NASVF

FOSTERING INNOVATION CAPITAL

Seed and Venture Capital

State Experiences and Options

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National Association of Seed and Venture Funds – *Fostering Innovation Capital*

The National Association of Seed and Venture Funds (NASVF) is a national non-profit organization committed to building local economies through investment and facilitation of investment in entrepreneurial ventures.

Fostering Innovation Capital

Innovation capital—the funding, knowledge, relationships, and influence needed to develop and commercialize innovative technologies and ventures—is vital to a healthy, growing knowledge-based economy. Through its conferences and seminars, research, publications and influential network, NASVF fosters innovation capital for local entrepreneurs, companies and economies.

Seed investors, including angels, need proven tools to help optimize their investment dollars. Entrepreneurs seeking ways to compete successfully need the knowledge and an expanded network of professional and financial relationships. Service companies working in these spaces need a steady flow of new business creation. State governments seeking to increase high quality deal flow need to expand and strengthen relationships with local investors, regional investors, and business developers.

NASVF provides tools to meet these needs. We partner with those who invest or support investment in entrepreneurs—locally, nationally, and internationally. Together, we seek out and share the best practices for combining early stage capital and intellectual property to create successful businesses.

Events

The Association's most prominent event is its Annual Conference. Each year, members and invited guests share knowledge about the seed and venture capital industry and discuss optimal strategies for building early stage investment programs and institutions.

NASVF has also designed seminars to provide critical training in technology entrepreneurial development. The investor-focused ***"Seed Investing as a Team Sport"*** and the entrepreneur-focused ***"Swing for the Fences"*** are demanding, one-day seminars that de-mystify the early stage investment process and help catalyze seed investment.

Publications and Research

The Association publishes a weekly electronic newsletter—***NetNews***—that captures leading edge innovation capital trends and practices. NASVF ***NetNews*** reaches more than 5,000 leaders in innovation capital. The Association also produces white papers and formal analyses of best practices in early stage investing.

Membership Information

When accepted as an NASVF member, individuals and organizations are recognized as leaders in innovation capital. They gain exposure to the nation's largest network of seed- and early-stage investment professionals. Members receive event invitations and discounts; access to a variety of valuable members-only reports and other information; and exceptional company exposure and networking opportunities. To obtain more information or to enquire about membership in the NASVF, please visit the NASVF Website, www.nasvf.org, or contact us via telephone or email.

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State and Ventures Capital – *State Experiences and Options*

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Executive Summary

Entrepreneurs always have led in building the United States economy. But never has the pace of new business development been so fast or the competition so intense. To win in the race for wealth and jobs, the 50 states have been called upon to serve entrepreneurs and help create an environment where new business ventures can thrive. Part of this challenge is ensuring that entrepreneurs have access to the seed and venture capital they need to launch and grow their companies. This report is a survey of the status of seed and venture capital in the states. We discuss the objectives of state programs and current sources of capital, with a focus on state-sponsored and state-facilitated funds. The report encompasses the reported experiences of the NASVF members with state government operated or state sponsored funds and includes examples of both successes and failures. In addition to surveying our members' programs, we have reached out to all program managers in each of the 50 states who run programs that provide innovation capital, and the preliminary results of the state-by-state survey of programs is provided along with this report. We also provide examples of the kinds of initiatives that state governments can undertake to facilitate access to equity capital for small- and medium-sized businesses.

Finally, we address the lessons learned over more than twenty years of experience with state-sponsored or state-facilitated capital programs. This experience has led to some clear indicators of success for state government in the design and implementation of seed and venture capital programs. These are:

- **Strong Leadership** – In the best programs, state leaders take the initiative in getting a program launched, and ensure a long-term direction.

- **Private Sector Management** – The best programs rely on carefully selected private managers to make the day-to-day investment decisions.

- **Focus on Knowledge** – Money is not enough to create strong companies. Investment happens in communities where both entrepreneurs and investors know how to structure world class companies, how to invest, and how to attract others to invest. Where this know-how is lacking, good investment seldom occurs.

- **Long-Term Focus** – The best programs are long term in perspective. They expect no measurable impact, in terms of investment returns or significant job creation, for a bare minimum of five years, and do nothing that would short cut the integrity of the investment process. Venture capital must be patient capital to yield good results. In the private sector of venture capital, investment exits sometimes take as long as 12 years, particularly in dealing with early-stage companies.

- **Financially Fair** – The best programs treat the state as a valued financial partner, not as a source of "easy money." States that seek financial returns commensurate with their support, beyond economic development returns, help reinforce the intent of the program to produce high quality business development.

- **Profit Motivated** – The best programs seek to make money. They adopt the philosophy that the best economic development is produced by those firms that are growing most rapidly and are likely to be the most profitable.

- **Focused Purpose** – The best programs are careful not to oversell. They recognize that the expectations of the various stakeholders may be at odds, and that not all can be satisfied.

- **Effective Scale** – The best programs are large enough to make a difference.

- **System of Evaluation** – The best programs establish outcome measures from the beginning, keep track of program results, and evolve according to changes in conditions.

- **Discretionary** – Finally, the best programs are governed not only by encoded rules, but by the exercise of discretion by trained professionals and experienced laypeople.

This report serves as a starting point for more in-depth evaluation and design of state capital programs. Looking at current and former state programs, it is clear that a wide range of experiments have been conducted. We should learn from their successes and failures and adapt them appropriately to serve state and regional capital needs. A good number of these programs are still quite new and it is too early to judge their performance. Going forward, studies are needed of the specific results of these programs to identify the "latest and greatest" design and implementation. NASVF will continue to study these programs.

Since our First Report

The NGA invited the NASVF to prepare its first report on the experiences of states with seed and venture capital in 1999, and released it in 2000. Since that time the world has changed more than a bit. The Internet bubble helped attract over $100 billion in venture capital in 2000 alone. Investors who got out early made phenomenal profits, while the crash that followed yielded the worst returns in the venture capital industry's history. For a brief period, never had more private capital been available for start-ups, at least in the information technology sector. But money for seed and start-up stage companies has shrunk dramatically. In 1995 over 17% of all institutional venture capital went to investments at the seed and start-up stages. This share of the venture pie has steadily fallen, and since 2000 has hovered around 2-3%.[1]

Enthusiasm in the stock market during the "bubble" period helped catalyze a new breed of angel investor.[2] In some regions angels became more prevalent than traditional venture investors. After the crash, angel investment also slowed to a trickle, or so it seemed. In a welcome turnabout, and with strong leadership from Kauffman Foundation, angel investing has reemerged in a new, more vigorous form. The Angel Capital Association (ACA) counts more than 200 angel groups across the U.S. and Canada[3] and over 100 are members of the ACA.

Recognizing the lack of early stage capital, many new venture capital programs have been launched with the support of states. A fund of funds strategy has been adopted by more than 18 states. Pre-seed, or validation, funds are becoming more common, particularly at universities. And tax incentives, some incredibly generous, have taken root in about 20 states.[4] Perhaps most promising, states have gained an appreciation for the role of culture in entrepreneurial business development. Cost effective programs are being implemented to advance the knowledge of world class business venturing and the entrepreneurial ecosystem.

Why is Seed and Venture Capital Important?

Upstart entrepreneurs increasingly dominate the nation's economy. The life cycle of many new products has become so short that a business can only succeed by moving rapidly from a good idea to a great product to global distribution. In slower times, a business could grow incrementally from region to region, usually from internally generated capital. Now, the demands for rapid growth require outside capital. Banks don't provide this type of money. And the public stock market is only an option for established firms, with initial public offerings (IPOs) an option for very few new companies.[5] Private seed and venture capital fills the gap, so much so that private equity has become an integral part of the capital structure of most high growth firms. However, professional seed and venture investing is still a relatively young phenomenon.

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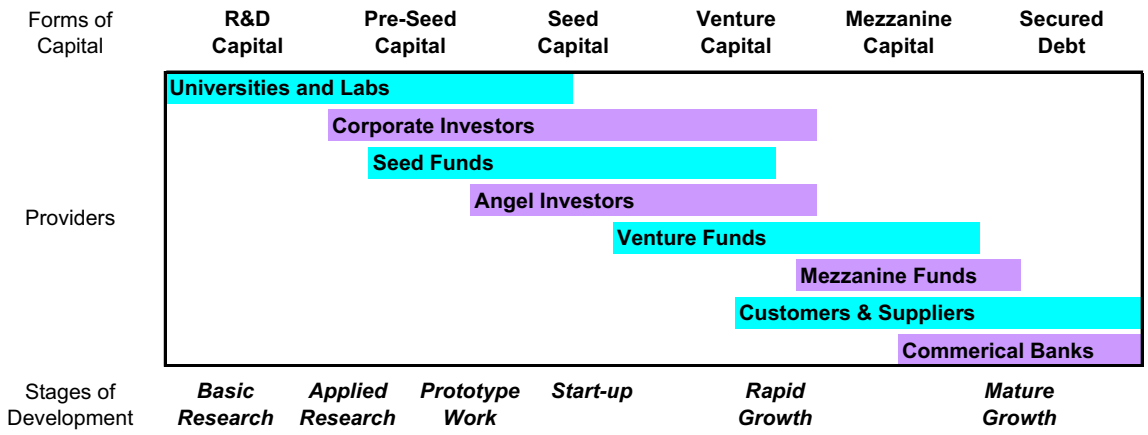
[1] PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree™
[2] Angel Investor – an individual who invests for his or her own account in young, private companies.
[3] Sohl, Jeffrey, "Business Angel Investing Groups Growing in North America"
[4] The status of these programs is fluid – as of this writing, several state legislatures are actively considering legislation to initiate or modify tax credit programs.
[5] It is worth noting that, partly as a result of the Sarbanes-Oxley legislation, IPOs for small U.S. start-ups are increasingly being launched outside of the U.S., often on the UK AIM or the Toronto Stock Exchange. These IPOs are still small in number.

Starting after World War II with Boston-based Research and Development Corporation., the venture capital industry grew slowly until the early 1970's. Even now, with billions invested every year, the industry is still largely focused on a few key regions (*e.g.*, Silicon Valley, Boston, and a handful of other states). Even so, young entrepreneurs with world-class ideas have managed to emerge from communities across the country—Microsoft started in Albuquerque, New Mexico and Gateway in South Dakota—the challenge of finding capital for most entrepreneurs is daunting. In much of the country, seed and venture capital is largely invisible, and, when located in a far-off city, hard to reach or trust. Entrepreneurs are much more likely to find capital and accept capital if the resource is available locally, delivered by people they know. Likewise, venture capital investors tend to be local in outlook, particularly at the earliest stages of investment. Investing happens through relationships. The greater the opportunity to build these relationships, the greater the chance that understanding and trust can develop, and that money can flow to worthwhile ventures.

Basic Forms of Risk Capital: R&D, Pre-Seed, Seed, Venture, and Mezzanine

In order to consider how states might act to make equity capital more available to local entrepreneurs, it is important to understand the various forms of capital used to build companies. Each form has different outcome measures and stakeholders. Table 1 below represents the basic forms of risk capital, the entities that deliver them, and how the forms often overlap.

Table 1: Basic Forms of Risk Capital, How Delivered, and Forms of Overlap



The innovation process appears linear, but it is not. The forms of capital are complementary and often blend together, and may even be used simultaneously to meet the capital needs of a company. The following are common definitions for equity capital categories:

- **Research Capital** – funds invested in support of basic research.
- **Pre-Seed Capital** – funds invested in support of applied research with the aim of developing new products.
- **Seed Capital** – funds invested in young companies that have not yet fully established commercial operations, often to launch new products, and may involve continued research and product development.
- **Venture Capital** – long-term equity capital invested in rapidly expanding enterprises with an expectation of significant capital gains, often for product rollout. Typical investee companies have demonstrated sales, but are not yet profitable.
- **Mezzanine Capital** – capital invested with a structure involving subordinated debt, generally in profitable, established companies.

Providers of Seed and Venture Capital

Universities and Laboratories

Universities and federal laboratories, the recipients of the lion's share of federal research and development dollars, provide access to advanced technologies through their technology transfer management offices and direct relationships established between researchers and investors. Technology is a key component in many new companies, and these research institutions are increasingly viewed as the engine that drives the U.S. economy. As a class they have been challenged to find commercial uses for their assets, to transfer technology to corporate investors, and to license inventions to local start-ups in an effort to spur development. Some regions, in an attempt to accelerate this spinout activity, have formed pre-seed funds, sometimes called "validation funds," in affiliation with universities or entrepreneur development centers. These are particularly important in regions that traditionally lack established venture capital. Examples include **Michigan's** Technology Transfer Office Invention Development Fund (IDF) at Wayne State and the Technology Business Finance Program of the **Oklahoma** Center for the Advancement of Science and Technology (OCAST). Pre-seed funds help an entrepreneur move from invention to prototype and demonstrate the functionality or marketability of a product idea. Capitalization for these programs usually comes without a requirement for return on investment in the traditional sense. State general funds and university foundations are the primary sources.

Corporate Investors

While universities and states focus on local start-ups, corporations, for pure profit motives, also invest at the pre-seed stage as they shop for new technologies to enhance their processes or launch new products. Historically, corporate investors have provided the leading share of capital for commercializing technologies developed at federal laboratories. Most corporations develop these acquired technologies internally. A few, such as Intel and Dow, operate venture capital funds, supporting entrepreneurial ventures alongside other venture capitalists, using this approach to stay close to new developments and to scout for acquisitions.

Angel Investors

A typical angel investor is a high net-worth individual who has interest and knowledge in a particular business sector, often the industry in which he or she has gained personal wealth. Angels can help a start-up company with their considerable experience, or can cause considerable harm if they are naive with respect to the needs of the business. An angel frequently will become an active advisor to the company and often take a seat on the board of directors.

Angel investors dwarf conventional seed and venture capital funds as the primary source of start-up and early-stage capital—after the resources of friends, family, and the entrepreneur are exhausted. Angels invested $23 billion in companies in 2005, compared to venture capital firms' investment of about $21.7 billion.[6] Angels can accommodate the smaller financing needs

[6] See discussion below regarding angel investing based on Center for Venture Research data, and see Appendices A-C.

of start-up companies that are generally incompatible with the investment strategy of institutional venture capital. These incompatibilities arise because start-up companies need smaller amounts of capital than VCs wish to invest at a time, have limited anticipated future capital needs, have a higher risk profile, and/or may be in industry sectors that are not in favor within the VC community. Until recently, the large and mostly unorganized source of capital that angels offer did not attract the publicity that the organized investors did. In fact, VCs have sometimes viewed angel investors with disfavor. The equity or debt positions that early-in angel investors take can sometimes make the VC investor's later position less rewarding. Yet, with the migration of VCs to later stages, the need for angel investors to fill the investment pipeline has never been more important.

The supply of angel capital has been difficult to quantify. By most accounts it mushroomed during the Internet bubble of 1998 to 2001, then collapsed. The University of New Hampshire Center for Venture Research estimates the volume of angel investing in the U.S. in 2005 at about $23 billion, serving about 49,500 firms with mostly seed and start-up capital—75% of this amount was focused on technology sectors. The healthcare services/medical devices and equipment sector garnered the largest volume of angel capital, with 20% of total angel investments in 2005, followed by software (18%), biotech (12%), electronics/hardware (8%), media (6%), industrial/energy (6%), information technology (6%), and electronics/hardware.[7]

Increasingly, angels are joining organizations that provide support, camaraderie, and risk-sharing partners. Angel organizations range from informal to highly structured, from a few members to a hundred members, from self-managed to professionally managed. At last formal count, the Angel Capital Association listed 140 formal angel groups in the U.S., disclaiming this as comprehensive.[8] Some estimates range beyond 200. The Center for Venture Research reports 227,000 individuals actively investing as angels, with an average of 4-5 investors joining forces to fund each entrepreneurial start-up.[9]

Seed Funds

Seed funds are professionally managed investment partnerships or limited liability companies (LLCs) that invest in very young, seed-stage companies. In the early years of venture investing, all venture capital *was* seed capital, supporting the launch of high-risk, technology-based ventures like computer networks (Wang) and, later, personal computers (Apple). Over time, venture investors discovered they could apply the techniques of seed investing to more mature companies, particularly those that were positioned to grow extremely rapidly. They learned that such companies could profitably employ very large amounts of money, which made it practical to raise larger and larger investment funds. The effort required to find and investigate a good candidate for investment, they discovered, was the same (or less) for a later-stage company as for a start-up, but they could invest a larger amount of capital in a more mature company and thus increase their total dollar return.

[7] Sohl, Jeffrey, "The Angel Investor Market in 2005", Center for Venture Research, University of New Hampshire, (April 2006), p 1.
[8] Angel Capital Association, Directory of Angel Organizations, http://www.angelcapitalassociation.org/dir_directory/directory.aspx, (April 2006).
[9] Sohl, Jeffrey, "The Angel Investor Market in 2005", Center for Venture Research, University of New Hampshire, (April 2006), p 1.

In the 1970's and 1980's, early-stage investors became scarce. In the latter half of the 1990's seed investing experienced a resurgence, almost entirely because of the development of the Internet. Although the design of a web-based business costs relatively little, the marketing and implementation of a web-based strategy costs many millions, or so went the logic of the time. This seemed to justify huge infusions of capital in brand new Internet companies. Some VCs found the value of their investments multiply in short order, sometimes in a matter of months, giving impetus to the rise of substantial professional seed capital, for a time. This trend was dramatically reversed with the dot COM bust.

The traditional seed investor selects companies with strong, proprietary technology, elegant products that solve big problems, a homogenous base of customers with a clear shot to decision makers, a strong management team, and a viable strategy for achieving liquidity. Most seed investors look at hundreds of proposals before selecting a handful for investment.

Venture Funds[10]

Venture capital plays almost no role in funding basic innovation, and a relatively small role in funding true start-ups. Only about 3% of the $21 billion VCs invested in 2005 went to such firms[11]—though a few, such as Village Ventures and ARCH Venture Partners specialize in seed stage projects. The majority of investments went to follow-on funding for projects originally financed by angel investors, seed funds, government programs and private corporations. Generally, VCs only invest in high-growth business sectors where they can see a return on their investment in 5 years or less. Business sectors blow hot and cold as candidates for investment, often based on the perception of the payout horizon. Alternative energy is hot today because of concern over rising oil prices and the belief that political imperatives may force a migration to new sources of energy. It is important to recognize that a venture capitalist invests in those business sectors which are not only growing rapidly but also have not yet reached the competitive shakeout stage. In other words they fill a gap between the early start-up stage and the later consolidation stage. In fact, many companies from which venture capitalists have reaped high returns in earlier industry cycles are no longer in existence. The disk drive industry had more than 40 venture-backed companies in 1983, but by 1984 the industry market value had dropped three-fold, and by 1998 only three major players remained. Venture capitalists seek to exit the company and the industry before it tops out.

A venture firm can afford to take the risks it does because of the large upside of a few of the investments. Conventional royalties or interest on loans do not allow that kind of return. The performance of a typical early stage VC portfolio per $1,000 invested is shown in Table 2.

[10] Zider, Bob; "How Venture Capital Works;" Harvard Business Review, November-December, 1998; pg. 131-139.
[11] Venture Economic/NVCA/Pricewaterhouse Coopers 'Money Tree', January 2006,

Table 2: Venture Capital Performance

	Bad	Alive	Okay	Good	Great	Total
$ Invested	200	400	200	100	100	1,000
Payout Year 5	0	1X	5X	10X	20X	
Gross Return	0	400	1,000	1,000	2,000	4,400
Net Return	(200)	0	800	900	1,900	3,400

The net returns are accumulated from a minority of the investments, and in fact most of the returns come from 10% of the portfolio. As was described above, venture capitalists invest in fast growing industries. The sectors that states and regions often want to grow, manufacturing and tourism for example, may not provide the kinds of returns a VC would expect.

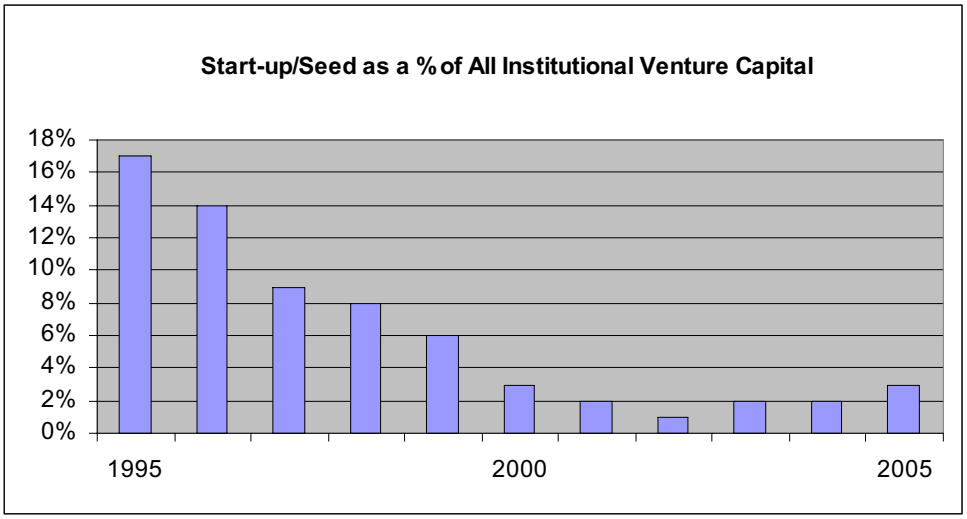
Current Status of Capital Access in the United States

The amount of venture capital available in the U.S. now is well below the heady levels of 1998-2000, but most would agree that a correction in the market was necessary. In 2004 and the first part of 2005, the amount of venture capital invested has showed modest recovery and is currently at a level that most in the industry consider "about right" to allow sufficient competition, yet reasonable valuations and profits. These positive trends for the industry, however, mask a troubling problem for young companies. Institutional venture investment in start-up company's remains at low ebb, both in absolute amount and as a share of all venture investments.

A number of firms produce annual or quarterly reports on venture capital investments in the U.S. While useful, these look at a very select segment of capital in the country—private institutional venture capital firms. However, these data do give an indication of where equity capital is concentrated, how shifts in regional investment are occurring, and what kinds of industries are attracting investment. The PriceWaterhouseCoopers MoneyTree™ report summarizes venture capital investments in the U. S. Table 3 on the following page shows seed and start-up money as a percentage of all venture capital by year. Attached, as Appendix A is a spreadsheet showing investment amounts for 1995-2005 state-by-state.

In 2005 institutional venture capitalists (VCs) invested a total of $21.7 billion with an average deal size of $7.4 million. Notably, over 58% of the investments were made in just two states, **California** and **Massachusetts**. California alone received 47.4% in 2005, as its share continues to creep upward toward the 50% mark. **Texas**, **New York**, **New Jersey**, **Washington**, **Colorado**, and **North Carolina** rounded out the top eight, and together received 22% of the venture capital in 2005. The other 42 states collectively garnered less than 20% of venture investments – some so little their share showed up as zero. It is little wonder that many states see the need to "jump start" their entrepreneurs' access to capital via state programs.

Table 3: Seed and Start-up Money as a Percentage of all VC by Year



In addition to favoring certain states, venture capital gravitates toward later-stage companies. Formative stage companies, those in the start-up and seed stages of development, garnered funding of $736 million, or only 3.4% of total dollars. Attached as Appendix B is a spreadsheet

showing investment amounts for 1995-2005 by stage of company development, based on the PriceWaterhouseCoopers MoneyTree™ data.

Venture capital's migration to larger investments has widened the capital gap for smaller, younger firms. Seed and early stage capital needs for many are in the range of $500,000 to $2 million, which is well below the typical VC horizon of $5 to $7 million per investment. While venture capital firms are an important element in the financing of entrepreneurial companies, they fill only a part of the need for capital. In addition, the concentration of VC activity in a few limited regions leaves large areas of the country under-served.

In contrast to traditional VC investments of $21 billion in 2005, the volume of angel investment in 2005 was $23 billion. The majority of angel investments remain in the start-up/seed stage – 55% according to the Center for Venture Research. By these estimates, angels provide 17 times the volume of start-up/seed capital, compared to VCs. While largely concentrated in regions of existing entrepreneurial strength, would-be angel investors can be found in every major community in every state. Certain states are tapping this resource through networking and training events, and by supporting the formation of angel investor groups.

Other states are making forms of seed and venture capital accessible and visible through a variety of state-sponsored programs.

State Strategies for Mobilizing Investment Capital

To serve local entrepreneurs, and thereby create new wealth and quality jobs for their citizens, most states have adopted programs to deliver, encourage, or facilitate the formation of local seed and venture capital resources. There are four basic strategies that states have pursued:

- **Spread knowledge** – Expand the knowledge of seed and venture investing among policy makers, individual investors, and entrepreneurs.
- **Create visibility** – Create visibility of entrepreneurs to investors, and investors to entrepreneurs.
- **Fill a gap** – Create investment capital to fill a gap or grow a sector.
- **Build an industry** – Create investment capital to build a seed and venture capital industry.

Of these, the first two are critical to building a culture of entrepreneurship and risk capital investing. Knowledge of how seed and venture investing works, how investors think and make their decisions, gives a would-be entrepreneur a much better chance to assemble a plan that will attract money. And, making the two camps visible to each other—through venture forums and networking events—makes it possible for relationships to form and trust to develop, which are key to facilitating investment.

The third strategy has been the most common, and is often based on the desire of state policy makers to encourage high-tech ventures, or a particular industry sector of strategic importance to the state. Typical mission statements include language like "for the purpose of providing funding for the start up of new technology, modernization of existing businesses through dual-use technology, and enhancement of service delivery systems to promote economic development and security." These economic development, national competitiveness, and social missions may be an outcome of venture capital investment, but they are not a goal of most VCs. First and foremost, venture investors seek to optimize financial return on investment by maximizing profit, while minimizing risk and reducing time to exit. In contrast, a government sponsored strategy may aim resources at early-stage companies, or industry sectors, that are not generally attractive to the venture capitalists, or the strategy may focus on later stage, low-cost financing of companies which cannot get conventional financial assistance – such as in traditional industry sectors that need revitalization.

The fourth strategy is based on the belief that the best way to serve aspiring, young companies is to help ensure that these companies have local access to a robust professional seed and venture capital industry, one with deep local roots and a variety of local investing talent. In this approach, the targeting of sectors is accomplished by selecting private seed and venture funds that specialize in the targeted sectors and investing in these funds. The state adopts the philosophy that an investment discipline that seeks to optimize return on investment is the most efficient way to achieve the greatest economic development. The goals of the state are therefore aligned with the goals of the venture investor, enabling the state to invest in the best available seed and venture funds. In turn, these funds search for the best entrepreneurs and support these in building fast-growth companies, the kind that hold the potential to create jobs, wealth, and high quality development.

Types of State-Sponsored Seed and Venture Capital Programs

Our research indicates there are currently eight types of programs. The models fall into these basic categories:

1. **Direct investments by state agencies** – Once the typical model for early science and tech agencies, this approach is seldom used today. Public managers have found it difficult to keep trained staff, tough to maintain appropriate investment standards, and, for most, impossible to retain the support of their legislatures. Some of these funds, however, have performed well. For example, the Enterprise Fund of the **Maryland** Department of Economic Development continues to perform at a high level.

2. **State Investment in privately managed, geographically restricted funds** – Common in the mid- to late 1980's, this approach of hiring private managers, but restricting their investments to the state has suffered some notable shortcomings, including pension fund programs in **Kansas** and **Missouri**. Severe geographical constraints, while politically popular, usually prove to be counterproductive. Failure of another kind – malfeasance – can occur when there is insufficient oversight of fund managers, or limited accountability and non-existent guidelines, as many believe occurred with **Mississippi's** Magnolia Fund. Bucking these obstacles are several great success stories. From its beginning, the **Massachusetts** Capital Resources Corporation has benefited from experienced, private managers pursuing a geographically focused strategy of later stage investing. **Ohio's** early investments in Primus, and **Pennsylvania's** investments in the NEPA fund, are examples of state pension funds picking experienced managers to accomplish a geographically targeted objective.

3. **Investment in a portfolio of private seed and venture capital partnerships** – Commonly known as the "fund of funds" model, pension funds have invested in this way for years, but it took the **Michigan** Strategic Fund to first apply the model with economic development as a goal, in their case capitalized with severance tax funds. The Oklahoma Capital Investment Board (using guaranteed notes) and the **New Mexico** Investment Council (using severance tax funds) have continued to refine this approach. In this model, investments are made by the state in a number of private venture capital partnerships, along with other investors. The strategy is to select partnerships that are expected to produce market returns, while contributing to the growth of a healthy local venture capital industry. The model helps focus a rich variety of experienced investors on the legitimate capital needs of local businesses. It also diversifies risk. In Oklahoma and New Mexico the results have achieved original expectations. A private venture capital industry has been launched and millions have been invested in local businesses. The **Arkansas** Development Finance Authority and California Public Employees Retirement System have programs in this category, along with the Finance Authority of **Maine**, the New Jersey Economic Development Authority, the **Iowa** Capital Investment Corporation, and the **Hawaii** Strategic Development Corporation. Other programs are underway in **Indiana, Illinois, and Wyoming,** while new initiatives are being launched in **Ohio**, **Pennsylvania**, **Michigan**, **Utah**, **Montana**, **South Carolina**, and **Oregon**.

4. **Tax credit incentives for private direct investment** – In **Maine**, **Puerto Rico**, **Ohio**, and a growing number of other states, tax credits are made available to investors who invest in companies located in the state. The tax credits are usually targeted to encourage seed-stage technology ventures. Incentives may be budgeted, as is the case in Ohio, or

unlimited, as was the case until recently in **Hawaii**. The **Wisconsin** Angel Investment Tax Credit Program has a particularly good method for attracting, vetting, and selecting applicants. A typical credit is 20% of the amount invested. The best models have systems in place to ensure the incentives go to supporting the types of companies that are strategically important to the state. The incentive can be as high as 60% in rural areas of Maine. Hawaii has the most generous credit – 100% of the amount invested over five years. This program has drawn criticism from some in the state as being so overly generous as to "tilt" the playing field.

5. **Tax credit incentives for private indirect fund investment** – Some states give tax credits to investors for investing in venture capital funds. The typical credit is 20% to 30% of the amount invested. **West Virginia**, **Vermont**, and **Indiana** have mobilized successful private venture funds with this tool. In some states the credits are transferable or refundable, giving tax-exempt and/or out-of-state investors an opportunity to realize the value of the incentive by selling the credits or presenting the tax credits to the state for a refund. The most generous tax credits are given to entities known as Certified Capital Companies, or CAPCOs. In these models, which originated in Louisiana, insurance companies receive premium tax credits equal to 100% to 120% (spread over a number of years) of the amount they loan to or invest in a CAPCO. Variations of CAPCOs are operating in **Missouri**, **Louisiana**, **Wisconsin**, **New York**, **Oklahoma**, **Texas**, **Alabama**, **Florida**, and the **District of Columbia**.

6. **Mobilizing Angel Networks** – Beginning in the mid-1990s in California's Silicon Valley, networks of angel investors began to form. The pioneering angel group, *Band of Angels*, is made up of about 100 members and each month invites two or three companies to make presentations. Typical individual member investments are about $50,000, with totals raised from $100,000 to $ 1 million. This loose network model has been replicated with varying success in a number of areas across the country. The Angel Capital Education Foundation (ACEF) provides a list of angel groups in the U.S. and Canada on their website www.angelcapitaleducation.org. Many states facilitate the formation of angel networks. **Iowa** supported a series of workshops to help aggregate, educate, and mobilize angel networks. The **Minnesota** Investment Network provides mentoring and capital to angel groups in the state, mostly in rural communities. The emergence of an increasingly sophisticated angel capital industry has enormous potential to meet the capital needs of local entrepreneurs.

7. **Matchmaking Services** – Brokering programs, or "Capital Networks," have been developed in regions around the country. These programs attempt to match start-up companies with suitable investors through computer databases. The first such system was started in **New Hampshire** in the late 1980s. Other examples prospered for a while in **Texas**, **Kansas**, and **California**. In the late 1990s, the U.S. Small Business Administration promoted ***ACENet,*** a nationwide version of a capital network. The model proved unsustainable, as have most other web-centric approaches, perhaps because they lack the rich level of face-to-face communication. As noted above, a key element in venture investing is forming a relationship of trust. Trust is a hard commodity to create electronically.

   More successful in this category have been the dozens of venture forums held each year throughout the country. National events, like **Springboard**, **National Renewable Energy Laboratory (NREL) Growth Forum**, and **World's Best Technologies (WBT) Showcase**, have been effective in serving niche markets – women entrepreneurs, renewable energy

ventures, and seed stage platform technologies, respectively. At the community level, monthly luncheons in Louisville, **Kentucky**, Indianapolis, **Indiana**, and many other cities and towns play an extremely valuable role in gathering investors to hear the fund raising pitches of new entrepreneurs. This straightforward practice is indispensable for building the entrepreneurial ecosystem in a region.

8. **Culture Bending Initiatives** – While this report focused on capital programs, the real key to transforming an old economy into a new economy has more to do with culture, ideas, and know-how than money. The most effective strategies for encouraging entrepreneurs and building access to capital are those that transform the know-how and vision of people in a community. Aspiring entrepreneurs, and those who wish to serve them, must possess a profound awareness of how market leaders across the world are implementing new business models in order to compete effectively.

   Several communities intentionally have focused on transforming the pool of know-how and vision of their citizens with measurable success. Of particular note are the organizations that drive the culture-bending work in these communities—**North Carolina's C*ouncil for Entrepreneurial Development***, San Diego, **California's *UCSD-Connect***, and **Pennsylvania's *Pittsburgh Technology Council***. These organizations offer extensive training and networking events. They do it over and over again, year after year, in large volume. They focus not only on entrepreneurs, but also on the circle of advisors that supports them. Attorneys, accountants, consultants, engineers, manufacturers, development officials are all exposed to a new vision and a new understanding of how best to serve entrepreneurs in the tech-led, global economy. By helping people meet each other, gain confidence in each other, learn from each other, and together learn from the world, they become empowered to find the resources they need to compete.

   Florida is in the initial states of experimenting with yet another idea for creating a growth industry foundation by committing very large state and local incentives to attract established, well-respected research institutions. For example, the State has offered $300 million, and Palm Beach County more than $200 million, to attract Scripps Research Institute to catalyze a biotech cluster in South Florida. The state hopes that over the long term, such a cluster will attract a venture capital presence.

Objectives of State Programs

Most state programs are created to help grow the state economy. The common threads in the mission statements of state-supported seed and venture programs are jobs, competitiveness, and economic growth. The other common objective is the promotion of technology-based business by funding technology start-ups or the transfer and commercialization of technology in the state. About half of the respondents in our ***State Capital Program Survey*** mentioned "jobs" or economic growth as a desired outcome of their programs. Job creation was mentioned more than any other goal, and was mentioned twice as often as return on investment. Typical phrases from state program mission statements include the following:

- "stimulate the growth expansion and modernization of small businesses"
- "identify, develop, and commercialize technology that will permit…firms to compete successfully in today's world markets"
- "mobilize equity and near-equity capital for investment…to create jobs and diversify and stabilize the economy of the state"

Nearly all state-sponsored funds are "targeted," (*e.g.,* focused on a geographical area or certain economic sectors). However, it is now rare for states to prohibit investments outside of the targets.[12] In our survey, respondents indicated that their programs are targeted at a number of sectors of interest—with the "top scoring" sectors being biotech, medical devices and equipment, software, telecommunications, and industrial/energy.[13] A few programs are aimed solely at single sectors. One example is the approach of the Pennsylvania Tobacco Settlement Board to invest in bioscience funds.[14]

Of course, all seed and venture funds—public or private—are "targeted" in the sense that no successful fund invests randomly. Private funds have a primary focus on return on investment, but they also tend to target opportunities in a geographic area and in those economic sectors that are growing rapidly and where the managers have experience or particular knowledge. Many publicly-sponsored funds seek to recruit private managers who already are targeting the sectors and investment opportunities the state has to offer. If market inefficiencies exist in a region, it can make good sense to go after them. Public sector pension funds and other fiduciary institutions have adopted this approach as a technique for focusing capital in their states.

Other publicly capitalized funds may place greater emphasis on social or economic development. These tend to be more geographically restricted, and focus on industries of particular importance to the state or region. For that reason, one should not expect the same kinds of return on investment obtained by successful private funds. However, as discussed elsewhere in this report, we believe strongly that the focus on a positive rate of return is an important success factor for any fund.[15]

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[12] The investment mechanism may be proscribed in some instances. For example, equity investments are constitutionally forbidden in a number of states.

[13] Respondents could select more than one sector. The greatest number of programs declared a focus on these five sectors, though they named others as well. These five "top scoring" sectors were followed closely by three sectors: semiconductors; networking and equipment; and IT services. A third tier were: computers and peripherals; health care services; and business products and services.

[14] To see how institutional venture capital was invested in these sectors in 2005, go to Appendix C for a spreadsheet based upon the 1995-2005 PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree™ data. Note that a direct comparison cannot be made between the venture capital investments and state-supported program goals because we asked at what sectors the state program is *aimed.* Later study, we hope, will reveal how much actually was invested in each sector through state-supported programs.

[15] We are concerned that financial return on investment was not mentioned more often when the state program managers stated their goals for a program in response to our survey. The survey question was open-ended: "What outcomes are expected from these investments?" We intend to probe this point further at the next stage of our study.

Sources of Money

States, regions, and cities continue to find many creative ways to help capitalize local venture investing partnerships. The following are a few notable examples:

Foundations

In Birmingham, the Education Foundation of the University of **Alabama** committed $2 million in 1994 as a for-profit investment in a local seed fund. The foundation, as the lead investor, helped catalyze commitments from a local utility, bank and life insurance company. And in **North Carolina** the North Carolina State University Foundation served as the lead investor for the Centennial Academy Fund—a seed fund focusing on companies formed on research conducted at the University and companies affiliated with the University.

State General Fund

Nebraska, Texas, Illinois, Pennsylvania, Utah, Arkansas, and Iowa are only several of the states that over the years have employed a direct allocation of state funds for venture investing activities. The ***Utah Technology Finance Corporation*** received $1 million in 1994, investing these funds in *Wasatch Venture Fund*, a Small Business Investment Company (SBIC) based in Salt Lake City. The ***Arkansas Science and Technology Authority*** receives about $300,000 annually for direct seed investing. The ***Texas Emerging Technology Fund*** received $200 million in 2005 to invest in technology infrastructure and early stage companies.

Dedicated State Revenues

Special or dedicated, revenue sources have in some states, and in Canada, been directed to venture investing. Revenues from oil and gas royalties have been used to capitalize large programs in Alberta, Michigan, and Alaska. In Canada, ***VenCap Equities of Calgary*** received a $200 million loan from the Province of Alberta, derived originally from mineral royalties. The loan had no fixed payments, took 50% of fund profits, and was set to mature in 2013.[16] The ***Michigan Strategic Fund*** was originally capitalized by a dedicated source of oil and gas revenues, and now relies on state lottery earnings. The ***Alaska Science & Technology Foundation*** received a $100 million endowment from state oil royalties in 1988 to invest in technology infrastructure and early-stage companies. The Foundation was shuttered in 2003 to help balance the state's budget. Lottery revenues also have been dedicated to capital programs. For example, the ***Oregon Growth Account***, launched in 1998, receives 1.5% of the state's lottery revenues.

Incentive Tax Credits

Tax credits can be useful in stimulating private investment, so long as the incentive does not eliminate risk to the investor. States reap the greatest return from tax credits when their use is budgeted, and therefore subject to competition. They work best when awarded with discretion, where a person or board accountable to the state picks from among competing projects and ensures the credits are used for the highest and best purpose. Caution is advised. Tax credits

[16] The note was sold before maturity.

often induce unintended behavior and in some cases lead to significant abuse. In a recent example, an Oklahoma statute providing a 30% angel tax credit for rural investment was engineered by some users to give investors credits equal to two and three times the amount they invested. This program that historically had cost no more than $3 million per year ballooned to over $60 million before the abuse was discovered. While blame is usually laid on the abusers, states could do a much better job of drafting tax credit legislation and exercising careful discretion over the award of these incentives.

A number of state-sponsored seed and venture capital programs, described above, are funded through the use of incentive tax credits or contingent tax credits (described below). Daniel Sandler provides an analysis of various tax credit programs offered by states in his paper that accompanies this report as Appendix D.

Credit Enhanced Notes

Most development finance organizations started as lenders or bond issuers. For many, finding debt capital is much easier than raising equity. Some finance agencies have learned how to use forms of credit-enhanced debt to raise significant amounts of private capital for venture fund investments. The ***Oklahoma Capital Investment Board*** uses a guarantee backed by contingent tax credits[17] to borrow from banks or insurance companies, as do similar programs in **Arkansas**, **Iowa**, **Ohio**, **Utah**, and **Michigan.** The State of **Illinois** used proceeds from a general obligation bond to invest $5 million in 1986 in a privately managed Illinois-focused fund. Now matured, this investment has yielded millions in profits that are currently being re-invested by the ***Illinois Finance Authority***. Such programs work best with non-amortizing debt, where repayment schedules are matched to revenues from investments.

Individual Investors

Individuals are the primary source of capital for many small, regional funds. ***ML Oklahoma Venture Partners***, formed in 1988 by Merrill Lynch, was sold as a publicly traded limited partnership to over 1,000 investors. More typically, a private limited liability company or limited partnership is marketed to a handful of accredited investors. The strategy of the fund and the reputation of the fund managers are critical to the success of such offerings. Civic-minded champions have sometimes taken the lead in forming state- or regionally-focused private funds. Former **Virginia** Governor Mark Warner helped form four venture funds in his state from 1998 to 2000—***Envest*** in Hampton Roads, Monument Capital in the Richmond area, ***Southside Rising*** in Southside, and ***Southeast One*** in Southwest Virginia.

[17] Contingent tax credits, as opposed to incentive tax credits, are designed to minimize the use of the credits. For instance, the Arkansas Development Finance Authority (ADFA) supports a state-focused fund of the funds, the Arkansas Institutional Fund (AIF). The AIF raises capital by borrowing. The ADFA pledges its guarantee to the lender. The ADFA's guarantee is backed by a pledge of the ADFA's Small Business Bond Guarantee Fund and by $60 million in state income tax credits. So long as the AIF investments perform adequately to retire the debt, there is no call on the guarantee and no use of the credits. If returns are inadequate, then the ADFA is authorized to use the tax credits to fill the gap. Their use is contingent.

Banks

Banks are an important source of capital for local venture funds, particularly those with a focus on later-stage or mezzanine financing. Banks may invest in venture capital for their own financial reasons, but they also may have an incentive to do so because of the federal requirement to invest in the communities in which they operate, under the Community Reinvestment Act (CRA). The rules of the CRA favor investment in funds licensed as SBICs and other federally licensed vehicles like Community Development Financial Institutions (CDFI).

The strong profits earned by many banks in recent years make them good candidates for venture funds that receive state tax incentives. ***Diamond State Ventures*** was capitalized by banks in **Arkansas**, and the ***Indiana Community Development Corporation***, a multi-bank enterprise, consistently has raised capital from its network of banks for 20 years. Wells Fargo, Bank One, Citibank, and other large institutions have been known to actively seek fund investment opportunities within the regions they serve.

Institutional Investors

The deep pockets for venture capital are pension funds, endowment funds, and other institutional investors. As fiduciaries, they must comply with prudent standards of investment. Such standards vary, but always involve issues of asset allocation, diversification, and professional management. Gaining the support of fiduciary investors for local venture capital programs is possible, but only if the;

- investor has a need for venture capital assets,
- investment provides sufficient diversification, or complements an existing diversification plan,
- investment offers appropriate, exceptional profit potential, and
- investment comes with a proven management team.

States may increase equity capital by permitting pension funds to invest in the asset class. States may also mandate investment within the state. Pension funds in **Pennsylvania** and **Ohio** first started this way in the 1980s, and **Oregon** mandated a $100 million program in 2003. However, pension managers are fiduciaries of the pensioners, not the state, and political demands for highly targeted investments are discouraged.

Lessons Learned

States have tried many experiments to increase capital access in recent years and have learned much from both their failures and their successes. What has become clear is that initiatives of government support and policy direction, combined with private sector market discipline, can be an effective formula for accelerating local economic development. However, government as a direct investor has a very poor track record. State officials are not in a position to make business investment decisions: the reward system in a bureaucracy punishes risk-taking, a critical factor in early-stage investing, and it makes investment decisions subject to political pressure. On the other hand, relying exclusively on the private sector to meet the changing needs of today's entrepreneur leaves many states watching and waiting while other regions jump ahead.

Provide Leadership

In the best programs, state leaders take the initiative in getting a program launched, and help set a long-term direction. Then they rely on experienced, private managers to make the day-to-day investment decisions. States must be involved in selecting these managers, using rigorous standards common in the industry, and then regularly monitoring the progress and performance of the managers over time.[18]

Focus on Knowledge

The best programs recognize that the challenge of capital formation is not so much about money as it is about knowledge – how the business community understands seed and venture capital, the steps involved, the do's and don'ts, and what it looks like and feels like to build a world class company. Creating visible access to an abundant source of capital is just one key to supporting the growth of this culture and helping young people gain the courage to venture. In every state someone is doing good work in this arena. State leaders should take care to build on this existing momentum and resist the temptation to put all their "eggs" into the basket of programs that lure capital to their region. The base of high-growth entrepreneurship must be present for the money to be invested profitably from both the standpoint of investment returns and economic growth.

Long Term

The best programs are long term in perspective. Making good investments takes a lot of time, and building an industry that is prepared to make and manage these investments takes even longer. We counsel state leaders to expect no measurable impact for a bare minimum of five years and do nothing that would compromise the integrity of the investment process. Some states have taken short cuts, only to be embarrassed. Take all the time you need to find the right people, and all the time you need to make the right investments.

Financially Fair

The best programs treat the state as a valued financial partner, not as easy prey. When states commit capital, or support programs with tax incentives, or bear risk in any way, they should be compensated for this financial commitment with an opportunity for a financial return that is commensurate with the risk they take. This may seem counterintuitive, but in this form of economic development, if states give things away for free the integrity of the program gets compromised and

[18] This is another reason NASVF is concerned that so few of the survey respondents stated that financial return on investment is a goal of their program—about 15% of them. NASVF intends to pursue this as we continue our study, and determine whether and how state program managers monitor the performance of investments made under state-sponsored programs.

the results are disappointing. States must be careful that capital growth programs don't go the way of many programs that "buy jobs" with incentive packages for companies to relocate to their state.

Profit Motivated

The best programs seek to make money. They adopt the philosophy that the best economic development is produced by those firms that are growing most rapidly and are the most profitable. These are good investments, the type that disciplined investors want to find. So, within the strategy established for the program, work hard to make money, and expect your investment managers to do the same.

Narrow Purpose

The best programs are careful not to oversell. One must recognize that the expectations of the various stakeholders and customers may be at odds. The business customers may expect that state-sponsored funds will be a low-cost source of money, the investment community may see them as a competitor, and the economic development organizations will expect them to create jobs overnight. There is no way that such a program can satisfy all those expectations completely.

Effective Scale

The best programs are large enough to make a difference. Bend the trend, or don't bother. Big funds and little funds all require the same processes and ultimately, the same amount of work—little funds sometimes take more work. Creating a large, visible source of seed and venture capital will help generate a willingness on the part of would-be entrepreneurs to take the plunge. This is not to say a large program must deploy its capital in a fixed time frame. Never stretch to fill the portfolio. Wait for the right opportunities. There is no magic size for a program, but it must be "right-sized" for the entrepreneurial and finance environment within the state.

Targeted for Impact

State dollars are precious and need to be put to work in ways that leverage the greatest impact. Most believe that innovation is the heart of America's competitive advantage, and are focusing their resources to accelerate investment at the earliest stages where the private venture capital market typically does not invest.

System of Evaluation

The best programs build in achievable outcome measures from the beginning, keep track of program results, and evolve as conditions change.

Discretionary

Finally, the best programs are governed not by overly-complex legislation, but by the exercise of discretion by trained professionals and experienced laymen. Statutory programs can get packed with details and constraints—often the case with tax credit programs—to the point that the best investment managers will want nothing to do with them. This can be counterproductive since the best programs are always built with great people. The legislation governing such programs should be kept to a minimum to insure that the program is properly targeted, is not open to abuse, and that sufficient information can be gathered to evaluate the program's effectiveness.

Benchmarks for Analyzing Program Options

When considering various options for capital programs the benchmark criteria for analyzing such options should include the following:

1. Program Design

a. Pursuit of clear **investment and strategic objectives** – the extent to which both investment and strategic objectives are clearly articulated.

b. Effectiveness of **scale** – delivering resources that make a difference.

c. **Leverage** of non-state resources – the extent to which non-state resources are catalyzed.

d. Building of **private sector capacity** – extent to which programs are designed to expand and enrich the capacity of private sector capital providers to serve strategic market needs.

e. Responsiveness to **market needs** – extent to which programs are designed to meet real needs.

f. Thoroughness of **investment disciplines** – appropriateness of procedures for analysis and due diligence.

g. Appropriateness of **risk management** strategy – adequacy of the plan for asset allocation and diversification.

h. System of responding to **stakeholder needs** while maintaining portfolio integrity – extent to which the program maintains discipline while satisfying stakeholders.

i. System of **administration** – thoroughness of record keeping; usefulness of reports; commitment to planning, scheduling, and constructive accountability.

2. Management Practices

a. **Getting the job done** – producing the targeted volume of investments within the range of expected returns and losses; competency of staff in understanding investment policies, performing analysis, negotiating contracts, closing investments, monitoring performance, and taking corrective actions.

b. **Centralized vs. decentralized** – delegate decisions to the lowest practical level, but see "System of Controls," below.

c. **Public vs. private** – effectiveness in engaging private lenders and investors in serving the strategic goals of the state.

d. **System of controls** – effectiveness in maintaining quality; commitment to engaging in self-correcting thinking, and actions.

3. **Program Results** – The evaluation parameters should be built in from the beginning, and the outcomes compared with the goals. Measure return on investment, along with the program's other specific goals.

Conclusion and Next Steps

We believe, in general, that the states are evolving their programs to grow venture capital in their states in a responsible way. However, more study is needed to determine precisely what these programs have accomplished. What is the return on investment for the different programs? Have they created economic growth? Have they created jobs that would not otherwise exist? We will be pursuing these questions as we continue our study of state capital programs.

Appendix – A

1995-2005 Venture Investments by State

State-by-state distribution of institutional venture capital
As represented in the, Money Tree Report

Published by:

PricewaterhouseCoopers and the National Venture Capital Association

Based on data provided by:

Thomson Financial from 1995 through 2005

1995-2005 Venture Investments by State

in millions of dollars *PricewaterhouseCoppers/Venture Economics/NVCA Money Tree*

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	11-year total	Percent
Alaska	0.0	0.0	0.0	0.0	0.0	3.5	99.2	0.0	0.0	0.0	0.0	102.7	0.0%
Alabama	36.6	50.2	110.7	87.3	61.3	279.6	83.1	45.6	24.8	38.0	5.9	823.1	0.2%
Arkansas	5.0	0.0	4.0	6.9	16.5	10.3	10.4	9.7	1.2	3.7	12.6	80.3	0.0%
Arizona	96.0	94.1	158.4	214.4	377.4	679.0	175.7	206.0	67.2	103.5	148.0	2,319.7	0.7%
California	3,255.7	4,832.1	6,053.1	8,235.9	23,550.8	43,527.8	16,625.6	9,483.3	8,246.6	9,345.9	10,219.5	143,376.2	42.1%
Colorado	314.4	290.5	376.2	836.1	1,915.7	4,333.0	1,321.5	565.5	628.2	443.6	611.7	11,636.4	3.4%
Connecticut	129.2	172.7	286.2	451.4	973.8	1,461.8	570.9	238.2	259.1	274.8	194.0	5,012.1	1.5%
District of Columbia	0.1	6.7	7.2	50.3	328.0	444.0	170.2	20.3	57.1	73.0	30.5	1,187.3	0.3%
Delaware	4.4	4.7	1.1	0.0	16.8	134.7	166.1	19.9	0.4	2.4	25.9	376.4	0.1%
Florida	234.9	409.3	556.5	583.1	1,782.8	2,592.9	913.9	407.6	292.3	263.6	361.2	8,397.9	2.5%
Georgia	161.5	274.2	359.9	386.8	1,129.7	2,139.0	919.2	567.9	311.3	584.8	261.7	7,096.1	2.1%
Hiwaii	0.0	20.2	1.5	4.2	12.6	196.0	37.8	2.9	16.6	25.6	15.3	332.6	0.1%
Iowa	14.2	22.1	17.1	8.8	13.9	20.8	6.0	2.0	4.2	10.3	12.1	131.4	0.0%
Idaho	15.2	0.1	1.2	30.3	2.0	19.5	2.7	10.6	52.2	2.5	8.0	144.3	0.0%
Illinois	197.8	361.3	365.7	381.3	1,315.2	2,406.1	941.4	281.4	380.3	271.5	241.1	7,143.0	2.1%
Indiana	9.1	22.8	25.2	27.0	38.2	254.0	53.8	39.4	24.5	65.8	95.6	655.2	0.2%
Kansas	6.6	29.2	39.6	12.6	28.7	262.7	42.2	7.2	2.9	37.7	0.0	469.3	0.1%
Kentucky	17.0	31.1	34.9	37.5	81.9	198.5	23.9	13.6	7.1	54.4	32.0	531.7	0.2%
Louisiana	30.5	13.7	26.5	69.2	294.0	87.9	85.4	19.3	1.3	3.2	1.0	631.7	0.2%
Massachusetts	691.8	1,077.4	1,383.8	2,020.2	4,925.5	10,393.2	4,864.1	2,472.7	2,585.0	2,774.9	2,352.1	35,540.7	10.4%
Maryland	118.4	137.4	183.9	334.0	914.8	1,886.2	994.3	622.8	353.9	512.3	442.6	6,500.6	1.9%
Maine	1.5	1.5	9.7	61.8	57.4	140.2	32.6	15.9	0.9	26.0	3.0	350.5	0.1%
Michigan	70.7	85.7	112.4	116.0	231.9	332.0	157.7	111.9	91.9	148.1	89.0	1,547.2	0.5%
Minnesota	161.7	173.7	277.0	364.6	623.7	1,079.0	464.0	340.2	222.5	351.2	227.9	4,285.6	1.3%
Missouri	83.2	43.8	50.7	598.8	169.7	656.7	251.6	82.8	103.7	62.5	117.4	2,220.8	0.7%
Mississippi	2.7	10.6	8.0	3.5	255.7	19.5	30.0	5.0	0.9	2.6	8.5	347.0	0.1%
Montana	0.0	4.4	0.0	0.5	18.3	16.7	24.8	0.0	0.3	0.4	27.4	92.8	0.0%
North Carolina	301.0	184.9	266.5	354.1	798.4	1,888.0	649.4	603.4	374.0	335.3	507.5	6,262.5	1.8%
North Dakota	9.8	0.0	1.1	0.5	3.0	6.1	1.0	0.0	14.5	2.0	0.0	38.0	0.0%
Nebraska	16.1	10.4	2.7	28.5	29.5	17.5	59.0	11.9	0.6	0.0	6.1	182.4	0.1%
New Hampshire	30.5	39.9	44.3	176.1	216.3	725.0	289.9	208.1	161.1	146.0	112.6	2,149.8	0.6%
New Jersey	257.3	389.4	445.9	487.2	826.8	3,225.9	1,430.0	747.3	896.9	720.4	823.1	10,250.3	3.0%
New Mexico	3.6	22.4	27.0	7.7	12.1	21.1	14.2	51.9	6.6	28.1	88.4	283.2	0.1%
Nevada	0.6	2.0	11.4	24.9	26.2	27.4	28.2	26.1	38.2	9.5	104.9	299.4	0.1%
New York	276.8	398.1	818.5	1,234.8	3,725.3	7,256.4	2,164.0	755.2	680.7	721.1	1,042.2	19,073.1	5.6%
Ohio	68.7	157.7	210.4	281.9	504.1	961.4	233.4	237.2	88.1	70.7	119.3	2,932.9	0.9%
Oklahoma	6.1	31.8	27.8	101.4	68.0	52.5	29.8	33.0	31.1	63.9	1.5	447.0	0.1%
Oregon	40.2	95.0	134.5	54.5	544.2	814.6	223.3	151.1	100.0	155.7	138.1	2,451.2	0.7%
Pennsylvania	142.7	308.1	503.4	603.0	1,617.2	3,090.0	994.9	434.4	556.2	526.1	469.5	9,245.4	2.7%
Puerto Rico	7.8	4.1	12.5	1.3	4.6	31.1	32.0	0.5	0.1	1.5	1.7	97.1	0.0%
Rhode Island	6.0	0.3	10.6	7.7	13.4	91.0	58.8	58.4	51.7	80.4	77.1	455.3	0.1%
South Carolina	53.4	90.4	47.7	139.0	134.6	415.2	97.1	75.7	19.3	16.1	5.0	1,093.5	0.3%
South Dakota	0.0	0.0	0.0	0.0	0.7	0.3	0.5	60.1	3.5	1.9	0.0	67.0	0.0%
Tennessee	175.2	153.1	101.6	111.9	512.7	387.5	206.8	113.8	77.3	81.0	65.6	1,986.4	0.6%
Texas	459.6	513.1	836.0	1,066.8	2,790.4	6,207.8	2,959.2	1,309.7	1,164.6	1,096.5	1,068.9	19,472.7	5.7%
Utah	11.2	58.3	100.3	125.0	371.2	659.6	212.8	85.1	106.5	188.6	249.1	2,167.7	0.6%
Virginia	280.4	447.6	347.6	746.7	1,190.6	3,290.2	968.3	419.6	376.4	272.1	401.7	8,741.3	2.6%
Vermont	12.0	2.0	3.2	1.4	0.0	46.4	11.6	3.7	5.2	4.5	35.2	125.2	0.0%
Washington	329.5	408.2	418.9	754.0	1,991.7	2,727.5	1,119.8	533.5	400.0	868.3	736.3	10,287.7	3.0%
Wisconsin	8.9	25.4	56.6	83.7	84.0	198.9	99.1	50.8	37.6	57.1	67.9	770.0	0.2%
West Virginia	0.0	0.0	23.8	0.0	0.0	5.0	1.8	18.2	19.8	8.6	10.5	87.7	0.0%
Wyoming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	4.1	5.6	0.0%
Undisclosed/Other	0.3	2.1	4.3	32.1	2.4	171.3	62.4	0.0	0.0	1.5	0.0	276.5	0.1%
Grand Total	8,156.0	11,513.5	14,907.2	21,346.7	54,603.5	105,892.1	41,015.3	21,580.3	18,946.2	20,940.6	21,680.0	340,581.4	100.0%

Courtesy PricewaterhouseCoopers/National Venture Capital Association/Venture Economics

Appendix – B

1995-2005 Venture Investments by Company Stage of Development

Stage-of-development distribution of institutional venture capital
As represented in the, Money Tree Report

Published by:

PricewaterhouseCoopers and the National Venture Capital Association

Based on data provided by:

Thomson Financial from 1995 through 2005

1995-2005 Venture Capital Investments by Company Stage of Development

PricewaterhouseCoopers/Venture Economics/NVCA Money Tree

By Stage of Development	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Startup/Seed	1,313.0	1,491.9	1,310.2	1,751.1	3,275.1	3,093.9	729.5	290.0	356.7	406.6	735.9
Early Stage	1,683.7	2,744.4	3,450.3	5,421.2	11,700.6	25,573.4	8,960.9	3,927.5	3,454.0	3,986.7	3,396.2
Expansion	3,681.4	5,143.4	7,592.3	10,434.2	29,848.0	59,979.0	23,024.3	12,320.0	10,100.4	9,257.0	7,821.0
Later Stage	1,198.5	1,632.3	2,259.2	3,194.2	8,651.9	16,054.3	7,988.7	5,160.3	5,674.1	7,985.0	9,727.0
Undisclosed/Other	2.7	2.3	0.1	9.8	0.1	0.1	0.0	0.0	0.3	0.0	0.0
Grand Total	7,879.3	11,014.3	14,612.0	20,810.6	53,475.7	104,700.7	40,703.5	21,697.8	19,585.5	21,635.3	21,680.0
Startup/Seed Percent	16.7%	13.5%	9.0%	8.4%	6.1%	3.0%	1.8%	1.3%	1.8%	1.9%	3.4%

Appendix – C

1995-2005 Venture Investments by Industry Sector

Distribution of institutional venture capital by selected industries
As represented in the, Money Tree Report

Published by:

PricewaterhouseCoopers and the National Venture Capital Association

Based on data provided by:

Thomson Financial from 1995 through 2005

1995-2005 Venture Capital Investments by Industry Sector

in millions of dollars *source:PricewaterhouseCoopers/Venture Economics/NVCA Money Tree*

Industry	1995	1996	1997	1998	1999	2000
Biotechnology	760.4	1,109.9	1,423.4	1,543.3	2,042.1	4,228.5
Business Products and Services	176.4	366.4	404.9	688.8	2,697.1	4,999.5
Computers and Peripherals	332.2	379.4	370.8	360.2	880.6	1,708.3
Consumer Products and Services	554.1	472.3	730.4	671.2	2,624.1	3,371.2
Electronics/Instrumentation	135.3	172.8	281.5	221.0	270.1	828.6
Financial Services	195.5	328.2	363.3	856.2	2,216.4	4,113.0
Healthcare Services	451.6	675.1	878.5	907.7	1,478.2	1,423.8
Industrial/Energy	537.7	506.7	742.5	1,346.4	1,698.5	2,402.6
IT Services	176.1	465.8	653.3	1,075.8	4,183.1	8,542.6
Media and Entertainment	884.3	990.6	926.4	1,824.7	6,715.6	10,664.8
Medical Devices and Equipment	646.1	635.1	968.8	1,187.8	1,502.6	2,509.2
Networking and Equipment	329.1	596.6	963.0	1,423.5	4,449.2	11,627.5
Retailing/Distribution	317.2	523.5	329.9	616.2	2,813.4	3,197.6
Semiconductors	211.2	289.4	600.0	643.7	1,330.7	3,709.2
Software	1,157.4	2,282.3	3,369.3	4,492.6	10,466.0	24,434.3
Telecommunications	918.9	1,214.6	1,575.3	2,856.5	7,940.7	16,741.6
Undisclosed/Other	95.9	5.6	30.7	94.9	167.5	198.7
Grand Total	7,879.3	11,014.3	14,612.0	20,810.6	53,475.7	104,700.7

Industry	2001	2002	2003	2004	2005
Biotechnology	3,303.3	3,161.0	3,639.5	4,147.0	3,861.6
Business Products and Services	1,084.1	503.2	676.7	461.0	515.4
Computers and Peripherals	655.9	425.3	363.5	592.7	467.5
Consumer Products and Services	727.5	242.7	170.8	297.2	362.0
Electronics/Instrumentation	336.1	326.2	220.7	383.0	387.4
Financial Services	1,397.7	343.6	388.4	435.2	643.6
Healthcare Services	542.2	393.9	258.6	420.6	436.8
Industrial/Energy	1,126.4	684.3	765.3	646.6	740.5
IT Services	2,411.3	1,043.6	795.3	612.6	921.1
Media and Entertainment	2,548.1	739.7	882.2	900.2	945.1
Medical Devices and Equipment	2,008.9	1,830.6	1,596.8	1,705.5	2,114.1
Networking and Equipment	5,779.5	2,545.5	1,732.9	1,554.3	1,402.1
Retailing/Distribution	333.9	159.8	75.4	207.4	270.5
Semiconductors	2,373.2	1,506.5	1,767.2	2,077.8	1,778.2
Software	10,407.4	5,305.8	4,432.8	5,246.3	4,703.6
Telecommunications	5,527.8	2,464.3	1,818.8	1,946.8	2,129.2
Undisclosed/Other	140.2	21.6	0.6	1.1	1.5
Grand Total	40,703.5	21,697.8	19,585.5	21,635.3	21,680.0

Appendix D

The Sandler Report

The Effective Use of Tax Credits in State Venture Capital Programs

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The Sandler Report

The Effective Use of Tax Credits in State Venture Capital Programs[1]

The US Venture Capital industry is not a national phenomenon. It is highly localized, concentrated primarily on the northeast and southwest coasts. Recent statistics indicate that while the geographic dispersion of venture capital fundraising and investment has increased, it remains concentrated, with many states raising little capital and receiving little investment. Due to the geographic concentration of the formal venture capital industry, a number of states—particularly in the nation's mid-section—have introduced a variety of programs in order to promote a local venture capital industry.

In developing venture capital incentives, governments should recognize a few important features of venture capital and the small and medium-sized enterprises (SMEs) that it funds. Venture capital investment covers a spectrum, from seed or pre-seed investment through start-up, expansion and ultimately buy-out financing. The venture capital industry is broadly divided between "informal" venture capital and formal venture capital. Informal venture capital comprises the "three F's" or "love capital" (the business's founders, family and friends) and "angel capital." Love capital is often the primary source of capital in a business's early stages of development. Angel capital refers to equity capital provided by high-net-worth individuals unrelated to the business's founders. Angels often commit not only money to a venture, but also their expertise in business, product design, marketing, etc. The formal venture capital industry consists primarily of venture capital funds (VCFs) managed by professional venture capital firms. Investors in such funds—including both taxable and tax exempt entities—are passive investors. Typically the informal venture capital industry covers pre-seed to startup or first stage investment, while the formal industry tends to gravitate toward the end of the spectrum where the deals are much larger. However, there is overlap between the two.
Good state venture capital incentive programs should recognize the differing sources of venture capital as well as the spectrum of venture capital investment. The programs should target gaps in investment activity—which vary from state to state—and also target the right small businesses. The vast majority of small businesses—more than 90%—are lifestyle businesses. They tend to have low-paying jobs with few benefits. The most important small businesses—in terms of economic development—are rapid-growth SMEs or "gazelles," which make up only 4-8% of all small businesses but account for 70-75% of net new jobs. It is these businesses that are the important job creators and it is investment in these businesses that state venture capital programs should target. Finally, state programs should recognize that venture capitalists and rapid-growth SMEs are concentrated primarily in urban areas. High-tech firms (which make up the vast majority of rapid-growth SMEs) benefit from specialized labor markets, knowledge spillovers from competing firms, and the presence of critical suppliers and perhaps customers. Thus, state expenditure programs that target rural high-tech

[1] By Daniel Sandler, Professor at the Faculty of Law, The University of Western Ontario, London; senior research fellow of the Taxation Law and Policy Research Institute, Melbourne; associated with Minden Gross Grafstein & Greenstein LLP, Toronto. The comments in this paper are derived from Daniel Sandler, *Venture Capital and Tax Incentives: A Comparative Study of Canada and the United States* (Toronto: Canadian Tax Foundation, 2004) ("Sandler VC Study").

development[2] are likely an inefficient use of government funds. State programs should avoid political pressures to be geographically representational.

State programs targeting rapid-growth SMEs and their investors can take a variety of forms. This paper focuses on tax credit programs and is divided into three parts. The first two parts consider state venture capital tax credit programs targeting informal venture capital investment—primarily angel investors—and formal venture capital investment, respectively. The last part discusses the evaluation of these programs.

TAX CREDIT PROGRAMS TARGETING INFORMAL VENTURE CAPITAL

A number of states have introduced or proposed tax credits for seed capital investment in small businesses.[3] These tax credits act as front-end incentives targeting primarily angel capitalists. By reducing the after-tax cost of the investment, the government assumes some of the investment risk. There are a number of points to consider in developing (and evaluating) an angel tax credit:

- What investors are eligible?
- What types of investment qualify?
- What are the terms of the tax credit offered as an incentive?
- What is an eligible business?
- Are there any restrictions/requirements on the business's use of the investment?

Each of these is considered in turn.

Eligible Investors

Most angel tax credit programs are limited to individuals, primarily because individuals make up the vast majority of angels. However, the tax credit should be limited to "sophisticated" investors: angels who can properly evaluate business proposals, adequately monitor their investments once made, *and* provide more than just money to the businesses in which they invest; their expertise may assist the business in developing its products and perhaps in accessing additional capital. Unsophisticated angels cannot reduce the information asymmetries or moral hazard associated with venture capital investing. In addition, they can impede the business's ability to seek follow-on capital.[4] While it is difficult for a tax credit program to define "sophisticated" angels, the program can include a "proxy" for sophistication, for example the "accredited investor" provisions in applicable securities legislation.

A related issue is whether there should be restrictions on the relationship between qualified investors and eligible businesses: in other words, should the credit extend to love capital as well as angel capital? Angel capital tax credit programs should be limited to arm's length investors for two reasons. First, love capitalists would likely make the same investment without an incentive. Second, and more importantly, there is too much potential for abuse if the credit is extended to love capital. For example, the business's founders could easily multiply the credits available by providing funds to other family

[2] For example, Oklahoma's Rural Venture Capital Formation Incentives program.
[3] Sandler VC Study includes a detailed description of the programs in Indiana, Iowa, Maine and Missouri.
[4] Joshua Lerner, "'Angel' Financing and Public Policy: An Overview" (1998), vol. 22, no. 6-8 *Journal of Banking and Finance* 773-783 at 780.

members (or to wholly-owned corporations if the credit is available to corporate investors). Most programs include measures to limit their scope to arm's length angels, but such provisions must be carefully drafted.[5]

Nature of Investment

Qualified investment obviously includes common stock. Whether it should also include other equity (preferred stock) or near-equity (unsecured loans) requires a consideration of two issues: ensuring that the investment is "risky" enough to warrant the government assuming some of the risk; and ensuring that the business will have the use of the funds for a sufficiently long period of time. For example, Missouri and Maine extend a tax credit to unsecured debt, although they require that the investment be at risk for a minimum of 5 years. In most programs, the original investor can sell the investment to a third party, but the purchaser is not entitled to a tax credit.

Nature of Incentive

All of the angel incentive programs provide an income tax credit based on the cost of the investment, although the amount and terms of the tax credit vary from state to state. The rate generally varies from 20 to 40%, with some states offering a higher credit for investment in companies located in economically disadvantaged areas (e.g., Maine and Missouri). Some programs defer the credit (e.g., Iowa) or spread the credit over a number of years.[6] The tax credits are generally non-refundable, although some jurisdictions permit the sale or transfer of credits[7] and all permit the carry-forward of unused credits (although the time period varies). Most states impose a ceiling on the credits that one investor can obtain, either on a per-year and/or per-business basis. Most also impose a ceiling on the credits available to all investors in one business.

Eligible Businesses and Eligible Uses of Capital

Obviously, the tax credit should be limited to investment in small businesses located in the state.[8] Most programs are limited to particular types of businesses. Sophisticated angels will likely invest only in businesses with growth potential and with an exit strategy in mind. Even so, most programs either target specific business sectors or exclude others. "Lifestyle" businesses should be excluded, as well as businesses in the real estate sector and financial services sector. Beyond this, limitations may be based on a state's desire to reduce reliance on particular economic sectors (e.g., natural resource extraction) or increase development of other sectors (e.g., knowledge-based industries).

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[5] For example, Missouri's angel tax credit is not available to principal owners (one or more persons who own an aggregate of 50% or more of the business and who are involved in its operations as a full-time, professional activity), their spouses or any family member within the third degree of consanguinity. Furthermore, investors applying for the tax credit must collectively own less than 50% of the business after their investment. The planning opportunities for a principal owner to invest through other family members are severely restricted. In contrast, the limitations in other programs are easily circumvented. For example, Iowa's tax credit is not available to any current or previous owner, member or shareholder. However, nothing prevents close family members of a current or previous shareholder from claiming tax credits for investments (regardless of the actual source of the funds financing this investment).

[6] In 2005, Louisiana introduced a 50% angel tax credit, payable equally over a five-year period. The present value of the credit (assuming a 5% annual interest rate) is approximately 43.3%.

[7] The preference for refundable over transferable credits is discussed *infra* note 12 and corresponding text.

[8] "Small" may be determined by one or more of: the number of employees, gross sales, and/or gross assets. The location of the business is generally based on its headquarters or principal place of business. Some states require that a minimum percentage of the business's employees and/or assets be located in the state.

In most cases, the government does not evaluate businesses or business plans beyond ensuring that basic eligibility requirements are met. Investors must be aware, and preferably acknowledge, that a business's eligibility is not a state "stamp of approval." At a minimum, the tax credit certificate should clearly state something to the effect that the state is not recommending or approving the investment.

Some states impose restrictions on the eligible use of capital: e.g., cannot be used to pay dividends, redeem shares or repay shareholder loans. Such restrictions are necessary and appropriate and would be demanded by sophisticated investors in any event. Some states further impose positive requirements on the use of capital, such as business expansion or research and development or other activities approved by the state department responsible for the program.

TAX CREDIT PROGRAMS TARGETING FORMAL VENTURE CAPITAL

Many states have adopted programs targeting the formal venture capital industry. These programs can take a variety of forms:

- Government-funded and -managed venture capital funds (VCFs);
- Mandatory venture capital investment (either directly or through VCFs) by public-sector pension funds;
- Tax credits for private investment in VCFs; and
- Government investment or government-guaranteed investment in private VCFs.

For some states, these programs are a key element of the government's efforts to diversify the state's economy. In most cases, the programs are designed to entice VCFs to invest in the state where few, if any, invested previously.

This part focuses on the third type of program, reviewed in the next section. Following this, an innovative program of the fourth type—the "Oklahoma program" and its variants, in which the government uses tax credits to guarantee either its investment or third-party investment in a fund-of-funds—is discussed.

Tax Credits for Private Investment in VCFs

There are a variety of tax credit programs targeting private investment in VCFs. These programs are similar to the angel tax credit programs discussed previously, except that they target indirect investment in SMEs by providing a tax credit to passive investors in professionally-managed VCFs. Like the angel tax credit programs, the government is assuming some of the investment risk by reducing the cost of investment. This section is divided into two parts: the first reviews general VCF programs that rely on income tax credits to promote investment; the second considers CAPCO programs, a particular type of VCF program that uses premium tax credits to attract insurance company investment.

General VCF Income Tax Credit Programs

VCF tax credit programs vary from state to state,[9] but share similar issues to angel tax credit programs. Most US states give wide latitude to the organizational structure of the VCF and in most cases they are structured as for-profit limited partnerships or limited liability companies (similar to VCFs that do not benefit from government incentives).

Eligible Investors

Unlike the angel credit programs, most VCF programs target a variety of investors, both individuals and corporations. Most are limited to taxable entities. However, a few states[10] provide transferable tax credits or refundable tax credits specifically to target non-taxable investors (such as pension funds or university endowment funds) as well as non-residents of the state.

The lack of venture capital investment by large (primarily public sector) pension funds or other tax-exempt entities (such as university endowments) may be considered a gap in venture capital investment in some states. While many US pension funds have embraced venture capital as an alternative asset class, there are pension funds that have not. There are two basic ways that this perceived gap might be addressed: the state could compel public-sector funds (i.e., through legislation) to make venture capital investments;[11] or the state could provide a financial incentive for such investment, such as a grant, guarantee, refundable tax credit or transferable tax credit. A grant gives the government greatest control but may not be an efficient incentive, particularly where both taxable and tax-exempt entities are targeted. A refundable tax credit is functionally equivalent to a grant. In terms of government cost, there is little distinction between a refundable credit and a transferable credit.[12] However, from the investor's perspective, a transferable credit entails higher transaction costs than a refundable credit: not only must a willing purchaser be found, but also the credit must be sold at a discount.[13] Most state governments are loath to offer refundable credits despite their greater efficiency, likely due to pragmatic (i.e., political) reasons: there is a perceived difference between the state writing a check to one person and the state collecting less tax from another person.

Nature of Investment

The nature of the investment in the VCF is determined primarily by the VCF's organizational form. In most cases, the credit is available to an investor acquiring an equity interest in the VCF. This is one of the key distinctions between CAPCO programs and the remaining VCF programs. As described in more detail below, the insurance company's investment in a CAPCO is typically structured as a secure, guaranteed debt.

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[9] Sandler VC Study includes a detailed description of the VCF income tax credit programs in Iowa, Kansas, Maine, Missouri, Oklahoma and West Virginia.
[10] Kansas and Missouri are examples.
[11] This was done in Michigan (1982), Massachusetts (1984) and Maryland (1990). See Sandler VC Study, pp. 389-390.
[12] In fact, a transferable credit has higher costs, because the government must monitor all tax credit transfers.
[13] For example, according to sources at the Missouri Department of Economic Development, the sale of Missouri VCF tax credits generates $0.85 to $0.90 on the dollar, or a 10 to 15% transaction cost in addition to the cost of locating a purchaser.

Nature of Incentive

All of the jurisdictions offer a tax credit (income tax, corporate tax, or certain other state taxes), although the amount and terms vary. Other than the CAPCO program, the rates in most programs range from 20 to 50 percent. West Virginia recently introduced a program where the tax credit is stipulated to be "no more than 50 percent," designed to give the WV Economic Development Authority room to negotiate a lower tax credit for specific investors if market conditions permit.

Some states require that the credit be spread out over a number of years (this is the case in all CAPCO programs) and some defer entitlement for either a stipulated period or until the VCF itself has invested its capital in qualified investments. This latter deferral is necessary in those states where the program permits investment in out-of-state VCFs or permits the VCF to invest in out-of-state businesses.[14] Matching the credit to eligible investments made by the VCF induces the VCF to behave in the same manner as non-incented VCFs. Equally important, the government cost is matched to the provision of capital to SMEs in the state rather than acting as an incentive simply for creating a pool of capital. In contrast, an up-front incentive must include "pacing requirements" and consequent penalties so that the funds are invested in qualified SMEs in a timely manner. These requirements impose additional monitoring costs on the government. Given the fact that government-incented VCFs should behave in the same manner as non-incented VCFs, delaying the credit until the VCF makes qualified investments is appropriate. Most private VCFs seek capital commitments from investors and only draw on capital when the VCF has lined up investments.

Eligible Businesses and Eligible Uses of Capital

For the purposes of the VCF programs, eligible businesses are defined in much the same way as in angel tax credit programs: small businesses (measured by one or more of employees, sales, assets) located in the state with a white list and/or black list of permitted or excluded businesses. Many VCF programs do not impose any restrictions or obligations on the use of capital by eligible small businesses. There is an unwritten assumption that a professionally-managed VCF will effectively monitor the use of its capital by its portfolio businesses to ensure that it is used to maximize the businesses' growth potential. However, problems can arise where "special purpose" VCFs are created for the tax credit program, all of whose investors benefit from the tax credit. In these circumstances, there may be concerns about exploiting loopholes in the program (such as no restrictions on a qualified small business's use of capital) to minimize investor risk and maximize their after-tax return.[15]

An issue that VCF tax credit programs should address is whether follow-on investment should be permitted. In making this determination, various possible objectives for the VCF program must be weighed: the extent to which it targets a new class of investors in venture capital; the extent to which it intends to attract high quality fund managers to the

[14] For example, in Maine, the tax credit (limited to individuals only) is equal to 40%, but is not granted until the VCF's investments in eligible businesses are at least equal to the amount of investment for which tax credits are claimed. Even then, the credit is spread over a number of years. However, where the VCF is located in Maine, is owned and controlled by residents of Maine, and has the objective of investing in Maine, one-half of the credit (20%) is grated at the time that the money is first invested in or unconditionally committed to the VCF.

[15] Leo Kelley, "'Sweet' deals leave 'sour' taste for most of us," Ada Evening News, April 18, 2006 (available online at http://www.adaeveningnews.com) colorfully describes schemes that have exploited Oklahoma's Small Business Capital Formation Incentive Act and Rural Venture Capital Formation Incentive Act.

state; and the extent to which it targets the largest equity gaps affecting small businesses (i.e., at the seed- and early-stage). The first two objectives favor follow-on financing because it generally improves fund performance. If, on the other hand, the primary goal is to address funding gaps at the earliest stages of development, then follow-on investment may not be appropriate because such investment could ultimately use a substantial portion of the VCF's capital. A balance of these objectives should be sought.

CAPCO Programs

The CAPCO program is the most "popular" VCF program in terms of the number of states that have adopted VCF programs; however, it is also the most problematic due to its high cost, poor design and target-inefficiency. Unlike any other VCF program, the CAPCO program provides a 100% premium tax credit to insurance company investors.[16] In effect, the government underwrites the entire investment risk.

The CAPCO program originated in Louisiana. In 1983, when first introduced, it was a "typical" VCF program, with a 35% income tax credit provided to investors in qualified VCFs. However, in 1984, a 200% premium tax credit was added to attract insurance company investors. Even with this rich incentive, few insurance companies participated until 1996, when the legislation was amended to give the tax credit to insurance companies that *lent* money to CAPCOs. This change prompted an exponential growth in CAPCO investment because it allowed an investment structure beneficial to both insurance company investors and CAPCO promoters. Four CAPCO fund management groups, which now control the bulk of the CAPCO industry across the United States, have proven to be powerful lobbyists: beginning in the late 1990s, a number of other states introduced identical programs (although limiting the premium tax credit to 100%).[17]

Although an insurance company's investment in a CAPCO can take a variety of forms—including a limited partnership interest (i.e., if the CAPCO is structured like many private-sector VCFs), preferred stock, common stock, or debt—insurance company investors typically invest in exchange for secured notes of the CAPCO. These notes carry an attractive rate of interest (often 200 to 300 basis points above that payable by state treasury bills) and are guaranteed through unregulated re-insurance that carries a substantial premium. The terms of the note typically provide that it is repaid, with interest, through a combination of repayments from the CAPCO and the application of the tax credits receivable by the investor. The CAPCO sets aside a portion of the capital invested by the insurance companies sufficient to pay the CAPCO's anticipated cash payment liabilities under the notes. This amount is invested in US Treasury bonds or other safe, interest-bearing securities, with maturity dates corresponding to the CAPCO's payment schedule under the notes. The remaining capital is intended for investment in eligible SMEs. The legislation includes pacing requirements and consequent penalties; in addition, 100% of the certified capital must be invested in

[16] The credit is spread over a 10-year period in virtually all CAPCO programs. Some offer a 10% credit per year for 10 years; others defer the credit for two years and then provided a 12.5% credit per year over the following 8 years. In either case, the present value of the credit (assuming a 5% annual interest rate) is significant: 77.2% and 73.3%, respectively. Effective in 2005, Texas amended its CAPCO legislation to defer all premium tax credits to 2009, but then permit them at the rate of 25% per year; based on the assumptions above, the present value of the Texas credit (in 2005) is 72.9%.

[17] For a more in-depth history, see Sandler VC Study, pp. 260-266. Louisiana reduced its premium tax credit to 110% in 1998 and to 100% in 2002.

eligible businesses before any distributions (other than annual management fees) can be paid to the CAPCO promoters. Due to the amount of certified capital set aside to fund the CAPCO's debt obligations—typically more than 50% of its capital—the CAPCO must "churn" investments in order to meet the 100% investment requirement.

CAPCO programs have been costly: to date, the aggregate cost to all nine states with CAPCO programs is well over $1.5 billion. Whether this cost is justified depends on the benefits to the state of the program. Only Louisiana's CAPCO program is old enough to warrant a cost-benefit analysis and the only analysis of that program of which I am aware—a study commissioned by the Louisiana Department of Economic Development in 1999[18]—suggests a positive cost-benefit analysis only if highly favorable assumptions (in my view, unrealistic assumptions) are made.[19]

If the costs of the CAPCO program exceed the benefits, as is likely the case, then the program makes sense only as a limited-term catalyst to create a self-sustaining venture capital industry. However, the CAPCO program does not prompt insurance companies to make true venture capital investments and is unlikely to attract other venture capitalists or motivated entrepreneurs to the state. The significant up-front incentive and guaranteed return to the insurance company investors reduce the pressure on CAPCO fund managers to invest the capital in qualified SMEs while the pacing requirements and accompanying penalties may lead to last-minute, hasty investment decisions. Simply put, a CAPCO fund manager is not subject to appropriate pressure from the fund's investors to undertake the degree of due diligence or monitoring expected in private sector VCFs. Indeed, there is a distinct possibility that CAPCOs crowd out private sector VCFs. The incentives offered are too rich and the program is not designed to promote the management of CAPCOs in the same manner as private sector VCFs.

The "Oklahoma Program" and its Spin-Offs

Oklahoma introduced a program in 1991 that was significantly different from other government-incented VCF programs. Oklahoma established the Oklahoma Capital Investment Board (OCIB) to oversee the Oklahoma Capital Formation Corporation (OCFC), a government-owned fund-of-funds. OCIB is authorized to borrow up to $100 million from banks in order capitalize OCFC, which in turn invests (for a minority interest) in privately-managed VCFs that have indicated a willingness to invest in Oklahoma businesses. The borrowed money plus a stipulated rate of return is guaranteed by OCIB, which is authorized to sell state tax credits in the event that it is called on its guarantee. The program legislation requires that OCIB obtain $2 of investment in state

[18] Postlethwaite & Netterville, *CAPCO Study*, prepared for Louisiana Department of Economic Development (Baton Rouge: Louisiana Department of Economic Development, December 31, 1999) (available online from the LDED Web site: www.lded.state.la.us).

[19] Although the study describes various ways to differentiate portfolio businesses and the type of financing provided by CAPCOs, the study used only gross receipts and industry-type as the bases for estimating the economic benefit of the program. Estimates of gross receipts were based on three different growth scenarios: 1. 29.1%, being the average growth of gross receipts over the previous five years of all companies that received CAPCO financing; 2. 15%, an above-average growth potential for start-up companies; and 3. a more conservative 10%. Even in the most favorable conditions, the study can be criticized for the simplicity in calculating the benefits of the program. According to the study (at 53): "In the end for the company to succeed it must have a positive net income, but gross receipts are an important measure of the impact of the company on the local economy because this determines how many persons will be required to work for it, how many materials will be purchased from other businesses in the local economy, and how the company will possibly develop in the long-run." Even so, it is unlikely that a 29.1% growth rate could be sustained if companies fail to show profits. Furthermore, the study apparently failed to take into account other factors, such as business failures, which tend to be more prevalent among small businesses, and the fact that while the growth rate for small businesses may be high in their earliest years, they are unlikely to be sustained over the longer term.

businesses for every $1 guaranteed. OCIB cannot obtain such an undertaking from private VCFs. Instead, OCIB undertakes sufficient due diligence before choosing VCFs in order to best ensure that they seriously consider Oklahoma investment opportunities.

To date, the program has been a marked success. Since the program's inception, the number of VCFs actively investing in the state has increased from one to 14. The OCIB has committed over $60 million into these 14 VCFs, of which approximately $40 million has been drawn down. The Oklahoma program has generated over $130 million of investment in Oklahoma SMEs and no tax credits have been sold. The only cost of the program to the state to date has been $600,000 for the program's original design.

A number of other states have either introduced or are considering the introduction of similar programs.[20] The key distinction between the Oklahoma program and other VCF tax credit programs is that under the Oklahoma program, the state obtains a full equity interest for its assumption of the investment risks. In other VCF programs, the state does not obtain any interest in the VCFs that it helps fund.[21] The state assumes some—or perhaps all, in the case of CAPCOs—of the investment risk, but its rewards are measured indirectly through the economic growth and consequent government revenue that the VCFs' investments in the state generate. Under the Oklahoma program, not only does the state benefit from this economic growth, but it also enjoys any upside from its venture capital investments. On the other hand, the Oklahoma program does not offer any incentives to other investors to make VCF investments.[22] If there is a perceived gap in venture capital investing—for example from pension funds or high net worth individuals in the state—this program does not directly address this gap except as a signaling device if the state's investments are successful and well-publicized.

EVALUATION OF STATE TAX CREDIT PROGRAMS

State governments have spent billions of dollars through various state tax incentive venture capital investment programs. These programs should be evaluated from both a legal and an economic perspective. From the legal perspective, the legislation should be clearly drafted and kept as simple as possible, but ensure that the program is appropriately targeted, is not open to abuse, and has sufficient reporting requirements to measure its economic effectiveness. From an economic perspective, the success (in terms of economic growth) of these programs should be measurable, and the programs should not create unexpected economic distortions. In addition, the compliance costs for the state, eligible businesses and eligible investors should be as low as possible.

The costs of these programs—in terms of compliance costs and foregone tax revenue—make sense if the state generates a positive return on its investment. It is not simply the

[20] States that have introduced this program include (with year of introduction in parentheses): Oklahoma (1991); Arkansas (2001); Iowa (2002); Utah (2003); Ohio (2003); Michigan (2004); South Carolina (2004); Montana (2005).

[21] Some CAPCO programs provide a "carried interest" to the state, although whether the state will actually benefit depends on the terms of the carried interest. For example, under most CAPCO programs with a state participation feature, the state's participation arises only after the equity holders (i.e., the CAPCO promoters) realize a stipulated internal rate of return (IRR) based on the amount of certified capital. However, if, as is generally the case, the certified capital is raised exclusively through debt while only a nominal amount is contributed as equity, it is unlikely that the state will ever share in the CAPCO's distributions. In a few cases, the state is entitled to its carried interest regardless of the IRR of the equity holders if the fund fails to meet established pacing requirements.

[22] Some states have considered a variation of the Oklahoma program whereby the state guarantees private sector investors in the fund-of-funds and will sell tax credits if called on its guarantee. This variation is similar to other government-guarantee programs targeting small business investment, such as the federal SBIC program.

creation of large pools of venture capital that measures the success of these programs. Rather, their success is measured by the economic growth in the state that is generated by the SMEs that are funded. In order to undertake a cost-benefit analysis of these programs, the government must have sufficient information about these businesses. The reporting requirements imposed on these businesses (or perhaps on the VCFs that benefit from a VCF tax credit program) should include the following:

- a description of the business and the industry in which it operates;
- the amount of capital raised through the tax credit and all other capital that the business raised (i.e., did the program leverage other investment?);
- the use of capital, in terms of the number of new employees, wage rates, capital expenditures, etc.

Even with this information, computing the benefits of a particular program is difficult. Direct benefits, indirect benefits and induced benefits should be taken into account. The primary direct benefits are income tax revenues from salaries paid to new employees of businesses that benefited from the program. Other direct benefits include income taxes from the financed businesses (if they are profitable) and sales tax revenues from the purchase of goods and services by the businesses. Indirect benefits include government revenues from suppliers to these businesses, including business tax revenues and revenues from increased payrolls resulting from the purchase of the suppliers' goods and services. Induced benefits include the increase in consumer spending derived from increased employees' salaries. All of these benefits, particularly indirect and induced benefits, are difficult to quantify and necessarily require a number of assumptions. In most cases, input/output (I/O) models developed for the particular state can be used to compute the benefits of a particular program. But in developing and applying an I/O model, appropriate "inputs" must to be chosen and certain assumptions must be made to quantify these inputs. For example, if salaries or sales are used as an input, how much should be attributable to program funding? One possibility is to use the incremental portion of the salaries or sales directly attributed to the program (i.e., pro rate salaries or sales based on the proportionate equity capital of the business raised through tax incentives). Alternatively, one could argue that all salaries (or sales) should be attributed to the program funding if, in the absence of program, the business would not exist. Or, if it can be demonstrated that the business would likely have obtained financing in any event, then none of benefits should be attributed to the program. These various issues do not strip cost-benefit analyses of value; they simply require that the underlying assumptions of a cost-benefit analysis be critically examined.

Finally, state tax credit programs should include annual expenditure ceilings and a sunset clause (or aggregate expenditure limit) so that costs are controlled and the program is evaluated before deciding whether to continue its funding.