture capital investment funds, as well as industry experts and venture funding facilitators. Based on these interviews and surveys, our research posits six plausible factors that enable successful secondary cities to attract more venture capital than their peers.

Carole Carlson is Managing Director of Carlson Partners Consulting, a consulting firm that advises private sector and nonprofit clients on business strategy, economic impact, and organizational effectiveness. She is an adjunct faculty member at Brandeis University's Heller School for Social Policy and Management. Prabal Chakrabarti is deputy director of Community Affairs at the Federal Reserve Bank of Boston. Formerly, he served as deputy director of research at the Initiative for a Competitive Inner City (ICIC). The study was conducted in partnership with ICIC, with financial support from the W.K. Kellogg Foundation.

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Executive Summary

Over the past two decades, venture capital (defined as at-risk equity investments provided by investors to privately held companies with perceived long-term growth potential) has been one of the major drivers of the U.S. economy. As a source of financing for early stage companies, venture capital investors make high-risk, high-reward investments that support high growth companies and foster innovation. Companies that received venture funding between 1970 and 2003 accounted for 10.1 million jobs in 2003.[1]

The venture capital industry has organized itself to maximize profits by focusing on a select group of high growth industries and has also tended to focus on specific geographies. As a result, the benefits of venture capital investment are unevenly distributed: Fully two-thirds of U.S. venture capital investment takes place in five concentrated geographic areas (San Francisco/San Jose, Boston, New York, Houston, and Los Angeles), and the economic areas of Silicon Valley and greater Boston account for nearly one-half of all investment. The purpose of this research is to take a closer look at investment in cities *outside of* these five areas and the other major metropolitan areas.

Secondary cities – which we have defined as cities outside the 40 largest U.S. metro areas – have received far less than their proportionate share of private equity deals and dollars.[2] A study we conducted with the Initiative for a Competitive Inner City (ICIC) uses data from ICIC's State of the Inner City Economies database. According to our analysis, from January 2003 to August 2005, secondary cities received 13 percent of all deals and 20 percent of total investment dollars, despite the fact that secondary cities account for roughly half of the U.S. population, half of the number of business establishments, and 38 percent of U.S. payroll.

The disproportionate flow of venture capital into secondary cities matters because venture-backed companies can play a major role in economic development. Venture-backed firms are more innovative and grow more quickly. One study found that venture capital is three to four times more effective in stimulating patent activity, a critical measure of innovation, than an equivalent amount of traditional R&D spending. This suggests that venture capital, while averaging less than 3 percent of corporate R&D, accounts for about 10 percent of U.S. innovation. There is also compelling evidence of venture capital's positive effect on company revenues and earnings.

By failing to attract capital at similar rates to larger cities, secondary cities are missing a major engine of job and wage growth. Notably, however, a number of secondary cities *have* managed to assemble the right combination of factors to significantly outperform their peers. Myriad reasons exist for this over-performance. In an effort to gain an understanding of this, we interviewed the leaders of 17 venture capital firms (including both national firms and regional firms and firms representing more than one-half of the top 10 investors in secondary markets). We also interviewed and surveyed 53 companies in secondary markets that successfully received venture capital investment funds, as well as industry experts and venture funding facilitators. Based on these interviews and surveys, our research posits six plausible factors that enable successful secondary cities to attract more venture capital than their peers.

1. Clusters and Networks: Our research identified two strong and related factors that are associated with the ability of companies in secondary cities to attract venture capital investment. First, many successful secondary cities appear to benefit from strong cluster effects in specific industries. Effective clusters seem to have a critical density of components, most importantly, strong connections among individuals with shared professional interests, and often professional organizations that connect these individuals.

Second, institutional and interpersonal networks are centrally important to securing equity capital investments. Both venture capital firms and companies receiving venture capital funding report that networking is the dominant channel used for identifying potential deals. The heavy reliance on personal networks exacerbates the challenges for cities that lack clusters that enable networking. Being located in a city without established networks may place a firm at a disadvantage in its search for equity capital.

2. Investor Presence: Another important factor in attracting venture capital to secondary cities is an already established investor presence. Some firms investing in secondary cities specialize in these markets. In other cases, firms investing in secondary cities are national or international firms that invest a small portion of their funds in these markets.

Investments made by an "angel" investor prior to a firm's being considered for venture capital are also an important part of the funding cycle for many entrepreneurs. For rapidly growing firms, repeated capital infusions are often necessary to bridge the gap between an entrepreneur using personal resources and the time when a firm can attract venture capital financing. Angel funds are critical to many secondary-city companies (our research found that nearly half of the companies receiving venture capital had received prior angel funding), and angel funding may take the place of some early stage venture investment in some locations. However, according to our survey of professional venture capital investors, angels are a mixed blessing. There is a growing movement to professionalize angels and angel groups, and this has the potential to significantly improve capital access in secondary cities.

3. Intellectual Capital and Technology Transfer: Our research found a significant correlation between deal flow in secondary cities and the existence of national research universities, as well as the percentage of new-economy jobs in these communities. It is not surprising that technology transfer from universities can be a major engine of innovation and firm formation – the critical question is what can be done to accelerate this in secondary cities.

4. Accessibility: The lack of direct transportation access from major funding centers can significantly constrain the availability of venture capital. Venture capital firms dislike investing in companies in remote locations because of the initial difficulty of finding and vetting deals in these locations, the projected costs of ongoing interactions with a company as board members and mentors, and concern about the ability of a company to attract management talent. This is particularly true for early stage investments, which typically require more intensive involvement.

5. Community Attractiveness: Our research has identified a strong correlation between quality of life and the ability of communities to successfully attract venture capital. There is a clear

opportunity for communities seeking to attract more venture capital to critically consider how they can invest to improve their natural assets.

6. Historical Returns: Capital will not flow freely to a market unless it can generate a reasonable risk-adjusted market rate of return. According to our interviews, one of the factors negatively impacting secondary cities' ability to attract venture capital investment is the perception that the level of returns to the most active investors in these markets has been below average. However, not all secondary-city investments performed poorly, and several new models are emerging that may mitigate some of the issues faced by secondary city investors.

There is no "one size fits all" approach to improving venture capital flow to secondary cities. A city's ability to utilize levers will depend on its size and unique mix of assets and liabilities. The venture capital industry is too fast moving and entrepreneurial to respond effectively to traditional economic development levers. Still, there are a number of opportunities for policymakers, community leaders, and foundations to participate with high potential secondary cities to improve their position. These include:

- Strengthening clusters and networks
- Encouraging a continuum of capital
- Increasing investment levels
- Increasing community attractiveness, including transportation access

Acknowledgements

This research was conducted with financial support from the W.K. Kellogg Foundation, and conducted in partnership with the Initiative for a Competitive Inner City (ICIC). The authors would like to acknowledge the assistance of ICIC research staff Emily Boling and Phoebe Hsueh in conducting the research, and Ann Eggleston and Lynn Browne at the Federal Reserve Bank of Boston and Erin Flynn for their thoughtful review and suggestions.

Venture Capital Industry Overview

Background

Over the past two decades, venture capital (defined as at-risk equity investment provided by investors to privately held companies with perceived long-term growth potential) has been one of the major drivers of the U.S. economy. As a source of financing for early stage companies, venture capital helps to foster innovation by taking on high-risk, high-reward investments. Venture capital investments in the United States totaled $22.6 billion in 2005 and are expected to increase in 2006.[3] The venture capital industry is cyclical, but has stabilized and recovered from the decline following the frothy 1999- 2001 period.

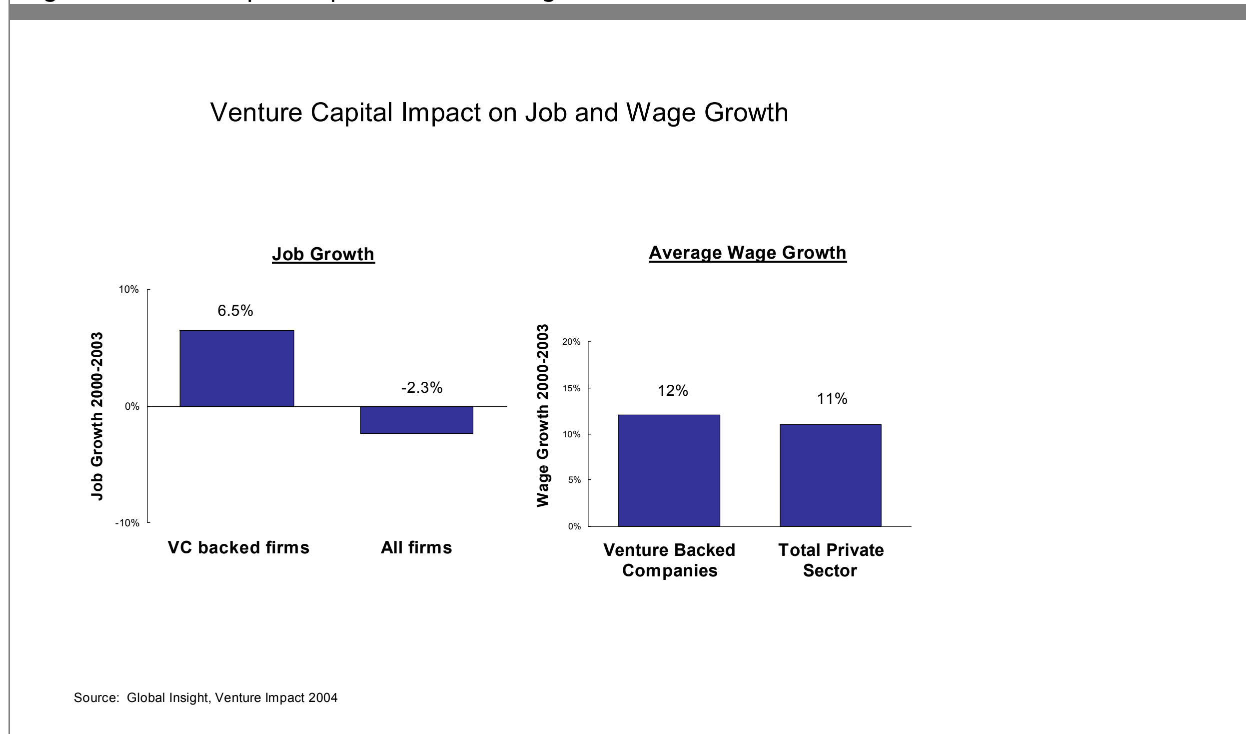
U.S. venture capital financing is highly concentrated geographically. Five geographic areas − Silicon Valley, New England, New York City, Los Angeles, and Texas − consistently account for two-thirds of venture investments. Silicon Valley and New England alone account for nearly one-half of all venture investment.[4] As we show later, secondary cities – which we have defined as cities outside the 40 largest metro areas –have received far less than their proportionate share of private equity deals and dollars.[5] The shares they have received are well below their 51 percent share of the U.S. population, 49 percent share of U.S. business establishments, and 38 percent share of U.S. payroll.

This disparity in venture capital investment levels is expected to continue and possibly increase. The proportion of U.S. private equity funds participating in startup/seed and early-stage investment (a type of investment particularly important in secondary cities) has declined from 38 percent in 1995 to 19 percent in 2005.[6] Average venture capital fund sizes have increased since the 2000-2001 collapse of the tech bubble, raising the minimum investment for most funds, while secondary cities contain smaller firms on average. Increasingly, venture capital and private equity firms are expanding beyond domestic markets. These factors will further constrain the flow of capital to U.S. secondary cities.

Venture Capital's Role in Economic Development

Venture capital-backed companies are major contributors to the U.S. economy, accounting for more than 10.1 million jobs in 2003.[7] Venture-backed companies also outperform other private sector firms, accounting for substantially higher levels of job growth and wage growth.

Figure 1: Venture Capital Impact on Job and Wage Growth



Source: Global Insight, Venture Impact 2004

In their 2001 book, *The Money of Invention,* Gompers and Lerner provide compelling evidence of venture capital's positive effect on job creation, revenues, earnings, and innovation.[8] They discuss several benefits that venture capital confers on companies, including smoothing out the capital formation process and catalyzing fast, uniform growth that enables venture-backed firms to grow more successfully. In addition, they track the post-IPO performance of venture-backed firms and demonstrate that these firms have significantly stronger financial performance in the long run. They also demonstrate that venture-backed firms play a key role in innovation, as measured by both the quantity and the quality of patent activity associated with these companies.

Venture Capital in Secondary Cities

Previously, commentators and researchers have pointed out the uneven spread of venture capital. Several Federal Reserve Banks have published articles referring to the problem. According to an article appearing in the Federal Reserve Bank of Minneapolis *FedGazette*, proximity matters to venture capital, and these investments "pool in areas offering the highest rates of return." However, the article continues, "exceptions do exist where good ideas go hungry."[9] An article published by the Federal Reserve Bank of Kansas City notes that venture capital fund managers rarely travel more than a couple of hours to meet an entrepreneur, despite the possible good prospects of a deal.[10] A paper by Julia Sass Rubin observes that the concentration of investment by industry and deal size makes accessing venture capital even more difficult for businesses located in nontraditional areas.[11] Rubin points to the creation of the Small Business Investment Companies (SBIC) program, state-

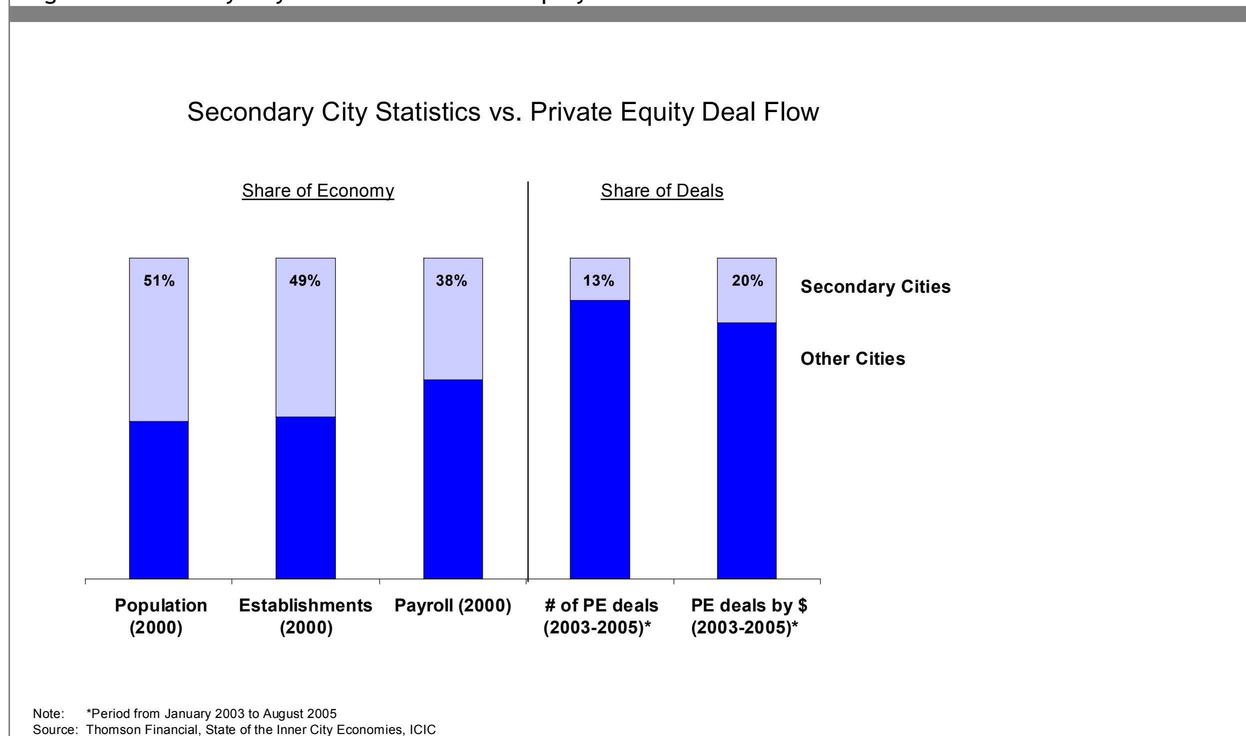
sponsored venture capital programs, and the community development venture capital industry as responses to what she describes as "imperfections" in the venture capital markets.

In order to understand both (1) why secondary cities have received such a low share of venture capital funds and (2) the steps that firms, policymakers, and others can take to attract additional venture capital, we examined funding trends by location and then interviewed venture capital firms and later stage investors. In all, we interviewed leaders of 17 firms, including over one-half of the top ten investors in secondary cities. We also spoke with industry experts and interviewed or surveyed 53 firms in secondary-city locations that have successfully attracted capital (representing 12 percent of all firms raising capital during the study period and approximately 19 percent of those still operating). We also interviewed experts and spoke with representatives from leading institutions that play a role in capital flows and connecting entrepreneurs, including the MIT Enterprise Forum, the Wayne Brown Institute, the Ewing and Marion Kauffman Foundation, and the Institute for a Competitive Inner City. In addition, we analyzed the location and characteristics of the 5,700 venture capital and private equity deals that took place between January 2003 and August 2005 for which location information was available. We defined secondary cities as those that fall outside the geographic boundaries of the 40 largest metropolitan areas by population.[12]

Despite considerable interest in the potential of venture funding for economic development, this is the first time that the issue of venture capital investment in secondary cities has been examined comprehensively. Information gained from both investors and growing companies has enabled us to add much to the conventional wisdom explaining underinvestment in secondary cities.

Our analysis of the venture capital and private equity deals that took place between January 2003 and August 2005 shows that secondary cities accounted for only 13 percent of venture capital and private equity deals, and only 20 percent of all dollars invested. The chart below shows the contrast between these venture-funding shares and secondary cities' 51 percent share of the U.S. population, 49 percent share of the number of business establishments, and 38 percent share of U.S. payroll.

Figure 2: Secondary City Statistics vs. Private Equity Deal Flow



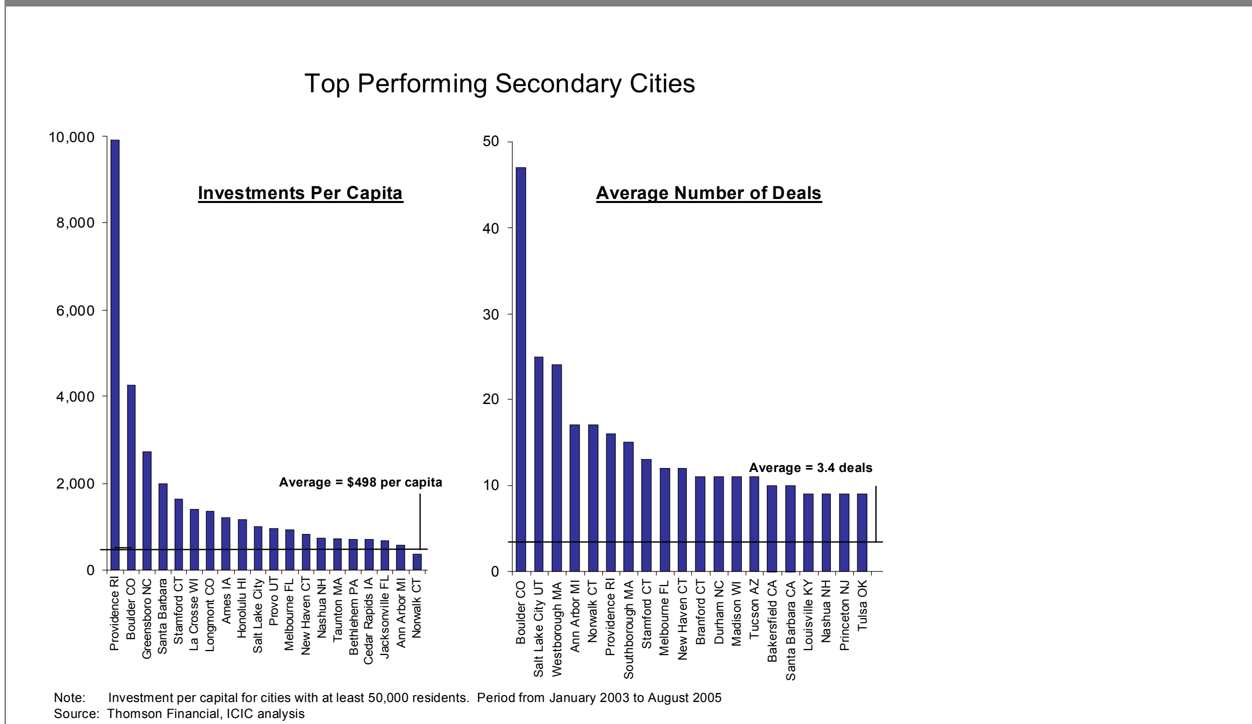
Venture capital is a critical source of funding for growing businesses, particularly rapidly growing "new economy" companies that rely on innovation. Few high-growth businesses can be successful without repeated infusions of equity, as well as debt. While non-venture capital sources exist (including capital from corporations, the personal wealth of founders, or cash flow from operations), venture capital is the dominant source of capital for growth.

Companies receiving venture capital and venture capital investors both understand that secondary locations, while conferring benefits, create challenges in securing venture capital investment. Venture capital firms look hard for the best deals, but are inhibited by the real or perceived costs of considering more remote locations.

High-Performing Secondary Cities

By failing to attract capital at similar rates to larger cities, secondary cities are missing out on a major engine of job and wage growth. Notably, however, the venture capital investment that these cities *do* receive is not evenly distributed. A number of secondary cities *have* managed to assemble the right combination of factors to significantly outperform their peers. Examples include Boulder, Colorado, Salt Lake City, Utah, and Ann Arbor, Michigan.

Figure 3: Top Performing Secondary Cities



The top 20 secondary cities significantly outperform their peers in terms of both number of deals and funding levels, attracting seven times as many deals on average and fifteen times as much private equity investment per capita as other secondary cities.

Factors Impacting Venture Capital Investment Levels in Secondary Cities

Many factors explain the superior performance of the high-performing secondary cities. Based on interviews with both venture capital firms and secondary-market recipients of venture capital funding, we identified six factors that enable successful secondary cities to outperform their peers.

Factor 1: Clusters and Networks

Our research shows that clusters and networks are important factors enabling companies in secondary cities to attract venture capital. An industry cluster is a group of firms and related economic factors and institutions that are located near one another and that draw productive advantage from their mutual proximity and connections.[13] Networks are the individual and institutional contacts entrepreneurs use to identify and connect with capital sources.

Over the course of our research with both companies and venture capital firms, it became clear that the majority of successful secondary cities benefit from strong cluster effects in specific industries. These can form in many ways – around a university that encourages a cluster of firms around a specific technology (for example, biotech firms in the communities surrounding Yale University) or a competence emerging from a company or industry location (for example, technology clusters in Colorado that emerged from its disc drive manufacturing industry).

The most effective clusters have a critical density of components, most importantly, strong connections among individuals with shared professional interests and professional organizations that connect these individuals. A less tangible, but important ingredient cited by venture capital firms as well as by leaders like the Ewing and Marion Kauffmann Foundation is "a culture of entrepreneurship" – a strong emphasis on firm formation and support for "serial entrepreneurs." Another factor is the existence of professional firms such as law and accounting firms that are experienced with the venture process and can support firms and entrepreneurs seeking to raise venture capital. Venture capital firms and angels are also part of the ecosystem of effective clusters.

Clusters appear to attract venture capital firms: Most regional firms target markets with strong clusters. For some venture firms focused on secondary cities, seeking out clusters is part of their strategy.

Information technology, medical devices, biopharmaceuticals, and communications technology account for a large proportion of venture capital deals.[14] Compared with the United States as a whole, the top 20 high-performing secondary cities in the aggregate had double the share of total employment in the information technology cluster (1.4 percent for the top 20 versus 0.7 percent for the United States as a whole) and nearly double in the medical device cluster (0.5 percent for the top 20 versus 0.3 percent for the United States as a whole). These secondary cities had comparable levels of concentration in biopharmaceuticals and communications technology clusters, roughly 0.3 percent of total employment. In addition, many of the top 20 over-performers had important less traditional

clusters, such as analytic instruments in Melbourne, Florida, and communications equipment in Boulder.

For high-growth venture-funded firms, clusters play a particularly significant role in attracting and retaining high quality management talent – an essential element in the willingness of venture capital firms to make investments.

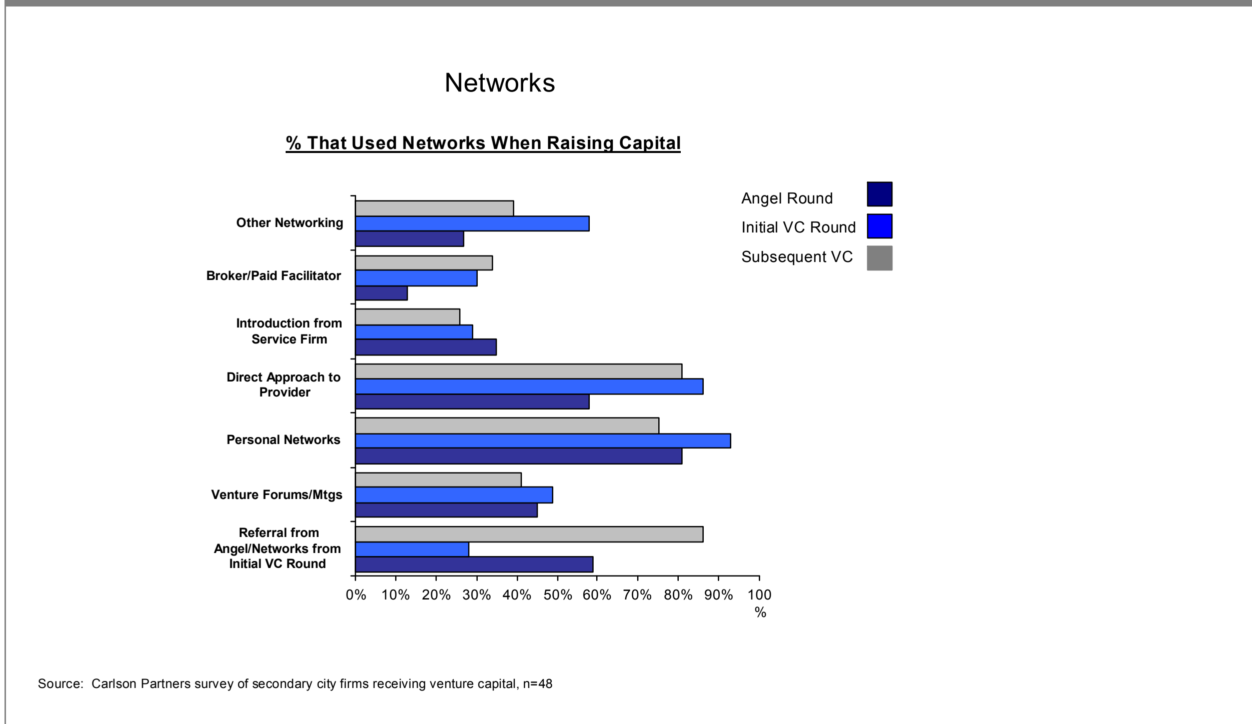
Clusters also play an important role in recruiting. Both venture capital/private equity firms and entrepreneurial firms in secondary cities cite the importance of clusters in attracting management talent.

The importance of the cluster effect highlights a challenge for secondary cities: Many are too small to have the critical density of factors to form effective clusters. However, secondary cities can assist cluster formation by encouraging the growth of supporting networks, as well as by removing barriers. This is apt to be most successful in cities that have an initial density of strong natural assets.

In terms of economic development, clusters not only play a role in firm formation and capitalization but also appear to have an impact on a city's ability to retain growing businesses. Clusters can be important as cities seek to reap the job-growth benefits of venture-funded firms, as well as to benefit from the self-reinforcing benefits of cluster growth.

Closely related to clusters, networks are critically important in securing equity capital at all stages of business growth. Our research shows that personal networks dominate the process of matching companies with capital suppliers. However, companies seeking capital also use a number of other channels, and our research shows that the channel most apt to be used depends on the investment stage. As seen in the chart below, firms raising angel capital rely strongly on networking and are more likely to utilize introductions from professional services firms. The use of paid brokers is uncommon. During the process of seeking first round venture capital financing, networking continues to dominate, but more firms also use a direct approach and rely on contacts formed at venture forums and meetings.[15] In subsequent rounds, networks established in earlier rounds dominate.

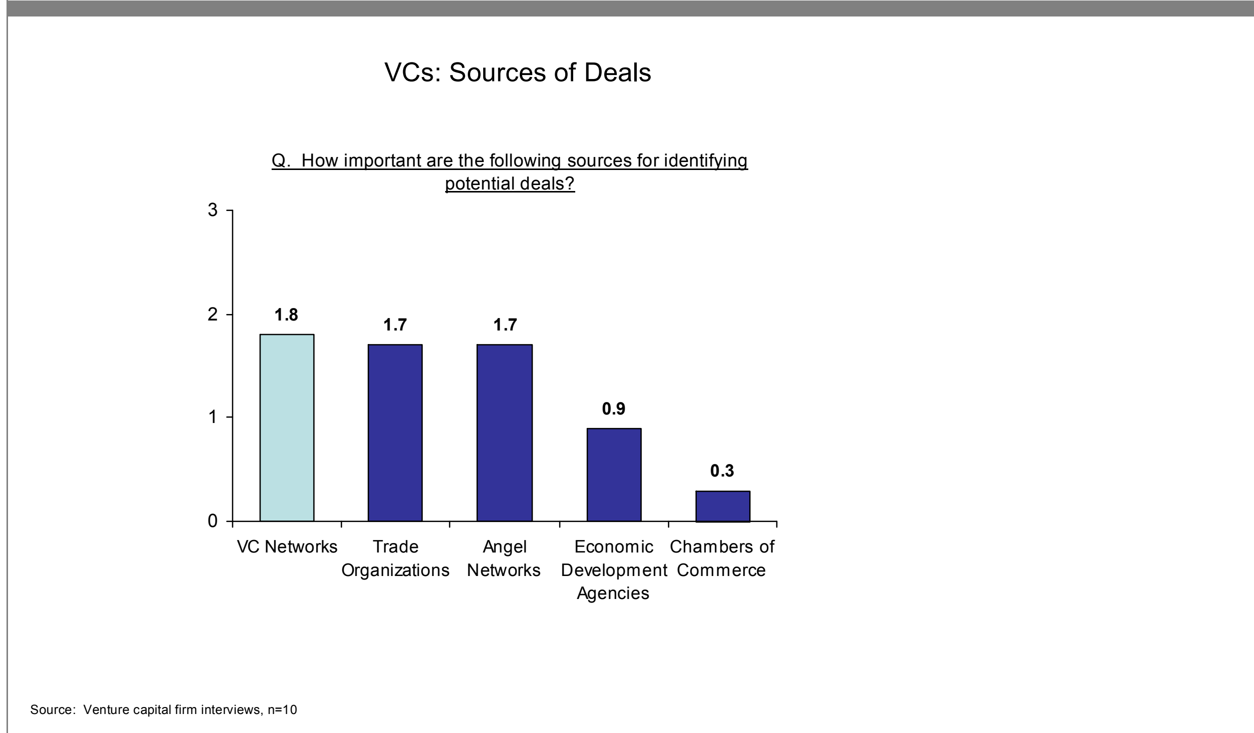
Figure 4: Percentage of Firms Using Networks When Raising Capital



The heavy reliance on personal networks exacerbates the challenges discussed above for cities that lack industry clusters. This problem persists even as online tools enable individuals to connect virtually. Locations without networks do not provide an environment that facilitates firms' search for equity capital.

When venture firms are sourcing deals, the dominant network is private groups with a strong relationship either to venture funding or to the industry being considered. These kinds of networks were considered significant in areas where they were active. Also important were networks that encourage entrepreneurs to come together, such as the MIT Enterprise Forum, and "venture accelerators," such as the Wayne Brown Institute, that play a matchmaking role and also help companies polish their plans. There was a prevailing view that organizations such as economic development agencies and chambers of commerce did not understand venture funding needs or the needs of high growth entrepreneurial firms, and therefore these did not play a significant role.

Figure 5: Importance of Outside Sources in Identifying Deals



Source: Venture capital firm interviews, n=10

Factor 2: Investor Presence

Another important factor in attracting venture capital to secondary cities is an already established investor presence. Some firms investing in secondary cities specialize in these markets. In other cases, firms investing in secondary cities are national or international firms that invest a small portion of their funds in these markets.

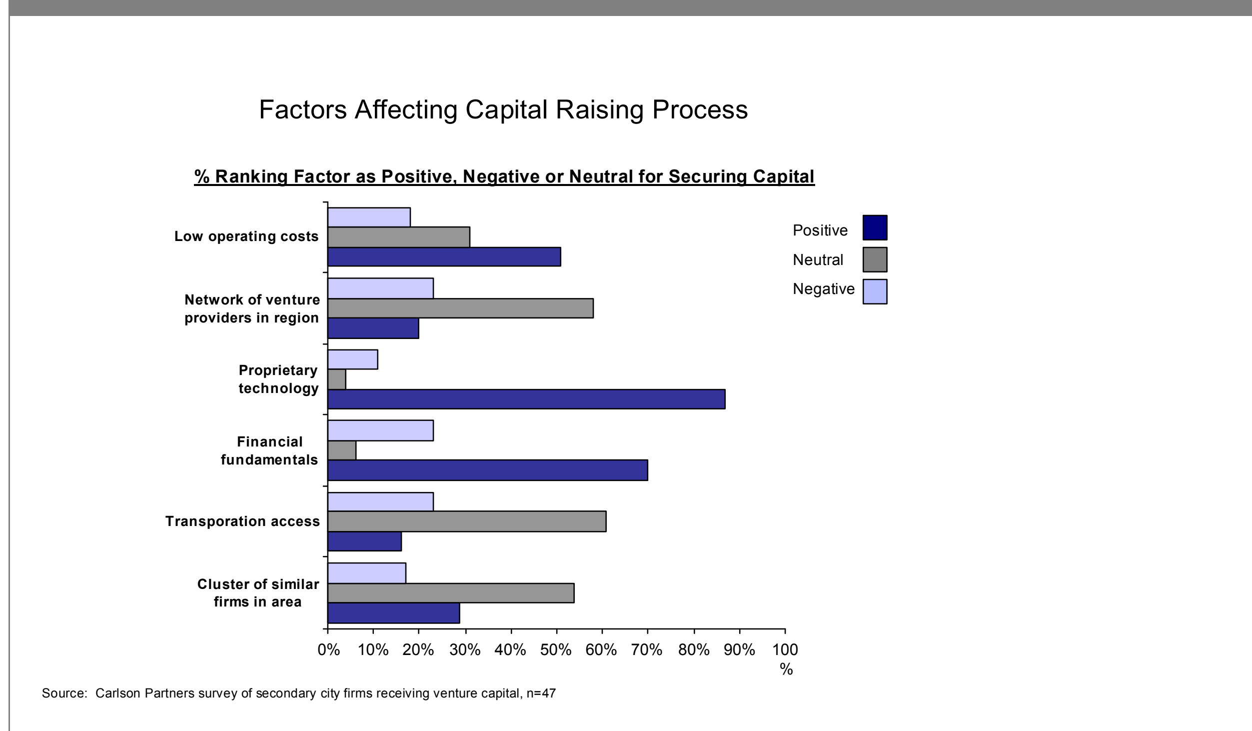
Early stage companies in secondary markets use both regional and national firms as capital sources. Regional venture capital firms choose a city in which to invest for a variety of reasons, including reputation for excellence, personal contacts, and lifestyle. They grow and thrive based on their ability to find high-quality investments with compelling returns.

There is divided opinion among companies as to whether regional or national private equity firms are better sources of capital, depending on their specific needs. Some firms believe that it is most effective to work with regional VC firms, while others believe that reaching out to more specialized national firms is more fruitful.

Because of their focus on local markets, regional venture capital firms are important players with the potential to increase investment levels in secondary cities if they can increase their scale. They have the benefit of understanding the local players well and are proactive in these markets. They are hobbled by being resource-constrained and typically having fewer relationships with other investors and potential management talent outside their markets. In the view of one national venture capital firm experienced at co-investing with regional firms,

these firms also often have less appetite for long run risk, preferring to "hit singles" versus waiting for "home runs," impairing their long run return potential.

Figure 6: Influence of Factors Affecting Capital Raising Process



Source: Carlson Partners survey of secondary city firms receiving venture capital, n=47

Managers of firms that have successfully attracted venture capital believe that the most significant advantages they had in attracting funding were the financial fundamentals of their company and their proprietary technology. Low operating costs were also considered important. In secondary cities, transportation access was considered a disadvantage, as was the lack of a strong network of venture providers.

Secondary-city firms believe that despite location disadvantages, they can thrive with persistence and by exploiting local advantages. They believe that proprietary technology and a strong business case are often sufficient for overcoming location disadvantages.

Angel investors are an important part of the funding cycle for many entrepreneurs. Angels are individuals or groups that invest their personal wealth in seed and early stage financing for companies, and often also contribute expertise. There are an estimated 300,000 to 350,000 angels in the United States, investing an estimated $30 billion annually in close to 50,000 ventures. A typical angel investment deal is an early stage investment of $100,000 to $2 million, raised from 6 to 8 investors.[16] Not every angel deal is suitable for institutional venture capital (which in comparison funded in 2005 some 3,071 deals totaling $22.6 billion with an average deal size of $7.4 million).[17]

For a typical high growth firm, continual capital infusions are necessary to bridge the gap between the entrepreneur drawing on personal resources[18] and the time when the firm can attract venture financing; angel funding can bridge this gap. Angels also provide equity funding to the large number of high growth companies that are unable to secure sufficient capital through debt sources because they lack collateral or are otherwise considered too high risk by lenders. Angel-funded deals support a significant number of deals that do not have the scale, near-term profitability, or growth dynamics to attract venture capital.

Two critical funding gaps have been identified for early stage companies: (1) a gap in the range of $100,000 to $2 million, when a company is just getting started and is typically in the process of early product development and securing intellectual property, and (2) a gap in the range of $2 million to $5 million, typically when a company is starting to build its management team and prepare to go to market. The second gap was traditionally the domain of early-stage institutional venture capital funds, but it is now being partially funded by a new hybrid of angels: the angel alliance.[19]

Angel alliances can take one of several forms, ranging from informal groups that meet to share information to formal limited liability corporations that operate much like venture capital partnerships. An overview of the three basic forms is shown below.[20] According to one industry expert, 90 percent of these groups are local.[21]

Figure 7: Types of Angel Networks

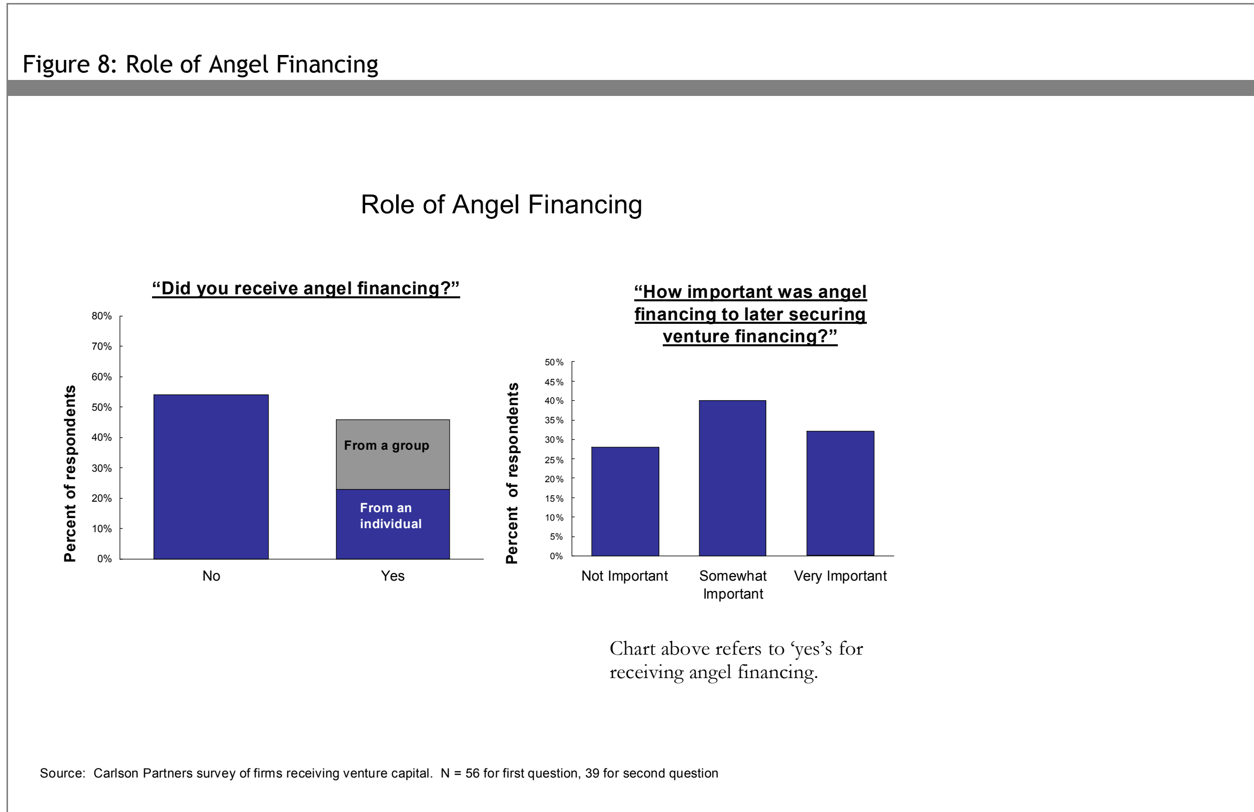
Types of Angel Networks

	Non-Profit Network	Pledge Fund	LLC
Overview	Least formal kind of fund: loose network of angels meeting regularly but investing individually.	Group of accredited investors that work together in a dues-paying group and have organized a group process for screening and attracting deals. Often share a web presence and branding. Fund negotiates common terms for capital.	Formal groups, branded and often with profess-ional management. Can operate much like a venture capital partner-ship.
Corporate Form	Usual non-profit	Varies	Limited Liability Corporation
Decision Process	Members act individually	Members opt in deal by deal	Members vote as a group

Angel funding is an important step for many secondary-city businesses that ultimately receive venture capital financing. In our survey of firms that successfully received venture

capital financing, nearly one-half (46 percent) received angel funding prior to venture capital. Of these, 72 percent considered angel financing to be somewhat or very important to their ability to later secure venture financing. Interestingly, firms that received angel capital prior to venture capital financing reported experiencing more challenges securing their first round of venture capital (this may, however, have more to do with the robustness of early stage firms that are able to secure venture capital funds without an angel-funded growth phase). Firms that received angel financing from groups reported that their experience raising venture capital funds was less challenging (8 percent rated it as very difficult) than those that raised angel financing from individuals (45 percent).

Figure 8: Role of Angel Financing



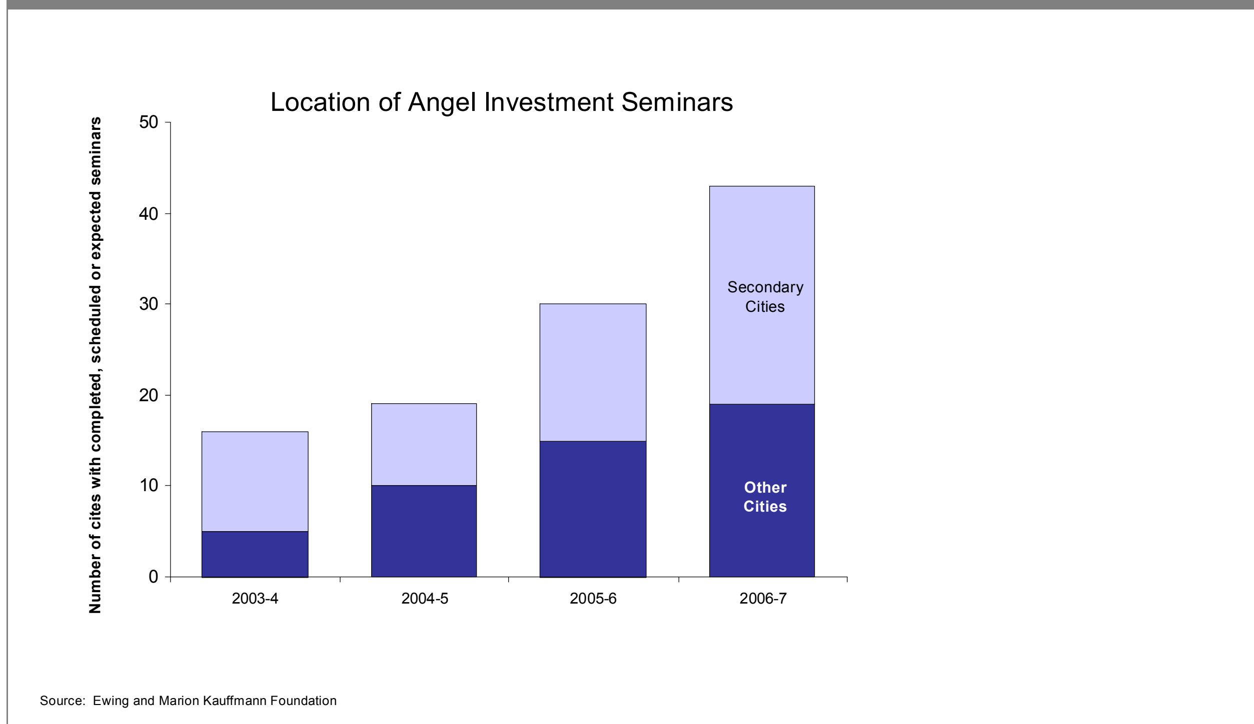
Source: Carlson Partners survey of firms receiving venture capital. N = 56 for first question, 39 for second question

Despite the importance of angels to nearly half of all secondary-city companies that ultimately received venture capital financing, there is skepticism among many of the venture capital firms that we spoke with regarding the value of angels, and there is limited acknowledgement of angels as a source for venture deals. A consistent theme from our interviews with venture capital firms was that while some angels (usually the ones that venture capitalists considered integral parts of their networks) were very strong sources for potential deals, many others were inexperienced or poorly educated, damaging potential deals by imposing unsustainable pricing or governance structures. Secondary-city companies also note challenges with angel financing, primarily getting angels to commit to funding and aligning multiple angels.

Two related entities – the Ewing Marion Kauffmann Foundation and the Angel Capital Association − have taken the lead in programmatic efforts to professionalize angels in support of entrepreneurship. Their efforts include a fellowship program for venture

capitalists as well as programs designed to educate and strengthen angel networks. Their seminar product – the Power of Angel Investing – has attracted significant and increasing interest in secondary cities (see chart below). Entities such as Rain Source Capital that organize angel investment groups and provide centralized services are also having an impact on the availability of capital in secondary cities. However, in order for these groups to be successful, a continuum of later stage capital must ultimately be available for secondary-city businesses that have the appropriate growth characteristics.

Figure 9: Location of Angel Investment Seminars by Type of City



Source: Ewing and Marion Kauffmann Foundation

Angels may also play a critical role in secondary cities that are too small or remote to attract venture capital, filling a gap left unfilled by early stage venture firms and helping to nurture businesses to a scale where they can attract the next stage of growth capital externally. Experts estimate that there is one nascent angel for every 1,000 individuals in a community,[22] implying that with training of potential angels, awareness, and networks that enable them to find each other and entrepreneurs, even smaller communities can tap into this resource.

Factor 3: Intellectual Capital and Technology Transfer

Our research found a significant correlation between the flow of venture capital into secondary cities and the number of students at national research universities.[23] It is not surprising that technology transfer can be a major engine of innovation and firm formation. This appears to happen for two reasons: First, some universities have developed technology in areas particularly relevant to entrepreneurial companies and are skilled at spinning off their intellectual capital to create economic opportunities. Second, the simple existence of a

university in a secondary city appears to foster positive cluster effects, creating networks, attracting entrepreneurs, and providing a more educated workforce that is attractive to companies and startups.

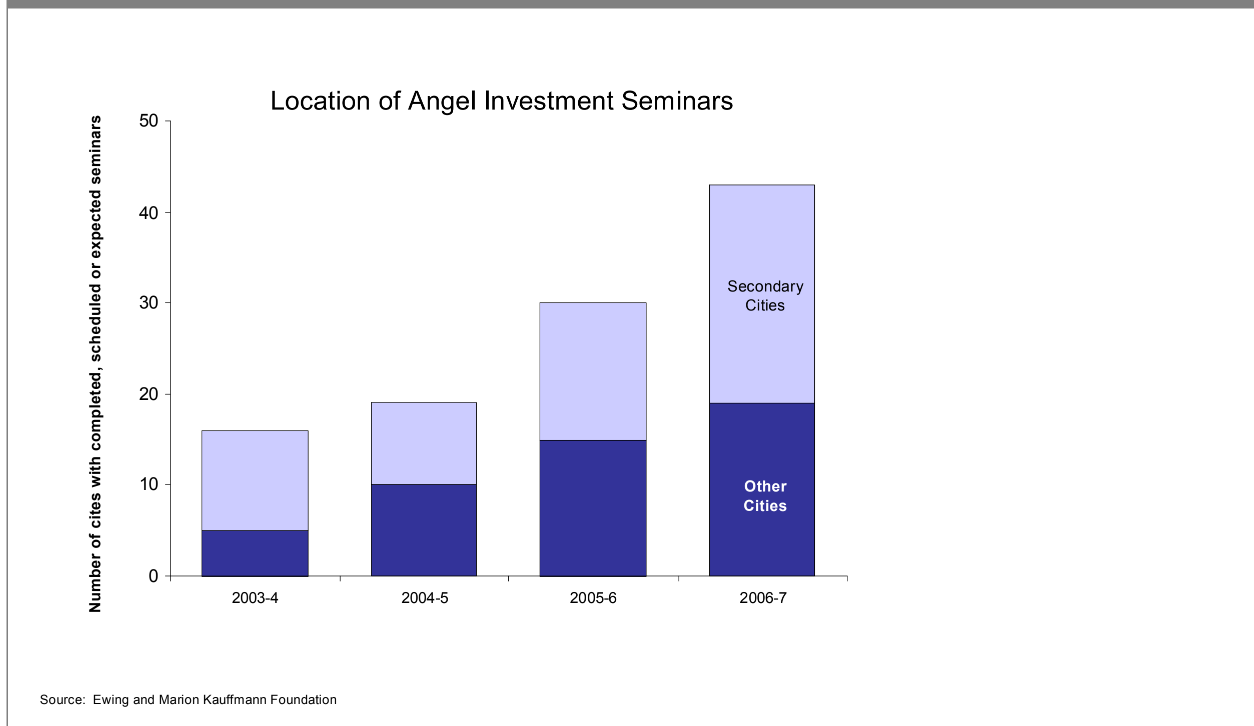
Much has been written about best practices in technology transfer so we will not explore that here. However, our interviews with venture firms did indicate that venture capital firms were more likely to invest in university communities that had some of the following factors:

- innovative approaches to licensing, including shared risk;
- a technology focus, combined with business/entrepreneurship programs; and
- a commitment to fostering both formal (e.g., licensing) and informal (e.g., meet the professor events) processes to enable innovation.

Factor 4: Accessibility

"*We have to fly over a lot of great cities to get to rural Wisconsin.*" This is the conventional wisdom of venture capitalists, particularly the national firms located on the east and west coasts. Venture capital firms dislike investing in companies in remote locations, both because of the initial difficulty of finding and vetting deals in these locations and because of the projected cost of ongoing interactions with the companies as board members and mentors. This is particularly true for early stage investments, which require more intensive involvement. Regional firms that specialize in specific geographic locations are more comfortable investing locally, but still often work with a network of national firms that need to be sold on more remote locations.

Figure 10: Location of Angel Investment Seminars by Type of City



Source: Ewing and Marion Kauffmann Foundation

Many of the venture capitalists we spoke with also noted that accessibility affects the search for management talent. It is much easier to recruit a senior management team in locations that are easily accessible.

It is no surprise that the cities that have been the most successful in attracting clusters of venture-funded companies are cities that have relatively easy transportation access from major funding centers, either by air (Boulder, Salt Lake City, Ann Arbor) or by automobile (Providence, New Haven).

Factor 5: Community Attractiveness

Our research identified a strong correlation between quality of life and the ability of communities to successfully attract venture capital investments. Of the top 10 performing cities in our study, eight were ranked well above average in Sperling's "Cities Ranked and Rated," and the top three all appeared in *Forbes'* "40 Best Cities for Singles" based on lifestyle, culture, and other amenities.

Figure 11: Overperforming Secondary Cities and Lifestyle Factor

Overperforming Secondary Cities and Lifestyle

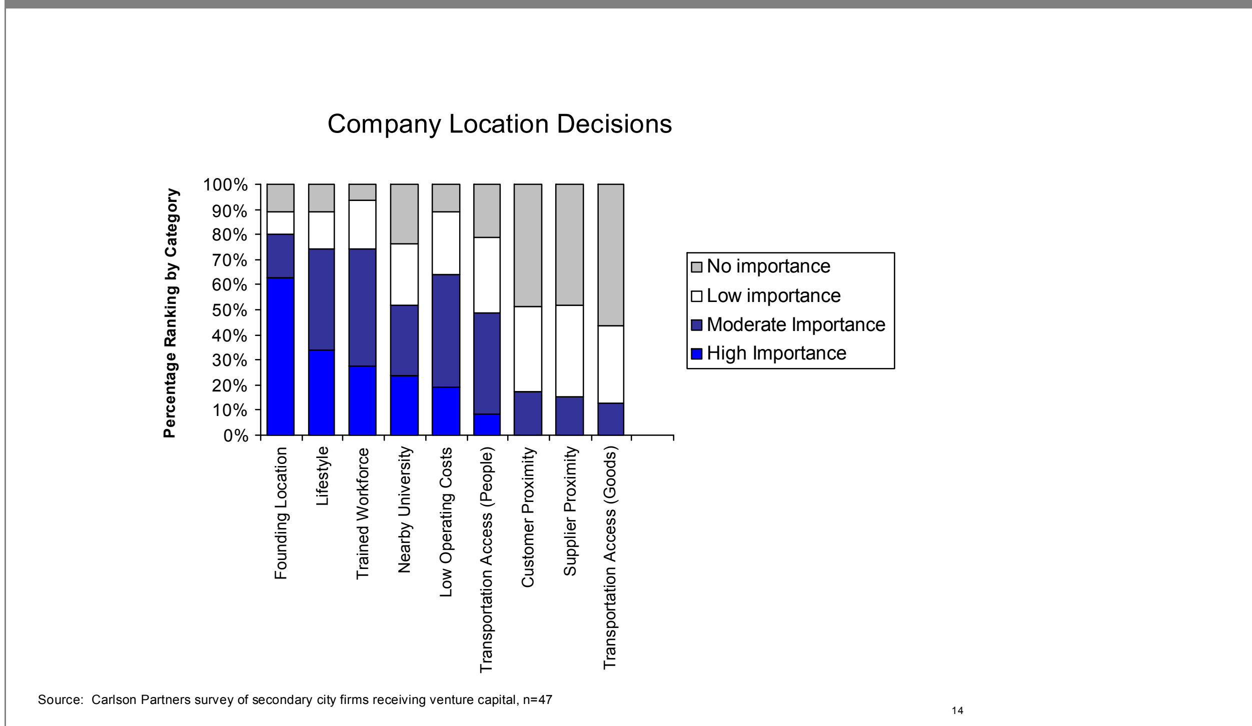
Rank	State	Notable lifestyle rankings in "Cities Ranked and Rated" (of 400+ cities), Forbes (40 Best), and CNN Money
1	Providence RI	#37 in Forbes; #137 in Cities Ranked and Rated
2	**Boulder CO**	#1 Forbes, #142 in Cities Ranked and Rated
3	Greensboro NC	#40 Forbes
4	**Santa Barbara CA**	#4 in Cities Ranked and Rated; Finalist- CNN Money Best Places
5	**Stamford CT**	#30 in Cities Ranked and Rated
6	La Crosse WI	#115 in Cities Ranked and Rated
7	Longmont CO	#142 in Cities Ranked and Rated (same area as Boulder)
8	Ames IA	Unlisted
9	**Honolulu HI**	#5 in Cities Ranked and Rated
10	Salt Lake City UT	#83 in Cities Ranked and Rated

Cities in Boldface are top 10% of Rankings

Note: Sperling's 'Cities Ranked and Rated' evaluates more than 400 Metropolitan areas in the U.S. and Canada as places for recreation, relocation, and retirement. Forbes List is 'Best 40 Cities for Singles' based on lifestyle, culture, and0 other amenities.
Overperforming Secondary Cities = Ten secondary cities receiving the highest per capita PE investment
Source: Thomson Financial, ICIC analysis

Among secondary-city firms receiving venture capital funding, quality of life ranks high as a determinant of location. It is the second most important reason (after founding location) for why these firms chose to be in their current location. Access to a trained workforce ranked third, while low operating costs was fourth.

Figure 12: Company Location Decisions by Importance of Factor



Tim Draper, an icon in the venture capital world, describes opportunities for communities seeking to improve their access to capital:

> *Governments have to compete for the great minds and capital of the world if they want their citizenry to live well. This means doing the hard political things like: Lowering taxes, eliminating regulations on business, making the law swift and just--no sympathy for nuisance lawsuits, and allowing development to progress…improve education (which is critical to building local entrepreneurship). Also, citizens have to make heroes of the successful entrepreneurs, write about them, hold them in great esteem, and encourage them to speak about their experience to other potential entrepreneurs.*

There is a clear opportunity for communities to critically examine their experience nurturing entrepreneurial companies and attracting venture capital and consider how they can invest in improving natural assets and overcoming deficits.

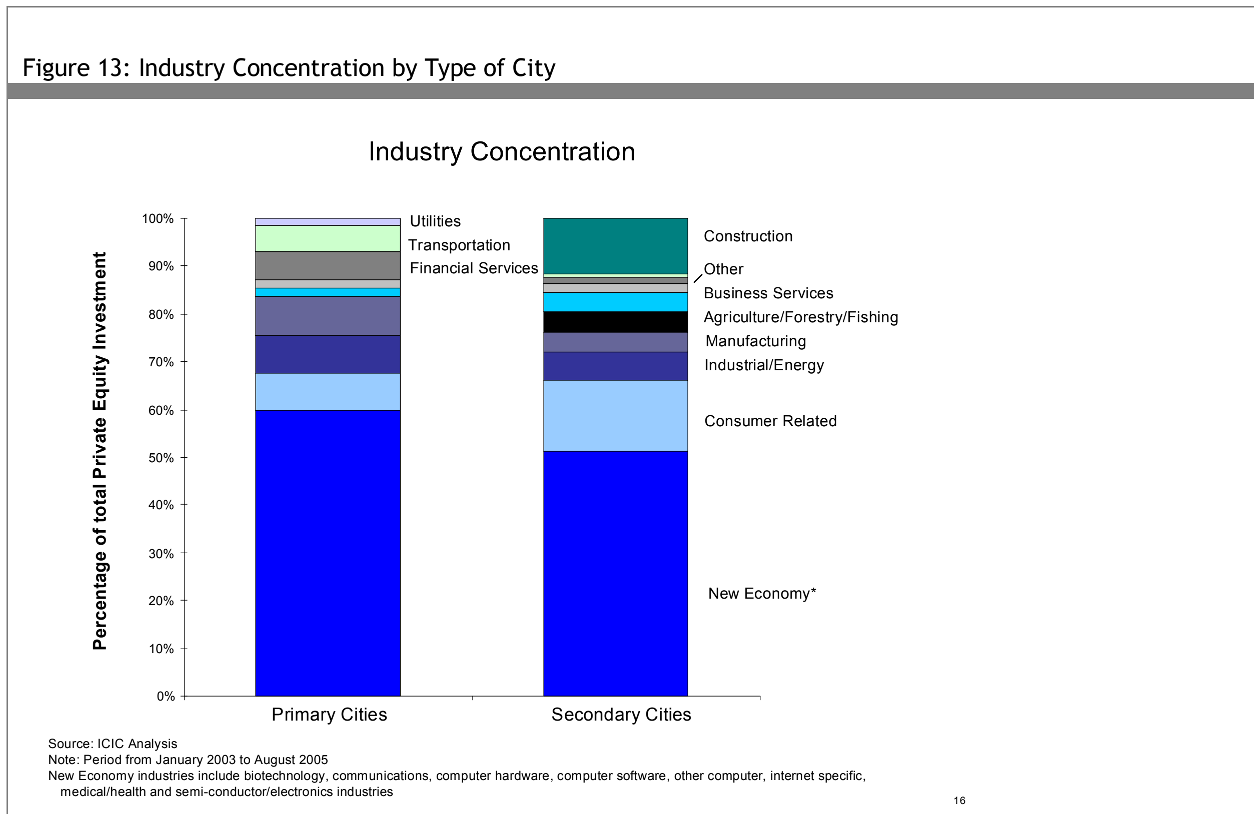
Factor 6: Historical Returns

One of the factors negatively impacting many secondary cities is a history of sub-par returns on venture capital investments in businesses in these cities. For our study period, return data are available for nine funds with a significant focus on secondary cities. Six of these nine underperformed their vintage-year and fund-focus peer groups. The average

underperformance for the overall group in IRR[24] terms was negative 6 percent.[25] This is partially explained by the prominence of early stage funds as secondary-city investors. While early stage funds made up 15 percent of all U.S. funds from 2000 to 2005, they represented 62 percent of all funds with a large investment share (33 percent or more) in secondary cities, and they represented 53 percent of all funds with a large absolute number of investments (six or more) in secondary cities. Overall, U.S. vintage 2000–2003 early stage funds had a poor track record, with an average internal rate of return of negative 7.5 percent, versus an average of plus 3.75 for all U.S. fund stages.[26]

Scale, expertise, and industry concentration also play a role. In a secondary city with less overall deal flow, there is pressure for regional venture capital firms to become generalists, contrary to the conventional approach of cherry-picking the high performing technology, biopharmaceuticals, and medical device companies that dominate U.S. venture investments.[27] This trend to a broader portfolio of investments is reflected in the more diverse industry categories funded in secondary cities, as shown in the chart below.

Figure 13: Industry Concentration by Type of City



Research by Harvard Business School Professor Josh Lerner has shown that specialist funds tend to have consistently higher returns.[28] Anecdotally, regional secondary-city funds tell us that pricing is more attractive in secondary markets because of less competition among venture capital firms, but this has not yet been demonstrated from historical return data. Not all funds focused on secondary markets were poor performers. Several funds outperformed their peer groups, suggesting that some specific firms have approaches that support strong relative financial performance in secondary markets.

The issue of returns also highlights the importance of and opportunity represented by encouraging and exploiting cluster effects in selected markets. It is no surprise that the successful funds have been located in submarkets such as Salt Lake City, where there appear to be strong positive cluster effects.

New models that are emerging might mitigate concerns about specialization while taking advantage of local expertise. For example, Village Ventures has pursued a model of seeding regional funds while providing back office expertise and support services. Draper Fisher Jurvetson has used a partnership approach, partnering with regional firms to give them branding, capital, and access to the expertise of its network in return for taking advantage of their local expertise. There also appears to be an opportunity for venture capital firms to target industries beyond the small group of sectors where they traditionally concentrate their investments. For example, CEI Community Ventures, located in Maine, has developed significant expertise in the specialty food industry. While the jury is still out on the long term performance of these initiatives (and performance data are not currently publicly available), they may help to accelerate the funds flowing to secondary markets by providing credibility and returns.

Conclusions and Recommendations

There is no "one size fits all" approach to improving capital flow to secondary cities. A city's ability to utilize levers will depend on its size and unique mix of assets and liabilities. For example, some cities and regions will always be subscale as potential locations for venture capital firms, but may still be able to encourage capital flow by organizing angel networks. Others will require long term plans to develop entrepreneurial capability and improve education/workforce development and quality of life assets in order to attract and nurture growing firms. There will also be communities that have either such significant sale barriers or so few natural assets that an economic development strategy based on encouraging entrepreneurship and attracting capital is not a productive use of resources.

The venture capital industry is too fast moving and entrepreneurial to respond effectively to traditional economic development levers. However, a number of opportunities exist for policymakers, community leaders, and foundations to participate with high-potential secondary cities to improve their positions.

Strengthen Clusters and Networks
Given our conclusions about the importance of networks and the role clusters play in firm formation and capital attraction, one high-potential opportunity involves working with groups that facilitate networking and help clusters grow and thrive. These organizations can take several forms, from groups that establish networks to promote entrepreneurial activity (like the MIT Enterprise Forum) to groups that educate entrepreneurs and introduce them to potential capital sources (like the Wayne Brown Institute and the Initiative for a Competitive Inner City's Inner City Economic Forum). Industry associations and trade groups can also play a productive role. To identify and strengthen clusters, communities may also choose to work with groups (like the Initiative for a Competitive Inner City's City Advisory Practice) that help to develop local plans to increase competitiveness and remove barriers for high-potential local business clusters.

A related opportunity comes from the importance of technology transfer in some cities. As part of an effort to identify and strengthen clusters, universities can examine their technology transfer processes to identify ways to strengthen links to the business community, especially around key clusters.

There may also be an opportunity to work with high-potential industries that are concentrated in secondary cities to assist them in cluster development and in attracting capital through initiatives such as trade shows. One idea would be to build a critical mass of companies, possibly in multiple geographies, to create a "virtual cluster" to increase attractiveness to venture investors.

Encourage a Continuum of Capital
A key observation from our research involves the importance of a continuum of equity capital, from initial angel financing through early and then later stage venture financing. Not every high-potential entrepreneurial firm needs to look to a local capital source; many secure capital from outside their regions, particularly in the later stages. However, for many firms, during the initial period when capital needs are modest, the relative transaction costs of

traveling to seek capital are high, a close capital source is required, and locally available angel capital may be critical.

An opportunity exists in many secondary cities to encourage the development of angels and the growth of angel groups. Support can take the form of training, operating support, and capital commitments. The Ewing and Marion Kauffmann Foundation has taken a lead role in educating individuals to enable them to form angel groups nationwide. Rain Source Capital has developed and is working to develop angel groups in numerous mid-sized and rural communities. Operating support and capital commitments to the funds to enable them to establish themselves more easily would facilitate formation. There is also a potential opportunity to leverage networks such as the MIT Enterprise Forum, perhaps utilizing web-based networking and education programs for remote locations, to bring angels together and educate potential individual angel investors.

Increased support for clusters and networks and improved technology transfer from universities will also support the formation and operation of regional venture capital firms, an important funding source for secondary cities.

Increase Investment Levels

One significant opportunity for foundations as well as states is to use their pension plans is to increase the flow of capital to secondary cities by directing additional investment to venture capital and private equity firms that are targeting secondary cities.

Also warranting further exploration are public policy alternatives such as favorable tax treatment for these kinds of investments.

Enhance Community Attractiveness and Accessibility

Local communities can have a positive impact on the attractiveness of their locations in many ways, including:

- improve the quality of education overall
- facilitate workforce training
- improve quantity and quality of local amenities
- reduce government regulation to reduce operating costs
- support initiatives to improve the entrepreneurial environment, e.g., local venture groups, collaboration with universities

Improving transportation access is also a potential opportunity for a limited number of communities. They may be able to collaborate with transportation policymakers to improve accessibility in general and in particular to encourage more direct flights from capital-market cities.

Appendix 1: City Definition

Secondary Cities (222) Outside the 40 Largest Metro Areas, pop. 700-700,000

Examples:
Jacksonville, FL
Oklahoma City, OK
Tucson, AZ
Alburquerque, NM
Tulsa, OK
Honolulu, HI
Colorado Springs, CO
Wichita, KS
Buffalo, NY
Raleigh, NC
Bakersfield, CA
Birmingham, AL
Lincoln, NE
Greensboro, NC
Rochester, NY
Akron, OH
Madison, WI
Des Moines, IA
Mobile, AL
Grand Rapids, MI
Ann Arbor, MI
Kalamazoo, MI
Santa Barbara, CA
(and 200 others)

Primary Cities (504) – Located in the 40 Largest Metro Areas
New York-Northern New Jersey-Long Island, NY-NJ-PA
Los Angeles-Long Beach-Santa Ana, CA
Chicago-Naperville-Joliet, IL-IN-WI
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Dallas-Fort Worth-Arlington, TX
Miami-Fort Lauderdale-Miami Beach, FL
Washington-Arlington-Alexandria, DC-VA-MD-WV
Houston-Baytown-Sugar Land, TX
Detroit-Warren-Livonia, MI
Boston-Cambridge-Quincy, MA-NH
Atlanta-Sandy Springs-Marietta, GA
San Francisco-Oakland-Fremont, CA
Riverside-San Bernardino-Ontario, CA
Phoenix-Mesa-Scottsdale, AZ
Seattle-Tacoma-Bellevue, WA
Minneapolis-St. Paul-Bloomington, MN-WI
San Diego-Carlsbad-San Marcos, CA
St. Louis, MO-IL

Baltimore-Towson, MD
Pittsburgh, PA
Tampa-St. Petersburg-Clearwater, FL
Denver-Aurora, CO
Cleveland-Elyria-Mentor, OH
Cincinnati-Middletown, OH-KY-IN
Portland-Vancouver-Beaverton, OR-WA
Kansas City, MO-KS
Sacramento--Arden-Arcade--Roseville, CA
San Jose-Sunnyvale-Santa Clara, CA
San Antonio, TX
Orlando, FL
Columbus, OH
Virginia Beach-Norfolk-Newport News, VA-NC
Indianapolis, IN
Milwaukee-Waukesha-West Allis, WI
Las Vegas-Paradise, NV
Charlotte-Gastonia-Concord, NC-SC
New Orleans-Metairie-Kenner, LA
Nashville-Davidson--Murfreesboro, TN
Austin-Round Rock, TX
Memphis, TN-MS-AR

Endnotes

[1] Global Insight, *Venture Impact 2004.*
[2] Here, private equity refers to both venture capital (early through expansion stage venture capital) and non-venture private equity such as buyout, leveraged recapitalizations, and other later stage private financing. While this paper focuses primarily on venture capital, data on secondary city investment include both categories of private equity capital. Angel capital refers to individuals or groups investing personal wealth in early stage ventures.
[3] Price Waterhouse Coopers and National Venture Capital Association, Moneytree Report Q2 2006 results.
[4] Ibid.
[5] See note 2 for the definition of private equity capital used here.
[6] Price Waterhouse Coopers and National Venture Capital Association, Moneytree Report Q2 2006 Results, and National Venture Capital Association Yearbook, 2006
[7] Global Insight, *Venture Impact 2004*.
[8] Gompers and Lerner, *The Money of Invention*, Harvard Business School Press, 2001.
[9] Wirtz, Ron. "Fairy Tales and Venture Capital," *FedGazette*, Federal Reserve Bank of Minneapolis, July 2001.
[10] McDaniel, K. "Venturing into Rural America," *The Main Street Economist,* Federal Reserve Bank of Kansas City, November 2002.
[11] Julia Sass Rubin. "Community Development Venture Capital: A Double-Bottom Line Approach to Poverty Alleviation." Paper presented at Changing Financial Markets and

Community Development conference, Washington, D.C.: Federal Reserve April 4-6, 2001, pp. 121-154.
[12] For example, Ann Arbor, MI, Jacksonville, FL, and Tuscon, AZ. For a complete list, see Appendix 1.
[13] Cortright, Joseph. *Marking Sense of Clusters: Regional Competitiveness and Economic Development*. The Brookings Institute, March 2006.
[14] The United States as a whole has 30 percent of its total employment in "traded" clusters, while secondary cities have 27 percent. Traded clusters are those clusters that export outside a region, have higher wages and productivity, and so may be more likely to receive venture capital investment. This implies that it is performance in a specific cluster, rather than broad-based presence across all traded clusters, that creates the difference in attracting investment.
[15] These finding are somewhat at odds with what we learned in interviews with venture capital investors, who told us that while they receive many direct applications, very few of them are funded. Venture capital firms are adamant that personal referrals are the dominant source of introductions.
[16] Sohl and Sommer, 2002, cited in Sohl, *The Private Equity Market in the USA: Lessons From Volatility,* 2002.
[17] PWC/Moneytree.
[18] Personal resources includes personal wealth, personally secured debt, and funds raised from friends and family.
[19] Sohl, *The Private Equity Market in the USA: Lessons From Volatility,* 2002.
[20] Based on interview with John May, Angel Capital Association.
[21] Ibid.
[22] Marianne Hudson, Ewing and Marion Kauffmann Foundation, telephone interview.
[23] The correlation analysis used the number of full time students as a proxy for the size of the university.
[24] Internal rate of return (IRR) is the most commonly used benchmark for tracking fund performance. It is the discount rate for a series of cash flows that returns a net present value of zero.
[25] Third party performance statistics were available for only a small number of active secondary city investors, making it difficult to draw general conclusions about the group as a whole.

[26] Based on analysis of Private Equity Intelligence data.
[27] Price Waterhouse Coopers and National Venture Capital Association, Moneytree Report Q2 2006 Results.
[28] Lerner, Josh, *Venture Capital and Private Equity – Boom or Bust?* Presentation at the Harvard Business School, 2005.