Athena Alliance

Exploring the promise and pitfalls of the global information economy

Federal Investments in Intangibles
A Look at the President's FY 2014 Budget

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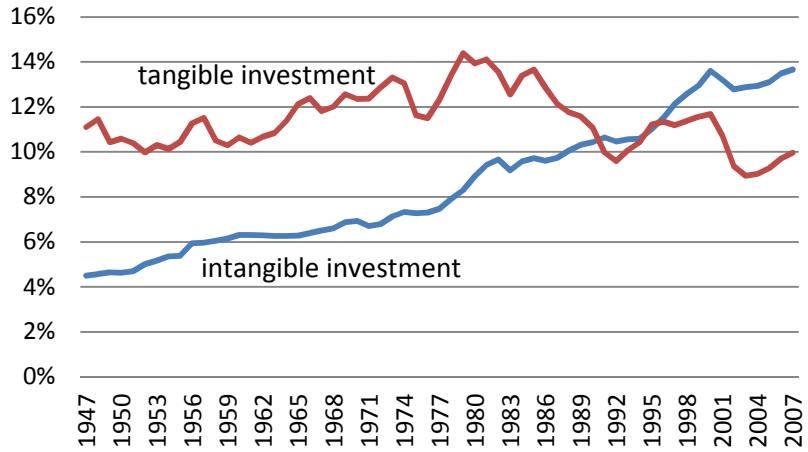
Knowledge-based and intangible assets—information, workforce skills and know-how, effective management and marketing, business models, relations with suppliers and customers, and software and databases as well as traditional intellectual property (patents, copyrights, and trademarks)—are the building blocks of future economic growth. As Federal Reserve Chairman Ben Bernanke has said, the topics of innovation and intangible capital "are central to understanding how we can best promote robust economic growth in the long run."[1] Over a decade ago, economists estimated that the investment in the creation of intangible assets in the U.S. is more than $1 trillion annually.[2] That investment has continued to grow, so that business investment in intangible assets is now greater than in tangible assets, such a buildings and equipment.

U.S. non-farm business investment (% of output)



Source: Corrado, C.A. and Hulten, C.R. (2010). How Do You Measure a "Technological Revolution"? *American Economic Review* 100:5 (May), 99-104.

The federal government also makes major investments in intangible assets. Some of these are investments in the general economy, such as education and R&D spending. Some are activities that are considered public goods that generate intangible assets used in the private sector, such as weather information. Others are for the support of government activities but have a private sector value use, such as statistically data. Still others are for internal government activities, such as government worker training and agencies' logos or brands.

Like the private sector, the federal government needs to understand the investments it is making in intangible assets. However, it appears that there is little systematic attention to these assets as assets. As a result, the federal government does not know what intangible assets it has, does not know how much it spends on developing intangible assets, and does not know the value of those intangible assets (either to the internal operations of the Federal government or in the external marketplace).

This analysis looks at one aspect of the federal government's intangible assets: the investment in these assets as reflected in the *Budget of the United States Government, Fiscal Year 2014*.[3] It should be noted that this is a rough estimate of investment in intangibles—very rudimentary and incomplete. It does however give an approximate order of magnitude of those investments. It also helps articulate and highlight some of the myriad of government programs that invest in the development of intangible assets.

Overview of Federal Investment in Intangible Assets

Federal Investment in Intangibles (outlays in billions)	**FY 2012**	**FY 2013 CR - estimate**	**FY 2014 proposed**
Information and intellectual property			
R&D funding (not including facilities & equipment)			
Defense	$75.1	$75.0	$71.6
Nondefense	$63.7	$64.5	$64.5
Arts & humanities/museum funding	$0.9	$0.9	$1.0
Government information creation			
Statistical agencies	$2.6	$2.6	$2.7
Weather service	$0.9	$0.9	$0.9
Library of Congress/CBO/GAO/GPO	$1.1	$1.2	$1.2
PTO	$2.3	$2.7	$3.0
Individual Human Capital (know-how)			
Education and training			
Grants to state and local governments	$63.9	$62.3	$76.2
Direct Federal outlays	$33.0	$29.8	$44.6
Training of government personnel (military)	$11.4	$11.4	$11.0

Social Capital (Alliances & Networks)			
Organizational capacity building & technical assistance			
Community (HUD, EDA, USDA)	$0.7	$0.6	$0.8
Company (MEP, SBA)	$0.3	$0.3	$0.4
Brands and marketing - reputation			
Export promotion	$0.8	$0.9	$1.0
Product safety, food safety, drug safety	$4.6	$5.0	$5.6
Total Investment in Intangibles	$261.4	$258.2	$284.4
Nondefense total	$174.9	$171.8	$201.8
Total Discretionary Outlays	$1,285.0	$1,258.0	$1,242.0
Defense	$671.0	$651.0	$618.0
Non-Defense	$614.0	$606.0	$624.0
Intangibles as percent of discretionary	20%	21%	23%
Nondefense intangibles as % of nondefense discretionary	28%	28%	32%

Analysis of Investments

As the table above indicates, almost a quarter of the discretionary part of the federal budget is devoted to investments in intangibles. That rises to a third for nondefense discretionary spending. The overwhelming intangible investments are in education and R&D. However, many of the more modest investments are of great importance. For example, food and drug safety activities are vital to the brand reputation in those areas. Successful programs such as the Manufacturing Extension Program have returned far more back to the economy that their costs. The value of a trained military is incalculable.

As I stressed earlier, the analysis does not include all expenditures in a particular category of intangible, especially government training and community/company capacity building. Nor does the analysis include all possible intangible assets. While there are is an argument to be made that a health workforce is a more productive workforce, I have not explicitly not include funding for health, safety and environmental protection. Note also that the government can create an intangible asset for others, without investing in it, through granting monopoly rights: IP, landing slots, water rights, mining rights, broadcast rights, etc. In some cases, the government actually makes money from these intangibles, such as spectrum and broadcast

licenses, certain mineral rights, etc. Another major area of intangibles are contracts and legally enforceable business relationships. I have not, however, included either the costs and revenues associated with government created assets nor the cost to the government of enforcement of civil legal actions.

Gathering information on intangibles investments in the federal budget is both easy and difficult. The federal budget, as prepared by OMB, has included a crosscutting capital budget for a long time in the *Analytical Perspectives, Budget of the United States Government*. Over time, this has come to be expanded into an investment budget covering physical capital, R&D, and education and training. The budget documents also include a separate R&D budget and a separate analysis of funding of statistical agencies, which is not included in the investment budget. However, other investments in intangibles need to be teased out of the budget. For example, there is no crosscutting analysis of the federal budget for arts and humanities, which is spread across the government with many agencies sponsoring their own arts projects. Likewise, the size of the federal commitment to capacity building is unclear. And the size of federal promotion (branding) activities is unknown. Thus, the government's activities in promoting and managing intangible assets is visible in the high-ticket areas of science and education while next to invisible in all other areas.

Management of Investments

The range of federal government intangible assets is broad. Some of these intangible assets are developed for the to the functioning of the economy, for example federal funded research and education activities. Many more hidden examples of intangible assets are those developed as part of the standard operations of the government. However, the federal government seems to have a makeshift set of policies for managing these intangible assets and generating revenues based on these intangible assets.

A few other nations have taken steps to better manage their intangible assets. For example, the UK Intellectual Property Office offers advice to government agencies on managing their intangible assets through their Intangible Assets Network.[4] The most advanced version of government management of intangible assets is the French Agence du patrimoine immatériel de l'Etat (APIE).[5] APIE acts as an internal consult to help agencies of the French government generate value from their intangible assets. This includes licensing of public-sector know-how and the trademarks (such as the Louvre museum and the museum management expertise), generating revenue from commercial repackaging of government information, and use of national buildings and monuments as film locations or for hosting events.

The U.S. Government also engages in all of these types of activities. But the policies do not seem to be coordinated or systematic. Nor do their appear to be any management plans in place for the appropriate utilization of these intangible assets in any systematic way for revenue generation. Rather, there are numerous examples of Federal government intangible assets appearing to be subject to ad hoc policies. For example, was there a systematic asset

management policy behind the decision some years ago to separate the USDA Graduate School from the Agriculture Department? What were the asset management considerations behind the decision to spin out the Index of Leading, Coincident and Lagging Indicators (an important economic statistic) from the Commerce Department?

In the area of information policy, it is unclear whether there a systematic asset management policy behind the setting of fees for and access to the government generated data and information (including statistical data and other types of information such as from the Weather Service). While there are laws and policies in place regarding the sale and/or licensing of patents (technology transfer), there is a seems to be a lack of government-wide and agency-specific management plans for promoting these licensing activities. Likewise, there is no government-wide and agency-specific plans for managing and promoting the licensing of government brands and trademarks (Woodsy Owl and Smoky the Bear are treated differently than "SEAL Team 6" or "FBI"). The granting of airport landing slots, water rights, mining rights, spectrum and broadcast licenses don't seem to treat these as valuable assets but rather handle each as a special case.

One often overlooked intangible asset is the expertise of Federal employees. This expertise ranges from business-related expertise, such as knowledge of various foreign markets or domestic business activities, to highly technical scientific and engineering knowledge. There seems to be various policies for access to and fees from technical expertise of Federal employees by the private sector. But there does not seem to be any management plans to market that technical advice to connect that knowledge to potential users.

All of these example point to the need for a comprehensive look at laws, regulations and policies that government federal intangible assets.

Conclusion

The federal government is a major investor in intangibles, but we don't know the size of that investment or even where it really goes. For some time the federal budget, as prepared by the Office of Management and Budget (OMB), has included a capital budget that includes physical capital, R&D, and education and training. The budget documents also include a separate analysis of funding of statistical agencies, which is not included in the investment budget. But there are many more investments in intangible assets hidden within the budget. Without information on these hidden assets, effective management of these public assets is difficult, if not impossible. Our current ad-hoc approach to managing assets demonstrates that difficulty. We need a better system for tracking investment in and then managing our governmental intangible assets.

A first step would be the creation of a cross-cutting budgetary analysis of federal investments in intangible assets. The capital budget analysis already undertaken by OBM can serve as the starting point. Second would be a comprehensive study, possibly by the Government

Accountability Office (GAO), of federal government intangibles assets and the policies in place to effectively utilize those assets. Earlier this month GAO released a report on the duplication and overlap among STEM education programs.[6] A comprehensive look at government policies and investments in intangible assets would be a follow on to existing GAO activities. The result of such studies would be a better understanding what intangible assets we have -- and how best to manage them.

Notes

[1] *New Building Blocks for Jobs and Economic Growth: Intangible Assets as Sources of Increased Productivity and Enterprise Value -- Report of a Conference May 16–17, 2011*, Athena Alliance, September 2011, http://www.athenaalliance.org/new/Intangibles%20Conference%20Report%20September%202011.pdf

[2] Nakamura, L. "Intangibles: What Put the New In the New Economy?" *Business Review*, Federal Reserve Bank of Philadelphia, July/August 1999, pp. 3–19.
Nakamura, L. "What Is The U.S. Gross Investment In Intangibles? (At Least) One Trillion Dollars A Year!" Working Paper No. 01–15. Federal Reserve Bank of Philadelphia, October 2001, http://www.phil.frb.org/files/wps/2001/wp01-15.pdf
Nakamura, L. A "Trillion Dollars a Year in Intangible Investment and the New Economy". *Intangible Assets: Values, Measures and Risks* (Hand, J., and L. Baruch, eds.). Oxford University Press, 2003.

[3] *Budget of the United States Government, Fiscal Year 2014*, Office of Management and Budget, Executive Office of the President, April 2013, budget.gov

[4] http://www.ipo.gov.uk/ian.htm

[5] http://www.economie.gouv.fr/apie

[6] *Science, Technology, Engineering, and Mathematics Education: Governmentwide Strategy Needed to Better Manage Overlapping Programs*
GAO-13-529T, Apr 10, 2013, http://www.gao.gov/products/GAO-13-529T

APPENDIX A
US Federal Government Investment in Intangibles FY 2014

Sources of information compiled by Athena Alliance

Information creation and intellectual property

- R&D funding: *Analytical Perspectives, Budget of the United States Government,* "Federal Investment"
- Arts & humanities/museum funding: Budgets for National Endowment for the Arts, National Endowment for Humanities, Smithsonian Institution
- Government information creation:
  - Statistical agencies: *Analytical Perspectives, Budget of the United States Government,* "Strengthening Federal Statistics"
  - Weather service – Department of Commerce Budget for the National Weather Service portion of the National Oceanographic and Atmospheric Administration (NOAA)
  - Library of Congress/Congressional Budget Office (CBO) /Government Accountability Office (GAO)/Government Printing Office (GPO) – Legislative Branch budget for each of these agencies
  - Patent and Trademark Office – Department of Commerce budget for PTO

Individual Human Capital (know-how)

- Education and training: *Analytical Perspectives, Budget of the United States Government,* "Federal Investment"
- Training of government personnel (military): specific line items for training in the budgets of the Army, Navy, Air Force and Marines

Social Capital (Alliances & Networks)

- Community: HUD - capacity building grants, EDA - technical assistant grants and planning grants, USDA extension service)
- Company (MEP, SBA): Commerce Department Budget for the Manufacturing Extension Partnership (MEP) program and the business assistance (non-credit programs) of the Small Business Administration

Brands and marketing - reputation

- Export promotion activities: Commerce Department's U.S. & Foreign Commercial Service and Global Markets program; Agriculture Department's Foreign Market Development Cooperator Program, Market Access Program and Foreign Agricultural Service; US Trade and Development Agency; Brand USA
- Product safety, food safety, drug safety (investments in product reputation): budgets for the Consumer Product Safety Commission (CPSC), the Food and Drug Administration (FDA) and the Department of Agriculture inspection activities (Animal and Plant Health Inspection Service and Food Safety and Inspection Service)

Note: PTO and FDA use gross outlays as they are mainly funded by non-federal (fee) sources.