Seed and Venture Capital Formulation:
Essential to High-Tech Business Job Growth

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Summary

Wisconsin's economy and enviable quality of life are at risk due to the state's modest level of participation in the "new economy." At the heart of the issue is the employment question. Will more of Wisconsin's jobs be in the higher paying technology sectors going forward or will a disproportionate amount of our employment remain in more traditional manufacturing, agriculture, and tourism sectors, causing a disproportionate number of our state's college graduates to leave the state for better prospects elsewhere?

The ambition of Wisconsin's public and private sectors are clear on this issue. Wisconsin has long been a leader in business, education and government and can point to a long history of initiatives and accomplishments. This tradition of excellence plus numerous initiatives underway strongly suggest that Wisconsin is committed to making the investments necessary to transition to a higher technology economy.

The ability to generate and sustain high technology companies and employment is dependent on three general factors: equity investment capacity, human resources and a supply of technologies and business ideas. Investment capacity is clearly the one key area where Wisconsin suffers from comparative disadvantage versus other states in the Midwest and elsewhere. In a more general sense, Wisconsin's aversion to the risk of high technology startup companies is also a crucial issue. Reassuringly, most concur that Wisconsin's supply of technologies and business ideas is a strength to build on. The overall data describing the level of venture investing in high technology companies in the U.S. and Wisconsin is discussed throughout this paper. It is a revealing and compelling story signaling Wisconsin's need to pick up the pace.

There have been recent initiatives by the state to generate a greater level of state venture capital buying power. Examples are SWIB's commitment and the recent CAPCO legislation. As profound as these steps are, much remains to be accomplished. This paper will explore the importance of early stage investment capacity, particularly angel investing, for high technology start-up companies.

A separate white paper authored by John Byrnes called Improving Wisconsin's Performance in Attracting Venture Investor Attention & Action will emphasize venture capital availability.

Introduction

Startup companies create millions of jobs each year. It is estimated that the approximately 80 percent of those jobs are created by five percent of all startups. The remaining 95 percent remain relatively constant in size and employment. High-tech businesses make up approximately 40 to 50 percent of the five percent of startups that create economic growth. Additionally, the remainder of that five percent *use and benefit from* the technology created by the high tech startups. Consequently, in the U.S., there have been numerous regional efforts to create an environment that encourages and facilitates a significant level of successful entrepreneurial activity, particularly in high-tech sectors. On a large financial scale, venture capital and other forms of startup investments represent a small percentage of total investments. However, these investments are the most important sources of financing for high-tech startups, and therefore critical to developing a successful high-tech startup community and a strong employment picture. One of the most significant barriers to the high-tech growth in many states, including Wisconsin, has been a lack of availability of early-stage capital for startups. The purpose of this paper is the following:

1) Demonstrate the positive effects a successful, entrepreneurial high-tech business community can have on a local economy.
2) Describe the value early-stage capital has in developing high-tech business communities.
3) Define the potential sources of early-stage capital and the rates at which they are made available to startups.
4) Describe Wisconsin's place nationally in terms of high-tech startups and the availability of early-stage capital.
5) Offer action steps Wisconsin can take to increase the availability of early-stage capital for local, high-tech startups.

High-Tech Growth: Direct Economic Impact

The U.S. experienced remarkable regional differences in economic growth in the 90's. A majority of these differences is due to high-tech job growth. Two thirds of the total economic growth differences among metropolitan areas in the U.S. during the 90's could be attributed to two factors: an area's relative growth of high-tech output, and an area's concentration of high-tech activity.[1] This is even more substantial when considering the fact that high-tech industries account for only 11 percent of the nation's economic output.[2] It is important to keep in mind that this direct impact is not limited to the growth of companies that create the technology, but also those that employ or apply the high technology. The level of growth due to high technology is unique. Additionally, it appears the gap between the high-tech haves and have-nots is widening. In the 80's, high-tech performance was responsible for only 1/3 of the variation in economic performance among metropolitan areas versus 2/3 in the 90's. [3] A thriving high tech startup community leads to better, higher paying jobs that attract and retain a skilled and educated workforce.[4] [5]

High-Tech Growth: Indirect Economic Impacts

Regions with strong high-tech business communities will become strong in other sectors, for a number of reasons. As high-tech startups grow, their need for many types of services, such as consultants, accountants, attorneys, and high tech service companies grows. Like the high-tech companies they support, these service providers also attract a more educated work force that demands higher wages. As a result, there is a larger pool of workers with higher amounts of disposable income. This growth in high-tech jobs and the industries that serve them, helps a region retain and attract a more skilled, educated labor pool, thus leading to a "brain-gain," which is the opposite of the "brain-drain" so widely cited in papers discussing Wisconsin's labor force in the 90's.[67] Finally, high tech companies tend to create more high tech companies. There are numerous examples in places like Washington, the Silicon Valley, and Austin, Texas in which cashed out high tech workers are playing active roles in local economic stimulation by either creating or investing in new high tech startups.

Job growth and economic stimulation in many regions are credited to high-tech industries. Much of the credit for California's recovery from its recession of the 90's went to high tech businesses, many of which were startups.[89] In addition, the economic growth, job creation, and brain gain in Austin, Texas are largely credited to the growth of high tech businesses in that region.[10] There are numerous similar examples in the U.S. economy and they all point in the same direction. A major change has taken place in the '90s. In this "new economy," more than any time in recent history, the most effective way to stimulate economic growth and the creation of quality jobs regionally is to create an environment that facilitates the origination, growth, and success of high-tech businesses.

The Power of Seed and Early-Stage Capital

The estimate of businesses started each year in the U.S. varies widely, but is generally estimated at 800,000 to 1 million. These businesses vary significantly in purpose, target market, and type of technology. Also, while they all share a need for seed capital, the barriers they face in obtaining financing are different. Roughly 95 percent of startups serve mainly as a substitute for another form of income for the entrepreneur and do not create significant job and economic growth. For these types of startups, family, friend, and founder financing is by far the most common, and is generally sufficient to get them up and running. However, for the high-tech startups that drive economic growth, the seed capital needs are more substantial because product, technology, and infrastructure development are more expensive. As a result, these funds are more difficult to obtain. The supply of this form of capital varies significantly among regions, and a shortage of this type of financing impairs a region's economic growth.

A strong early-stage capital infrastructure is critical to the development of a successful regional high-tech entrepreneurial community.[11] For example, early stage venture capital has played a large role in creating, developing, and growing Silicon Valley's successful high-tech entrepreneurial community.[12] And, in turn, Silicon Valley's success has created more venture capital. This amplifies the importance of stimulating successful

high tech businesses, not only because of the growth they create, but because they will attract additional funding capacity which leads to more entrepreneurial growth.

In the Midwest, the lack of early-stage funds is often a barrier. In Illinois, the number one problem cited by technology driven startups was a lack of available seed capital.[13] In Chicago, traditionally a financial and economic powerhouse, the lack of early stage capital has been sited as the cause for the westward migration of the eventual founders of Netscape and Oracle.[14] In Wisconsin, there is a clear lack of funding for high tech startups, and the evidence shows that this is a cause for the state's struggles in adjusting to the new economy.[1516]

Sources of Early-Stage Capital

There are many sources for early-stage capital. The following are the most relevant:

1. Founders, Families, and Friends
2. Angel Investors
3. SBIR Grants
4. SBA Loans
5. State-funded Venture Capital
6. Venture Capital Investors
7. Banks

It is a given that founders, families, and friends are the largest source of initial seed investments for startups.[17] These funds are most often used to fund non high-tech startups and would rarely provide adequate financing for a high tech firm.

Often the divide between later stage venture capital investors and great ideas is the lack of quality seed capital. Seed capital investors benefit high tech companies by offering them two things. One is a supply of initial funding needed to prove their technological concept. The other is to help the companies make the necessary improvements as organizations so they are ready to be successfully presented to venture capitalists.

Angel Investors

Angel investors are individuals, often with considerable wealth, who invest their personal capital in new and existing firms in return for equity.[18] A majority of angel investments are high-risk, early stage entrepreneurial ventures.[1920] A typical angel is an accredited investor, meaning he/she has a liquid net worth greater than $1 million and/or an annual income of at least $200,000 ($300,000 if married). They are often self-made entrepreneurs who prefer to invest anonymously, locally, and in an area of personal expertise.[21] Most angels invest for the long-term.[22] Aside from the obvious financial incentives, angels are frequently motivated by the excitement of contributing years of experience to a growing venture as well as local and social considerations such as job creation or assisting racial or gender minorities. [23] The average angel investment is between $25,000 and $2 million.[24] There are roughly 400,000 active angel investors nationally investing $30 to $40 billion in more than 50,000 startups each year.[25]

Currently, angel investors are the top source of outside financing for entrepreneurial, high-growth startups, especially in the early stages.[26] Because of the relatively small size of angel investments and the fact that they are the only investors who invest primarily in early-stage, high-growth startups, angel investors help ease the "equity gap."[27] The equity gap is the difference between the smaller size investments that seed stage companies need and the minimum investments that venture capitalists or investment banks are willing to make. Sixty percent of all angel investments are early-stage.[28] Additionally, angels provide 84 percent of the early-stage investments under $250,000 and 58 percent of those between $250,000 and $500,000.[29] It is frequently said that venture capital firms will follow the "smart money." Angels can provide this so-called "smart money." By making investments that prove technological concepts and by helping startups improve the strength of their organizations, angels can serve as a bridge to venture capital firms for those startups that need further, larger rounds of financing.

A growing number of angels are beginning to start clubs of varying formality, with some clubs investing as a group, while others allow members to invest in deals individually. Such groups enable angels to call on a greater depth of contacts and expertise, participate in larger deals and later rounds, increase the level of deal flow, and quickly raise an investment's equity requirements without any one investor taking on a significant risk.[30] A number of such groups have formed in Wisconsin, and it is believed that the state has the necessary investment capacity for these groups to grow and have a larger impact.

One of the difficulties of the angel market is that angels prefer to remain anonymous to avoid unwanted solicitations, making it difficult and expensive for angels and entrepreneurs to find each other. Various Internet sites and other activities are at work to help overcome these issues. Another problem is that entrepreneurs are not aware of angel investors as an option, or they view them as a last resort and therefore do not vigorously pursue them.[31]

Small Business Administration (SBA) Loans

SBA loans are loans provided to businesses unable to secure financing on reasonable terms through normal lending channels. The program operates through private-sector lenders that provide loans that are, in turn, guaranteed by the SBA. The maximum SBA guarantee is 75 percent of a loan or a total of $750,000. Approximately $10 billion in SBA Loans have been granted annually, growing to $11.2 billion in 1999. However, only a very small number are granted to high-tech firms because of their risk profile.

Small Business Innovation Research ("SBIR") Grants

The SBIR program is a three-phased R&D funding program that seeks to develop technology for federal use and spur the commercialization of technology from federally sponsored research.

Approximately $1.2 billion in SBIR grants are provided to 9,000 startup companies annually.[32] These grants are worth up to $100,000 in Phase 1 and up to $750,000 in Phase II. The first two phases generally last as long as two and one half years, with the goal of determining the technical feasibility of a research-based idea and then advancing

the idea to a proof of concept prototype.[33] Phase II also begins to take the commercial potential of the project into consideration. Phase III grants are possible on the rare occasion that a government agency is a customer.

SBIR grants have a clear value for high tech startups as they are focused solely on small, high-tech firms. However, the pool of $1.2 billion for SBIRs is still relatively small, and therefore the impact they can provide is limited, and the process may be slower than a competitive market may permit in the faster paced world of technology.

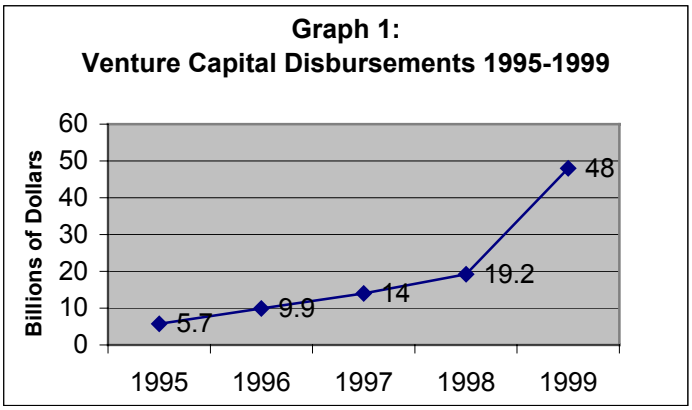
State Funded Venture Capital

In 1999, $2 to $4 billion of equity financing was provided to startups by public small business financing programs in the U.S. The bulk of this money went to early stage firms.[34] These smaller funds are generally focused on companies that will improve the local economy.[35] However, there are some limitations on the effects of state funded venture money. First, these funds often struggle to generate private funds for current or later rounds. Second, the number of publicly funded investments is still small and therefore, has a limited impact. Finally, research has not been conclusive as to the effectiveness of publicly funded venture capital. Critics question why the government should invest in businesses that the market has rejected, pointing to research showing that private venture capital funded IPOs outperform those that were not privately funded.[36]

Venture Capital

Private venture capital funds are professionally managed, and have risk-equity capital invested primarily in innovative and/or rapidly expanding enterprises.[37] The predominant form of venture capital funds is limited partnerships.[38] Along with providing funds by purchasing equity securities, these funds also add value by actively participating in the development of the company.[39] Venture capital funds can be general or specialized in their investment approach, with focuses such as geography, stage of development and market or technology sector. The amount of equity they seek also varies depending on the company's valuation and the strength of the fund's negotiating position. Venture capital funds usually seek to exit the business within three to seven years, generally through an acquisition, merger, or IPO.[40]

In the past five years, the number of venture capital deals and the amount invested have skyrocketed. In 1999, a record $48 billion in venture capital investments were made.[41] Graph 1 below shows the spectacular growth of the past five years.



Source: National Venture Capital Association Yearbook 2000

Much of the growth in venture capital has been driven by investments in technology, with over 85 percent of venture capital investments made in high technology related businesses.[42]

A majority of the venture capital investments are made on the coasts, leaving a smaller piece of the investment pie for startups in the Midwest. In fact, over 85 percent of venture capital disbursements are made in coastal states. Table 1 breaks down venture capital investments by region.

Table 1:
Venture Capital Disbursements By Region
(Millions of Dollars)

Region	1995	1996	1997	1998	1999
Northern California	1,735	3,080	3,978	5,345	16,594
Northeast	977	1,821	2,918	4,103	9,634
Southern California	647	781	1,296	1,931	4,070
Mid-Atlantic	383	946	1,231	1,430	4,015
Southeast	638	1,108	1,275	1,438	3,647
Midwest	594	738	1,341	1,851	2,983
Southwest	370	654	981	1,402	2,909
Rocky Mountain	143	390	444	856	2,015
Northwest	220	388	435	647	2,005

Source: NVCA Annual Report 2000

An important factor regarding venture capital investments is the proportion of these investments that are seed or early stage investments. Table 3 below shows the growth of early stage investments in relation to the growth of other stages.

Table 2:
Venture Capital Disbursements By Stage 1995-1999
(Billions of Dollars)

Stage	1995	1996	1997	1998	1999
Early	2.17	3.15	3.5	5.28	10.78
Expansion	1.98	3.62	6.02	7.98	26.39
Later	.98	2.12	2.8	3.66	8.76
Buyout	.59	1.06	1.72	2.29	2.11

Source: NVCA Annual Report 2000

Clearly, the amount of money for early stage investments has increased significantly, though not proportionately to the expansion stage increase. The news is particularly good for high-tech startups, as many venture capital firms are showing an increasing willingness to invest in technology-related firms.[43] However, there is also some bad news, particularly for startups needing smaller seed investments. In 1999, the average size of the deals has increased from $5.2 million to $8.9 million.[44] The increasing size of these investments accentuates the equity gap described above. Obviously, filling this gap will increase a region's level of later stage venture capital investments and eventually high-tech growth.

Banks

Many startup companies seek standard bank loans, which banks will provide based on their belief in the business's ability to generate the necessary cash flows to provide them their return on investment. The number of startups that receive early-stage financing from banks is low. A 1994 study found that 69 percent of high-tech firms sought financing through bank loans, but only 7 percent actually received loans.[45] This is primarily because banks are seeking lower risk investments and early-stage startups generally lack the track record, liquidity, collateral and steady cash flows important to banks.[46]

Wisconsin's Position

Throughout the 1990's, Wisconsin's economy has generally been viewed favorably. However, there are dangers on the horizon. The state currently has a number of symptoms that are common to states not currently strong in developing high technology companies or jobs. Wisconsin's average technology worker's wage is $41,000, well below the national average of $58,000.[47] Additionally, the state is experiencing a significant "brain-drain." Only 23 percent of Wisconsinites over 25 have college degrees, which is below the national average of 24 percent and even further below the 31 and 26 percent averages in Minnesota and Illinois respectively.[48] Finally, Wisconsin ranked 32nd in a study by the Progressive Policy Institute which ranked states by their proficiency in the new economy.[49] Among the causes for this low ranking were poor performances in creating high tech jobs. Another leading cause was Wisconsin's

inability to generate sufficient venture capital for high tech startups, where the state ranked 27th. Wisconsin's poor performance in generating venture capital is further quantified by the following table, which compares the state's performance to those of other states:

Table 3:
Venture Capital Disbursements By State 1995-1999
(Millions of Dollars)

State	1995	1996	1997	1998	1999
Wisconsin	10.3	12.4	74.5	25.4	274.3
Illinois	170.3	310.1	409.3	445.1	897.2
Indiana	7.9	54.2	33.7	34.1	23.9
Iowa	2.1	5.8	14.5	33.5	1.6
Michigan	41.2	70.0	122.9	156.6	302.3
Minnesota	149.4	95.0	246.1	641.3	500.2
Ohio	75.1	136.4	257.8	285.7	404.1
Colorado	133.3	328.1	361.4	704.7	1739.2
North Carolina	189.2	192.6	218.7	283.6	813.5
Pennsylvania	156.7	364.7	748.6	399.8	1,094.8

Source: NVCA Annual Report 2000

Wisconsin is also lagging in its level of seed investments. The state ranks 25th in SBIRs awarded, and rates in the middle to lower end of states receiving early stage venture capital investments.[50]

Wisconsin is a state that is highly regarded for its university based technology research and innovation, and its high quality of life, both of which are strong factors for developing thriving high-tech startup communities.[51] Therefore, we can conclude that one of the most significant barriers Wisconsin currently faces in becoming a leader in developing high technology businesses and jobs is its lack of seed and early stage capital.

Action Steps

The following steps should be taken to stimulate growth in Wisconsin's level of seed and early stage capital for high-tech startups:

Develop Regional Angel Networks: National data and examples prove that angel investors can fill a significant portion of the seed investment gap for Wisconsin's technology start-up companies. The level of interest in angel networks and their investing capacity is rapidly expanding. Therefore action must be taken to further develop angel investing networks for each region of the state for the purpose of working with and investing in high technology start up companies, especially in the earliest stages of their formation. This strategy can be implemented by using techniques that are already being successfully implemented in a limited number of locations in Wisconsin and neighboring states. The following steps should be taken:

- Identify a core group of interested angel investors and a lead individual in each section of the state.

- Assist the new angel network process through various organizational and functional steps of angel investing. This can be accomplished with the support of the Department of Commerce, the newly formed Technology and Entrepreneurs Council, and volunteer advisors from existing angel networks.
- Conduct seminars or training programs to solidify the interaction of network members and provide the necessary tools for success.

Current activities would suggest this overall strategy can be implemented during calendar year 2001.

Create Tax Incentives For Angel Investment: Tax credit incentives are widely used to facilitate investment in high technology company formation and employment. The mechanisms of the tax incentives vary widely, sometimes focusing on employee training and employment issues, sometimes focusing on investment capacity for startup companies.

Wisconsin has been a leader in the use of tax credit incented investment capacity for high technology start up companies via the CAPCO legislation.

A similar form of tax credit incented investment in startup high technology companies in Wisconsin should be enacted for angel investors.

- The Department of Commerce, working with Industry, various investment angel networks, and other sections of state government should lead an educational effort with the legislature to introduce and pass a state tax credit program for angel investors who now invest in high technology companies in Wisconsin.

Develop a Plan for Statewide Business Incubators: New business incubators are a proven mechanism for accelerating the formation of new technology companies and improving their success. Both Madison and Milwaukee have had good success with incubators and other important incubator locations exist in the state. Numerous incubator models exist in other states, such as the Austin Technology Incubator. However, there is a wide variety of incubator models, some of which have not proven successful. Therefore, it is important that new incubator needs receive careful planning. The following are the steps that should be taken:

- Identify the regions of the state that have the capacity to initiate and benefit from new company incubators.
- Follow with the necessary feasibility and evaluation activities to insure that the various support activities can be financed and implemented on a scale necessary to provide a realistic level of effort and success. Obviously, implementation should occur after this period of "proving up."

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