

NATIONAL INNOVATION INITIATIVE

Innovation Finance

Working Group Final Report

Introduction

The Innovation Finance Working Group continues to believe that the innovation model as practiced by the U.S. is not broken but instead needs to continue to evolve in order to meet the competitive challenges of the 21st Century. The formula of a strong risk-taking culture combined with a high degree of legal certainty and financial soundness in our economic system, allows the U.S. to continue to lead the world in the financing of cutting edge innovations. To continue this leadership we propose the following recommendations.

- 1) Maintain a positive investment climate by assuring a stable and financially sound U.S.**
- 2) Increase the flow of capital to new innovative ideas by optimizing the financing climate for small companies.**
- 3) Encourage the distinctly American risk-taking culture through enlightened regulation.**
- 4) Leverage the wealth creation process by encouraging private sector companies to improve disclosure of intangible asset values.**

Working Group Members

Chair: Paul Kimball (Morgan Stanley)

Bryan Allen (US Trust)	Michael Hitt (Texas A&M)
Richard Bendis (Innovation Philadelphia)	David Johnson (IBM)
Eleanor Bloxham (The Value Alliance)	Frank Knott (ViTAL Economy)
Bruce Bockmann (TechSpace)	Lee Mercer (NASBIC)
Rob Bogart (Economic Development Admin.)	Erik Pages (EntreWorks Consulting)
Deborah Clayton (Charlotte Research Institute)	Richard Quisenberry (DuPont – retired)
Courtney Cook (Morgan Stanley)	Chad Evans (Council on Competitiveness)
Mary Good (Venture Capital Investors)	Miriam Ubben (SITI)
Mark Heesen (National Venture Capital Assoc)	Joseph Yanchik (Mendel Biotechnology)

Executive Summary

Recommendation 1

Assure a stable and financially sound U.S. by developing a comprehensive plan to reduce the large build-up of unfunded liabilities related to social security and health care entitlements while fundamentally reforming the U.S. tort system.

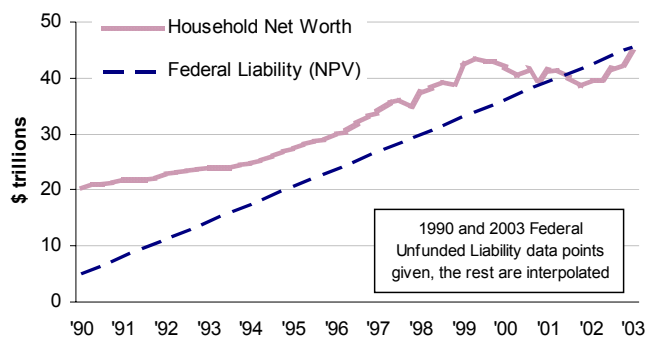
First and foremost, we cannot allow unsustainable, unfunded government entitlements to fundamentally damage the U.S. economic system. **America's leaders must address the stark reality that the present value of future promises related to Social Security and health care entitlement programs now totals an estimated \$45 trillion, and this is equivalent to the United States' entire net wealth.**

Actions

1. Restart the Presidential Commission on Social Security to address the unfunded liability gap of approximately \$7 trillion; and
2. Establish a new Presidential Commission on healthcare costs to address the unfunded liability gap of \$37 trillion.
3. Establish a “blue ribbon” advisory group to assist the House/Senate conference committees in finalizing the tort reform legislation dealing with asbestos, medical malpractice and “venue shopping”.

Exhibit 1

Budget Deficits Pressure Investment



Source: Federal Reserve, National Bureau of Economic Research

Recommendation 2

Increase the flow of capital to new innovative ideas by optimizing the financing climate for small companies.

Actions

- 1. Increase direct government financial support of innovation by:**
 - Increase funding for the SBIR/STTR and ATP programs by \$1.80 billion. Increase support of the SBIC guarantee program.
 - Increase the size of Phase I SBIR grants to \$500,000 from \$100,000 and Fast Track (Phase I & Phase II) awards to \$2,000,000.
 - Ensure the continuation of the SBIC Participating Security Program.
 - Encourage technology development and venture capital investment in early-stage companies by supporting proposed legislation to eliminate the SBIR regulation prohibiting small companies owned 51% by “large” venture capital from receiving SBIR funds. They could change the definition of individuals to enable the regulations to look through the “corporate shield” to the limited partners who are generally individuals.

- 2. Moderate the downturns in private sector innovation financing by creating a \$500 million per annum Countercyclical Reserve Fund within the SBIR/SBIC programs to be deployed at low points in the investment cycle.**

- 3. Improve the innovation finance networks within the U.S. by reorganizing the office of the Commerce Department’s Undersecretary for Technology and Administration to:**
 - Sponsor and chair networking events that target specific industries, markets or technologies;
 - Develop best practices forums to improve the early-stage due diligence process;
 - Highlight unnecessary blockages in the federal/state or university technology transfer programs. Provide information to the developers of science and technology regarding the types of technology transfer mechanisms being used (licensing, new company creations, joint ventures, large and small cap company involvements). Develop best practices forums to advise the universities and research centers as to how to encourage entrepreneurship and to maximize return from R&D.
 - Better coordinate government agency spending programs and enhance collaboration with private sector/universities; and
 - Encourage development of independent assessment agencies which can benchmark emerging technologies for the Angel Investor.
 - Undersecretary as Keeper of the Innovation Model — develop resources to perform outreach, education, advertisement of public and private innovation program, position the Undersecretary as the central source of valuable information key innovation database/metrics.

- 4) Stimulate the innovation finance model by changing the tax code to encourage small company start-ups through both Angel investment networks and small company-large company partnering.**

- Levy a highly reduced tax rate on all legacy foreign source profits if re-invested in incremental U.S. domiciled R&D. We propose a tax rate of 5% for repatriated funds invested in house and a 0% tax rate if invested in small company R&D activity. This will generate an initial windfall revenue gain of \$13-15 billion with net revenues of \$.500 billion in later years.
- Directly support early-stage financing by the Angel Investors by giving a 20% tax credit for early-stage investments when done through Qualified Angel Networks. This will cost up to \$1-2 billion per annum.

Recommendation 3

A better, more formal dialogue between the regulatory legislative communities and the big financial intermediaries of the private sector will improve the calibration of public policy to financial market dynamics

Action

We propose to establish a Financial Markets Intermediary Committee where periodic meetings can “score” existing and proposed legislation. This committee would follow the model of the Foreign Exchange Committee and Treasury Borrowing Committees.

Recommendation 4

Leverage the wealth creation process by encouraging private sector companies to improve disclosure of intangible asset values.

Action

Encourage the voluntary creation of “best practices” by industry for increased disclosure of intangible assets.

NOTE: Total Cost of All Programs and Initiatives

Though the changes generate net revenues to the U.S. government over the first 4 years, sustaining these programs over time will probably result in a revenue neutral position.

Conclusion

The goal of our working group was to determine the key elements in the innovation finance process which needed change and improvement. Though the Innovation Model is alive and well in the U.S., certain key challenges emerged from our studies.

- A) The federal government must ensure the stability and soundness of our economic system by removing unsustainable governmental obligations from future generations. Also, the Federal Government can play a wider role not only with greater support of its existing programs but in acting as a countercyclical resource during low points in the investment/economic cycle.
- B) The private sector can play a more formal and effective role in the formulation and execution of regulatory policy to ensure that regulatory actions preserve and do not harm the unique risk-taking culture which underpins our economic system. Also, private companies can do more to advance the investing public's knowledge and understanding of the growing share intangible assets represent of enterprises value.

By thoughtfully revising the U.S. tax code we can not only increase government funding for existing programs supporting innovation at no net cost, but we can also incent a greater flow of both private and public funding of early stage innovative activity. Increased support for early stage companies is crucial to leveraging the Innovation Model and to magnify its effect on overall economic activity and competitiveness. Taken together we feel that the programs and initiatives outlined above and described in greater detail in the Appendix will not only increase the flow of innovation financing within the U.S. economy but will enhance the dynamics of what we feel is an already powerful U.S. Innovation Model.

Recommendations In Depth

Recommendation 1

Assure a stable and financially sound U.S. by developing a comprehensive plan to reduce the large build-up of unfunded liabilities related to social security and health care entitlements while fundamentally reforming the U.S. Tort system.

Actions

- 1. Restart the Presidential Commission on Social Security to address the unfunded liability gap of approximately \$7 trillion; and**
- 2. Establish a new Presidential Commission on healthcare costs to address the unfunded liability gap of \$37 trillion.**

Problem:

A crisis of confidence in our economic system will strongly disincentivize risk-taking and therefore damage the innovation model in the U.S. Investing in untested but promising technologies and other products and services requires a confidence that viable long-term equity capital markets will exist to allow for the harvesting of successful investments. The country must develop effective mechanisms to deal with government programs that contain unsustainable, long-term entitlement obligations.

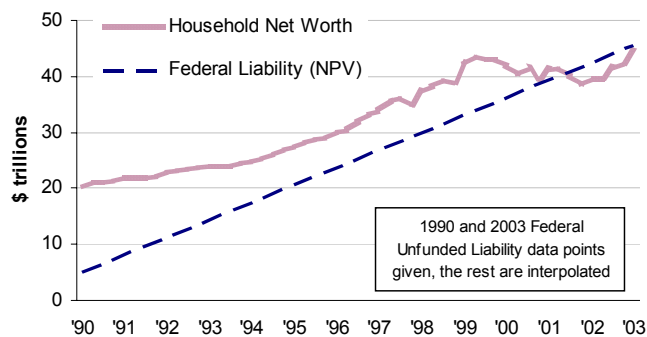
The demographic challenge of the 75 million members of the “Baby Boom” generation represents an enormous threat to our long term economic health. The social security and health care entitlement programs have embedded promises which will overwhelm the country’s ability to pay when calibrated against the accelerated aging of our society. Assuming modest growth rates in inflation and health care costs, the present value of the 75-year obligations point to an unfunded liability of \$11 trillion today.

These unfunded liabilities equal the size of our annual GDP and pose an enormous threat to our economic health. If we do nothing, tax rates must rise dramatically and/or benefits decline. Consider this simple metric. Currently, government spending takes about 18% of GDP with 6.9% of that going to social government funded health care costs.

Using conservative growth projections, by 2078 the total spending of just these 2 programs is forecast at 20.4% of GDP: an amount which would leave no money for other government spending. Clearly this situation is unsustainable without an important reengineering.

Exhibit 2

Budget Deficits Pressure Investment



Source: Federal Reserve, National Bureau of Economic Research

What is also clear is that without a fix there is a danger the scale of these unfunded liabilities will force a tax regime which could dramatically affect the private sector risk-taking incentive necessary for innovation.

Social Security – Key Metrics

Demographics:

Exhibit 3		
Social Security Demographics		
Year	Covered Workers per OASDI Beneficiary	Beneficiaries
1945	41.9	1 million
1965	4.0	19 million
2003	3.3	47 million
2010	3.2	52 million
2030	2.2	84 million
2060	2.0	101 million

Source: 2004 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds

Financing:

- OASDI expenses (under high cost assumptions) are expected to exceed income by 2013 and to exhaust the Trust Fund by 2031.
- Current costs represent 4.3% of GDP and rise to 6.6% by 2078.

Health Care Entitlements – Key Metrics

Demographics:

- In 2003, enrollment across all programs is 39 million.
- 2030 projections — approximately 79 million in all programs.

Financing:

- Trust Funds are being rapidly depleted by the recent high growth rate of health care costs.
- Trust fund depletion is now expected by 2019, earlier than 2026 due to the growth rate between 2002 and 2004.
- Current costs are 2.6% of GDP, expected to rise to 133% of GDP by 2078.

Solutions

- **Restart the Presidential Commission on Social Security to address the unfunded liability gap of approximately \$7 trillion; and**
- **Establish a new Presidential Commission on healthcare costs to address the unfunded liability gap of \$37 trillion.**

Action 3

Establish a “blue ribbon” advisory group to assist the House/Senate conference committees in finalizing the tort reform legislation dealing with asbestos, medical malpractice and “venue shopping”.

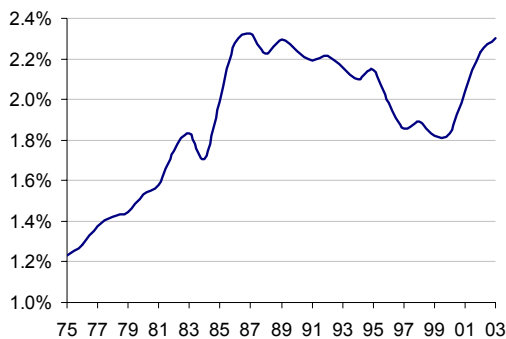
Problem:

A second problem relates to the level of tort awards. Last year, \$233 billion in tort awards exceeded the approximately \$37 billion in private sector R&D activity.

At 2.3% of GDP, tort costs are an unusually high tax on business activity and as you can see from Exhibit 6 and 7, are rising.

Exhibit 4

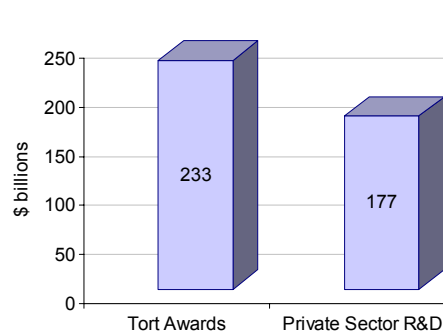
Tort Costs as % of GDP



Source: Tillinghast-Towers Perrin

Exhibit 5

Tort Costs Exceed Business R&D Investment



Source: Tillinghast-Towers Perrin, OECD — 2002 data

Current Environment

1) Asbestos litigation has forced more than 60 companies into bankruptcy and could result in settlements exceeding \$100 billion. Current legislation calls for a \$114 billion trust fund and a \$10 billion contingency, from industry and existing asbestos funds. Senate Bill 1125, the “Fairness in Asbestos Injury Resolution Act of 2003,” was reported out of the Judiciary Committee in mid-2003; in the House, legislation remains under committee consideration.

2) Class action reform is driven by the growing practice of plaintiff’s attorney “venue shopping” to plaintiff-friendly state courts. Many of these suits are interstate in nature and more appropriate for Federal court. The result is an unfair system that pressures defendants to settle. Plaintiff’s lawyers often receive large fees, while class members usually receive a minimal recovery.

In June 2003, the House approved its version of the Class Action Reform Act, (H.R. 1115). However, in October 2003, the Senate failed (by one vote) to pass its version S. 1751. Another class action bill is now moving through the Senate (S. 2062). It addresses cases involving at least \$5 million and 100 plaintiffs, in which the primary defendants – and less than two-thirds of the plaintiffs – are residents of the same state.

3) Medical malpractice insurance premiums have been steadily increasing, as doctors' are being sued more frequently. Medical malpractice suits are more closely correlated with geography and specialty, rather than doctor competency. According to the Congressional Budget Office, medical liability reform would save the federal government just under \$15 billion in lower health care expenditures over a 10-year period.

On May 12, the House passed the HEALTH Act of 2004 (H.R. 4280), legislation addressing medical liability reform. However, the House has passed the medical liability reform legislation 8 times since 1995, only to see the issue stall in the Senate.

Solution

- **Establish a “blue ribbon” advisory group to assist the House/Senate conference committees in finalizing the tort reform legislation dealing with asbestos, medical malpractice and “venue shopping”.**

Recommendation 2

Increase the flow of capital to new innovative ideas by optimizing the financing climate for small companies.

Action 1

- **Increase direct government financial support of innovation**

Problem:

Breakthrough products and services have greater developmental, start-up costs than ever before. The scale of federal programs/grants/loans must evolve in order to remain relevant and useful to the innovation process. Secondly, the funding gap between the supply of early-stage capital and demand continues to harm innovative activity in the U.S. Finding the right incentives to narrow this gap is crucial to leveraging our innovation assets.

The government has developed several excellent programs to stimulate R&D in breakthrough technologies but many are small scale and are bureaucratically cumbersome. For example, only approximately \$3 billion is specifically targeted for early-stage federal support for small business activity.

Current Environment:

The Small Business Innovation Research Program (SBIR), created in 1982, leverages existing federal R&D funding toward small companies (those with 500 or fewer employees). Small firms may have capabilities or incentives to innovate, which may or may not come to fruition due to a number of constraints, including financing. SBIR's sister program, the *Small Business Technology Transfer Program (STTR)*, was created in 1992 to stimulate cooperative R&D and technology transfer involving small businesses and nonprofit organizations, such as universities. SBIR and STTR are administered by participating agencies and coordinated by the SBA.

In SBIR, federal agencies with R&D budgets exceeding \$100 million must set aside 2.5% of that amount for SBIR projects. To obtain SBIR funding, a small company applies for a Phase I SBIR grant of up to \$100,000 for 6 months to assess the scientific and technical feasibility of ideas with commercial potential. If the concept shows further potential, the company can obtain a Phase II grant of up to \$750,000 over 2 years for further development. In Phase III, the innovation is commercialized with private-sector investment and support; there is no SBIR funding in Phase III.

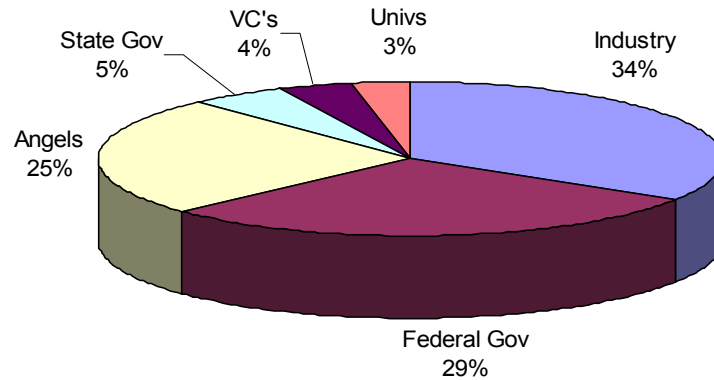
Since 1982, SBIR awards have exceeded \$15 billion. Over 14,000 firms have received funding, and almost 20,000 Phase II projects have been funded, resulting in more than 41,000 patents. Projects included research and commercialization activities in the areas of computers, information processing and electronics, materials, energy, environmental protection, and life sciences. In FY 2001, the program awarded \$1.29 billion in R&D funding (\$1.18 billion in 1996 dollars) to 4,748 projects (an average of \$272,000 per project). In FY 2001, DOD led the 10 participating agencies in SBIR funding, awarding \$576 million (45% of total SBIR funding), and followed by HHS at \$412 million (32%).

The STTR program involves cooperative R&D performed jointly by a small business and a research organization and is also structured in three phases. The participating research organization must be a nonprofit institution, as defined by the Stevenson-Wydler Technology Innovation Act of 1980, or a federally funded R&D center (FFRDC). Five federal agencies with extramural R&D budgets exceeding \$1 billion participate in the program: DOD, NSF, DOE, NASA, and HHS. The required set-aside is 0.15%, compared with 2.5% for SBIR. For FY 2004 the set-aside has been increase to 0.30% from 0.15%. STTR awarded about \$460 million to more than 2,400 projects from FY 1994 to FY 2001. DOD and HHS are the largest agency participants.

The Small Business Investment Company (SBIC) Program was created in 1958 to fill the gap between the availability of venture capital and the needs of small businesses in start-up and growth situations. SBIC's may only invest in "small businesses" (less than \$18 million net worth and average net income below \$6 million). SBIC's typically range in size from \$30 million to \$170 million. For every \$10 million in private equity, SBIC's are eligible to receive up to a \$20 million SBA commitment (2:1 public-private leverage). SBA has minimal direct involvement in SBIC's portfolio management operations, as investment decisions are made by private fund managers.

What are the benefits? The programs provide critical sources of predictable funding for early-stage finance. SBIR is the main source of funding for early-stage technology development. The program accounts for over 85% of federal financial support and more than 20% of funding for early stage development from **all sources** (see Exhibit 8).

Funding Sources for U.S. Early-Stage Technology Development



Source: Branscomb and Auerswald, 2003. Average percentage distribution of sources of finance for the invention-innovation transition drawn from high and low estimate models.

SBIR stimulates innovation by introducing qualified small businesses into the nation's R&D arena. The program achieves the nation's specific research and development goals by applying imagination and ingenuity of small firms to address national needs. Awards draw private capital to promising firms, signaling scientific and commercial value of winning firms' innovation. This opportunity also helps overcome small firms' disadvantage in accessing federal contracts. Further, SBIR helps small firms access the government procurement system, bypassing complex regulations. The **STTR** program also offers these benefits, in addition to creating a solid bridge between universities and the marketplace.

At the end of FY 2003, government investments in 435 **SBIC** funds totaled \$5.5 billion, with another \$3.7 billion in available commitments. Together with private capital of \$12 billion, the program totals over \$21 billion in private equity capital dedicated to America's entrepreneurs. Since 1959, SBIC's have provided approximately \$27 billion in long-term debt and equity growth capital to nearly 90,000 small U.S. companies. The program has created millions of new and highly skilled jobs, and billions of dollars in tax revenues.

Related to these efforts is the **Advanced Technology Program (ATP)**, which provides funding for high-risk R&D projects on a cost-share basis with private companies. Not only does this program give breakthrough, cutting edge technologies crucial funding, but it favors private sector partnerships between large/small companies and universities. With 84% of the first 50 projects done on a collaborative basis, ATP is accelerating a very positive and necessary trend in the innovation process.

From ATP's inception through FY 2003 more than 1,400 companies, non-profit institutions, and universities participated in 736 projects costing \$4.23 billion, which were funded about equally by ATP and industry. Over the same period, 447 projects (70%) were single-company projects and 195 (30%) were joint ventures; two-thirds of participants were members of joint ventures. Participants pursued projects in five technology areas: biotechnology, electronics, IT, advanced materials and chemistry, and

manufacturing. In FY 2002, 61 R&D projects costing \$289 million were initiated, with about 54% funded by ATP and the balance funded by participants. Public Law 108-7 appropriated \$180 million for the program for FY 2003, a decline of 2.4% from FY 2002.

The current programs are commendable and only need some calibration to become even more effective. The two problems that need solving are the amount of funds available per project and the cumbersome nature of the process.

Solution:

- **Increase funding for the SBIR/STTR and ATP programs by \$1.80 billion. Increase support of the SBIC guarantee program.**
- **Increase the size of Phase I SBIR grants to \$500,000 from \$100,000 and Fast Track (Phase I & Phase II) awards to \$2,000,000.**
- **Ensure the continuation of the SBIC Participating Security Program**
- **Encourage technology development and venture capital investment in early-stage companies by supporting proposed legislation to eliminate the SBIR regulation prohibiting small companies owned 51% by "large" venture capital from receiving SBIR funds. They could change the definition of individuals to enable the regulations to look through the "corporate shield" to the limited partners who are generally individuals.**

Action 2

Moderate the downturns in private sector innovation financing by creating a \$500 million per annum Countercyclical Reserve Fund within the SBIR/SBIC programs to be deployed at low points in the investment cycle.

Problem:

Many of these programs are subject to the same funding cycles as private companies; receiving enhanced funding during strong economic periods and lower funding during weaker periods. This is particularly relevant given how dramatically private sector capital flows for early-stage companies fall during recessionary times (Exhibits 8 & 9).

Exhibit 7

History of the ATP Program

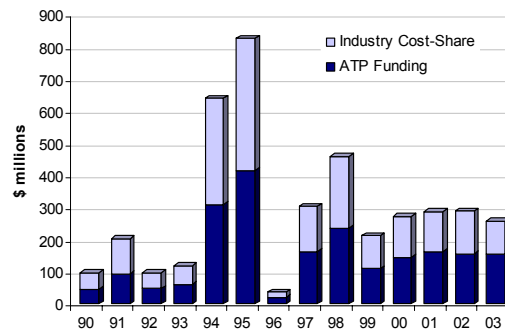
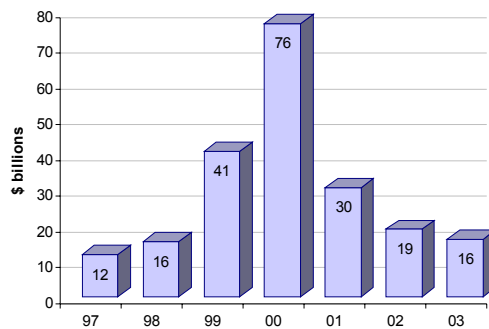
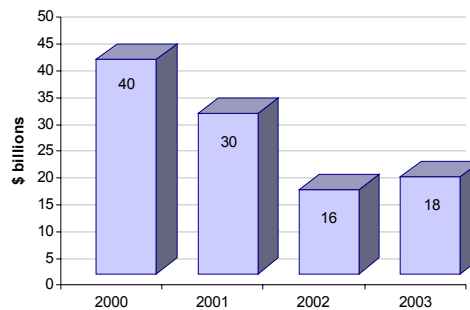


Exhibit 8

U.S. Venture Capital Investments

Source: VentureOne

Exhibit 9

U.S. Angel Investments

Source: Center for Venture Research

Solution:

- **Create a Countercyclical Reserve Fund within the SBIR/SBIC programs to be deployed at low points in the investment cycle.**

The government often does its best work when it acts aggressively in the face of countercyclical forces. Ratcheting up government spending during times of severe economic distress has been a very successful policy of the U.S. government. Countercyclical monetary policy by the Federal Reserve and U.S. Treasury foreign exchange intervention are two additional examples where this technique adds enormous value to the performance of the economy.

We propose therefore that the federal government allocate \$500 million per year in incremental funding to establish a Countercyclical Reserve Fund to be used at low points in the economic cycle. This could be defined as any year where the venture capital and angel investments fall more than 15% in a 12-month period. The monies would be in the form of both grants and very small equity positions (5–10 %) to create a self-funding mechanism to the program. The advantage of this approach is that the U.S. government deploys incremental capital at the times when private market sources are weak and, as importantly, when equity valuations are low. This approach benefits both the innovation process and, as the cycle improves, allows the government to exit their market equity holdings at a higher return. Properly managed, this program should, over an economic cycle, at worst be self-funding and oftentimes generate net revenues to the federal government.

Action 3

Improve the innovation finance networks within the US by reorganizing the office of the Commerce Department's Undersecretary for Technology and Administration.

Problem:

Tremendous opportunities to innovate are missed in the U.S. because of inefficiencies in the innovation model. Focus by the Undersecretary of Technology and Administration

on coordinating, networking and supporting all participants in the Innovation Process will greatly enhance the success rate of innovative activity in the U.S. Supported by a National Innovation Advisory Board, the Undersecretary will be better able to more effectively deploy government R&D funds while crafting improved incentives for early-stage financing.

In spite of tremendous pools of available capital, innovative new ideas often cannot find funding. For the earliest stage companies, there are several inefficiencies within the current system. Angel networks which supply the vast majority of start-up capital often have a very local and sectorial bias and have not developed a vigorous due diligence process by which to vet potential investments. Universities, which house much of the human and intellectual capital, have embryonic commercialization efforts that still are not at all linked with angel and business enterprise networks. Finally, government programs which specifically support early-stage innovation provide inadequate funding for their purposes, and are slow and cumbersome to use.

Current Environment:

The U.S. government spends over \$117 billion a year on all its R&D efforts with approximately \$6 billion devoted to a variety of programs to support early-stage innovation activity. In addition, the government supports small business development across a wide range of business sectors with a variety of debt and equity guarantees totaling in excess of \$13 billion.

These programs compliment the private sector where more than 200,000 Angel Investors contribute \$15–20 billion to private sector startups. Institutional venture capital equity adds another \$2–3 billion. State governments, though modest in their financial support, complement local private/public partnerships in holding seminars and investor fairs to better educate and network various early-stage participants.

Finally, a growing number of private consultants are entering the arena, offering their services to the government, university and/or investor communities to fill in the large gaps in business management, legal, accounting and enterprise skills related to specific projects.

Solution:

The inconsistent, stop-start nature of investor-inventor interaction demands greater formality and sponsorship at the federal government level. An Undersecretary of Innovation & Technology could provide a tremendous boost to the nascent networking platforms that exist at state levels by:

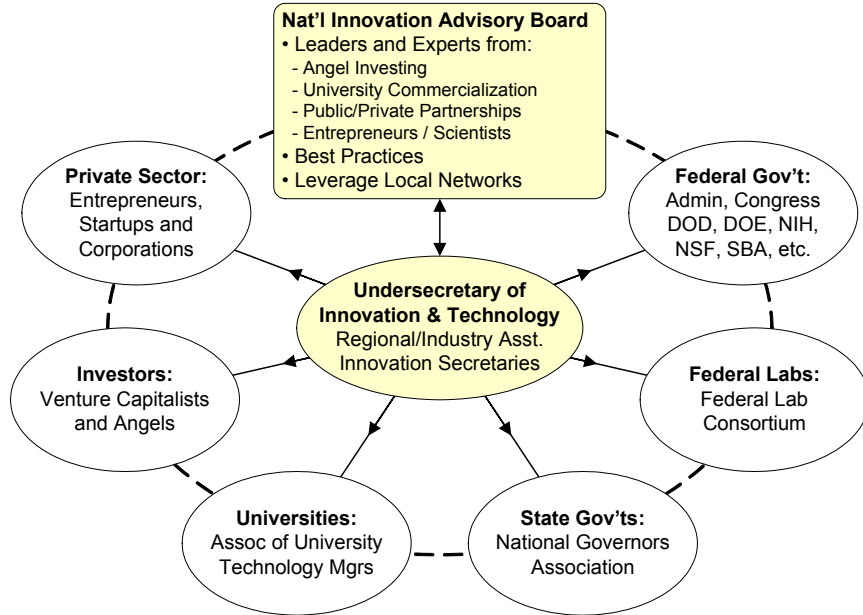
- **Sponsoring and chairing networking events that target specific industries, markets or technologies;**
- **Developing best practices forums to improve the early-stage due diligence process;**
- **Highlighting unnecessary blockages in the federal/state or university technology transfer programs. Provide information to the developers of science and technology regarding the types of technology transfer**

mechanisms being used (licensing, new company creations, joint ventures, large and small cap company involvements). Develop best practices forums to advise the universities and research centers as to how to encourage entrepreneurship and to maximize return from R&D.

- **Better coordinating government agency spending programs and enhance collaboration with private sector/universities; and**
- **Encouraging development of independent assessment agencies which can benchmark emerging technologies for the Angel Investor.**
- **Undersecretary as Keeper of the Innovation Model — develop resources to perform outreach, education, advertisement of public and private innovation program, position the Undersecretary as the central source of valuable information key innovation database/metrics.**

A logical candidate for the role of Undersecretary of Innovation & Technology would be the current Undersecretary of Technology Administration in the Department of Commerce, whose duties include looking after most of the early-stage investor programs for the federal government, and thus knows well the various communities that need greater networking. **Renaming the Undersecretary the *Undersecretary of Innovation & Technology*, and broadening his/her portfolio to include these key networking and educational priorities is the first step. To assist the Undersecretary of Innovation & Technology we propose the formation of a National Innovation Advisory Board.** Bi-partisan in nature; this council will mimic very successful state and local models by combining experts from the investor, scientific, entrepreneur and policy making arenas. By drawing on their expertise and existing networks, this group would help the Undersecretary of Innovation & Technology accelerate the networking process by identifying new and better investor/inventor linkages across the U.S.

Better Educate and Network Private and Public Sector Innovation Participants



Action 4

Stimulate the innovation finance model by changing the tax code to encourage small company start-ups through both Angel investment networks and small company-large company partnering.

Problem:

Today approximately \$640 billion of American profits are stuck offshore as U.S. companies try to defer the payment of U.S. taxes on foreign source income. With the average foreign tax rate at 21% vs. 35% in the U.S., the incentive for U.S. companies to defer the repatriation of funds is high and will likely persist for the foreseeable future. When the \$640 billion is measured against the approximately \$300 billion spent by both public and private sectors in R&D in one year in the U.S., the “innovation opportunity cost” to the economy is enormous. Given the huge source of cash that sits on U.S. corporations’ offshore books, it is critically important to insert that capital back into the U.S. based R&D, and yet allow this to be deployed in a flexible manner.

A concurrent trend is that large companies are increasingly looking to partner with smaller companies in their R&D efforts. The difficulty in growing R&D internally at large corporations, due to cost and business cycle resources, has become an increasingly important issue. Proctor & Gamble said at a recent analysts’ meeting that where 10 years ago 50% of their R&D was done internally, only 10% is now. In addition, many large corporations have difficulty creating an entrepreneurial state of mind within the corporation and have sought ways to develop innovation in smaller, more imaginative and flexible entities, while continuing to provide the marketing resources and brand identity that a large corporation has available.

At the same time, small entrepreneurial companies often need a corporate partner that can provide capital as well as marketing resources and broad identity in order to become a viable player in its product/service space. As a result, if new incentives could be developed to better exploit the natural fit between small and large companies in the same product sectors the U.S. could achieve a strong acceleration in the successful commercialization of fledging innovations.

Solution

- **Levy a highly reduced tax rate on all legacy foreign source profits if re-invested in incremental U.S. domiciled R&D. We propose a tax rate of 5% for repatriated funds invested in house and a 0% tax rate if invested in small company R&D activity.**

This incremental R&D spending could be within the host company or take the form of investments in, or joint ventures with, smaller company research partners. This could release \$450–500 billion back into the U.S. initially and up to \$40–60 billion on an ongoing basis. Corporations could redeem immediately as much of their legacy foreign source profits as they wished at the reduced tax rate as long as they set aside and

Total Incremental Revenues	
Year 1	\$13.23 billion
Year 2	\$0.5 billion
Year 3	\$0.5 billion
Year 4	\$0.5 billion
Total	\$14.83 billion

committed to invest the funds in R&D over a four to five year period. In order to reduce the incentive for this tax code change to increase off-shoring, only 20% of future, incremental profits from U.S. corporations will receive this tax treatment. With R&D expenditures required to be done on-shore this tax code change will provide a strong boost to domestic employment.

Problem

Angel Investors are critical to the early stage financing process. Research shows that Angel Investors provide up to 80% of early stage financing. In fact venture capital firms have traditionally provided between 5-10% of this crucial financing so initiative to stimulate greater investing by either the angel or the venture capital communities would be a critical boost to early stage financing.

Solution

- **Directly support early-stage financing by the Angel Investors by giving a 20% tax credit for early-stage investments when done through Qualified Angel Networks.**

Recommendation 2 — Overall Cost Analysis

<u>Total Cost all Programs</u>	<u>4-year cost/revenue</u>
1. Increased Program Funding	\$1 billion/year
2. Networking Enhancement	\$50 million
3. Countercyclical Fund	\$0.0 self funding
4. Tax code changes	
A. foreign source income tax program	
Year 1	\$13.3 billion
Year 2	\$0.5 billion
Year 3	\$0.5 billion
Year 4	\$0.5 billion
4-Year Total	\$14.8 billion net revenues
B. Qualified Angel Networks Tax Credit	
Year 1	\$1.0 billion
Year 2	\$1.5 billion
Year 3	\$2.0 billion
Year 4	\$2.5 billion
4-Year Total	\$7.0 billion cost
4-Year Total	\$0.4 billion net revenue

Recommendation 2: Conclusion

For a minimal investment we feel the Federal Government can dramatically leverage its current impact on the early-stage financing process. It can affect the process directly through its investing programs and the creation of a countercyclical fund and, as importantly, through its support of more efficient networks of university research faculty, Angel Investors and private entrepreneurs. Working more closely with state governments, University technology transfer offices, angel and venture capital groups we feel strongly that effective leadership from the federal government in local/regional settings can help sponsor the next generation of great innovative companies. Not only is the overall approach cost effective but it inserts the government at the heart of the innovation/wealth creation process and, at the key juncture in our economic cycle when this innovation model needs the most support.

<h2>Recommendation 3</h2>

Action

Establish a Financial markets Intermediary Committee where periodic meetings can “score” existing and proposed legislation. This committee would follow the model of the Foreign Exchange Committee and Treasury Borrowing Committees.

Problem

Cycles in financial markets often produce important swings in regulatory initiatives to control/change financial market practices. Legislation and regulatory changes enacted in an earlier era to counteract specific market imperfections can sometimes become outdated and therefore, pose a hindrance to innovation. At other times, changes in the global economy and financial markets require new regulations to prevent abuses and disincentives to entrepreneurship. Finding the right balance to the regulatory infrastructure is crucial to providing the optimum environment for innovations.

The market place currently provides 2 models for such a public/private sector Advisory Council. In the Foreign Exchange market (the largest financial business in the world with over \$1.9 trillion in daily turnover) the Federal Reserve Bank of New York sponsors a committee representing the largest global foreign exchange intermediaries and brokers. This committee has developed numerous “best practice” manuals for many sectors of foreign exchange activity and has worked closely with global banking regulators to devise private sector solutions to systemic inefficiencies or problems. The Treasury Borrowing Committee, similar to the FX Committee, organizes the U.S. Treasury Primary Dealer community in formal meetings with U.S. Treasury officials to provide feedback on systemic challenges facing the U.S. Government securities markets.

Solution

- **A better, more formal dialogue between the regulatory and legislative communicates and the big financial intermediaries of the private sector will improve the calibration of public policy to financial market dynamics.**
- **We propose to establish a Financial Markets Intermediary Committee where periodic meetings can “score” existing and proposed legislation. This committee would follow the model of the Foreign Exchange Committee and Treasury Borrowing Committees.**

Financial Markets Intermediary Committee:

House Banking Committee – Chairman
Senate Banking committee – Chairman
SEC – Commissioner responsible for market oversight
Federal Reserve – President, NY Fed
US Treasury – Deputy Treasury Secretary
CFTC – Chairman
Securities Industry Association – 2 members
American Bankers Association – 2 members
Insurance Association – 2 members
Futures Exchange – 2 members
National Venture Capital Association – 2 members
NYSE, NASDAQ Presidents – 2 members
All other equity exchanges – 1 member

Total Members: 19

The agenda for this group will be to formally review existing and proposed regulatory initiatives and to provide senior regulators/legislators with feedback on how new market practices may be causing inefficiencies, systemic risk to the financial system. This group can also be a forum where regulator’s concerns are surfaced and debated and where “best practices” can be encouraged to either substitute for or be in support of future regulatory change.

Recommendation 4

Leverage the wealth creation process by encouraging private sector companies to improve disclosure of intangible asset values.

Current Environment:

The marketplace continues to evolve in its recognition of the value of intangible assets to the external valuation of modern companies. Simply comparing the 10 highest market cap companies today vs. 10 years ago shows the relative ascending of companies focused on human, intellectual and technology capital to those focused on commodity processing and/or manufacturing.

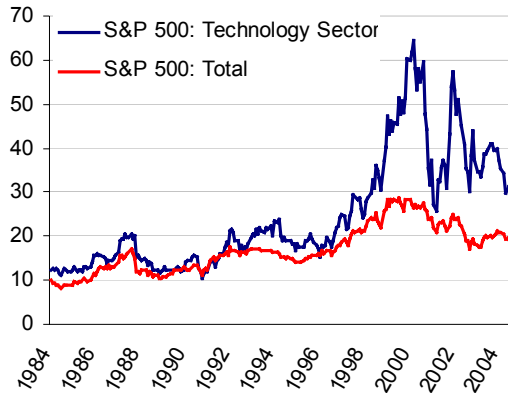
Exhibit 11

Company name	2004 Market Cap (\$ Billions)	Company Name	1994 Market Cap (\$ Billions)
General Electric	356	General Electric	85
Exxon Mobil	309	Toyota	79
Microsoft	296	Exxon Mobil	73
Citigroup	243	Mitsubishi	71
Pfizer	243	Royal Dutch Petroleum	60
Wal-Mart	226	Wal-Mart	60
AIG	185	Coca-Cola	59
Bank of America	181	Altria Group Inc.	52
Johnson & Johnson	173	Merck	42
IBM	145	IBM	41

Source: FactSet

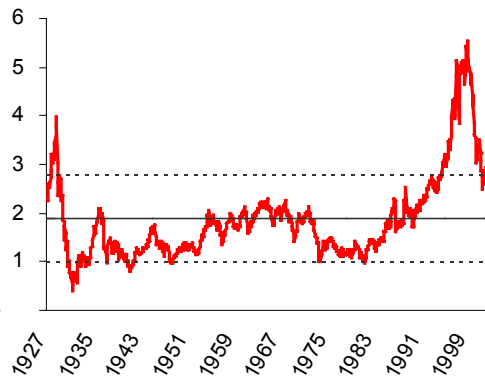
The long-term rise in the stock market vs. alternative investments has been accompanied by a stair step rise in P/E ratios, and more interestingly, Price-to-Book ratios.

Exhibit 12
Trailing P/E Ratios (1984 - 2004)



Source: Standard and Poors

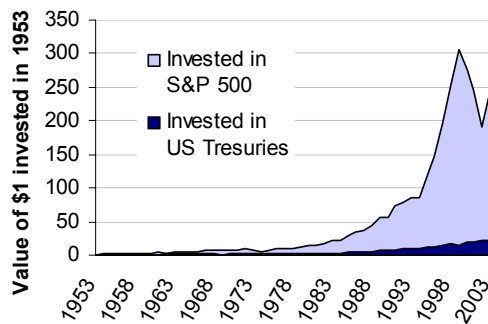
Exhibit 13
S&P 500 Price/Book Ratio (1927 - 2004)



Source: Standard and Poors

This points to a greater market awareness of not only the greater role intangible assets play in enterprise value but in the higher returns such assets can achieve relative to virtually any other asset class. Indeed, this phenomenon has been recognized by many key regulators who understand that future regulation must support and not hinder the development and appropriate protection of intellectual property.

Exhibit 14
Value of \$1 invested in S&P 500 or Bonds



The Growing Importance of Intangibles Is Receiving Global Recognition

“Intangibles such as R&D and proprietary know-how, intellectual property, workforce skills, world-class supply networks and brands are now the key drivers of wealth production, while physical and financial assets are increasingly regarded as commodities.”

October 2000 report to European commission on the Intangible Economy

Protection of intellectual property (is) necessary to encourage creativity and investment with the EU, both of which are crucial for job creation and long-term competitiveness.”

Mario Monti, EU Competition commissioner

“An ever increasing share of GDP has reflected the value of ideas more than material substance or manual labour input.”

Alan Greenspan, Chairman, U.S. Federal Reserve Board

As intangible assets grow in size and scope, more and more people are questioning whether the true values – and the drivers of that value – are being reflected in a timely manner in publicly available disclosure.”

Arthur Levitt, chairman 1993-2001, U.S. Securities and Exchange Commission

Source: Jonathon Lowe, Cap Gemini, Ernst & Young Center on Business Innovation

A strategy to encourage greater transparency can only serve to unlock greater market value for those companies investing in and deploying effectively their intangible assets. Though issues of competitive advantage and trade secrets will always exist, the encouragement of establishing industry-by-industry benchmarks with respect to key intangible asset drivers will lead to greater investor knowledge of and ultimately investment in those companies who employ cutting edge innovative ideas.

- **Encourage the voluntary creation of “best practices” by industry for increased disclosure of intangible assets.**