



Athena Alliance

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On March 25, 2010 the Office of Science and Technology Policy (OSTP) and the National Economic Council (NEC) publishes a Request for Information (RFI) on the Commercialization of University Research. The RFI includes a question about alternative source of private funding to overcome the "valley of death" problem (i.e. financing gap between research and commercialization).

One promising alternative funding source that has emerged over the past few years is intangibles-based financing. Companies have long been able to raise money based on their physical and financial assets. Such assets can be easily bought and sold, borrowed against, and used to back other financial instruments. As such, these assets provide companies with a source of the investment funding needed for the U.S. economy, allowing it to grow and prosper.

In contrast, intangible assets are largely hidden, and therefore unavailable for financing purposes. Investment in the creation of intangible assets in the U.S. is more than \$1 trillion annually and the total value of intangibles in the U.S. when measured in 2005 dollars was estimated at \$9.2 trillion.¹ A huge opportunity cost is imposed on the U.S. economy when such a large source of potential financing is locked up. Because intangible assets are not generally available as a source of investment and risk capital, innovative companies may face higher capital costs—or even a dearth of capital—to fund new ideas. Unable to use their intangible assets as a financial tool, prospective borrowers face a system that does not understand their true revenue potential and is

unable to judge operational risks appropriately. New ideas never gain traction or remain unexplored or undeveloped. Economic potential goes untapped—and therefore wasted.

However, in recently years, a niche market of firms specializing in intangibles-based financing is springing up. Intangible assets—specifically, traditional intellectual property (IP) consisting of patents, trademarks, and copyrights—have been used in sale, leasing, equity, equity–debt, debt, and sale–leaseback transactions to finance the next round of innovation. Unlike some of the exotic financial vehicles, these new firms are using traditional financial techniques in new ways to help innovative companies.

Use of IP as collateral on loans dates back quite some time. The first trade secrets case in the United States involved the debt on a bond secured in part by a secret chocolate-making process in 1837.² In 1884, Ara Shipman loaned Lewis Waterman \$5,000 to start a pen-manufacturing business, secured by Waterman’s patent.³

Over the past few years we have undertaken a number of studies of intangible asset backed financing.⁴ Based on this work, as outlined in the two attached articles, we have come to the following conclusion:

- Intangibles are important assets to be secured in lending and compared with the traditional assets of real estate, accounts receivable, and inventory.
- Intangible assets (IA), as an asset class, provide financial firms with flexibility in structuring deals, allowing for both debt-and-equity vehicles and hybrid models. These vehicles can be adapted to address financing requirements for companies of all sizes and needs.
- IA financing vehicles require flexibility and specialization to account for differing and unique factors inherent in intangible assets.
- A robust market for IAs is necessary to ensure appropriate and accessible liquidation events for financial firms with both debt and equity positions, especially in distressed situations. The recent proliferation of IA licensing and sales, including auctions, has added depth to this market. But with low recovery rates currently standard, greater awareness is needed to ensure that companies’ and financial firms’ IAs are valued correctly and licensed and sold at prices reflecting high return rates.
- Even financial firms specializing in IAs rightly evaluate investment opportunities within the broader view of the profitability and growth potential of a target business. These holistic due-diligence processes, however, do not discount the independent value of many IA classes.
- Valuation methodologies for IAs are diverse and understandably imprecise; however, conservative loan-to-value ratios, advance rates, and other debt-and-equity protocols allow firms to account for the inherent imprecision of IA valuations.
- The securitization market for intangibles, while currently suffering from the same problems plaguing the overall securitization market, provides additional mechanisms for companies with IA-licensing businesses. These companies can use a debt model to generate cash flow for positive assets or, more likely, use an equity model for precommercial-phase assets.

Turning IP-backed financing from an exotic, one-off transaction into a routine mechanism by which innovative companies can raise funds will require changes in industry standards and government policies, including technology policy. But it also means going well beyond the boundaries of what is normally considered technology policy.

One starting point would be to streamline and standardize the process of using IP as collateral must be. Here, the federal government can be a lead player. The U.S. Small Business Administration (SBA) provides a vital role in financing new and small businesses through loan guarantee programs—such as the 7a Program. SBA recently revised its Standard Operating Procedure (SOP) for the 7a Program to make it clear that loans can be used for the acquisition of intangible assets when buying an ongoing business. However, the rules are unclear as to whether intangible assets can be used as collateral.

Two specific policy changes could help in this regard:

- ***Development SBA underwriting standards for IP.*** SBA should work with commercial lenders to develop standards for the use of intangible assets as collateral, similar to existing SBA underwriting standards. Allowing IP to be used as collateral will increase the amount of funds a company, such as one in the high-tech sector, would qualify for.
- ***Create an IP-backed loan fund.*** Other nations have developed special programs to encourage IP-based finance. The U.S. should set up similar programs on a pilot basis, ideally run by the SBA to take advantage of its lending expertise. Technical support could be provided by the SBA's Office of Technology, which already coordinates the Small Business Innovation Research (SBIR) program. The SBA technology office also works with the U.S. Commerce Department's National Institute of Standards and Technology (NIST) on its Technology Innovation Program and has a hand in other federal science- and technology-related initiatives. Such a direct lending program would be a step beyond SBA's current loan guarantee programs—direct lending is needed to jumpstart the process. Once the process of utilizing IP as collateral is fully established, the program could be converted to a loan guarantee structure.

In addition, broader policies changes are need to ensure that intangible assets are seen as part of the financial system, thus underpinning their role as a tool for financing innovation. While outside of the immediate scope of this RFI, these other changes include:

- ***Provide information on intellectual capital and bank lending practices.*** The U.S. Federal Reserve is seeking to strengthen bank supervision practices through the expansion of stress testing to assess the health of individual institutions. As bank regulators undertake these actions, they should be aware of the role and value of intangible assets. The failure to overtly include intangible assets may have the following consequences:

- Underestimation in the amount of collateral a lending institution has to call on in case of default (and therefore the undervaluation of the underlying loan).
- Miscalculation of a lending institution's ability to recapture collateral if the lending institution is dealing with an asset it does not understand.
- Improperly priced loans due to a failure to assign the correct value to the intangible assets or a tendency to apply exceedingly low loan-to-value ratios that are less a reflection of risk than of the institution's lack of knowledge about the performance of intangible assets.
- Higher capital costs for borrowers, especially those in businesses heavily reliant on knowledge and technology.

Regulatory agencies can take steps to study and collect information on the role of intangibles in the financial system—and to underscore the risks of ignoring them. As they build knowledge in this area, the Federal Reserve and other financial regulatory agencies might consider the following questions:

- To what extent are lending institutions employing intangible asset as collateral, either explicitly or implicitly?
 - What provisions are there in bank reporting requirements for intangibles?
 - Given that intangible assets can be wrapped up in the catch-all category of a blanket lien on all assets, how can lending institutions determine the value of intangible assets for the purposes of assessing collateral?
 - If intangibles are used explicitly as collateral, what underwriting standards are used and what are the specific valuation standards and loan-to-value ratios?
- ***Promote better understanding of intangibles by commissioning a National Academies' study.*** Intellectual capital and intangible assets cover a much broader range of categories, including worker skills and knowledge, business methods, organizational structure, and customer relations. There is a need to broaden the understanding of policymakers, business leaders, and the general public on the full scope of intellectual capital and intangible assets and how they function in the marketplace. As proposed at a June 2008 conference sponsored by the Bureau of Economic Analysis and the National Academies, a broad study of intangibles could include the following components:
 - A survey of efforts in other countries to advance the understanding of intangibles and their role in corporate performance and economic growth, promote financial investments in intangible assets, and foster the utilization of intangibles
 - An inventory of federally owned intangible assets and an exploration of how to exploit them for economic growth
 - A list of policy recommendations to accelerate private investment in and management of the types of intangible assets most likely to contribute to growth.

Notes:

- ¹ 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.
Corrado, C. A., C. R. Hulten, and D. E. Sichel. *Measuring Capital and Technology: An Expanded Framework*. Federal Reserve Board, August 2004. <http://www.federalreserve.gov/pubs/feds/2004/200465/200465pap.pdf>
Intangible Capital and Economic Growth. Working Paper No. 11948. National Bureau of Economic Research, January 2006. <http://www.nber.org/papers/w11948>
Invisible Business. Brand Finance, London. <http://www.brandfinance.com/Uploads/pdfs/Invisible%20business.pdf>
- ² Appendix B. *Vickery v. Welch In Trade Secret Asset Management* (Halligan, R. M., and R. F. Weyard), Aspatore Books, Boston, 2007, pp. 181–186.
- ³ van Dulken, S. *Inventing the 19th Century*. New York University Press, New York, 2001, p. 86. Also, this transaction led to a major patent law case, *Waterman v. Mackenzie*, 138 U.S. 255 (1891), where the Supreme Court ruled that a licensee without title cannot sue for infringement. Murphy, W. J. A Proposal for a Centralized and Integrated Registry for Security Interest in Intellectual Property, Appendix 19—*Waterman v. Mackenzie IDEA: The Journal of Law and Technology*, Vol. 41, Nos. 3 & 4, 2002, pp. 561–562. http://www.idea.piercelaw.edu/articles/41/41_3-4/Appendices/19.Appendix.pdf
- ⁴ Ellis, I. *Maximizing Intellectual Property and Intangible Assets: Case Studies in Intangible Asset Finance*, Athena Alliance Working Paper #07, November 2009, <http://www.athenaalliance.org>.
Jarboe, K.P. and R. Furrow, *Intangible Asset Monetization: The Promise and the Reality*, Athena Alliance Working Paper #03, April 2008. <http://www.athenaalliance.org>.