THE DECLINE OF THE UNITED STATES VENTURE CAPITAL INDUSTRY: WHAT THE FEDERAL GOVERNMENT SHOULD DO ABOUT IT

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Executive Summary

The United States private venture capital industry has entered a period of significant change and decline. The industry is rapidly becoming dramatically smaller and less able to foster the development of innovative, early stage businesses. The argument that these changes are just part of the normal business cycle is superficially appealing. In light of private venture capital's importance to the U.S. economy, however, leaving the industry to self-adjust is not good economic policy.

Over the last 30 years, the private venture capital industry has been a primary driver for technology company creation, intellectual property commercialization and small business employment in the United States. Simultaneously, the federal government has played a strong role as a driver of basic research and intellectual property creation. The symbiotic relationship between the federal government's encouraging invention and the private venture capital market's financing of innovation has created new industries and commercialized a wide range of technologies.

The private venture capital market is changing and shrinking for a number of reasons. Each of them, considered in isolation, is an appropriate market response to economic and market trends. The most important of these trends are:

- Venture capital as an asset class has not generated strong returns since 1999, and, in most cases, venture capital funds raised since 1999 have generated *negative* returns for their investors.

- Institutional investors (pension funds, endowments and other large investors in aggregated pools of capital) have reacted to the poor performance of the venture capital asset class by focusing on investing with venture capital fund managers that have generated positive returns previously.

- Institutional investors have reacted to the erratic performance of publicly traded stocks since 2007 by avoiding investments that do not provide immediate return. When they make longer term investments, they now favor investments that combine compelling risk management techniques with the possibility of disproportionate return. Private venture capital, by its very nature, cannot meet these criteria.

- Emerging or unproven venture capital fund managers' ability to raise new venture capital funds is severely limited. Proven venture capital fund managers are able to raise funds more readily. As a result, the average venture capital fund size is at an historical high, and the industry is consolidating into a smaller number of venture capital fund managers.

The net result of these trends is that the private venture capital industry is changing its focus from early stage technology businesses to later-stage technology investing: it is deploying larger amounts in fewer companies and focusing on less risky opportunities. Accordingly, investing is clustering in those regions of the country where positive returns have been achieved in the past (i.e., Silicon Valley) and where investors can benefit from rapid commercialization. In many

ways, the private venture capital industry has become more conservative. It now puts a premium on financing incremental innovation rather than revolutionary change. Simply put, there is, and will be, significantly less capital available for early stage technology businesses, particularly those that hope to create new industries or revolutionize existing ones. They will just be "too risky."

Coupled with the profound challenge of a lack of early stage capital is a more subtle but equally important problem. Private venture capitalists matter to our economy for the skills that they bring to company-building. There is a clear, proven correlation between the participation of an experienced private venture capitalist in an emerging company and the company's ultimate growth, particularly in the case of a first-time entrepreneur. A venture capitalist's company-building skills are not taught in school; they are learned on the job. As the private capital industry shrinks and reconfigures, skilled company-builders are leaving the industry. The pool of experienced people available to entrepreneurs to build new technology businesses is becoming shallower. Expanding state venture capital or increasing investment by individual high net worth investors ("***Angels***") will not substitute for this loss.

The federal government has a very important choice to make with respect to the private venture capital industry. It can choose to sit on the sideline and allow the industry to "sort itself out." Certainly, there are reasons to believe that, over a long enough time period, the private venture capital industry would revert to being one that promotes early stage and revolutionary investments as has happened in previous business cycles. As the cycle turned up, investors would look for increasing returns and be willing to take risks to achieve them. The question is whether the United States economy can afford to wait out those intervening years, when other countries will not be sitting idly by as the business cycle follows its course.

In many sectors of industrial development, the United States' ability to maintain its relevance as a technology-driven economy will be tied not to existing technology industries, but to new ones. In areas such as alternative energy, material science, space technology, cybernetics, artificial life and transportation, it will take the capital and experience of private venture capital company-builders to commercialize basic research conducted or funded by the federal government and create new industries.

For these reasons, the federal government should promote early stage venture capital pools and the existence of a large group of skilled company-builders. Additionally, it should seek to expand the symbiotic relationship between its own research and development activities and private venture capital. The current economic climate and the concomitant changes in the private venture capital industry have created an environment that would be conducive to government action. Specific actions that the federal government should undertake include:

- Drafting securities and disclosure rules to minimize compliance expenses for smaller venture capital funds.

- Providing incentives to smaller venture capital funds, or to larger venture capital funds that invest a significant portion of their capital in early stage technology company creation, most directly by continuing to treat carried interest profit allocations as capital

gains for tax purposes.

- Encouraging the formation of public-private partnerships between private company-builders and the federal government by establishing a Venture Fellows Investment Program.

- Encouraging Angel investors to aggregate capital with experienced company-builders, rather than invest individually.

- Modifying existing federal programs such as the SBIR, STTR and SBIC Programs to promote the foregoing objectives.

While it may be unpalatable to some for the federal government to actively influence current private venture capital trends, the importance of private early stage venture capital and skilled company-builders strongly calls out for action. The incremental expense of these actions will in many instances be small or non-existent, and they can be undertaken with small modifications to existing federal expenditures and programs. The private venture capital industry does not need a "bailout." What it needs is short-term government intervention that will allow it to continue to drive growth in the U.S. economy over the next few years. The alternative is a long period of retrenchment, with low growth, low job creation, and a loss of America's leadership position in the technology economy.

Introduction

Private Venture Capital Defined

Private venture capital, the process of individual private venture capital fund managers aggregating investor capital to invest in businesses, is generally viewed as a free market activity in its purest form. Unquestionably, the provision of risk-tolerant equity capital to newly formed, risky, high growth potential businesses evidences many of the things that we most closely associate with the American business ideal:

- Promoting highly motivated entrepreneurial behavior, both on the part of the entrepreneur starting the business and the private venture capital fund manager who aggregates and deploys the capital.

- Providing extraordinary financial rewards for the entrepreneur, investor and venture capital fund manager in the event that the invested-in business becomes a large and successful business.

- Rewarding the best ideas and teams with the greatest access to capital through efficient capital markets.

- Determining success by market imperatives – specifically, wealth creation.

- Attracting the most talented entrepreneurs and venture capital fund managers, who are most willing to bear the risk of failure for the benefits of success, with the prospect of significant wealth creation.

Private venture capital has proven very successful at rewarding the innovative founder, patient investor and savvy venture capital fund manager for the risks they take. It is an integral part of the development of high technology employers in the United States. The United States venture capital industry has funded companies that currently provide almost one in ten private sector jobs and almost 21% of GDP.[1] These statistics very strikingly communicate a message that private venture capital creates technology companies and related employment and is therefore essential for the United States' continued development as a modern technology job creator and innovator.

Institutional investors provide substantial commitments to venture capital when market trends are in its favor. During 2000, in the midst of wide spread enthusiasm about Internet investing, the U.S. venture capital industry received almost $79.6 billion in new commitments,[2] its highest

[1] Venture Impact, The Economic Importance of Venture Capital Backed Companies to the U.S. Economy, Global Insight, Fifth Edition.
[2] Venture Capital Industry Overview, First Quarter 2009, Dow Jones Venture Source.

annual capital raising level ever. But when it loses its appeal as a "hot" investment area, as it has now, the amount of capital available for new venture capital funds shrinks rapidly. During the first quarter of 2009, new private capital committed to venture capital funds was only $3.2 billion.[3] If this trend were to continue for the remainder of 2009, new commitments to venture capital would be approximately $13 billion – only 16% of its 2000 peak. This demonstrates that private venture capital depends on the behavior and expectations of institutional investors. Changes in investment sentiment can very quickly change allocations to the asset class.

Private Venture Capital Is Losing Its Attractiveness

Although recent fundraising never achieved the heights of 2000, venture capital allocations in 2007 were $39.1 billion,[4] compared to the $13 billion we can expect in 2009. Even when measured against more immediate history, the decline in venture capital fundraising is dramatic. Given that the economy is in a contraction phase, the question is whether the reduction in venture capital allocation is a short term trend or whether factors are in place that will cause a more lasting decline. The answer – that this is a long term state – lies in the nature of institutional investors, and in how recent market trends have affected their behavior.

Venture capital funds get the disproportionate amount of their capital from large institutional investors. Many of these investors are unlikely to be interested in maintaining, or increasing their allocations to venture capital funds for quite some time for several reasons.

First, venture capital has not been a rewarding asset class for institutional investors for a long time. Since 1999, the long term performance of venture capital investing as an asset class has not generally provided significant positive returns. As a long term and short term investment, venture capital has not been compelling. Since venture capital investing has a longer term investment horizon, the best standard for determining performance is to look at funds that have been investing for an extended period. A comparison of 1,271 venture capital funds formed between 1981 and 2009[5] shows that funds formed in 1999 have as a group generated median annual returns of *negative* 6.21%. With the exception of a less than 1% return for 2001 vintage funds, more recently formed venture funds have also generated negative returns. Many reasons have been suggested for the negative performance, including over-capacity in venture capital[6] or over-regulation.[7] Whatever the reason, the combination of less than compelling returns and the lengthy time period required to achieve liquidity[8] put considerable pressure on venture capital's attractiveness as an institutional investment.

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[3] Venture Capital Industry Overview, First Quarter 2009, Dow Jones Venture Source.
[4] Venture Capital Industry Overview, First Quarter 2009, Dow Jones Venture Source.
[5] Cambridge Associates LLC U.S. Venture Capital Index and Selected Benchmark Statistics, March 31, 2009.
[6] Right-Sizing the U.S. Venture Capital Industry, Paul Kedrosky, Senior Fellow Ewing Marion Kauffman Foundation, June 10, 2009.
[7] Stopping Start-Ups, Alan Patricoff and Eric Dinallo, New York Times, August 30, 2009.
[8] The average time from investment to liquidity for venture-backed companies is conventionally-viewed as being in the range of five to seven years from the date of initial investment by a venture investor. According to a recent report from Dow Jones Venture Source, the time from investment to IPO is at the highest level since 1999 (over 8

All investors are affected by this history of negative returns. But institutional investors face additional constraints that in the current market are steering them away from venture capital. The performance of the public markets – public equity markets in particular – has created tremendous cash flow problems for institutional investors. For example, the California Public Employees Retirement System, the largest defined benefit public pension in the United States, lost 23.4 percent of its portfolio's value in 2008, its worst one-year decline ever.[9] CALPERS estimates that it needs to generate as much as 7.75% each year to satisfy its cash obligations and rebuild its portfolio to match its expected obligations. The need to generate stable and predictable positive returns is a growing issue for pension funds around the world. In many cases, they are de-emphasizing investments in equities and looking more actively to bonds and hedge fund investments.[10] This cash flow shortfall and the need for high current income are two reasons why investments in long term investments like venture capital will become less attractive.

Another reason is that institutional investors have increasingly moved to private equity funds when making alternative investments in private companies. Institutional investors' allocations to private equity funds (funds that, like venture capital funds, are categorized as alternative investments) grew at a torrid rate from 2004 through 2008, receiving capital in amounts that dwarfed the allocations to venture capital, even at its 2000 peak. Many of these funds are now deployed in transactions that are subject to the difficulties in the international credit markets. Cerberus Capital's investment losses from its investment in Chrysler LLC and GMAC are well publicized[11] but are only part of a larger trend. Institutional investors' large allocations to private equity have exacerbated the problems created by the public markets' fall because private equity investments (like venture capital) are pools of capital paid in over a multi-year period. Investors are committed to provide funds for the entire term of a fund (usually ten years), regardless of the fund's success or lack thereof. The overhang of future private equity funding commitments and the need to provide cash to satisfy these obligations create a further cash drain just when institutional investors' cash needs are increasing. In effect, the existence of large unfunded capital obligations to private equity funds is squeezing out other alternative investments with similar cash requirements (like venture capital funds).

Private equity and venture capital are both positively affected by vibrant public offering markets, since each of these investment types creates liquidity and return for its investors by selling companies to the public. The absence of a strong public offering market depresses returns for private equity and venture capital. When public market equity values are depressed, or slow-growing, the attractiveness of investments that rely on increasing stock values decreases dramatically. What is worse is that even if the United States economy and the opportunities for

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years) and the time from investment to private acquisition was also at historically high levels (over 6 years) before decreasing to approximately 5 years in the first quarter of 2009.

[9] Calpers Lost 23.4% in 2008, Worst One-Year Decline, Bloomberg.com, July 21, 2009.

[10] Pension Funds Pare Stocks Ignoring Economic Rebound, Bloomberg.com, August 17, 2009.

[11] A Motown Headache for Cerberus, David Welch, Businessweek.com, August 31, 2009.

liquidity in private equity financed companies improve immediately, the institutional investment community has a long-term hole in its investment portfolio that must be fixed. As institutional investors look more seriously at investments in bonds, or investments that provide greater liquidity and less risk,[12] it follows that less money will be available for long term and less predictable investments, such as participation in venture capital funds.

Moreover, institutional investment patterns do not change quickly. Allocation patterns are set by looking at performance retrospectively and over extended periods. Demographic patterns are also likely to encourage the need for growing cash outlays as beneficiaries retire and age.

Additionally, investment strategies that promise to generate disproportionate returns accompanied by risk management strategies (i.e., hedge funds) will appear more attractive. And, once historical return rates are more attractive, it will take an additional one to three years to raise new venture capital funds that can take advantage of a newly favorable trend. The overall conclusion is that the capital that is being deployed outside venture capital is unlikely to return soon.

Remaining Allocations Will be Concentrated in Fewer Hands

Not only will allocations be smaller in the future, but they will be distributed among a smaller number of established venture capital fund managers. This is because, even though venture capital funds as a whole have performed very poorly, venture capital funds managed by previously successful managers have generated a disproportionate amount of the positive returns. Put another way, the top 25% of venture capital fund managers have generated substantially all the investment returns from the asset class. That has been consistently true over an extended period.

Having said that top quartile venture investors are better able to generate returns, even the best of them have had trouble generating extraordinary returns. For example, since 1999, private venture fund managers in the upper quartile of performance have achieved their nominal positive returns at very low rates (the highest was 6.80% for a 2003 vintage fund).[13] This compares favorably to the bottom 75% of fund managers who generated negative returns, and in many cases, did not even return invested capital.

Institutional investors are not blind to these historical performance statistics, and their reliance on top quartile fund managers has not only allowed these fund managers to raise larger venture capital funds (in the first quarter of 2009, the average venture capital fund raised $250 million, compared with $112 million in 1999[14]), but has also discouraged the formation of funds by new entrants to the industry. This resulting "flight to quality" is making significant, and likely permanent, changes in the size and composition of the venture capital industry. As first time

[12] Pimco Plots Asset Strategy to Mimic Yale Without Cash Strain, Bloomberg.com, September 1, 2009.
[13] Cambridge Associates LLC, U.S. Venture Capital Index and Selected Benchmark Statistics, March 31, 2009.
[14] Venture Capital Industry Overview, First Quarter 2009, Dow Jones Venture Source.

fund managers and managers unable to generate top quartile returns are unable to raise new funds, they will leave the venture capital industry.[15]

Larger Funds Mean Fewer Early Stage Investments

As venture capital funds increase in size, they are less suitable for seed and early stage investments. Venture capital works as a means to create successful companies because the venture capitalist is a company-builder. That means that the venture capitalist must have the time to work with the entrepreneur and actively participate in business plans and decisions. The requirement of hands-on time means that a venture capitalist must either limit the number of companies that he works with at any time or forego some portion of the hands-on work and invest in more companies. If the choice is to invest in more companies, the venture investor will back more experienced entrepreneurs or more mature businesses, since both need less assistance. This counter-intuitive conclusion is at the core of the problem that venture capital faces today: even as funds increase in size and have more capital to deploy, they are less able and have less incentive to invest in a large number of early stage companies, particularly those started by first-time entrepreneurs.

Early stage technology businesses have two attributes that make them unattractive to private venture capitalists managing large funds: they are time-consuming and they cannot absorb large amounts of money productively On the other hand, a smaller venture capital fund is not pressured to deploy large amounts of capital per investment, and, because it does not have to make large investments, it does not need the business to ultimately sell for as large a price as a large fund would.

Put another way, as venture capital funds concentrate into larger pools, their exits (e.g., the transaction that causes their investments to become liquid) must become larger also. The need for larger exits drives larger venture capital funds to make investments only in businesses that they believe can become very large companies very quickly. This leaves out many businesses that might be successful, but which are unlikely to ever have a $1 billion market capitalization. It also leaves out in the cold businesses that could become sufficiently large, but don't have the expertise or clarity of purpose to make them attractive to a fund manager who has money but no time to invest. Additionally, it makes businesses that do not have an obvious exit strategy (a likely buyer) very difficult to finance.

Large venture capital funds are further disinclined to make early stage investments because they don't fit with the needs of their institutional investors. As mentioned above, institutional investors have a strong need for investments that generate steady cash flow, particularly when coupled with lower risk. Fund managers are affected by these requirements and model their investment performance in an attempt to satisfy them. Accordingly, private venture capitalists, particularly those with large numbers of institutional investors, feel pressure to make investments

[15] The VC Walking Dead: Extended Edition, Venturebeat.com, April 3, 2009.

with less risk and a shorter time to exit. The dual attributes of less risk and quick exits correlate to investments in later stage businesses.

Fund concentration and institutional investor sentiment have combined to dramatically shrink investments in early stage businesses. In the first quarter of 2009, only 31% of all venture capital rounds were seed and early stage, with these rounds accounting for only 18% of all invested venture capital.[16] In 1999, the figures were 54% and 35%, respectively. This trend is unlikely to change soon. A recent survey of the investment attitudes of venture capitalists showed that one-third of the respondents who had done early stage deals in the past planned to move towards later stage investing in 2009 and beyond. Only 6% of venture investors who had done later stage deals were intending to move toward early stage investing.[17]

The Venture Capital Industry Has Undergone a Lasting Change

The foregoing factors and influences will combine to have a number of significant and lasting effects on the venture capital industry:

- The private venture capital industry overall will continue to suffer as an investment opportunity in comparison to other strategies available to institutional investors.

- There will continue to be greater concentration of capital in a smaller number of fund managers. Institutions that remain willing to make venture capital allocations will seek to minimize risk by investing in "proven" investment teams, This will squeeze emerging venture capital fund managers – those that have not yet proven the ability to generate exceptional returns over a multiple fund history – out of the market.

- Fund sizes will remain large, as institutional investors flock to the same proven managers.

- Early stage and seed stage venture capital transactions will remain a small portion of overall venture capital investments.

- Regional concentration of venture capital is likely to accelerate. Another way to manage risk is to invest in regions that have successfully generated returns in the past or are perceived as providing an immediate opportunity for return. Therefore, institutional investors will tend to invest in regions that have provided returns before, such as Silicon Valley, or in regions that are perceived as having favorable macro trends (China or India).

[16] Venture Capital Industry Overview, Dow Jones Venture Source.
[17] Investors Predict Globalization Of Industry, Especially To China, Wall Street Journal, June 10, 2009.

- Immediate returns will be favored in response to investor needs. Fund managers will favor investments that have the possibility of early liquidity. This will cause venture investors to favor later stage investing.

- Venture capital will reward incremental changes, rather than innovation. The foregoing trends are likely to result in an industry that clusters around proven technology markets (for example, the Internet or medical devices) or markets where there is a perception of immediate growth (alternative energy) in a three to five year time horizon.

Some suggest that these trends, driven as they are by the operation of the free market, should not be discouraged. In fact, as will be discussed below, there are sound arguments that the discipline of the free market on a venture capitalist's performance is a strong criterion for evaluating an individual's company building skills. However, from the standpoint of promoting economic growth, especially in high technology sector, "letting the market decide" at what level to support new innovative activities could actually retard future economic growth and job creation. The ongoing market correction has created a chronic shortage of both early stage venture capital and skilled company-builders who are willing to make early stage investments. Waiting for the market to correct this shortfall (a period that will be measured in years because of the length of venture capital fundraising and deployment cycles), will create an unnecessary impediment to achieving accelerating economic growth over the near and intermediate term.

The Federal Government Must Act

When faced with a similar challenge last year, the federal government determined that it was better to intervene in the free credit markets and accelerate the recovery of bank balance sheets through direct investment and other means. While the venture capital industry doesn't need a bailout, the U.S. economy would benefit from government action to accelerate the emergence of new early stage venture capital funds and retention of experienced company-builders. There are some significant risks to the U.S. economy if the venture capital industry is left untended:

- The economy will lose access to a group of highly skilled company-builders, who have the expertise and contacts to build new high technology companies at a time when our economy needs this expertise.

- The economy will lose access to capital that is suitable for the early stages of technology business development.

- Commercializing the products of research activity funded by the federal government will be delayed; some opportunities will be lost forever. Over the last ten years, many areas of government-funded research have generated intellectual property and technologies that could be amenable to wide spread commercialization and the creation of new industries. In many instances commercialization will be difficult or impossible without access to

early stage capital and company-building expertise.

- Small technology businesses, which generate a disproportionate amount of new intellectual property patent filings, will lose a primary means for commercializing their technology, thereby entrenching larger existing companies and discouraging innovation.

The federal government must promote the continued availability of early stage venture capital funds and a large group of experienced company-builders. As the United States enters a new cycle of technological advancements in areas such as materials science, nanotechnology, robotics, space, and alternative energy, a close relationship between the innovators and the private venture capital industry should be promoted. This paper recommends concrete steps that the federal government should take to achieve these objectives.

The Symbiotic Relationship Between Government and Venture Capital

The venture capital industry is an integral part of the growth of high technology employers in the United States. The United States venture capital industry has funded companies that provide almost one in ten private sector jobs and almost 21% of GDP.[18] These statistics put a sharp focus on the fact that private venture capital creates technology companies and related employment and is therefore essential for the United States' continued role as a modern technology job creator and innovator.

Some take these statistics to mean that the venture capital industry does a fine job for the country on its own; they conclude that the federal government does not have a role in technology company development or job creation. This contention that venture capital is just fine as it is is also used to support the argument that venture capital should not be regulated like other financial investments, such as blind pool hedge funds or commodity trading vehicles, since venture capital's role in society is unique and important.[19]

While these arguments have some appeal, their take on the venture capital industry and its societal benefits does not properly describe a much more complex and reinforcing relationship between the federal government and private venture capital. The symbiosis begins with what the federal government and private venture capital are each well situated to do.

Private venture capital is structured to make equity investments and realize returns from the sale of a business within a 5 to 7 year period. This makes it only suitable for investing in *businesses*, and further, only in those businesses that have technology that can be commercially relevant in a short period of time. Venture capital is thus not suited for scientific research or basic

[18] Venture Impact, The Economic Importance of Venture Capital Backed Companies to the U.S. Economy, Global Insight, Fifth Edition.
[19] Washington vs. Silicon Valley, Wall Street Journal, August 7, 2009.

technological development, because there is no short term payout. It works much better as a funding source for incremental or evolutionary changes in existing technology industries or fostering adoption of technology once it reaches the point of quick commercialization.

The federal government, on the other hand, is much better at financing basic research and fostering new industries. For example, in 2007 federal government research and development expenditures were $137 billion.[20] Much of this spending occurred through defense- and healthcare-related spending, sometimes through commercial consumption but more often by financing research. Because it does not seek quick exits, the federal government is much better suited to longer term investments and to developing new technologies that can lead to whole new industries. For example, micro computers, biotechnology, material science, clean energy, wireless communications and the Internet all had substantial federal funding during their R&D stage.

Another important part of the U.S. innovation economy is small business. Small businesses receive a disproportionate portion of new patent awards, provide the most efficient return on technology investments and constitute 40% of firms that patent at least 15 pieces of technology in a year.[21] While many small businesses do grow without obtaining private venture capital, statistically a far greater portion of the large technology employers in the U.S. achieved their growth with the assistance of private venture capital. What drives the U.S. economy's innovation engine is strong participation by both federal government and the private venture capital industry in fostering technology creation both in and out of government.

The level of involvement by each is driven in some part by the level of maturity of a technology. When it is nascent, federal government encouragement and capital is more necessary. When it is more mature, it is more suitable for private venture capital. Over the last twenty years, in particular, there has been a concurrent trend of maturation in a number of technology areas which favored private venture capital investing – primarily computer software, computer hardware, medical devices and biotechnology. Perhaps this created an impression that in order to be a successful technological economy, the U.S. needed only to foster a vibrant private venture capital industry.

However, as the U.S. deals with the challenges of continued technology leadership, its economic future is in many ways dependent upon developing new industries. Industries such as material science, alternative energy, nanotechnology, and space technologies may provide in large part the industrial leadership and technology employment that the U.S. needs to maintain its position in the world economy. In jumpstarting these areas, the federal government will play an essential role. As these new technologies become more suitable for commercialization, the availability of a private venture capital industry with the capital and skills to successfully propagate these technologies will become even more important.

[20] Federal Support for Research and Development, A CBO Study, June 2007, page 1.
[21] An Analysis of Small Business Patents by Industry and Firm Size, Anthony Breitzman, Ph.D. and Diana Hicks, November 2008, page 2.

The Venture Capitalist As Company-Builder

Venture capitalist, as the term has been used over the last twenty years, has become associated with investment fund managers who aggregate and deploy institutionally provided pools of capital into companies. What has been less emphasized is the role venture capitalists play in growing and expanding the companies that they invest in. Academic studies show clear positive correlation between participation by an experienced venture capitalist in a first-time entrepreneur's business and its growth and ultimate sale.[22] Skilled venture investors help to grow successful businesses, not just by providing capital, but by providing a range of services and insights that significantly affect the development of their portfolio companies.

These "company-building skills" include:

- Strong operational experience relevant to the industry or service sector of the business.
- Significant experience with the specific challenges of managing a rapidly growing business.
- Good interpersonal skills and leadership.
- An ability to think ahead and see around corners.
- A strong network of relationships that bring pre-validated external expertise to the business.
- Transactional and financial expertise.

In a traditional venture capital transaction, the economic costs of retaining the expertise of a company-building venture capitalist are born by the venture capital fund's investors and the entrepreneur. The obvious economic costs are those born by the fund's investors since the manager receives a management fee and receives a share of the investors' profits. More subtle is the cost to the entrepreneur of investment capital. An entrepreneur will often accept an investment on harsher terms and at a lower price than he otherwise would because of the perceived value of a venture capitalist's participation in the business. This model of dual payment rewards venture capitalists that invest in high growth businesses, since the more explosive the business's growth, the higher the venture capitalist's compensation. Society and entrepreneurs thus put a high value on business professionals who understand how to grow a business and manage its development, so much so that they willingly accede to the fund

[22] Performance Persistence in Entrepreneurship, Paul A. Gompers, Anna Kovner, Josh Lerner and David S. Scharfstein, Working Paper 09-028, Harvard Business School, page 4.

manager's compensation and investment terms in order to facilitate the flow of advice on a regular and repeated basis.

By tying company-building to venture capital funds, the market provides an effective screen for how to assess and reward talent. The promise of high compensation, generated through management fees and carried interest participation, provides a strong incentive for the most talented company-builders to seek to manage venture capital funds. Successful fund managers' ability to generate exceptional returns provides them an additional benefit beyond their compensation: they are able to raise new venture capital funds. Therefore, the venture capital model, which requires fund managers to raise new funds every three to four years, provides tremendous discipline and a means to winnow out the less skilled company-builders. This systemic behavior allows for a concentration of individuals with these skills, with a means for the market to promote and reward effective company-builders.

The Early Stage Funding Void Is More About the People Than About the Capital

The dual trends of industry concentration and many venture capital funds' abandonment of seed and early stage investing, evident before the current recession, have accelerated in today's uncertain economic climate. The result of these trends has been a continued and growing lack of early stage venture capital and a focus on deployment in regions and industries that are proven or are perceived as immediate opportunities. The venture capital industry is becoming like the old joke about the fellow looking for the wallet he lost under a car who crosses the street and searches under a streetlight "because the light is better there." The United States is in danger of losing the wallet, and with it some significant economic benefits, if investment takes place in the light cast by a few large funds that limit their geographic and industry range.

To date, most observers who have addressed these trends have focused on the lack of early stage capital. They reason that entrepreneurs need early stage capital to start technology businesses, and the lack of early stage capital will prevent or inhibit new business creation. What these observers lack, however, is an appreciation of the most valuable aspect of an early stage venture capital transaction: the experienced company-builder – the venture capitalist. An effective professional venture capital investor possesses a broad range of multidisciplinary skills and relationships that have been shown over time to demonstrably positively affect the development and growth of new technology businesses. There is no specialized academic course of study or clear career progression that prepares someone for the role. It is attitude and a broad understanding of people and processes that determine success.

The Limitations of State Venture Capital

Approximately 30 states in the United States have engaged in some sort of state-funded venture capital activity. Some of them have been in the field for some time and have had some measure of success capitalizing early stage businesses and creating local jobs. These public venture capital efforts usually involve one or more individuals acting as venture investors who are expected to provide the company-building expertise of an experienced venture capitalist.

One reason why states set up venture capital efforts, rather than merely providing grants or gifts, is a desire to leverage their investment – in other words, to use it to obtain additional financing for start ups. They hope that by investing, rather than giving, their investment will be a validation of a new business's viability; that validation, in turn, will attract additional capital from private sources. While the data show that many companies receive downstream capital after obtaining public venture capital, there are no existing data to support causality.

In fact, anecdotal information suggests that the contrary is often true – in many instances private venture capitalists shy away from companies that have received public venture capital and when they do invest, they do so on their own terms and through their own investment processes. They do not syndicate with public venture capital funds, although they will tolerate the public venture capital fund investing on the venture investor's terms. Most likely, whatever validation effect may exist from a public venture capital investment is diluted by the fact that public venture capital is motivated by issues other than return, which confuses outsiders when they evaluate whether an opportunity is attractive for the larger private investment market.

Accordingly, state venture capital, while a useful part of a state's new technology business ecosystem, is not a substitute for the private venture capital model. State venture capital suffers in comparison in the following ways:

- State venture capital funds are not disciplined by the market requirement that they generate returns for investors. In fact, their investment mandate is driven primarily by issues of economic development. This is not surprising in light of their sources of capital, but it significantly undermines their ability to validate a private investment opportunity.

- Because they are not market-driven efforts, and because they are public or quasi-public, they do not compensate their managers at private market rates.

- As public or quasi-public entities, ethical rules relating to conflicts of interest and self-dealing prevent employees and managers from leveraging their official actions with private capital.

- As political entities, their ultimate value is determined by politicians, not investors.

- Political and economic development aspects of state venture capital prevent investment managers from building track records that can be evaluated by the private market. They cannot invest only as company-builders, nor can they make decisions based only on hard numbers – the kind of decision-making experience an individual or team must have to raise a private fund. Thus, when their role with the state ends, they are likely lost to the venture capital world.

These disadvantages mean that the state venture capital model is not a substitute for private venture capital: it does not provide sufficient opportunities for profit or career progression for the most talented company-builders. While there will always be exceptions, the likelihood of progression from being a state venture capital fund manager to attracting and managing a private venture capital fund is remote.

The Limitations of Angel Investment

As early stage venture capital investment has fallen, some Angel investors have provided early stage capital to many new businesses. This willingness to fund some early stage companies, however, does not mean that Angel investing can fill the early stage venture capital void. Angel investing suffers from a number of handicaps. Individual investors have a limited amount of capital to deploy into companies and therefore do not benefit from diversification. They tend to be limited in their technical expertise. The time to evaluate, structure and monitor investments competes with other demands. From an entrepreneur's perspective, the value of Angel investors is mixed. Some have a wealth of company-building expertise, but many provide only capital. And, unfortunately, in some cases, individual Angel investors are disruptive to an emerging business.

To address some of the limitations of individual Angel investing, Angel investors have begun to join together in groups. Software platforms such as AngelSoft allow Angel groups to work on deals across groups, thereby enhancing the advantages of Angel groups. The main advantages of Angel groups from an individual Angel's perspective are (i) greater investment diversification, (ii) wider range of technical expertise and (iii) better deal sourcing. From an entrepreneur's perspective, Angel groups are better than individual Angels because they provide larger amounts of capital and are more likely to provide useful technical assistance.

The big challenge to Angel groups filling the early stage venture capital gap is an Angel's inability to provide a uniform experience to entrepreneurs. And like managers of state venture capital entities, managers of Angel groups do not build investment track records which they can use to raise private venture capital funds; their job is to manage what the Angel group decides to invest in, rather than exercising individual investment discretion. A final limitation on Angel groups is that their varied experience and investment criteria often make them unsuitable partners for private venture investors.

There are, of course, instances in which individual Angel investors have become well-known company-builders. Sometimes these individuals can progress from Angel investor to private

venture fund manager.[23] What this group of Angels has in common is that the individuals make Angel investing a primary activity, and they devote significant time to sourcing and managing their investments. From the standpoint of company building, they are in many ways acting similarly to managers of private venture capital funds. They look for multiple deals, seek diversification, attempt to provide a continuity of experiences from deal to deal, have extended networks of relationships, and act to validate an investment opportunity to private capital sources. In many instances the only material difference to a private venture capital fund manager is that these "super" Angels are investing their own money.

The Angel investment model can provide a useful source of capital, and, in certain instances, it can provide entrepreneurs and potential co-investors access to a proven company-builder. However, the limitations on the Angel investment model make it very unlikely that it will be able to fill the current void.

Existing Federal Government Programs

The federal government currently operates a number of programs that attempt to address in some way the need for capital to finance new technology businesses. Each program, however, has the same flaw: the failure to provide a mechanism to nurture and develop individuals who can become company-builders and to raise a private venture capital fund. Federal government efforts to foster technology company creation and financing mainly occur through three programs: the Small Business Investment Company ("***SBIC***") Program, the Small Business Innovation Research ("***SBIR***") Program and the Small Business Technology Transfer ("***STTR***") Program. There has also been some experimentation with alternative models that combine some aspects of company building with federal government procurement; the best example of this is In-Q-Tel.

The SBIR and STTR Programs provide grants to companies or academic researchers that pursue research or commercialization concepts in areas of interest to any of eleven federal government agencies. The programs, which provide non-dilutive grants, generally focus on areas of technology development that are identified by a federal agency and reflect its areas of competency and objectives. Unlike other government programs that promote basic science or research, the SBIR Program provides capital to assist small businesses in providing technology or products of interest to the federal government. The STTR Program has a similar direction, but focuses on technology transfer from universities. Although the programs are ostensibly intended to promote commercialization, observers have suggested that in many cases these grants are not used to promote commercialization, but are instead used to pay for research and development activities for the benefit of federal government customers.

Whether or not this criticism is justified, it is clear that the SBIR and STTR Programs do not by their structure require or encourage either private investment or market validation. While this is intentional, its effect is to make the programs essentially neutral on providing a recipient with a

[23] Report: Mark Andreessen and Ben Horowitz raise $300 million venture fund, Venturebeat.com, June 12, 2009.

leg up on commercialization or obtaining additional private capital. Additionally, because the SBIR and STTR Program approval processes are managed and controlled by the federal government, the programs do not provide opportunities for individuals to develop company-building skills by sourcing and managing multiple investments. The programs are therefore of some use in providing capital, but they do not provide meaningful company-building assistance to grant recipients.

Another federal program, the SBIC Program, is supposed to provide capital to venture capital funds, which the funds can then leverage to raise additional private capital. This program, which was largely abandoned by the Bush Administration, facilitated the formation of many early stage venture capital funds in the 1980s and 1990s. This program was criticized as either promoting the formation of funds that would have been able to obtain private capital or as a subsidy to ineffective managers who couldn't raise private capital.

More recently, some limited appropriations have been made to provide additional funding for venture capital funds operating under the existing SBIC Program. However, those funds are structured to allow for rapid and prior payback of the allocated funds at a required rate of return. This payback requirement constrains the funds' ability to pursue early stage investing. Moreover, the process for licensing under the SBIC Program requires fund managers to have a proven track record and experience. Accordingly, the program does not promote the formation of venture capital funds by new managers, nor does it allow capital to be easily deployed to early stage business. Accordingly, it does not ameliorate either of the current problems in the early stage market.

New Approaches Are Necessary

It is clear that existing approaches to remedying the lack of early stage capital are inadequate both from the standpoint of providing sufficient capital and from the standpoint of providing entrepreneurs and investors with access to proven early stage company-builders. The federal government has two choices: wait for market conditions to change, a process which is likely to take a number of years, or adopt new policies that promote the development of the next generation of company-builders who are capable of assisting early stage businesses and being the catalysts for private investment in early stage transactions.

These federal government policies should have the following overall objectives:

- Fostering the formation of private venture capital funds that are configured to make early stage investments and investments in capital-efficient companies in maturing industries. The size of these funds should be approximately $20 million per experienced company-builder.

- Fostering the training and development of experienced company-builders who could aggregate and manage Angel investments.

- Encouraging the organization of Angel capital into pools managed by experienced company-builders.

- Providing company building expertise to federal financing of new technology creation to increase the likelihood that grant programs like the SBIR and STTR Programs would result in commercialization of technologies.

- Creating a long term reinforcing relationship between federal government programs that are intended to finance technological development and a larger community of professional company-builders.

- Encouraging the development of company-building skills independent of the need to obtain private capital, as a way to encourage longer term investment in emerging technologies with a longer lead time.

- Facilitating greater collaboration between public and private funding sources, particularly in the early stages of company development.

- Causing the United States to maintain its industrial advantage of a large scale invention and innovation ecosystem that is independent of the prevailing investment appetite of institutional investors.

Specific Policy Steps

The federal government should consider one or more of the following policy approaches. If adopted in whole, or even in part, these proposals would contribute to an important reinvigoration of early stage company-building at an important moment for the United States economy. The proposals, many of which are mutually reinforcing, would leverage the private market's approach to evaluating company-builders and venture capital investment opportunities in a way that would meet broader policy objectives, including the following:

- Encouraging existing private venture capital managers with proven ability to raise capital to raise smaller funds that are focused on early stage investing, or alternatively, to create sub-allocations of their larger funds to accomplish these objectives.

- Encouraging emerging venture capital fund managers to raise venture capital funds that are focused on early stage investing.

- Broadening the scope of interaction between the federal government and existing venture capital managers and emerging fund managers by tying opportunities for career development and future fund raising opportunities to a closer association with governmental technology creation activities.

The proposals described below are not intended to substitute for the market discipline of the for-profit world. Rather, they are intended to utilize the positive relationship that is created when private capital sources seek good investment opportunities and venture fund managers provide them. By creating an economic incentive for pursuing early stage investing and creating opportunities for existing and emerging fund managers who focus on this investment area, the federal government can ensure that capital allocation and personal career motivations work in parallel to ensure a vibrant early stage venture capital industry.

Many of the following proposals could be designed to be revenue neutral, in as much as they could be accomplished by reallocating existing resources. Others would require a relatively small resource outlay. The multiplier effects of federal investment in promoting venture capital (as shown by national job creation and GDP contribution) are large.

As will be shown below, these proposals could be adopted singly or in mutually reinforcing combinations. They are intended to foster discussion among stake holders both in and out of the government. However, by encouraging a more creative approach to the current challenges to the venture capital model, the federal government could materially improve the economic outlook for emerging technology businesses in the United States.

Venture Fellows Program

The federal government, through the SBA, could modify the existing SBIC and SBIR programs to create and promote a new type of federal government employee – the Venture Fellow. The Venture Fellow would broadly be defined as an individual with company-building skills hired by the federal government to work on technology business creation for two years. The Venture Fellows would be part of a new Venture Fellows Program ("***VFP***"), which would also be administered by the SBA, which would be managed by one or more experienced professional company-builders and a staff. The SBA would work with an Advisory Committee comprising representatives of each of the eleven agencies that currently benefits from SBIR funding and members of the public drawn from private venture capital organizations and academia. The VFP would provide common training and experience sharing, though online and off-line education and interactions.

Venture Fellows would be seconded to the various government entities that currently acquire technology through the SBIR and STTR Programs; they would evaluate proposals in light of their feasibility or attractiveness as commercial opportunities. Venture Fellows could also be seconded to other parts of the federal government, for example, the Office of the Chief Technology Officer or other government entities where outside technology providers are small and emerging businesses.

Presumably, the expense for the Venture Fellow program could be borne through the existing allocations to the SBIR and STTR Programs. Assuming a Venture Fellow compensation level commensurate with an Senior Executive Service appointment, or even at a slightly higher compensation level that was competitive with private market compensation (as for example provided by In-Q-Tel for its experienced company-builders), the annual costs of maintaining the Venture Fellows Program would be in the range of $5 to $10 million (assuming a program of 20 to 30 participants). This compares with roughly ten SBIR grants (assuming Phase I and Phase II).

After "graduating" from the VFP, participants would have a number of advantages which would make them more useful as experienced company-builders, and make them more attractive as private venture capital fund managers:

- They would have a deep and uncommon understanding of the federal government's technology requirements and commercialization preferences.
- They would have formed relationships with various like-minded individuals in the VFP.
- They would have benefitted from training and business evaluation activities under the supervision and mentorship of experienced company-builders.

The VFP would allow participants to have a shared experience much like attending a prestigious Masters of Business Administration program. Ideally, acceptance into the program would be on a competitive basis, which would increase its value in the eyes of the participants and outsiders alike. The goals of the Venture Fellows Program would be to provide participants with the opportunity to develop the knowledge base and skills that would make them much more likely to be able to raise and deploy early stage venture capital and to create a much more actively reinforcing cycle of talented company-builders who would view working in the federal government to create new companies as a meaningful career step.

Modification to SBIC Program

The SBIC Program could be modified to provide equity capital to existing or newly-formed venture capital organizations, subject to the requirement that the funds be deployed completely in seed and early stage technology companies. The SBIC Program allocation criteria could be weighted to encourage the formation of smaller funds, or funds with a longer investment period than traditional private funds, thereby allowing for longer term investments in emerging technologies. The program could also be modified to favor first time fund managers or investment programs that focus on regions not currently served by the private market; the underlying rationale would be that as fund managers or regions prove themselves by generating strong returns, institutional investors will reward them with subsequent infusions of capital.

In this model, the SBIC Program would be used as more of a traditional fund-of-funds investor, where the program selects and mentors new fund managers to develop a network of funds with specific characteristics. This initiative could also require participants to obtain non-governmental matching funds.

Alternatively, rather than selecting based upon an investment bias (early stage), the SBIC Program could be modified to provide capital on a priority basis to investments sourced by graduates of the VFP. The model for this application most similar to current law would be for the existing SBIC Program to provide a sum of money large enough to constitute an early stage venture capital fund in its own right – $20 million per experienced company-builder.

Another option would be to provide a smaller amount of seed capital, $250,000 for example, which the Venture Fellow could use to start a business assisting company formation. The business could provide compensation to the Venture Fellow through fees for service. Alternatively, if the Venture Fellow was able to raise private capital the seed funding could be the basis of a new venture capital fund. If the Venture Fellow were successful in obtaining private capital to make early stage investments, the SBIC Program could provide matching funds up to a threshold amount (for example, $5 million).

Modifying the SBIC Program as described would dramatically change the availability of capital for early stage businesses. Unlike allocations through other means (for example, providing the same capital to public venture capital funds managed by states), money allocated through the modified SBIC Program would leverage the private market expertise and "sweat equity" of private company-builders.

Modification to SBIR Program

The SBIR Program could be modified to encourage company formation and not just focus on research. Current review rules do not expressly penalize applicants for making multiple applications or receiving multiples awards. This allows companies to operate as "SBIR Mills," receiving one grant after the next for research projects but never progressing to commercialization. Although government support of basic or directed research is worthwhile, the current economic climate makes fostering early stage technology company creation and commercialization of new technologies equally, if not more, important. In fact, the National Science Foundation's actions in the area of SBIR allocation are instructive in this regard, as its criteria for selection now include whether applicants have provided clear paths for commercialization and business development.[24] These program changes could be adopted more widely within the SBIR Program.

An additional policy change could be accomplished through the VFP. Venture Fellows could be utilized in the SBIR approval process, thereby developing skills in the evaluation of new technologies and commercialization opportunities.

[24] Personal knowledge author has gained through participation in SBIR selection panels.

Modification to Ethics Rules

Current ethics rules may provide disincentives for individuals to work for the federal government in order to gain experience to become private company-builders. These rules should be closely reviewed to determine if they can be modified to encourage individuals to view working in government technology creation as an immediate opportunity for private career advancement. Additionally, in the event that the government creates the VFP along the lines proposed in this paper, ethics rules would likely require modification so that Venture Fellows could benefit in the private sector from the transaction-specific knowledge that they develop while they are government employees.

This is important for two reasons: (i) the possibility of subsequent commercial advantage will encourage more ambitious applicants, who are more likely to succeed in the private sector and (ii) proprietary knowledge will be more likely to attract private investors when a Venture Fellow subsequently attempts to raise private capital. Because the Venture Fellows' expertise will be in the federal government's use and promotion of technology, it is likely that a disproportionate amount of the Venture Fellow's activity after "graduation" would be in early stage investing.

Modification of the STTR Program to Promote University Commercialization

The STTR Program as currently applied is targeted at encouraging University-driven research activities, rather than immediate commercialization. The STTR Program could be modified to encourage a more direct correlation between grants and successful commercialization activities. This could be accomplished through regular reporting of companies formed or technologies licensed measured against cohort success. Alternatively, other criteria, such as the hiring of Venture Fellow alumni could be an important factor in grant making. The proposed modifications would be unlikely to have a significant budgetary effect.

Encouragement of Angel Funds

The federal government could greatly increase the role and effectiveness of Angels in early stage investing by providing favorable tax treatment of their gains if certain conditions are met. One such condition would be that the Angel invested through an organized group comprising some minimum number of individuals, each making at least a specified minimum investment. Another condition might be that the Angel invested through a fund managed by a professional company-builder. A variation on this second condition would make the tax advantages available only to funds managed by alumni of the VFP.

The tax advantage could be as simple as the reduction or even elimination of the capital gains tax on any profits made through the qualifying investment.

Since Angels invest approximately $20 billion per year in emerging companies,[25] a significant modification or elimination of long term capital gains treatment on Angel investments might be difficult to justify politically. Assuming for example that $20 billion invested generated $40 billion in returned capital, eliminating capital gains taxes would mean a $2 billion revenue reduction (assuming at 20% capital gains rate). Balanced against this revenue loss is the fact that as the venture industry de-emphasizes early stage investments, Angel investors are often the only early stage equity source available. An approach that rewards individual investors for making early stage investments, particularly when coupled with management by an experienced company-builder would make a material difference to the likelihood of success of early stage technology businesses.

Modify Application of Securities Regulations

There is a current push for greater regulation of all types of pooled investment vehicles – hedge funds, private equity and venture capital. The proposals being considered by Congress, the Administration and the SEC are likely to create additional disclosure and compliance requirements for private venture capital funds. These changes, which may be worthwhile when applied to other types of pooled investment vehicles, will almost certainly increase venture capital funds' compliance expenses and, for the smaller funds, impose a heavy financial burden.

Smaller funds will have particular difficulties because of the way venture capital funds of all sizes pay their expenses. Generally, venture capital funds pay all fund-related compliance expenses out of the pooled capital, either directly, or indirectly through payments by the fund manager, who is then reimbursed by the investors. There is a possibility, however, that some of the compliance costs would relate only to the fund manager's activities and would therefore have to be borne solely by the manager. Either way, increased compliance costs would have a disproportionately negative effect on smaller early stage venture capital funds.

Accordingly, one way to encourage the formation of smaller venture capital funds would be to exempt them from upcoming regulatory changes. These regulatory changes are prompted by the need to address systemic risk created by the pooling of the capital. Venture capital does not create such systemic risk, and exempting it from additional regulation will not jeopardize the financial system. As many have argued, venture capital funds do not create systemic risk since they are not leveraged and do not make short-term market investments.[26] These arguments are particularly strong when applied to small, early stage venture capital funds. Any new regulations should be narrowly drafted so as not to capture smaller venture capital funds in their scope.

[25] The Angel Investor Market in 2008: A Down Year In Investment Dollars But Not In Deals, Jeffrey Sohl, Center for Venture Research, March 30, 2008.

[26] Washington vs. Silicon Valley, Wall Street Journal, August 7, 2008.

Modify Application of Capital Gains Treatment for Carried Interest

One of the most important tax benefits to venture fund managers has been the ability to treat the risk-based portion of their compensation as capital gains, rather than ordinary income – the "carried interest." It appears likely that Congress and the Administration will seek to change this tax treatment change in the next year. Therefore, the federal government could use exemptions from the changes in the tax treatment of the carried interest to encourage the formation of smaller early stage funds. It could, for example, create a maximum fund size exception (say $20 million per experienced company-builder) or providing benefits to larger funds that provide sub-allocations or create separate funds that invest at least 50% of their capital in seed and early stage companies.

Additionally, if the federal government adopted the VFP, it could provide these benefits to graduates of the program, or to entities that employ them.

From a budgetary standpoint, taxing the carried interest at the higher ordinary income rate is seen by many as a meaningful way to raise additional revenue. This may not be a reasonable hope. Because venture capital returns have been negative in most cases, the substantial majority of venture capital funds raised since 1999 have not paid the carried interest to their fund managers – there have been no capital gains to tax. A more sensible approach would be to assume that in the future private venture capital investing will generate positive returns for investors and upside compensation for fund managers. In that case, tax receipts could be increased by treating the carried interest as ordinary income (assuming that nothing else changes). In light of the policy objective of rewarding the managers of small and early stage venture capital funds, however, it would be preferable to offer these managers the benefit of continuation of capital gains treatment of their carried interest. This would likely be perceived by these venture fund managers as a significant benefit, which would encourage long term investment strategies in small early stage venture capital funds.

In this case, by providing an exemption for smaller venture capital funds, the federal government could lose some tax revenue in the short term. However, it is important to put this in some context. Assuming for the moment that the change in law fostered the development of $2 billion in new early stage funds a year, and that these funds as a group generated $1 billion in returns for investors – the net tax revenue lost would be roughly $40 million for the lives of these funds (assuming for convenience a 40% marginal ordinary income rate and a 20% long term capital gains rate). This appears to be a very small revenue cost, particularly when compared to the taxes successful companies and their employees pay over the long term.

Conclusion

Adopting one or more of the policy suggestions in this White Paper would result in the following benefits to the U.S. economy generally and the technology sector specifically:

- Creating new pathways for company-builders to obtain skills that will be of benefit to start ups.

- Establishing mechanisms for the private market to aggregate funds around emerging company-builders as they acquire proven company building skills.

- Reinvigorating the essential relationship between federal government R&D and the formation of private companies.

- Disentangling the relationship of private venture capital funds and company-builders, so that as market conditions wax and wane a regular progression of skilled company-builders remain available to our economy.

- Creating incentives for private venture capital fund managers to create and deploy smaller early stage venture capital funds.

The costs for many of these changes could be borne by allocations out of existing federal government programs or existing tax provisions. Because the ultimate success of these changes would be evaluated through market scrutiny of individual company-builder performance, these policy changes would not undermine what works about the current venture capital model. Individuals who are proven to be talented company-builders would remain accountable by the most useful metric of all – did they create lasting and viable technology businesses. The growth of technology companies since the 1950s has continually shown that when technology is successfully commercialized, the market rewards are usually sufficient.

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