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THE TAXATION OF INTELLECTUAL CAPITAL

*Lily Kahng**

Abstract

Intellectual capital—broadly defined to include nonphysical sources of value such as patents and copyrights, computer software, organizational processes, and know-how—has a long history of being undervalued and excluded from measures of economic productivity and wealth. In recent years, however, intellectual capital has finally gained wide recognition as a central driver of economic productivity and growth. Scholars in fields such as knowledge management, financial accounting, and national accounting have produced a wealth of research that significantly advances the conceptual understanding of intellectual capital and introduces new methodologies for identifying and measuring its economic value.

This Article is the first to analyze and assess the taxation of intellectual capital within this broader interdisciplinary landscape. Informed by the recent research and reform efforts in these areas of management and accounting, the Article finds that tax law, which allows deductions for most investments in intellectual capital, is fundamentally flawed. This results in the loss of hundreds of billions of dollars in tax revenues, costly misallocations of resources, and a grave deviation from the accurate measure of income. This Article argues that, consistent with the prevailing view in other fields, investments in intellectual capital ought to be capitalized under tax law. Drawing upon the work of reform proponents in other fields, as well as that of their critics, the Article considers whether and to what extent the advances in other disciplines can be adapted to the tax system. Based on that analysis, this Article proposes to reform tax law to require businesses to capitalize and amortize over five years a broad array of intellectual capital investments, including research and development, advertising, worker training, and strategic planning.

* Professor of Law, Seattle University. I am grateful to Steve Arkin, Yariv Brauner, Mary Louise Fellows, Monica Gianni, Anthony Infanti, Calvin Johnson, Ronald Krotoszynski, Charlene Luke, Omri Marian, Shannon McCormack, Martin McMahon, Scott Schumacher, Daniel Sichel, and the participants of the 2014 Critical Tax Conference, the University of Florida Graduate Tax Policy Colloquium, the Seattle University Law School Faculty Workshop, and the University of Washington Law School Graduate Tax Program Colloquium for their helpful comments. I also thank Kelly Kunsch, Seattle University law librarian, for his invaluable research assistance.

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INTRODUCTION

Intellectual capital refers to nonphysical sources of value such as patents, software, and brand names, which are often labor intensive to create.¹ Though the term "intellectual capital" is relatively new,² the concept is not. As early as the mid-nineteenth century, economists recognized that value inheres in more than just tangible assets and that

1. This Article defines intellectual capital more precisely below. See *infra* notes 15–36 and accompanying text.

2. The earliest known usage of the phrase was in 1969 by John Kenneth Galbraith. Alexander Serenko & Nicholas Bontis, *Meta-Review of Knowledge Management and Intellectual Capital Literature: Citation Impact and Research Productivity Rankings*, 11 KNOWLEDGE & PROCESS MGMT. 185, 185 (2004).

knowledge and innovation are essential components of economic activity.³

At the same time, intellectual capital has also been likened to dark matter—the essential substance that binds together the universe but is not directly observable.⁴ It has a long history of being undervalued or excluded from measures of economic productivity and wealth.⁵ By one estimate, in recent years as much as one trillion dollars per year of investments in intellectual capital were omitted from official measures of gross domestic product (GDP).⁶

It is only now, well into the twenty-first century, that the ascendance of intellectual capital has become undeniable.⁷ Companies such as Google, Amazon, and Apple exemplify the new business model. Their most valuable assets are not physical plant and equipment, but rather operating systems, product designs, organizational structures, and their reputation among customers.⁸ A recent trend in Silicon Valley that highlights the importance of intellectual capital is “acqui-hiring,” where one company buys another solely to obtain the purchased company’s most valuable asset—its employees.⁹ Another example of the value of

3. Mie Augier & David J. Teece, *An Economics Perspective on Intellectual Capital*, in PERSPECTIVES ON INTELLECTUAL CAPITAL 3–4 (Bernard Marr ed., 2005); Bernard Marr, *The Evolution and Convergence of Intellectual Capital as a Theme*, in PERSPECTIVES ON INTELLECTUAL CAPITAL, *supra*, at 213–14; see also Peter Hill, *Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output*, 32 CANADIAN J. ECON. 426, 428–37 (1999).

4. See Ricardo Hausmann & Federico Sturzenegger, U.S. and Global Imbalances: Can Dark Matter Prevent a Big Bang? (Nov. 13, 2005) (unpublished manuscript), available at www.cid.harvard.edu/cidpublications/darkmatter_051130.pdf (theorizing that the omission of valuable assets such as know-how, brand recognition, expertise, and research and development skews estimates of trade imbalances).

5. See Hill, *supra* note 3, at 436–37, 445; Leonard Nakamura, *Intangibles: What Put the New in the New Economy?*, BUS. REV., July–Aug. 1999, at 3, 4, 6–10 [hereinafter Nakamura, *Intangibles*].

6. See Leonard Nakamura, *Investing in Intangibles: Is a Trillion Dollars Missing from GDP?*, BUS. REV., Q4 2001, at 27, 36 [hereinafter Nakamura, *Investing in Intangibles*]; see also Carol Corrado, Charles Hulten & Daniel Sichel, *Intangible Capital and U.S. Economic Growth*, 55 REV. INC. & WEALTH 661, 662, 682 (2009) [hereinafter Corrado et al., *Intangible Capital*]; Carol Corrado, Charles Hulten & Daniel Sichel, *Measuring Capital and Technology: An Expanded Framework*, in MEASURING CAPITAL IN THE NEW ECONOMY 11, 12, 30 (Carol Corrado et al. eds., 2005) [hereinafter Corrado et al., *Measuring Capital and Technology*].

7. See generally ORG. FOR ECON. CO-OPERATION & DEV., NEW SOURCES OF GROWTH: KNOWLEDGE-BASED CAPITAL—KEY ANALYSES AND POLICY CONSIDERATIONS—SYNTHESIS REPORT (2013) [hereinafter OECD REPORT] (documenting the global increase in business investment in intellectual capital and the resulting increasing productivity gains).

8. See *id.* at 8, 17. Intellectual capital is also dominant in more traditional companies. For example, the physical assets of Nestle, the world’s largest food company, comprise only 13% of its total value. See *id.* at 9.

9. John F. Coyle & Gregg D. Polsky, *Acqui-hiring*, 63 DUKE L.J. 281, 283–84 (2013) (describing and analyzing the acqui-hiring phenomenon).

intangible assets is the emergence of big data—the detection of patterns in large quantities of information—as the next frontier of innovation and productivity.¹⁰

Academic interest in intellectual capital has also surged, and in recent decades there has been an explosion of research on the subject. Scholars in economics, finance, accounting, and management theory have refined their theoretical understanding of intellectual capital and made significant advancements in their ability to quantify its contribution to economic productivity.¹¹ Moreover, their research has finally begun to gain broad governmental and institutional recognition. For example, in 2013, the U.S. Bureau of Economic Analysis (BEA) for the first time included research and development (R&D), as well as artistic creations such as films, music, and books, in its measures of national economic productivity and wealth, which added \$569 billion to the size of the U.S. economy.¹² A 2013 report by the Organisation for Economic Co-operation and Development (OECD) documented intellectual capital's ascendance to a global phenomenon and urged policy reforms in taxation, innovation, entrepreneurship, education, competition, corporate reporting, and intellectual property in order to realize fully the potential gains of this key economic driver.¹³

This Article aims to bring tax law into the twenty-first century. It is the first to undertake an analysis and assessment of the taxation of intellectual capital informed by the recent research and reforms in other fields including knowledge management, financial accounting, and national accounting.¹⁴ The Article finds that tax law, which allows

10. See generally G. Scott Erickson & Helen N. Rothberg, *Competitors, Intelligence, and Big Data*, in *BIG DATA AND BUSINESS ANALYTICS* 103 (Jay Liebowitz ed., 2013) (analyzing how big data can optimize the development and protection of intangible assets).

11. See *infra* Part II.

12. See Peter Coy, *The Rise of the Intangible Economy: U.S. GDP Counts R&D, Artistic Creation*, *BLOOMBERG BUSINESSWEEK* (July 18, 2013), <http://www.businessweek.com/articles/2013-07-18/the-rise-of-the-intangible-economy-u-dot-s-dot-gdp-counts-r-and-d-artistic-creation>. The BEA restated GDP for each year retroactive to 1929, the first year of measurement. *Id.* These additions increased the size of the U.S. economy in 2013 by \$569 billion, or 3.6%. See Jared Bernstein & Dean Baker, *What is 'Seinfeld' Worth?*, *N.Y. TIMES* (July 31, 2013), <http://www.nytimes.com/2013/08/01/opinion/what-is-seinfeld-worth.html>.

13. See OECD REPORT, *supra* note 7, at 6–7.

14. Several tax scholars have analyzed and critiqued the taxation of intangibles, the most prolific and influential (as evidenced by recent congressional reform proposals) being Calvin Johnson. See Calvin H. Johnson, *First Do No Harm: The Senate Staff Discussion Draft on Cost Recovery*, 142 *TAX NOTES* 549 (2014) [hereinafter Johnson, *First Do No Harm*], available at <http://www.ssrn.com/abstract=2394912>; Calvin H. Johnson, *Extend the Life for Acquired Intangibles to 75 Years*, 135 *TAX NOTES* 1053, 1053–56 (2012) [hereinafter Johnson, *Extend the Life*], available at <http://www.ssrn.com/abstract=2070101>; Calvin H. Johnson, *Accurate and Honest Tax Accounting for Oil and Gas*, 125 *TAX NOTES* 573 (2009), available at <http://www.ssrn.com/abstract=1503574> (discussing the taxation of intangible drilling costs); Calvin H. Johnson, *Capitalize Costs of Software Development*, 124 *TAX NOTES* 603 (2009),

businesses to deduct most of their investments in self-created intellectual capital, is fundamentally flawed. This results in the loss of hundreds of billions of dollars in tax revenue, costly misallocation of resources, and a grave deviation from the accurate measure of income. The Article argues that, consistent with the prevailing view in other disciplines, tax law ought to require capitalization of investments in self-created intellectual capital. Drawing upon the work of both reform proponents and their critics, this Article considers whether and to what extent the advances in other fields can be adapted to the tax system. Based on this analysis, the Article proposes a simplified approach under which businesses would capitalize and amortize over five years a broad array of investments in intellectual capital.

This Article proceeds in four Parts. Part I defines intellectual capital and addresses some preliminary conceptual issues. Part II then discusses

available at <http://www.ssrn.com/abstract=1516809>; Calvin H. Johnson, *The Effective Tax Ratio and the Undertaxation of Intangibles*, 121 TAX NOTES 1289 (2008) [hereinafter Johnson, *Undertaxation of Intangibles*], available at <http://www.ssrn.com/abstract=1315477>; Calvin H. Johnson, *Destroying the Tax Base: The Proposed INDOPCO Capitalization Regulations*, 99 TAX NOTES 1381 (2003) [hereinafter Johnson, *Destroying the Tax Base*], available at <http://www.ssrn.com/abstract=412728>; Calvin H. Johnson, *Capitalization After the Government's Big Win in INDOPCO*, 63 TAX NOTES 1323 (1994) [hereinafter Johnson, *Big Win*], available at <http://www.utexas.edu/law/faculty/calvinjohnson/63tm1323.htm>; Calvin H. Johnson, *The Expenditures Incurred by the Target Corporation in an Acquisitive Reorganization Are Dividends to the Shareholders: (Pssst, Don't Tell the Supreme Court)*, 53 TAX NOTES 463, 478 (Oct. 28, 1991) [hereinafter Johnson, *Dividends*], available at <http://www.utexas.edu/law/faculty/calvinjohnson/acqreorg.htm>; see also Don Fullerton & Andrew B. Lyon, *Tax Neutrality and Intangible Capital*, in 2 TAX POLICY AND THE ECONOMY 63 (Lawrence H. Summers ed., 1988); Jane G. Gravelle & Jack Taylor, *Tax Neutrality and the Tax Treatment of Purchased Intangibles*, 45 NAT'L TAX J. 77 (1992); John W. Lee, *Transaction Costs Relating to Acquisition or Enhancement of Intangible Property: A Populist, Political, but Practical Perspective*, 22 VA. TAX REV. 273, 276–77, 311–20 (2002) [hereinafter Lee, *Transaction Costs*]; John Lee et al., *Restating Capitalization Standards and Rules: The Case for Rough Justice Regulations (Part One)*, 23 OHIO N.U. L. REV. 631 (1997) [hereinafter Lee et al., *Rough Justice (Part One)*]; John Lee et al., *Restating Capitalization Standards and Rules: The Case for Rough Justice Regulations (Part Two)*, 23 OHIO N.U. L. REV. 1483 (1997) [hereinafter Lee et al., *Rough Justice (Part Two)*]; George Mundstock, *Taxation of Business Intangible Capital*, 135 U. PA. L. REV. 1179 (1987); Xuan-Thao Nguyen & Jeffrey A. Maine, *Equity and Efficiency in Intellectual Property Taxation*, 76 BROOK. L. REV. 1 (2010); David A. Weisbach, *Measurement and Tax Depreciation Policy: The Case of Short-Term Intangibles*, 33 J. LEGAL STUD. 199 (2004); Ethan Yale, *The Final INDOPCO Regulations*, 105 TAX NOTES 435 (2004) [hereinafter Yale, *INDOPCO Regulations*]; Ethan Yale, *When Are Capitalization Exceptions Justified?*, 57 TAX L. REV. 549 (2004) [hereinafter Yale, *Capitalization Exceptions*]; Timothy E. Johns, Note, *Tax Treatment of the Costs of Internally Developed Intangible Assets*, 57 S. CAL. L. REV. 767 (1984); Glenn Walberg, Note, *Everything Old Is New Again: Reaching the Limits of INDOPCO's Future Benefits with the Just-in-Time Management Philosophy*, 38 WM. & MARY L. REV. 1257 (1997).

This Article contributes to the literature by building on the work of many of these scholars and by, for the first time, drawing extensively upon research in other fields to assess and propose reforms for the tax treatment of intellectual capital.

research and reforms in three fields of particular relevance to the taxation of intellectual capital: knowledge management, financial accounting, and national accounting. Part III analyzes the current tax law treatment of intellectual capital. Finally, Part IV, drawing upon the research from the other fields discussed in Part II, proposes reforms in the taxation of intellectual capital.

I. INTELLECTUAL CAPITAL: DEFINITION AND PRELIMINARY CONCEPTUAL ISSUES

Intellectual capital is not easy to define. In keeping with its comparison to “dark matter,”¹⁵ scholars sometimes define it by what it is not: “[T]he defining characteristics of [intellectual] capital can be most tersely described by what it is not—not physical (plant and equipment), and not financial (stocks, bonds, and other similar instruments).”¹⁶

Despite the difficulty of precisely defining intellectual capital, the concept is easy to grasp intuitively, and its many definitions are similar at their core. For example, Professor Baruch Lev defines intellectual capital (or intangibles, in his terminology) as “nonphysical sources of value (claims to future benefits) generated by innovation (discovery), unique organizational designs, or human resources practices.”¹⁷ Lev cites Merck’s pharmaceutical advances as an example of discovery, Cisco’s internet-based product installation and maintenance system as an example of unique organizational design, and Xerox’s information-sharing system for employees as an example of human resources.¹⁸ Lev notes that a combination of these sources can produce intellectual capital: for example, the valuable brand Coke combines innovation (the secret Coke formula) and organizational structure (exceptional marketing savvy).¹⁹

Similar to Lev, Professor Margaret Blair and co-author Steven Wallman define intellectual capital (intangibles, in their terminology as well) as “nonphysical factors that contribute to, or are used in, the production of goods or the provision of services or that are expected to generate future productive benefits to the individuals or firms that control their use.”²⁰ Blair and Wallman emphasize what they call

15. See *supra* note 4 and accompanying text.

16. Carol A. Robbins, Mary L. Streitwieser & William A. Jolliff, *R&D and Other Intangible Assets in an Input-Output Framework: Experimental Estimates with U.S. Data 3* (BEA, Working Paper No. 0065, 2010), available at http://www.bea.gov/papers/pdf/rnd_intangibles_io_2010.pdf.

17. BARUCH LEV, *INTANGIBLES: MANAGEMENT, MEASUREMENT, AND REPORTING* 7 (2001).

18. *Id.* at 6.

19. See *id.*

20. MARGARET M. BLAIR & STEVEN M. H. WALLMAN, *UNSEEN WEALTH: REPORT OF THE BROOKINGS TASK FORCE ON INTANGIBLES* 9–10 (2001).

“intangible inputs” into the economy: “the ideas, special skills, organizational structures and capabilities, brand identities, mailing lists and data bases, and the networks of social, professional, and business relationships that make it possible for hundreds of millions of people to exchange services, experiences, technology, and ideas.”²¹

In their survey of numerous definitions of intellectual capital, Professors Leandro Cañibano, Manuel García-Ayuso Covarsí, and M. Paloma Sánchez find most definitions agree that intellectual capital refers to “sources of probable *future economic profits, lacking physical substance, which are controlled by a firm as a result of previous events or transactions* (self-production, purchase or any other means of acquisition).”²² Despite the similarities among definitions, Cañibano, García-Ayuso Covarsí, and Sánchez find that “there does not appear to be a generally accepted definition or classification of intangibles.”²³ Thus, they call for the development of a unified definition of intangibles.²⁴ In contrast, Bernard Marr argues that the definition of intellectual capital can and should differ depending on the context and purposes for which it is being defined.²⁵ This Article adopts Cañibano, García-Ayuso Covarsí, and Sánchez’s broad definition of intellectual capital, but acknowledges Marr’s point that the definition is not precise and may vary depending on the context. To provide clarity, the Article highlights throughout where definitional ambiguities arise. To forestall potential confusion, the following paragraphs address a few conceptual issues related to the definition of intellectual capital.

First, regarding terminology, intellectual capital is sometimes called knowledge-based capital²⁶ or, alternatively, intangibles or intangible assets.²⁷ This latter term may be misleading because it suggests that only separable, identifiable, and legally protected assets can “count” as intellectual capital.²⁸ Scholars generally define intellectual capital more broadly than that to encompass not only legally protected intellectual property such as patents, trademarks, and copyrights, but also information systems, administrative structures and processes, market

21. *Id.* at 9.

22. Leandro Cañibano, Manuel García-Ayuso Covarsí & M. Paloma Sánchez, *The Value Relevance and Managerial Implications of Intangibles: A Literature Review* 14 (Mar. 1999) [hereinafter Cañibano et al., *The Value*], <http://www.oecd.org/sti/ind/1947974.pdf>.

23. *Id.* at 19.

24. *See id.* at 14, 55.

25. *See* Bernard Marr, *Introduction*, in *PERSPECTIVES ON INTELLECTUAL CAPITAL*, *supra* note 3, at xiii–xv.

26. *See, e.g.*, OECD REPORT, *supra* note 7, at 6, 12.

27. *See, e.g.*, LEV, *supra* note 17, at 5.

28. To add to the confusion, the term “intellectual capital” is sometimes used to describe the subset of “intangibles” consisting of intellectual property, trade secrets, and computer software. *See* Cañibano et al., *The Value*, *supra* note 22, at 16 fig.2. This Article does not adopt this narrower meaning of “intellectual capital.”

and technical knowledge, brands, trade secrets, organizational know-how, culture, strategic capabilities, and customer satisfaction.²⁹ Examples of this broader definition of intellectual capital include Wal-Mart's computerized supply chain, Amazon's customer service reputation, and Google's unique business model.³⁰

Second, intellectual capital can be observed and measured by reference to either *inputs* or *outputs*.³¹ *Inputs* focus on resources expended to develop intellectual capital and include expenditures such as R&D, advertising, strategic planning, and worker training. *Outputs* focus on the end result of the inputs. For example, patents and copyrights are outputs that are the product of R&D inputs, and brands are the outputs of advertising inputs. Businesses can acquire outputs from third parties or produce them internally. On the output side, it is sometimes difficult to identify the specific assets created, and as discussed below, financial and tax accounting systems sometimes designate nonspecific intellectual capital as goodwill.³²

A third important conceptual distinction exists between intellectual capital *acquired* from third parties and *self-created* intellectual capital. As this Article shows, this distinction is highly significant in the realms of management, accounting, and tax law.³³ In all of these fields, most of the problems identified and reforms proposed relate to self-created intellectual capital.³⁴

A final conceptual issue concerns the relationship between intellectual capital, on one hand, and labor and human capital on the other. Inputs into intellectual capital often consist largely, or even exclusively, of labor. For example, strategic planning requires primarily the time and effort of managers. Similarly, scientific R&D requires primarily the time and effort of scientists. However, scientific R&D also requires expenditures for labs and equipment. Moreover, labor expenditures do not always produce intellectual capital because they do not always produce future benefits. For example, a fast food server or an office receptionist serves the current needs of their employer, but their services do not contribute to the employer's future profits.

29. See Farok J. Contractor, *Intangible Assets and Principles for Their Valuation*, in VALUATION OF INTANGIBLE ASSETS IN GLOBAL OPERATIONS 3, 7 fig.1.1, 8 (Farok J. Contractor ed., 2001); JUERGEN H. DAUM, INTANGIBLE ASSETS AND VALUE CREATION 17 (2003); LEV, *supra* note 17, at 5–7.

30. See OECD REPORT, *supra* note 7, at 8, 17.

31. See Corrado et al., *Intangible Capital*, *supra* note 6, at 663–66. The literature does not always distinguish precisely between inputs and outputs. For example, Blair and Wallman describe brands and mailing lists as “intangible inputs” into the economy. See BLAIR & WALLMAN, *supra* note 20, at 9. These are more properly characterized as outputs.

32. See *infra* notes 71–73, 181 and accompanying text.

33. See, e.g., *infra* notes 68–77 and accompanying text.

34. See *infra* Part IV.

Alternatively, labor expenditures sometimes produce future benefits involving tangible assets, when, for example, workers help in the construction of a new factory.

Intellectual capital and human capital are closely related but not coterminous. Broadly speaking, human capital refers to resources in people or human capabilities that produce future monetary and psychic income.³⁵ While intellectual capital focuses on businesses' investment in and production of intangible sources of future value, human capital focuses on individuals' possession of and investment in their own capabilities to produce future value. Like intellectual capital, human capital can be observed and measured by reference to inputs and outputs. The inputs to human capital include formal education, on-the-job training, healthcare, and migration.³⁶ Scholars typically measure the outputs of human capital by reference to individuals' increased income resulting from investments in education, healthcare, and the like.³⁷

This Article is concerned primarily with the treatment of business investment in intellectual capital.³⁸ Thus, for example, the Article argues that the tax system should treat on-the-job training costs as enhancing the business's intellectual capital, but it does not address how the employees should treat this enhancement of their own human capital. However, much of the analysis developed in this Article has

35. See GARY S. BECKER, *HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS WITH SPECIAL REFERENCE TO EDUCATION* 11, 15–16 (3d ed. 1993).

The term “human capital” also suffers from its own definitional ambiguities, which make it difficult to distinguish precisely from intellectual capital. Some scholars use the term “human capital” in a narrower sense to refer to a subset of intellectual capital that includes employee knowledge, capabilities, and experience. See Ulf Johanson, *A Human Resource Perspective on Intellectual Capital*, in *PERSPECTIVES ON INTELLECTUAL CAPITAL*, *supra* note 3, at 96–97; Robin Kramar, Vijaya Murthy & James Guthrie, *Accounting for Human Capital and Organizational Effectiveness*, in *THE OXFORD HANDBOOK OF HUMAN CAPITAL* 382, 384 (Alan Burton-Jones & J.-C. Spender eds., 2011). In addition, some definitions of intellectual capital focus more on its human resource aspects and include values such as empathy, persistence, and competitiveness. See Robbins et al., *supra* note 16, at 3–4.

36. Theodore W. Schultz, *Investment in Human Capital*, 51 *AM. ECON. REV.* 1, 9–13 (1961); see also Robbins et al., *supra* note 16, at 3–4.

37. See generally BECKER, *supra* note 35, at 147–200 (providing an empirical analysis of the effect of college education on earnings and productivity); Dale W. Jorgenson & Barbara M. Fraumeni, *The Accumulation of Human and Nonhuman Capital, 1948–84*, in *THE MEASUREMENT OF SAVING, INVESTMENT, AND WEALTH* 227 (Robert E. Lipsey & Helen Stone Tice eds., 1989) (estimating, *inter alia*, the effect of education on lifetime labor income).

38. This Article does not address the tax treatment of income derived from intellectual capital, one of the principal concerns of which is the manipulation of international streams of income through transfer pricing and other avoidance strategies. See, e.g., Yariv Brauner, *Value in the Eye of the Beholder: The Valuation of Intangibles for Transfer Pricing Purposes*, 28 *VA. TAX REV.* 79 (2008); Michael J. Graetz & Rachael Doud, *Technological Innovation, International Competition, and the Challenges of International Taxation*, 113 *COLUM. L. REV.* 347 (2013); Edward D. Kleinbard, *Stateless Income*, 11 *FLA. TAX REV.* 699 (2011).

implications for the taxation of human capital, which this author addresses elsewhere.³⁹

II. INTELLECTUAL CAPITAL RESEARCH, FINDINGS, AND REFORMS

This Part describes some of the research and reforms related to intellectual capital in the fields of knowledge management, financial accounting, and national accounting. The purpose of this discussion is twofold. First, it demonstrates that scholars now widely acknowledge intellectual capital as an important driver of economic growth that has been overlooked until recently. Second, as is developed in Part IV, the areas discussed in this Part have particular relevance to the tax treatment of intellectual capital.

A. Knowledge Management

Managers engage in ceaseless efforts to understand and exploit a business's resources and capabilities to create value and maximize the profits of their business.⁴⁰ Scholars had been arguing that intellectual capital resources were a vital but overlooked driver of value creation for decades⁴¹ when, in 1991, Thomas Stewart's article in *Fortune* introduced the concept of intellectual capital to the mainstream U.S. business community.⁴² Stewart highlighted the importance of intellectual capital and popularized the idea of "knowledge management" as part of corporate strategy:

Every company depends increasingly on knowledge—
patents, processes, management skills, technologies,

39. See generally Mary Louise Fellows & Lily Kahng, *Costly Mistakes: Undertaxed Business Owners and Overtaxed Workers*, 81 GEO. WASH. L. REV. 329 (2013) (discussing the lack of available deductions for employee consumption and the under-taxation of employer expenditures); Lily Kahng, *Intellectual Capital and Human Capital Perspectives on the Taxation of Education and Training* (unpublished manuscript) (on file with author).

40. See generally Michael E. Porter, *What Is Strategy?*, HARV. BUS. REV., Nov.–Dec. 1996, at 61 (discussing business strategy); David J. Teece, Gary Pisano & Amy Shuen, *Dynamic Capabilities and Strategic Management*, 18 STRATEGIC MGMT. J. 509 (1997) (discussing how the "dynamic capabilities approach" can help answer the "fundamental question" of "how firms achieve and sustain competitive advantage").

41. See generally Leire Alcaniz et al., *Theoretical Perspectives on Intellectual Capital: A Backward Look and a Proposal for Going Forward*, 35 ACCT. FORUM 104 (2011); Leandro Cañibano et al., *Accounting for Intangibles: A Literature Review*, 19 J. ACCT. LITERATURE 102 (2000).

42. See Thomas A. Stewart, *BrainPower: Intellectual Capital Is Becoming Corporate America's Most Valuable Asset and Can Be Its Sharpest Competitive Weapon*, FORTUNE, June 3, 1991, available at http://archive.fortune.com/magazines/fortune/fortune_archive/1991/06/03/75096/index.htm; see also THOMAS A. STEWART, *INTELLECTUAL CAPITAL: THE NEW WEALTH OF ORGANIZATIONS* (1997); Thomas A. Stewart, *Your Company's Most Valuable Asset: Intellectual Capital*, FORTUNE, Oct. 3, 1994 [hereinafter Stewart, *Most Valuable Asset*], http://archive.fortune.com/magazines/fortune/fortune_archive/1994/10/03/79803/index.htm.

information about customers and suppliers, and old-fashioned experience. Added together, this knowledge is intellectual capital. . . . [I]t's the sum of everything everybody in your company knows that gives you a competitive edge in the marketplace. Such collective knowledge is hard to identify and harder still to deploy effectively. But once you find it and exploit it, you win.⁴³

Since then, catalyzed by the technology boom of the 1990s and the growth of the "knowledge economy,"⁴⁴ research on knowledge management has exploded, and knowledge management consulting is now a thriving industry.⁴⁵ The business community widely accepts the importance of intellectual capital in value creation, and businesses have implemented internal systems to identify it, monitor its productivity, and allocate resources toward its development.⁴⁶

Two of the best known systems for identifying and quantifying intellectual capital are the Skandia Navigator, developed by Leif Edvinsson,⁴⁷ and the Balanced Scorecard, developed by Robert Kaplan

43. Stewart, *Most Valuable Asset*, *supra* note 42.

44. Peter Drucker first used the term "knowledge economy" in 1969 to describe the shift in the U.S. economy from manufacturing to services and technology. See PETER F. DRUCKER, *THE AGE OF DISCONTINUITY: GUIDELINES TO OUR CHANGING SOCIETY* 263–86 (1969).

45. For influential and pathbreaking books on knowledge management, see generally, for example, THOMAS H. DAVENPORT & LAURENCE PRUSAK, *WORKING KNOWLEDGE: HOW ORGANIZATIONS MANAGE WHAT THEY KNOW* (1998); IKUJIRO NONAKA & HIROTAKE TAKEUCHI, *THE KNOWLEDGE-CREATING COMPANY: HOW JAPANESE COMPANIES CREATE THE DYNAMICS OF INNOVATION* (1995); KARL ERIK SVEIBY, *THE NEW ORGANIZATIONAL WEALTH: MANAGING AND MEASURING KNOWLEDGE-BASED ASSETS* (1997). The vast literature on intellectual capital and knowledge management is evidenced by several journals dedicated to the subject, including the *Journal of Intellectual Capital*, the *Journal of Knowledge Management*, and *Knowledge and Process Management*. In addition, there are innumerable books, articles, and reports on the subject.

46. See Alcaniz et al., *supra* note 41, at 106–13; Daniel Andriessen, *IC Valuation and Measurement: Classifying the State of the Art*, 5 J. INTEL. CAP. 230 (2004) (developing, clarifying, and classifying methods for measuring and valuing intellectual capital); Nick Bontis, *Assessing Knowledge Assets: A Review of the Models Used to Measure Intellectual Capital*, 3 INT'L J. MGMT. REVS. 41, 44–56 (2001) (describing knowledge management systems including the Skandia Navigator, the IC-Index, Technology Broker's IC Audit, Sveiby's intangible asset monitor, and Stern Stewart's Economic Value Added); Leif Edvinsson & Patrick Sullivan, *Developing a Model for Managing Intellectual Capital*, 14 EUR. MGMT. J. 356 (1996) (describing management systems of several companies); Jolanta Jurczak, *Intellectual Capital Measurement Methods*, 1 ECON. & ORG. ENTERPRISE 37 (2008) (describing twenty-one methodologies for measuring intellectual capital, grouped into four categories: direct intellectual capital methods, market capitalization methods, return-on-assets methods, and scorecard methods); Baruch Lev & Juergen H. Daum, *The Dominance of Intangible Assets: Consequences for Enterprise Management and Corporate Reporting*, 8 MEASURING BUS. EXCELLENCE 6 (2004) (discussing methods that can be used to manage and understand intangibles).

47. See Leif Edvinsson, *Developing Intellectual Capital at Skandia*, 30 LONG RANGE PLAN. 366 (1997) (describing the creation process and reasoning behind the Skandia Navigator);

and Professor David Norton.⁴⁸ The Navigator identifies two components of intellectual capital: (1) human capital, defined as the aggregate of employees' knowledge, skill, and innovativeness and (2) structural capital, defined as software, databases, organizational structure, patents, customer relationships, and other organizational capabilities that enable employees to be productive.⁴⁹ Skandia first implemented the Navigator for internal managerial purposes in 1985 and incorporated it into the company's financial reports to shareholders in 1994, becoming the first to include an intellectual capital supplement to its financial reports.⁵⁰ Many other companies since then, including Dow Chemical, have relied upon the Skandia framework to formulate intellectual capital supplements to their financial reports.⁵¹

The Balanced Scorecard articulates four perspectives that inform the formulation and execution of a strategic plan: (1) the learning and growth perspective; (2) the business-process perspective; (3) the customer perspective; and (4) the financial perspective.⁵² According to Kaplan and Norton, the first three perspectives in particular enable businesses to formulate a strategy to "create future value through investment in customers, suppliers, employees, processes, technology, and innovation."⁵³ Early adopters of the Balanced Scorecard included Mobil, Chemical Bank, AT&T Canada, and Wells Fargo Online Services.⁵⁴ Thousands of organizations worldwide have since adopted the Balanced Scorecard.⁵⁵

Researchers and corporate managers agree widely that knowledge management systems can enhance the performance and profitability of businesses.⁵⁶ However, there are numerous different models and frameworks for measuring intellectual capital⁵⁷—one recent survey

LEIF EDVINSSON & MICHAEL S. MALONE, *INTELLECTUAL CAPITAL: REALIZING YOUR COMPANY'S TRUE VALUE BY FINDING ITS HIDDEN BRAINPOWER* (1997) (explaining the workings of the measure of intellectual capital and detailing the process for creation of the Skandia Navigator); see also J. Mouritsen, H. T. Larsen & P. N. Bukh, *Valuing the Future: Intellectual Capital Supplements at Skandia*, 14 ACCT., AUDITING & ACCOUNTABILITY J. 399, 399–400 (2001).

48. ROBERT S. KAPLAN & DAVID P. NORTON, *THE BALANCED SCORECARD: TRANSLATING STRATEGY INTO ACTION* (1996); Robert S. Kaplan & David P. Norton, *The Balanced Scorecard—Measures That Drive Performance*, HARV. BUS. REV., Jan.–Feb. 1992, at 71.

49. See EDVINSSON & MALONE, *supra* note 47, at 11.

50. Bontis, *supra* note 46, at 44.

51. *Id.*

52. See KAPLAN & NORTON, *supra* note 48, at 72–77.

53. *Id.* at 7.

54. Robert S. Kaplan, *Conceptual Foundations of the Balanced Scorecard*, in 3 HANDBOOK OF MANAGEMENT ACCOUNTING RESEARCH 1253, 1267 (Christopher S. Chapman, Anthony G. Hopwood & Michael D. Shields eds., 2009).

55. *Id.* at 1253.

56. Lev & Daum, *supra* note 46, at 6; see also Alcaniz et al., *supra* note 41, at 106, 110.

57. See DANIEL ANDRIESEN, *MAKING SENSE OF INTELLECTUAL CAPITAL: DESIGNING A METHOD FOR THE VALUATION OF INTANGIBLES* 13–14 (2004) (describing four methods of

describes twenty-one different methodologies⁵⁸—and no consensus has emerged about which model or framework is best.⁵⁹ Managers still do not fully understand intellectual capital resources and how best to deploy them.⁶⁰ Researchers continue to disagree about the best way to measure and assess the impact of intellectual capital on business performance, in particular whether to use a qualitative approach, as exemplified by the Skandia Navigator and the Balanced Scorecard, or a quantitative approach that uses finance metrics, such as earnings per share and market-to-book ratio.⁶¹

B. Financial Accounting

Financial accounting refers to the process by which a business creates its financial reports or statements—principally the balance sheet and income statement—to provide information to its investors, shareholders, creditors, employees, and other stakeholders.⁶² Financial accounting is distinct from managerial or management accounting. The latter refers to the internal books that businesses keep to assess performance and strategize for the future, although there may be substantial overlap between the two categories.⁶³ For example, Skandia first implemented its Navigator for internal purposes but later incorporated the information into its financial reports in the form of an intellectual capital supplement.⁶⁴

The guidelines for financial accounting, called generally accepted accounting principles (GAAP), are “a set of objectives, conventions, and principles that have evolved over the years to govern the preparation and presentation of financial statements.”⁶⁵ The most important authoritative sources of GAAP are statements of the Financial Accounting Standards Board (FASB).⁶⁶ Other authoritative sources include releases and bulletins of the American Institute of Certified

intangible asset valuation).

58. See Jurczak, *supra* note 46, at 41–44.

59. *Id.* at 44–45.

60. See Alcaniz et al., *supra* note 41, at 110–11.

61. See *id.* at 111–13. Professor Alcaniz and her coauthors identify three types of systems for measuring and reporting intellectual capital: “hard number metrics; scoreboards populated by sets of softer indicators; and narrative accounts.” *Id.* at 112.

62. See generally WILLIAM G. DROMS & JAY O. WRIGHT, *FINANCE AND ACCOUNTING FOR NONFINANCIAL MANAGERS: ALL THE BASICS YOU NEED TO KNOW* 27–66 (6th ed. 2010) (providing an overview of financial accounting).

63. See generally STEPHAN LEITNER, *INFORMATION QUALITY AND MANAGEMENT ACCOUNTING: A SIMULATION ANALYSIS OF BIASES IN COSTING SYSTEMS* 11–27 (2012) (describing the functions of and principles underlying management accounting and financial accounting).

64. See *supra* text accompanying note 50.

65. DROMS & WRIGHT, *supra* note 62, at 27.

66. See *id.* at 28.

Public Accountants (AICPA) and releases of the Securities and Exchange Commission (SEC).⁶⁷

1. Current Treatment of Intellectual Capital

Under current GAAP, financial accounting for intellectual capital distinguishes between intellectual capital *acquired* from third parties and *self-created* intellectual capital. Where intellectual capital is acquired from a third party, it must be *capitalized*—that is, the buyer must record it as an asset on the business's balance sheet and amortize that capital over its useful life.⁶⁸ Where a business acquires a specific intangible asset, the buyer records that asset at its cost on the balance sheet.⁶⁹ In cases where a buyer acquires an entire business, the buyer must allocate the purchase price among specific assets in order to capitalize the cost of each asset.⁷⁰ The general approach is to allocate the purchase price first to specific and identifiable assets in accordance with their relative fair market values, and then to allocate any residual purchase price to goodwill.⁷¹ Goodwill is deemed to have an indefinite life and, therefore, it is not amortized over any fixed period.⁷² Instead, businesses must make an annual assessment to determine whether goodwill has been impaired and expense the amount, if any, of such impairment.⁷³

67. See *id.* at 29.

68. See BUSINESS COMBINATIONS, Statement of Fin. Accounting Standards No. 141, ¶¶ 5–8, at 9–10 (Fin. Accounting Standards Bd. 2001) [hereinafter Statement of FAS No. 141], available at <http://www.fasb.org/pdf/fas141.pdf>; GOODWILL AND OTHER INTANGIBLE ASSETS, Statement of Fin. Accounting Standards No. 142, ¶¶ 9, 11, at 10 (Fin. Accounting Standards Bd. 2001) [hereinafter Statement of FAS No. 142], available at <http://www.fasb.org/pdf/fas142.pdf>; see also Benjamin P. Foster et al., *Valuing Intangible Assets*, CPA J. (Oct. 3, 2003), <http://www.nysscpa.org/cpajournal/2003/1003/features/f105003.htm>; Ronald J. Huefner & James A. Largay III, *The Effect of the New Goodwill Accounting Rules on Financial Statements*, CPA J. (Oct. 4, 2004), <http://www.nysscpa.org/cpajournal/2004/1004/essentials/p30.htm>; Jennifer M. Mueller, *Amortization of Certain Intangible Assets*, J. ACCT. (Dec. 2004), <http://www.journalofaccountancy.com/issues/2004/dec/amortizationofcertainintangibleassets.htm>.

69. See Mueller, *supra* note 68.

70. See Statement of FAS No. 141, *supra* note 68, ¶¶ 9, 13–14, 20, 22, at 10–13.

71. See *id.* ¶¶ 5, 8, 43, at 9–10, 18. To be treated separately from goodwill, an intangible asset must be legally or contractually protected or separable and capable of being monetized. See *id.* ¶ A10, at 26 (providing a list of intangibles that may be treated separately).

72. See Statement of FAS No. 142, *supra* note 68, ¶¶ 16, 18, at 12.

73. See *id.* ¶¶ 18, 20, at 12–13; see also Huefner & Largay, *supra* note 68.

Prior to 2001, financial accounting distinguished between acquisitions where the sole or primary consideration was equity of the acquiring entity (“equity-based acquisitions”) and those where the sole or primary consideration was cash or other property (“non-equity-based acquisitions”). See BUSINESS COMBINATIONS, Opinion No. 16, ¶ 15 (Accounting Principles Bd. 1970). Equity-based acquisitions were treated under “pooling” accounting and non-equity-based acquisitions were treated under “purchase” accounting. See *id.* ¶¶ 12, 15. In pooling accounting, assets were reported at historic values on the acquiring company’s financial statements. See

Where intellectual capital is self-created, it generally must be *expensed*—that is, the business must record expenditures for its development on its income statement.⁷⁴ There are a few exceptions to the expensing of self-created intellectual capital—the most notable of which relates to computer software.⁷⁵ Businesses that develop computer software for sale or lease to others must capitalize and amortize the software over its useful life.⁷⁶ However, there is some flexibility in the guidelines, and many software companies choose to expense rather than capitalize a substantial portion of their expenditures.⁷⁷

In general, international accounting standards treat intellectual capital similarly to GAAP: Most acquired intellectual capital is capitalized, and most self-created intellectual capital is expensed.⁷⁸ Notably, international accounting standards diverge from GAAP in that they require businesses to capitalize rather than expense self-created R&D.⁷⁹

Christine Andrews et al., *SFAS 141(R): Global Convergence and Massive Changes in M&A Accounting*, 7 J. BUS. ECON. RES. 125, 125 (2009). Under purchase accounting, assets were reported at their cost. *Id.*; Stephen R. Moehrl & Jennifer A. Reynolds-Moehrl, *Say Good-Bye to Pooling and Goodwill Amortization*, J. ACCT. (Sept. 2001), <http://www.journalofaccountancy.com/Issues/2001/Sep/SayGoodByeToPoolingAndGoodwillAmortization.htm>. In 2001, the FASB eliminated pooling accounting in its Statement No. 141. *See* Statement of FAS No. 141, *supra* note 68, ¶ 59, at 22. At the same time, the FASB issued its Statement Number 142, which changed the treatment of goodwill. *See* Statement of FAS No. 142, *supra* note 68, at 7.

74. LEV, *supra* note 17, at 91–92; Philip Siegel & Carl Borgia, *The Measurement and Recognition of Intangible Assets*, 1 J. BUS. & PUB. AFF. (2007), available at <http://www.scientificjournals.org/journals2007/articles/1006.htm>. No overarching FASB rule relating to all self-created intellectual capital exists, but rather an assortment of guidance, some of a general nature and some relating to specific types of investments such as advertising, R&D, customer relations, and motion pictures. *See* Statement of FAS No. 141, *supra* note 68, ¶¶ A14, B211, at 28–29, 86; LEV, *supra* note 17, at 135–50; *see also* Ernst & Young, *Intangibles—Goodwill and Other*, FIN. REPORTING DEV. (2013), available at [http://www.ey.com/publication/vwluassetsdld/financialreportingdevelopments_bb1499_intangibles_9july2014/\\$file/financialreportingdevelopments_bb1499_intangibles_9july2014.pdf](http://www.ey.com/publication/vwluassetsdld/financialreportingdevelopments_bb1499_intangibles_9july2014/$file/financialreportingdevelopments_bb1499_intangibles_9july2014.pdf).

75. *See* LEV, *supra* note 17, at 91.

76. *See* ACCOUNTING FOR THE COSTS OF COMPUTER SOFTWARE TO BE SOLD, LEASED, OR OTHERWISE MARKETING, Statement of Fin. Accounting Standards No. 86 ¶¶ 2–4, 7, at 5–6 (Fin. Accounting Standards Bd. 1985), available at <http://www.fasb.org/pdf/fas86.pdf>.

77. *See* David Aboody & Baruch Lev, *The Value Relevance of Intangibles: The Case of Software Capitalization*, 36 J. ACCT. RES. 161, 167–68 (1998).

78. *See* ERNST & YOUNG, US GAAP VERSUS IFRS: THE BASICS 17 (2012), [http://www.ey.com/Publication/vwLUAssets/US_GAAP_versus_IFRS:_The_basics_November_2012/\\$FILE/US_GAAP_v_IFRS_The_Basics_Nov2012.pdf](http://www.ey.com/Publication/vwLUAssets/US_GAAP_versus_IFRS:_The_basics_November_2012/$FILE/US_GAAP_v_IFRS_The_Basics_Nov2012.pdf); GRANT THORNTON, COMPARISON BETWEEN U.S. GAAP AND INTERNATIONAL FINANCIAL REPORTING STANDARDS 39–42 (2013), http://www.granthornton.com.au/files/gt_2013_comparison_us_ifrs.pdf.

79. *See* INTANGIBLE ASSETS, International Accounting Standard No. 38 (Int'l Accounting Standards Bd. 2004) [hereinafter IAS Standards No. 38], available at <http://www.ifrs.org/IFRSs/IFRS-technical-summaries/Documents/English%20Web%20Summaries%202013/IAS%2038.pdf>.

2. Research and Reforms

Financial accounting scholars argue that current accounting guidelines fail to provide accurate and complete information about the value of self-created intellectual capital to investors and other stakeholders. This failure can have many adverse consequences. For example, scholars often cite the expensing of self-created R&D to explain why the earnings and assets of companies, such as pharmaceutical manufacturers, seem very low relative to their stock prices.⁸⁰ They argue that the expensing of self-created R&D depresses the earnings of these companies and that the failure to capitalize self-created R&D undervalues the assets of these companies.⁸¹ These accounting distortions undermine the reliability of financial statements vis-à-vis the true value of a company—they lower the “value-relevance” of financial statements.⁸²

Reform proponents argue that this loss in value relevance has many undesirable consequences including higher costs of capital, a systematic undervaluation of intangible assets, an increased risk of insider trading, and a degraded usefulness of financial reports.⁸³ A substantial and growing literature provides empirical support for these claims.⁸⁴

Lev and Professor Paul Zarowin argue that the “almost universal expensing of intangible investments” is inconsistent with the FASB’s conceptual definition of an asset as “probable future economic benefit obtained or controlled by a particular entity as a result of past transactions or events . . . whether tangible or intangible and whether or

80. See Nakamura, *Investing in Intangibles*, *supra* note 6, at 30–31; Charles Hulten, *Accounting for the Knowledge Economy* 7–10 (The Conference Bd. Econ. Program Working Paper No. 08-13, Jan. 2008), http://www.conference-board.org/pdf_free/workingpapers/E-0040-08-WP.pdf; see also William Hubbard, *The Debilitating Effect of Exclusive Rights: Patents and Productive Inefficiency*, 66 FLA. L. REV. 2045, 2046–47 (2014) (discussing other oddities in the pharmaceutical industry).

81. See Nakamura, *Intangibles*, *supra* note 5, at 8–10; Hulten, *supra* note 80, at 7–10.

82. See Nils E. Joachim Høegh-Krohn & Kjell Henry Knivsflå, *Accounting for Intangible Assets in Scandinavia, the UK, the US, and by the IASC: Challenges and a Solution*, 35 INT’L J. ACCT. 243, 255–56 (2000).

83. See Cañibano et al., *The Value*, *supra* note 22, at 38–39; see also Høegh-Krohn & Knivsflå, *supra* note 82, at 254–56; WAYNE S. UPTON, JR., FIN. ACCOUNTING STANDARDS BD., SPECIAL REPORT: BUSINESS AND FINANCIAL REPORTING, CHALLENGES FROM THE NEW ECONOMY 84–86 (2001), http://www.fasb.org/articles&reports/sr_new_economy.pdf.

84. See, e.g., Baruch Lev & Paul Zarowin, *The Boundaries of Financial Reporting and How to Extend Them*, 37 J. ACCT. RES. 353, 378–79 (1999) (surveying empirical literature on intellectual capital and capital markets); Douglas J. Skinner et al., *Implications of Accounting Research for the FASB’s Initiatives on Disclosure of Information About Intangible Assets*, 17 J. ACCT. HORIZONS 175 (2003) (same); Masayuki Morikawa, *Financial Constraints in Intangible Investments: Evidence from Japanese Firms* (Research Inst. of Econ., Trade & Indus. Discussion Paper Series, Working Paper No. 12-E-045, 2012) (same).

not it has a market price or is otherwise exchangeable.”⁸⁵ Lev and Zarowin propose the capitalization of all self-created intangible investments once they have met a prespecified “technological feasibility test, such as a working model for software or a clinical test for a drug.”⁸⁶ Under Lev and Zarowin’s proposal, capitalized intangibles would then be amortized in accordance with “management’s estimates of productive lives, guided by industry norms and research findings,” and subject to a period impairment test to “safeguard against overvaluation.”⁸⁷

Lev and Zarowin further propose that businesses should systematically restate their financial statements to account for events, such as a corporate restructuring, that involve intellectual capital investments in employee training, reorganization of business lines, and the acquisition of technology.⁸⁸ Under GAAP, businesses immediately expense these outlays; Lev and Zarowin propose instead to restate current and past financial statements—to reverse the expensing of these investments and instead to capitalize them—as the benefits of the restructuring materialize.⁸⁹

Many scholars disagree with Lev and Zarowin’s position that capitalization of self-created intellectual capital is the appropriate remedy for deficiencies in financial accounting. They argue in opposition that the benefits of intellectual capital investments are too uncertain to warrant including them on the balance sheet, that nonfinancial disclosure is a more suitable means to provide information, and that capitalization would enable managers to engage in “earnings management”—that is, to overstate or otherwise distort their results.⁹⁰

85. Lev & Zarowin, *supra* note 84, at 376–77 (internal quotation marks omitted) (quoting ELEMENTS OF FINANCIAL STATEMENTS, Statement of Fin. Accounting Concepts No. 6, ¶¶ 25, 173, at 16, 55 (Fin. Accounting Standards Bd. 1985) (footnote omitted)).

86. *See id.* at 377.

87. *See id.* at 379. Their proposal is similar to the treatment of R&D under International Financial Accounting Standards (IFRS), which require the capitalization of development costs once certain technical feasibility and other tests are met. *See* IAS Standards No. 38, *supra* note 79; *see also* BDO, IFRS AT A GLANCE: IAS 38 INTANGIBLE ASSETS (2014), <http://www.bdointernational.com/Services/Audit/IFRS/IFRS%20at%20a%20Glance/Documents/IAS%2038.pdf>.

88. Lev & Zarowin, *supra* note 84, at 380.

89. *See id.*

90. *See, e.g.,* BLAIR & WALLMAN, *supra* note 20, at 66–67 (arguing that the debate about whether to expense or capitalize R&D focuses on the wrong problem; what is important is that the information be provided to investors, regardless of the format, and that capitalization is in fact “a poor proxy for . . . richer information disclosure”); UPTON, *supra* note 83, at 101–02 (identifying several objections to capitalization including cost and benefit, lack of relevance, measurement difficulty, competitive harms, and volatility); Alcaniz et al., *supra* note 41, at 112–15 (describing the narrative and critical accounting approaches to reporting intellectual capital and noting that quantitative measures often disadvantage workers); Kramar et al., *supra* note 35, at 393–95 (arguing that quantitative approaches to reporting financial capital are inadequate and

Moreover, the FASB has not adopted Lev and Zarowin's proposals.⁹¹ However, in 2002, in response to calls to reform financial reporting of intellectual capital, the FASB began a research project to study whether it should require additional qualitative and quantitative disclosure about self-created intangible assets.⁹² The project languished, and in 2004, the FASB withdrew it from its research agenda.⁹³ The FASB renewed its interest in intellectual capital in 2007 and considered whether to undertake a joint project with the International Accounting Standards Board (IASB) to expand disclosure guidelines for intangibles.⁹⁴ Both the FASB and the IASB acknowledged the importance of the project but

must be broadened to include non-financial indicators through the use of narratives); Skinner et al., *supra* note 84, at 183 (reviewing empirical research and concluding that the FASB should proceed with caution in considering whether to require capitalization of self-created intangibles, given the lack of definitive research and in light of concerns about valuing the uncertain future benefits of such intangibles); see also Steven H. Penman, *Accounting for Intangible Assets: There Is Also an Income Statement*, 45 ABACUS 358 (2009) (positing that intangibles do not necessarily need to be reflected on a company's balance sheet because their value can be derived from the income statement). But see Høegh-Krohn & Knivsflå, *supra* note 82, at 258–62 (endorsing Lev and Zarowin's proposals).

91. As discussed above, the FASB requires R&D to be expensed. However, since 1972, the FASB and the SEC have required mandatory disclosure of R&D expenditures. Paul E. Nix & David E. Nix, *A Historical Review of the Accounting Treatment of Research and Development Costs*, 19 ACCT. HIST. J. 51, 61 (1992).

92. Skinner et al., *supra* note 84; see also FIN. ACCOUNTING STANDARDS BD., PROPOSAL FOR NEW RESEARCH PROJECT: DISCLOSURE OF INFORMATION ABOUT INTANGIBLE ASSETS NOT RECOGNIZED IN FINANCIAL STATEMENTS (2001), <http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175819439149&blobheader=application%2Fpdf>.

93. See *Project Updates: Disclosures About Intangible Assets*, FASB (May 21, 2004), <http://www.fasb.org/intangibles.shtml>. Events of the early twenty-first century including Enron, the bursting of the dot-com stock bubble, and the economic downturn precipitated by the events of September 11, 2001, likely influenced the FASB's decision to abandon its project. As a result of these events, intellectual capital temporarily lost some of its cachet. See Perry D. Quick & Mary T. Goldschmid, *FASB Statements 141/142 and the Business Economist--Where, Oh Where, Have My Intangibles Gone?*, 37 BUS. ECON. 61, 61 (2002). The high-profile Enron case, which involved fraudulent reporting of intangible assets, such as synthetic leases, contributed to the unease about whether intangibles should be reported as valuable assets. See *id.*; see also Olufunmilayo B. Arewa, *Measuring and Representing the Knowledge Economy: Accounting for Economic Reality Under the Intangibles Paradigm*, 54 BUFF. L. REV. 1, 72–76, 83–90 (2006) (describing the challenges and uncertainties arising from attempts to account for intangibles in financial reporting, which facilitated fraudulent overstatement of the value of intangible assets by Enron and other corporations).

94. This was part of a broader and ongoing convergence project between the FASB and the IASB initiated in 2002. See AM. INST. CERTIFIED PUB. ACCOUNTANTS, INTERNATIONAL FINANCIAL REPORTING STANDARDS 5–6 (2011), available at http://www.ifrs.com/pdf/IFRSUpdate_V8.pdf. The current FASB and IASB standards for R&D differ substantially in that the IASB standards provide for the capitalization of development costs. See IAS Standards No. 38, *supra* note 79; see also Baruch Lev, Leandro Cañibano & Bernard Marr, *An Accounting Perspective on Intellectual Capital*, in PERSPECTIVES ON INTELLECTUAL CAPITAL, *supra* note 3, at 42, 47.

decided not to move forward with it due to lack of resources.⁹⁵ In the aftermath of the 2008 financial crisis, the FASB's priorities shifted to the accounting treatment of financial instruments and transactions.⁹⁶

More recently, the financial accounting community has shown renewed interest in financial accounting reforms.⁹⁷ As the OECD stated in 2012, there is "a growing consensus among practitioners and policymakers that better reflection of intangibles in corporate reporting is required to improve the functioning of capital markets and private finance."⁹⁸ Despite the consensus that better reporting of information about intellectual capital is necessary, disagreement over the best way to achieve that goal persists.⁹⁹

C. National Accounting

National accounting is an area of research that has made significant advances in measuring intellectual capital. National accounting quantifies macroeconomic indicators of investment and productivity,¹⁰⁰ as distinguished from financial accounting, which quantifies individual businesses' investment and productivity.¹⁰¹ In the United States, the BEA produces national income and product accounts (NIPAs), the most comprehensive of which is gross domestic product (GDP)—the value of all goods and services produced by the economy.¹⁰² The government

95. See FIN. ACCOUNTING STANDARDS BD., ACTION ALERT NO. 07-52 DEC. 28, 2007, available at <http://www.fasb.org/action/aa122807.shtml>.

96. In a 2013 FASB survey, the treatment of financial instruments dominated the list of reform priorities. See Emily Chasan, *FASB's Future Priorities Start to Take Shape*, WALL ST. J., (Sept. 17, 2013, 1:00 PM), <http://blogs.wsj.com/cfo/2013/09/17/fasbs-future-priorities-start-to-take-shape/> (indicating that the treatment of financial instruments occupied three of the top ten reform priorities).

97. See OECD REPORT, *supra* note 7, at 51–54; Chasan, *supra* note 96 (noting that accounting for intangible assets is among the top reform priorities in a 2013 FASB survey). Earnings management with regard to intellectual capital reporting continues to cause unease. See Gretchen Morgenson, *Earnings, but Without the Bad Stuff*, N.Y. TIMES (Nov. 9, 2013), <http://www.nytimes.com/2013/11/10/business/earnings-but-without-the-bad-stuff.html> (noting that Twitter reported "non-GAAP" results that were \$90 million better than its GAAP results by backing out expenses for compensation and certain intangibles and noting the prevalence of nontraditional reporting and possible "accounting gimmickry" among technology and healthcare companies).

98. See ORG. FOR ECON. COOPERATION & DEV., CORPORATE REPORTING OF INTANGIBLE ASSETS: A PROGRESS REPORT 21 (2012). *But see* INST. OF CHARTERED ACCOUNTANTS IN ENG. & WALES, DEVELOPMENTS IN NEW REPORTING MODELS 16 (2009) [hereinafter ICAEW REPORT] (arguing that a new approach to the financial reporting of intangibles is not necessary or appropriate).

99. See *supra* note 90 and accompanying text.

100. See Nakamura, *Investing in Intangibles*, *supra* note 6, at 27–28.

101. Nakamura, *Intangibles*, *supra* note 5, at 10–11.

102. BUREAU OF ECON. ANALYSIS, U.S. DEP'T OF COMMERCE, MEASURING THE ECONOMY: A PRIMER ON GDP AND THE NATIONAL INCOME AND PRODUCT ACCOUNTS 1 (2007), available at http://www.bea.gov/national/pdf/nipa_primer.pdf.

uses GDP to prepare the federal budget; the Federal Reserve uses GDP to formulate monetary policy; and the business community uses GDP to forecast economic performance and plan for production, investment, and hiring.¹⁰³ Other NIPAs contain detailed economic information that governments, private businesses, and other organizations use for a wide range of planning and policy purposes.¹⁰⁴

1. Current Treatment of Intellectual Capital

Until recently, U.S. national accounting failed to include most intellectual capital as investments in macroeconomic measures of national productivity and wealth.¹⁰⁵ With the notable exception of computer software and a few other minor exceptions,¹⁰⁶ the BEA expensed and did not capitalize business investments in intellectual capital.¹⁰⁷ As a result, during the late 1990s and early 2000s, the BEA understated investment in intellectual capital by as much as \$1 trillion per year, according to Leonard Nakamura¹⁰⁸ as well as Carol Corrado, Professor Charles Hulten, and Professor Daniel Sichel.¹⁰⁹ Corrado, Hulten, and Sichel found that when intellectual capital was included in measurements of economic productivity during that period, it accounted for 27% of economic growth, putting it on par with tangible capital in importance as a source of growth.¹¹⁰

The research of Nakamura, Corrado, Hulten, and Sichel, as well as others¹¹¹—described in detail in the next Subsection—demonstrates the extent to which the omission of intellectual capital distorted measures of national economic productivity and wealth. In response to this research,

103. *Id.*

104. See generally FRANÇOIS LEQUILLER & DEREK BLADES, ORG. FOR ECON. COOPERATION & DEV., UNDERSTANDING NATIONAL ACCOUNTS 326 (2006), available at <http://www.oecd.org/std/na/38451313.pdf>.

105. See Nakamura, *Intangibles*, *supra* note 5, at 4, 10–11. This is also true of national accounting in most other countries. See Hill, *supra* note 3, at 435–36.

106. The BEA has capitalized computer software since 1999. See Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 26. It also capitalized certain oil and gas exploration expenses and architectural and engineering services embedded in structures and equipment purchases. See *id.* at 23.

107. See Nakamura, *Intangibles*, *supra* note 5, at 4, 10–11.

108. See Nakamura, *Investing in Intangibles*, *supra* note 6, at 35–36.

109. Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 30. Nakamura explains how this omission led the BEA to report a low rate of personal savings that was inconsistent with the substantial increases in personal wealth evidenced by gains in the stock market. See Nakamura, *Investing in Intangibles*, *supra* note 6, at 27–28. Nakamura argues that intangible investments such as R&D, advertising, software, and artistic creations are difficult, but not impossible, to measure, although he acknowledges that the data is relatively sparse for some industries such as financial services. See *id.* at 32–34.

110. See Corrado et al., *Intangible Capital*, *supra* note 6, at 680.

111. See, e.g., Barbara M. Fraumeni & Sumiye Okubo, *R&D in the National Income and Product Accounts: A First Look at Its Effect on GDP*, in MEASURING CAPITAL IN THE NEW ECONOMY, *supra* note 6, at 275 (exploring the effects of capitalizing R&D on GDP).

in 2013, the BEA made a major change to its methodology for measuring GDP: For the first time, the BEA included R&D and artistic creations such as films, music, and books as investments rather than as expenses.¹¹² In 2013, these additions increased the size of the U.S. economy by \$560 billion, or 3.6%.¹¹³ In addition, the BEA is likely to capitalize other types of intellectual capital in the future.¹¹⁴

2. Research and Reforms

Corrado, Hulten, and Sichel argue persuasively that national measures of economic productivity and wealth should include investment in intellectual capital. They develop a theoretical framework to support this argument and provide a comprehensive methodology demonstrating how to effectuate it. They are not the first researchers to engage in this endeavor,¹¹⁵ but according to the OECD, their model is the most theoretically advanced and comprehensive to date and is “widely accepted.”¹¹⁶ Moreover, as discussed in Part III, their model has both theoretical and practical implications for the tax treatment of intellectual capital. Thus, a detailed description of the model follows.

Corrado, Hulten, and Sichel’s methodology focuses on uses of resources, or inputs, as opposed to the production side of the economy, or outputs. Their fundamental theoretical premise is that national accounting ought to treat intellectual capital—intangibles, as they call it—the same way it treats tangible capital such as plant or equipment. In other words, “[in considering] whether business intangible outlays and knowledge input should be expensed or capitalized in national accounting systems—an unambiguous answer is obtained: there is no basis from the consumers’ point of view for treating investments in intangible capital differently from investments in plant and equipment, or tangible capital.”¹¹⁷ They further argue for the symmetric accounting of investments, whether intangible or tangible:

112. See Jason Lange, *Intangible Investments Cast U.S. Economy in Brighter Light*, REUTERS (July 28, 2013), <http://www.reuters.com/article/2013/07/28/us-usa-economy-intangibles-analysis-idUSBRE96R04H20130728>. The BEA also restated GDP for each year retroactive to 1929, the first year of measurement. Coy, *supra* note 12.

113. See Bernstein & Baker, *supra* note 12.

114. See Lange, *supra* note 112 (interviewing BEA director Stephen Landefeld, who indicated an interest in capitalizing product design and organizational planning once reliable data is available).

115. See generally Charles R. Hulten, *Total Factor Productivity: A Short Biography*, in NEW DEVELOPMENTS IN PRODUCTIVITY ANALYSIS 1 (Charles R. Hulten, Edward R. Dean & Michael J. Harper eds., 2001) (explaining the Total Factor Productivity residual measure of economic productivity which recognizes investments in R&D as a form of capital accumulation).

116. OECD REPORT, *supra* note 7, at 12.

117. Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 13.

[A]ny use of resources that reduces current consumption in order to increase it in the future qualifies as an investment. This result argues for *symmetric* treatment of *all* types of capital and that business expenditures aimed at enhancing the value of a firm and improving its products, including human capital development as well as R&D, be accorded the same treatment as tangible capital in national accounting systems.¹¹⁸

Corrado, Hulten, and Sichel acknowledge the objections to capitalization—primarily made in the financial accounting context—that relate to the uncertainty of intellectual capital investments. They identify and discuss three separate characteristics of intellectual capital that contribute to this uncertainty: (1) the lack of *verifiability* when businesses do not acquire intangibles through market transactions but rather produce them internally; (2) the *non-rivalness* of some intangible assets, such as R&D, i.e., the ability of many people to use such assets simultaneously without reducing the quantity available to any single user; and (3) the lack of *appropriability* of the returns from some intangibles, such as employee training, i.e., the inability to capture fully the benefits of such investments.¹¹⁹

With respect to lack of verifiability, Corrado, Hulten, and Sichel note that businesses also produce internally *tangible* assets, giving rise to the same concern, and conversely, that businesses sometimes acquire intangible assets from third parties.¹²⁰ They also argue that difficulty in valuing intangibles does not undermine the theoretical case for their capitalization.¹²¹ With respect to non-rivalness, they argue that intellectual capital is necessarily valuable if a firm is willing to pay for it.¹²² Moreover, they point out that many types of intellectual capital, such as brand equity and organizational structures, are not non-rival, but rather, are highly firm-specific and unavailable for others to use.¹²³ As to both the non-rivalness and lack of appropriability objections, they respond that these features do not invalidate the need to capitalize intangible expenditures, rather, the capitalization issue pivots on whether the expenditure provides a future benefit.¹²⁴ In sum, the authors conclude that none of these characteristics preclude intellectual capital from a treatment symmetrical with that of tangible capital, and that financial accounting ought to capitalize any expenditure that produces a future benefit, whether tangible or intangible.¹²⁵

118. Corrado et al., *Intangible Capital*, *supra* note 6, at 666.

119. *See id.* at 666–67.

120. *See id.* at 667.

121. *See id.*

122. *See id.*

123. *Id.*

124. *See id.*

125. *See id.* at 666–67.

Beginning with the theoretical proposition that intellectual capital should receive the same treatment as tangible capital, Corrado, Hulten, and Sichel construct a framework that enables them to answer foundational questions such as how much growth in output is unaccounted for because of the omission of intellectual capital and how much of output growth is attributable to intellectual capital.¹²⁶ While the ultimate purpose of their model is not germane to this Article, the design of the model is highly relevant.

In order to achieve a more accurate and complete measure of the contribution of intellectual capital to national economic productivity and growth, Corrado, Hulten, and Sichel design their framework to be broader than most previous efforts to identify intellectual capital.¹²⁷ They identify three major areas of business investment in intellectual capital: (1) computerized information software, (2) innovative property (scientific and nonscientific research and development), and (3) economic competencies (brand-related investment such as advertising and organizational investments such as training and strategic planning).¹²⁸

Of particular note is the expansive R&D category, which includes nonscientific R&D—the development and design of products by the publishing, entertainment, and financial services industries—as well as scientific R&D, which includes work in the physical sciences, the biological sciences, and mineral exploration.¹²⁹ Corrado, Hulten, and Sichel estimate that by the late 1990s, nonscientific R&D was at least as large as traditional scientific research.¹³⁰ Also noteworthy is their expansive economic competencies category, which includes advertising and market research used to develop and maintain brands, costs of developing and launching new products and developing customer lists, workforce training and education, and organizational change and development.¹³¹ They estimate that in 2000–2003, the most recent period for which they have data, total investment in economic competencies was nearly as large as the other two major categories combined.¹³²

126. *Id.* at 663.

127. See Corrado et al., *Intangible Capital*, *supra* note 6, at 669; Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 14.

128. See Corrado et al., *Intangible Capital*, *supra* note 6, at 669–70; Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 22–29.

129. See Corrado et al., *Intangible Capital*, *supra* note 6, at 670, 674; Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 24–28.

130. See Corrado et al., *Intangible Capital*, *supra* note 6, at 670; Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 26.

131. See Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 28–29; see also Corrado et al., *Intangible Capital*, *supra* note 6, at 670.

132. Corrado et al., *Intangible Capital*, *supra* note 6, at 670–71.

Having established a comprehensive taxonomy of intellectual capital, Corrado, Hulten, and Sichel then use available data to estimate the amount of business investment in each category. The information for some types of expenditures, such as scientific R&D, is well developed.¹³³ For others, such as new product development, design, and research in the financial services industries, the data is sparse, and the estimates for these are quite rough, amounting in some cases to "rudimentary guesses."¹³⁴ Deriving estimates for the economic competencies category is especially challenging. For example, Corrado, Hulten, and Sichel acknowledge that some advertising does not enhance a company's brand or otherwise provide future benefits (e.g., an ad for "this week's sale").¹³⁵ To account for this, they rely upon empirical research on advertising, finding that only about 60% of total advertising has long-lasting effects.¹³⁶ Accordingly, they include only 60% of total advertising as investment in brand equity.¹³⁷ To estimate spending on organizational change and development, Corrado, Hulten, and Sichel use data from the Bureau of Labor Statistics to estimate amounts spent on worker training.¹³⁸ They also use Census Bureau data to estimate total spending on managerial and executive compensation and then allocate—somewhat arbitrarily, they concede—one-fifth of this amount to organizational innovation.¹³⁹

Once they estimate investments in each category of intellectual capital, Corrado, Hulten, and Sichel then estimate "depreciation rates" in order to amortize the investments as their benefits are realized and as they devalue over time.¹⁴⁰ This enables them to carry out the primary goal of their model, which is to match investments in intellectual capital with their outputs and determine their net productivity.¹⁴¹ It is worth noting that the same matching of income and expenditures occurs in

133. Information on scientific R&D has been collected since the early 1950s by the Census Bureau for the National Science Foundation. Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 26.

134. *See id.* at 27–28.

135. *See* Corrado et al., *Intangible Capital*, *supra* note 6, at 670.

136. *See id.*

137. *Id.*

138. *Id.*

139. *See id.*; Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 29.

140. *See* Corrado et al., *Intangible Capital*, *supra* note 6, at 674–75. The proper conversion of Corrado, Hulten, and Sichel's depreciation rates to useful lives is unclear. For example, the 33% rate for computer software would suggest a three-year useful life, but this computation is based on BEA's assumed service life of five years. It seems to be a declining balance computation. *See id.* at 675 & n.20.

141. *Id.* at 663, 674.

financial accounting and tax—a capitalized expenditure is amortized over its useful life.¹⁴²

Using the limited empirical data about the useful lives of intellectual capital, Corrado, Hulten, and Sichel roughly estimate depreciation rates for their categories of intellectual capital. For example, they estimate R&D (both scientific and nonscientific) to be 20% per year, which is the midpoint of several empirical estimates that range from 11% to 26%.¹⁴³ They estimate advertising (to enhance brand equity) depreciates at a rate of 60% per year, based on a survey of sparse and unsettled empirical data.¹⁴⁴ Their estimated depreciation rate for organizational resources, such as employee training and organizational planning, is perhaps the most arbitrary: They simply choose the midpoint between R&D and brand equity, which is 40%.¹⁴⁵ Thus, this last step of determining the useful life and depreciation method for intellectual capital is imprecise and somewhat arbitrary.

In sum, scholars in the fields of knowledge management, financial accounting, and national accounting make a theoretically persuasive claim, thoroughly supported by decades of research, that intellectual capital is a central driver of economic productivity that has been poorly understood and inaccurately measured. Their research significantly advances the conceptual understanding of intellectual capital and introduces new methodologies for identifying and measuring it. These advances have major implications for the tax treatment of intellectual capital. Before addressing these implications, the next Part of this Article provides an overview of the current tax treatment of intellectual capital.

III. THE CURRENT TAX TREATMENT OF INTELLECTUAL CAPITAL

This Part addresses the tax treatment of investments in intellectual capital. It first describes the theoretically ideal tax treatment and then discusses how current tax law diverges from this ideal. It concludes with an analysis of the costs of tax law's failure to tax intellectual capital accurately.

A. *In Principle: The "Norm of Capitalization"*¹⁴⁶

Tax law generally provides for the deduction or capitalization of business expenditures. I.R.C. § 162 allows businesses to deduct "all the

142. Compare *supra* notes 74–77 and accompanying text (addressing the financial accounting context), with *infra* notes 149–51 and accompanying text (addressing the tax context).

143. See Corrado et al., *Intangible Capital*, *supra* note 6, at 675.

144. See *id.*

145. See *id.* at 674–75.

146. *INDOPCO, Inc. v. Comm'r*, 503 U.S. 79, 84 (1992).

ordinary and necessary expenses paid or incurred during the taxable year in carrying on any trade or business.”¹⁴⁷ I.R.C. § 263 provides that businesses cannot deduct capital expenditures—“amount[s] paid out for new buildings or for permanent improvements or betterments made to increase the value of any property or estate.”¹⁴⁸

The idea that businesses should capitalize expenditures that produce future benefits is integral to the concept of income,¹⁴⁹ and tax law has required this capitalization since its inception.¹⁵⁰ As the Supreme Court explained in *INDOPCO v. Commissioner*, capitalization matches such expenditures with the revenue they produce in future years and thereby achieves a more accurate measure of income:

The primary effect of characterizing a payment as either a business expense or a capital expenditure concerns the timing of the taxpayer’s cost recovery: While business expenses are currently deductible, a capital expenditure usually is amortized and depreciated over the life of the relevant asset, or, where no specific asset or useful life can be ascertained, is deducted upon dissolution of the enterprise. Through provisions such as these, the Code endeavors to match expenses with the revenues of the taxable period to which they are properly attributable, thereby resulting in a more accurate calculation of net income for tax purposes.¹⁵¹

The Supreme Court delineated the distinction between current deductions and capital expenditures not as a bright line test but rather as a facts and circumstances determination.¹⁵² In addition, the Court has interpreted the capitalization requirement of I.R.C. § 263 in a decidedly expansive manner, starting with the proposition that “deductions are

147. I.R.C. § 162(a) (2012).

148. *Id.* § 263.

149. As Calvin Johnson states:

A strong law of capitalization is extraordinarily important to an income tax. Under the norms of an income tax, costs that constitute investments, generating future income for the taxpayer, are capitalized and may not be deducted so long as the costs continue to generate income. . . . The thesis that expensing an investment, that is, deducting it immediately, is equivalent to exempting the subsequent income from the investment from tax, is one of the bulwarks of modern tax economics, but it is not generally known or appreciated within the tax law community.

Johnson, *Dividends*, *supra* note 14, at 478. For a comprehensive overview of capitalization in general, see Lee et al., *Rough Justice (Part One)*, *supra* note 14; see also Lee et al., *Rough Justice (Part Two)*, *supra* note 14.

150. See I.R.C. § 263(a); *Woodward v. Comm’r*, 397 U.S. 572, 574–75 (1970).

151. *INDOPCO*, 503 U.S. at 83–84 (citations omitted).

152. See *id.* at 86.

exceptions to the norm of capitalization”¹⁵³ and are guided by the principle that “a taxpayer’s realization of benefits beyond the year in which the expenditure is incurred is undeniably important in determining whether the appropriate tax treatment is immediate deduction or capitalization.”¹⁵⁴ In several cases, the Court has required capitalization of expenses such as legal fees that might be viewed as quintessentially deductible expenses.¹⁵⁵

With respect to tangible property, the Court’s expansive view of capitalization reached its zenith in *Commissioner v. Idaho Power Co.*,¹⁵⁶ where the Court held that depreciation allowances for equipment used to construct new facilities were not deductible, but rather must be capitalized—that is, added to the basis of the new facilities.¹⁵⁷ Congress subsequently enacted I.R.C. § 263A, a far-reaching extension of *Idaho Power* that requires businesses to capitalize the direct and indirect costs of constructing or producing *tangible* property.¹⁵⁸

With respect to *intangible* property (as discussed below, a tax term closely related but not identical to intellectual capital as defined in this Article), the Court further expanded its sweeping capitalization principle in *INDOPCO*.¹⁵⁹ In *INDOPCO*, the taxpayer, the National Starch Corporation, paid investment banking, legal, and accounting fees in connection with a merger in which Unilever acquired the stock of National Starch.¹⁶⁰ National Starch claimed the majority of these expenses as deductions under I.R.C. § 162.¹⁶¹ The government argued

153. *Id.* at 84.

154. *Id.* at 87. See generally John W. Lee, *Transaction Costs Relating to Acquisition or Enhancement of Intangible Property: A Popular, Political, but Practical Perspective*, 22 VA. TAX REV. 273, 311–19 (2002) (analyzing Supreme Court capitalization jurisprudence).

155. See, e.g., *INDOPCO*, 503 U.S. at 88–90 (holding that investment banking, legal, and accounting fees paid in connection with the taxpayer’s being acquired by another company were capital; creation or enhancement of a separate and distinct asset was not necessary); *Comm’r v. Lincoln Sav. & Loan Ass’n*, 403 U.S. 345, 347–49, 354 (1971) (concluding that mandatory premium payments made by bank to Federal Savings and Loan Insurance Corporation were capital, and created or enhanced a “separate and distinct additional asset” (i.e., rights in a secondary reserve fund), and were therefore not ordinary); *Woodward*, 397 U.S. at 573–74, 579 (holding that legal, accounting, and appraisal expenses incurred in acquiring minority stock interest were capital); *United States v. Hilton Hotels Corp.*, 397 U.S. 580, 582–83, 585 (1970) (holding that legal, consulting, and other fees paid by acquiring firm in connection with minority appraisal rights were capital).

156. 418 U.S. 1 (1974).

157. See *id.* at 19.

158. See Treas. Reg. §§ 1.263A-1 to -6 (2013). Due to a definitional divergence between “intangibles” and “intellectual capital” for tax purposes, certain types of intellectual capital are also subject to § 263A of the Internal Revenue Code. I.R.C. § 263A (2012). See *infra* notes 198–99 and accompanying text.

159. 503 U.S. at 87–88.

160. *Id.* at 80–82.

161. *Id.* at 82.

that the expenses were capital in nature, and the Court agreed.¹⁶² Much of the Court's analysis focused on whether its prior decision, *Commissioner v. Lincoln Savings & Loan Ass'n*, required that an expenditure create or enhance a "separate and distinct asset" in order to be classified as capital.¹⁶³ The Court held that no separate and distinct asset was required.¹⁶⁴

The Court then considered the benefits to National Starch of being acquired by Unilever. It found that National Starch would realize long-term benefits in the form of: (1) "synergy" with Unilever, given Unilever's plastic, chemical, paper, and packaging operations and its strong consumer products orientation; (2) access to "Unilever's enormous resources, especially in the area of basic technology;" and (3) the corporate restructuring from a public company to "a wholly owned subsidiary of Unilever," which eliminated National Starch's disclosure and reporting requirements and corporate governance procedures.¹⁶⁵ In light of these long-term benefits, the Court held that National Starch's expenditures to facilitate the acquisition were capital.¹⁶⁶

On its face, the Court's decision in *INDOPCO* seemed to set forth a broad capitalization principle, similar to the theoretical ideal articulated by accounting scholars,¹⁶⁷ under which tax law must capitalize all investments in intellectual capital. The Court's principal inquiry—whether the expenditures in question produced a significant future benefit—seems to require capitalization of the broad array of expenditures included in these scholars' definitions of intellectual capital. Furthermore, the particular future benefits identified by the *INDOPCO* Court—brand and customer enhancement, research capabilities, and corporate organization—map perfectly onto Corrado, Hulten, and Sichel's expansive taxonomy of intellectual capital investments.¹⁶⁸ Indeed, in the aftermath of *INDOPCO*, many scholars

162. *See id.* at 90.

163. *See id.* at 85–87 (internal quotation marks omitted). National Starch was the target of the acquisition and thus did not itself acquire any asset. *See id.* at 80.

164. *See id.* at 90.

165. *Id.* at 88–89 (internal quotation marks omitted).

166. *Id.* at 89–90. *INDOPCO* raised taxpayer concerns about the possibility of a greatly expanded capitalization requirement, but these have proved to be unfounded. *See* Joseph Bankman, *The Story of INDOPCO: What Went Wrong in the Capitalization v. Deduction Debate?*, in *TAX STORIES* 225, 238–45 (Paul L. Caron ed., 2d ed. 2009). Subsequent case law and regulatory guidance impose a considerably diminished capitalization requirement. *See infra* notes 192–97 and accompanying text; Bankman, *supra*, at 241–45.

167. *See supra* Sections II.B–C.

168. *See supra* notes 127–28 and accompanying text (explaining Corrado, Hulten, and Sichel's three proposed categories of intellectual capital). The Court in effect held that National Starch's expenditures, related to it being acquired by Unilever, enhanced National Starch's goodwill. The Court disallowed a deduction for the expenditures; most commentators think this means that the expenditures augmented National Starch's basis in its goodwill (which was at

and practitioners speculated that *INDOPCO* would vastly expand the capitalization requirement.¹⁶⁹ However, as discussed in the next Section, the speculation proved unfounded; to the contrary, the capitalization of intellectual capital has become even more circumscribed.

B. *In Practice: "Deductibility as the Default Rule"*¹⁷⁰

Consistent with *INDOPCO*, acquired intellectual capital is generally capitalized under current law. However, the current law treatment of self-created intellectual capital defies the sweeping capitalization principle articulated by the Supreme Court in *INDOPCO*,¹⁷¹ and instead, most investments in self-created intellectual capital are deductible.

As a preliminary matter, tax law does not use the term "intellectual capital." Rather, it uses "intangibles" and "intangible assets," as defined in a variety of statutory provisions and regulations. There is a fair amount of overlap between these tax terms and intellectual capital as defined in this Article. The following discussion generally uses the tax terms "intangibles" and "intangible assets" interchangeably with the term "intellectual capital" and points out where the two terms are different.

1. Acquired Intellectual Capital

Where a business *purchases* intangible assets, as defined in I.R.C. § 197,¹⁷² from a third party as part of the acquisition of a larger

that time nonamortizable and thus would never be recovered by National Starch). See Johnson, *Dividends*, *supra* note 14, at 466–67, 476.

169. See, e.g., Johnson, *Big Win*, *supra* note 14, at 1332–38 (predicting capitalization of a variety of other previously deductible expenses including prepaid fees, business expansion costs, environmental cleanup costs, and remedial costs). Johnson is one of the few who wrote approvingly of *INDOPCO*'s expansion in capitalization. See, e.g., *id.* at 1340–41. Many practitioners and lobbyists were highly critical of it. See Bankman, *supra* note 166, at 238–40 (describing the negative reactions to the decision).

170. James L. Atkinson, *The Final INDOPCO Regulations: A Primer*, 56 TAX EXECUTIVE 222, 224 (2004).

171. See Bankman, *supra* note 166, at 241–49 (describing subsequent judicial decisions on capitalization and the administrative response and concluding that the *INDOPCO* decision was a failure); Lee, *Transaction Costs*, *supra* note 14 (describing the audit and litigation challenges faced by the Internal Revenue Service (IRS) in attempting to implement a broad capitalization principle, the congressional and judicial resistance to such efforts, and the IRS's retreat).

172. The definition of intangibles under I.R.C. § 197 includes (but is not limited to): goodwill; going concern value; workforce in place; business books and records; operating systems or other information bases including customer lists; patents; copyrights; formulas; processes; designs; knowhow; customer-based intangibles; supplier-based intangibles; licenses; permits; other rights granted by a governmental unit; covenants not to compete; franchises; trademarks; and trade names. I.R.C. § 197(d) (2012). Certain intangibles such as computer software, oil and gas exploration, and financial intangibles are excluded from the general treatment of intangibles under I.R.C. § 197, but they are still considered intangibles for other tax purposes. See *id.* § 197(e).

business, the purchaser generally capitalizes and amortizes the intangible assets ratably over fifteen years.¹⁷³ Tax law excludes some intangibles from this fifteen-year amortization rule and allows for their amortization over shorter time periods or their outright deduction.¹⁷⁴

“Purchase” is a term of art in tax law related to mergers and acquisitions. It typically refers to a taxable acquisition as opposed to a tax-free acquisition.¹⁷⁵ In general, an acquisition is taxable when cash or other property is the sole or primary consideration for the acquisition; an acquisition is tax free when equity of the acquiring party is the sole or primary consideration for the acquisition.¹⁷⁶ I.R.C. § 197 applies to taxable acquisitions (i.e., purchases) but not to tax-free acquisitions.¹⁷⁷ Where intangible assets are acquired in a tax-free acquisition, the acquiring party generally “steps into the shoes” of the selling party to determine treatment of the intangibles.¹⁷⁸

To determine the cost of each asset in cases where an entire business is purchased, the purchaser allocates the purchase price among specific assets under a system known as the residual method.¹⁷⁹ This procedure classifies assets into seven categories, and first allocates the purchase price among assets in the first category up to their fair market value, then allocates any remaining purchase price among assets in the second category, and so on to each successive category until the purchase price is exhausted.¹⁸⁰ Section 197 intangibles other than goodwill and going concern value are in the sixth category; goodwill and going concern value are in the seventh category.¹⁸¹

Where intangible assets are purchased separately and not as part of a larger business, their treatment is quite varied. Some of them, such as customer lists, are subject to the fifteen-year amortization rule of I.R.C.

173. See *id.* §§ 197, 338, 1060. See generally MARTIN D. GINSBURG ET AL., *MERGERS, ACQUISITIONS AND BUYOUTS* ¶¶ 403.4.1.1–403.4.2 (2012); Jack S. Levin & Donald E. Rocard, *A Transactional Guide to New Code Section 197*, TAX NOTES, Oct. 1993, at 461, 462; Michael L. Schler, *Basic Tax Issues in Acquisition Transactions*, 116 PENN ST. L. REV. 879, 887, 896 (2012); Mark J. Silverman, *Purchase Price Allocation Rules: Sections 1060, 338, and 197*, STEPTOE & JOHNSON, 41–43, 45–52 (2013), available at <http://www.steptoel.com/publications-1630.html>.

174. See Levin & Rocard, *supra* note 173, at 463–66. For example, taxpayers amortize off the shelf computer software purchased as part of a business over three years rather than fifteen. See I.R.C. §§ 167(f), 197(e)(3). Taxpayers may deduct the cost of a franchise, trademark, or trade name where the purchase price is contingent on its use or productivity. See *id.* §§ 197(f)(4)(C), 1253(d)(1).

175. See Schler, *supra* note 173, at 882, 885–87.

176. See I.R.C. §§ 354, 368; Schler, *supra* note 173, at 882.

177. See Levin & Rocard, *supra* note 173, at 462.

178. See I.R.C. § 197(f)(2); Silverman, *supra* note 173, at 55–56.

179. See Schler, *supra* note 173, at 896.

180. See I.R.C. § 1060(a); Treas. Reg. §§ 1.338-6, 1.1060-1(a)(1) (2013).

181. See I.R.C. §§ 338(b)(5), 1060(a); Treas. Reg. §§ 1.338-6(b), 1.1060-1(c).

§ 197.¹⁸² Others, such as patents and copyrights, are excluded from the fifteen-year amortization rule and instead are treated under other applicable tax laws (in the case of a patent or copyright, for example, amortization is over its remaining legal life).¹⁸³

Congress enacted I.R.C. § 197 in 1993 to resolve a highly contested area of law relating to intangibles purchased as part of a larger business.¹⁸⁴ Under the prior law, courts deemed goodwill to have an indefinite life.¹⁸⁵ Therefore, the cost of purchased goodwill was capitalized but not amortized.¹⁸⁶ In contrast, taxpayers could amortize other intangibles such as patents and copyrights during their useful lives.¹⁸⁷ As a result, taxpayers had an incentive to allocate as much of the purchase price as possible to intangibles other than goodwill, particularly where the demarcation between goodwill and other intangibles, such as customers lists, was very murky.¹⁸⁸ This led to a great deal of controversy between taxpayers and the Internal Revenue Service (IRS), and efforts to resolve the controversy proceeded along parallel tracks in the courts and Congress.¹⁸⁹ In 1993, the Supreme Court held in *Newark Morning Ledger Co. v. United States* that a customer subscription list was an intangible separate from goodwill that could be amortized.¹⁹⁰ Later that year, Congress enacted I.R.C. § 197.¹⁹¹

2. Self-Created Intellectual Capital

Taxpayers may deduct most investments in self-created intellectual capital.¹⁹² In 2004, the IRS issued regulations—commonly referred to as

182. See I.R.C. § 197(d)(1)(c)(iv); Levin & Roca, *supra* note 173, at 466.

183. See I.R.C. § 167(g); Treas. Reg. § 1.167(a)-3(a), -14(e); Nguyen & Maine, *supra* note 14, at 19–21.

184. See Walter G. Antognini & Mitchell J. Kassoff, *Section 197: Congress and the IRS Attempt to Settle Disputes Involving Amortization of Intangibles*, 46 TAX EXECUTIVE 281, 281 (1994).

185. See *Hous. Chronicle Publ'g Co. v. United States*, 481 F.2d 1240, 1248 (5th Cir. 1973).

186. See *id.* at 1247–48.

187. See Treas. Reg. § 1.167(a)-3(a) (2004).

188. See Antognini & Kassoff, *supra* note 184, at 281.

189. See Xuan-Thao N. Nguyen & Jeffrey A. Maine, *Taxing the New Intellectual Property Right*, 56 HASTINGS L.J. 1, 17–19 (2004) (discussing the controversies between taxpayers and the IRS prior to I.R.C. § 197); Gregory M. Beil, Comment, *Internal Revenue Code Section 197: A Cure for the Controversy over the Amortization of Acquired Intangible Assets*, 49 U. MIAMI L. REV. 731 (1995); see also Silverman, *supra* note 173, at 36–41 (explicating, in outline format, the legislative history of I.R.C. § 197 and how the Supreme Court's decision in *Newark Morning Ledger Co. v. United States*, 507 U.S. 546 (1993), spurred Congress to enact the section).

190. *Morning Ledger*, 507 U.S. at 570.

191. Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 13261(a), 107 Stat. 312, 532 (1993) (codified at 26 U.S.C. § 197 (2012)).

192. See Atkinson, *supra* note 170, at 229 (stating that the final *INDOPCO* regulations have made deductibility the norm for self-created intangibles).

the *INDOPCO* regulations because they address many of the questions and uncertainties raised by that case—setting forth an exclusive list of eight relatively narrow types of intangible assets whose development or creation costs businesses must capitalize.¹⁹³ As a practical matter, because the IRS does not require capitalization with respect to other self-created intangibles, taxpayers may deduct all other self-created intangibles “without hesitation,”¹⁹⁴ even though they theoretically might be subject to capitalization.¹⁹⁵ One commentator characterizes the *INDOPCO* regulations as a “reversal of the notion that ‘capitalization is the norm,’ with deductibility—at least in the context of created intangibles—now being the default rule.”¹⁹⁶ Another has suggested that a more apt name for the regulations is the “Anti-*INDOPCO* regulations.”¹⁹⁷

Due to a definitional divergence between “intangibles” as defined for tax purposes and “intellectual capital,” two other types of self-created intellectual capital do not fall within the new “default rule” of deductibility and, therefore, a business must capitalize them. First, tax law treats costs related to business acquisitions, restructuring, and recapitalizations as a separate category of expenditures that must be capitalized in some cases.¹⁹⁸ Second, tax law defines films, sound recordings, video, and books as tangible personal property for tax

193. See Treas. Reg. § 1.263(a)-4(d) (2004). The regulations require capitalization for: (1) financial interests such as stock, debt and other financial instruments, and annuities; (2) prepaid expenses such as prepaid insurance or rent; (3) membership or privileges such as a doctor's payment to a hospital for lifetime staff privileges; (4) payments to governments for trademarks, copyrights, permits, licenses, and franchises; (5) contract rights to use or be compensated for the use of property, covenants not to compete, stand-still agreements, insurance policies, endowments, or annuities; (6) contract terminations; (7) amounts paid for real property where the taxpayer transfers ownership but retains significant economic benefits; and (8) defense or perfection of title of intangible property. See *id.*; Yale, *INDOPCO Regulations*, *supra* note 14, at 440. See generally Atkinson, *supra* note 170; Johnson, *Destroying the Tax Base*, *supra* note 14, at 1382.

194. See Yale, *INDOPCO Regulations*, *supra* note 14, at 437.

195. See *id.* at 438 (speculating that the *INDOPCO* regulations might be invalid and be supplanted by the more expensive capitalization required under *INDOPCO* and other legal precedent but concluding that as a practical matter, taxpayers can rely on the regulations); see also Atkinson, *supra* note 170, at 224.

196. Atkinson, *supra* note 170, at 229.

197. See Yale, *INDOPCO Regulations*, *supra* note 15, at 436.

198. See Treas. Reg. § 1.263(a)-5 (2013); Atkinson, *supra* note 170, at 228–29; Mark J. Silverman, *Tax Treatment of Reorganization Costs*, STEPTOE & JOHNSON 62–64 (June 2012), available at <http://www.stepto.com/publications-bio-350.html> (follow “Tax Treatment of Reorganization Costs” hyperlink); Yale, *INDOPCO Regulations*, *supra* note 14, at 454–55.

purposes and subjects the costs of developing them to the more expansive capitalization rules applicable to tangible property.¹⁹⁹

Prior to the *INDOPCO* regulations, an extensive body of case law and administrative guidance dealt with specific types of intellectual capital investments and for the most part found them deductible. As a practical matter, the *INDOPCO* regulations preempt the prior law; however, the *INDOPCO* regulations are arguably invalid and in that case the prior law would control.²⁰⁰ Additionally, the prior law provides a sense of the landscape relating to the tax treatment of self-created intellectual capital. Therefore, an overview of the prior law—organized by reference to Corrado, Hulten, and Sichel’s taxonomy—follows:²⁰¹

(1) Computerized software information:

Computer software development costs are generally deductible.²⁰²

(2) R&D:

(a) Scientific R&D, which includes mineral exploration: Scientific R&D is generally deductible.²⁰³ This deductibility extends to intangible drilling costs and mining exploration costs.²⁰⁴

(b) Nonscientific R&D, which includes publishing, entertainment, and financial services: Several courts allowed financial services businesses to deduct market research related to new product development.²⁰⁵ (One might also classify market research in the brand equity category.) On the other hand, one case required a financial services business to capitalize market research

199. See I.R.C. § 263A(a)–(b) (2012); *supra* note 158 and accompanying text. Writers, photographers, and artists are exempt from these capitalization requirements. See I.R.C. § 263A(h).

200. See *supra* note 195 and accompanying text.

201. For detailed surveys of prior case law, regulations, and rulings, see Johns, *supra* note 14, at 770–83; Mundstock, *supra* note 14, at 1220, 1222–24, 1228–36; Lee et al., *Rough Justice (Part One)*, *supra* note 14; Walberg, *supra* note 14, at 1270–94.

202. See Rev. Proc. 69-21, 1969-2 C.B. 303 (holding that the IRS will not challenge a taxpayer’s decision to currently deduct costs attributable to software development), *superseded on other grounds by* Rev. Proc. 2000-50, 2000-1 C.B. 601, *modified in part by* Rev. Proc. 2007-16, 2007-1 C.B. 358.

203. See I.R.C. § 174(a)(1).

204. See *id.* §§ 263(c), 617.

205. See, e.g., *NCNB Corp. v. United States*, 684 F.2d 285, 294 (4th Cir. 1982).

where it related to a possible business expansion, i.e., the opening of a new branch.²⁰⁶ (Business expansion costs may qualify for inclusion in the organization innovation category.) The court in one case upheld a bank's deduction for employee compensation and overhead attributable to loan origination.²⁰⁷ However, in another case, the court required a financial services business to capitalize employee compensation related to the acquisition of installment obligations.²⁰⁸

(3) Economic Competencies:

- (a) Brand equity, including advertising and market research: Advertising is generally deductible.²⁰⁹ As mentioned above, market research related to new products is deductible, but those costs related to a business expansion must be capitalized.²¹⁰
- (b) Firm specific human capital, including worker training: Employer-provided worker training costs are generally deductible.²¹¹

206. See *Cent. Tex. Sav. & Loan Ass'n v. United States*, 731 F.2d 1181, 1182, 1185 (5th Cir. 1984). This is consistent with the treatment of "start-up costs"—costs incurred before the taxpayer is actually engaged in a trade or business—which generally must be capitalized. See I.R.C. § 195(a). See generally John W. Lee, *Start-Up Costs, Section 195, and Clear Reflection of Income: A Tale of Talismans, Tacked-On Tax Reform, and a Touch of Basics*, 6 VA. TAX REV. 1 (1986) (providing an in-depth analysis of I.R.C. § 195, particularly the conflict between the definitional and functional tests for the capitalization of start-up business costs, as well as the judicial development and practical impact of the provision).

207. See *PNC Bancorp Inc. v. Comm'r*, 212 F.3d 822, 824 (3d Cir. 2000). The *INDOPCO* regulations require capitalization of costs related to the creation of financial intangibles such as loans, but because of the exceptions for employee compensation, overhead, and *de minimis* expenses, loan origination costs are generally not subject to capitalization under the regulations. See *Treas. Reg. § 1.263(a)-4(e)(4)* (2013).

208. See *Lychuk v. Comm'r*, 116 T.C. 374, 375 (2001).

209. See *Rev. Rul. 92-80*, 1992-2 C.B. 7. There are some limited cases where capitalization of advertising expenses has been required. See, e.g., *Cleveland Elec. Illuminating Co. v. United States*, 7 Cl. Ct. 220, 231-33 (1985) (requiring capitalization of advertising to defuse opposition to the taxpayer's application for a license to construct a nuclear plant where the expansion to nuclear power represented a new business).

210. See *supra* notes 205-06 and accompanying text.

211. See *Rev. Rul. 96-62*, 1996-2 C.B. 9. A few cases have held that worker training costs had to be capitalized. See, e.g., *Cleveland Elec.*, 7 Cl. Ct. at 227-29 (holding that a utility's

- (c) Organization change and development: Under INDOPCO, businesses must capitalize legal, accounting, and investment banking fees related to corporate reorganizations and restructuring.²¹² After the Court decided INDOPCO, the IRS ruled that businesses could deduct severance payments related to a corporate downsizing.²¹³ The IRS also ruled that a utility company could deduct costs incurred to improve energy conservation and efficiency.²¹⁴

C. *The Costs of Improper Tax Treatment of Intellectual Capital*

By providing for the deduction, rather than capitalization, of self-created intellectual capital investments, tax law incorrectly measures the income from intellectual capital. The deduction effectively imposes a zero rate of tax on returns from self-created intellectual capital.²¹⁵ This under-taxation of the income from intellectual capital results in an enormous loss of tax revenues. To illustrate, the House Ways and Means Committee estimated that replacing the deduction for scientific R&D with capitalization and five-year amortization would increase tax revenues by \$192.6 billion over the next ten years.²¹⁶ According to Corrado, Hulten, and Sichel, scientific R&D comprised less than one-fifth of all investments in intellectual capital during 2000–2003.²¹⁷

In addition to revenue loss, the under-taxation of income from intellectual capital incentivizes overinvestment in intellectual capital

expansion from coal-powered electricity to nuclear power was a new business, and therefore, costs related to it were capital).

212. *INDOPCO, Inc. v. Comm'r*, 503 U.S. 79, 88 (1992).

213. See Rev. Rul. 94-77, 1994-2 C.B. 19.

214. See Rev. Rul. 95-32, 1995-16 I.R.B. 8.

215. See Johnson, *Undertaxation of Intangibles*, *supra* note 14, at 1289–91; see also Weisbach, *supra* note 14, at 200 (“[T]ax law . . . allows an immediate deduction, effectively choosing not to tax the return to [intangible benefit] activities at all.”); Yale, *Capitalization Exceptions*, *supra* note 14, at 555 (describing that misidentifying a capital cost as a deductible can cause over- or under- taxation). Cary Brown was the first to demonstrate that a deduction for an investment is equivalent to a tax exemption on the income from that investment. See E. Cary Brown, *Business-Income Taxation and Investment Incentives*, in *INCOME, EMPLOYMENT AND PUBLIC POLICY: ESSAYS IN HONOR OF ALVIN H. HANSEN* 300 (1948).

216. WAYS AND MEANS COMMITTEE MAJORITY TAX STAFF, *TAX REFORM ACT OF 2014*, COMM. ON WAYS AND MEANS 55 [hereinafter *TAX REFORM ACT OF 2014*], available at http://waysandmeans.house.gov/uploadedfiles/ways_and_means_section_by_section_summary_final_022614.pdf (last visited Oct. 28, 2014).

217. See Corrado et al., *Intangible Capital*, *supra* note 6, at 671 tbl.1. For the years 2000–2003, they estimate total annual investment in intellectual capital to be \$1.226.2 trillion and scientific R&D to be \$230.5 billion. *Id.*

relative to other types of capital, which results in the misallocation of economic resources.²¹⁸ For example, a pharmaceutical company may decide to invest in R&D rather than a new plant because it can deduct the R&D but must capitalize and depreciate the cost of a new plant, where, in the absence of the R&D deduction, the new plant would be the superior investment.²¹⁹ Similar misallocations can arise from the fact that not all intellectual capital investments are deductible.²²⁰ For example, the pharmaceutical company may decide to create its own patent rather than acquire one from a third party because it can deduct the costs of the self-created patent but must capitalize and amortize the cost of the acquired patent, even where, in the absence of the R&D deduction, acquiring the patent might otherwise be more cost-effective.²²¹

Paradoxically, the tax deduction for self-created intellectual capital creates an incentive that opposes the incentive created by financial reporting. The expensing (rather than capitalization) of self-created intellectual capital for financial reporting purposes results in the understatement of a business's profits and assets, thereby creating an incentive for businesses to underinvest in intellectual capital. In contrast, the tax law deduction for intellectual capital, by understating

218. See DEP'T OF THE TREASURY, REPORT TO THE CONGRESS ON DEPRECIATION RECOVERY PERIODS AND METHODS 2 (2000), available at <http://www.treasury.gov/resource-center/tax-policy/Documents/depreci8.pdf>; THE PRESIDENT'S ECON. RECOVERY ADVISORY BD., THE REPORT ON TAX REFORM OPTIONS: SIMPLIFICATION, COMPLIANCE, AND CORPORATE TAXATION 67 (2010), available at http://www.whitehouse.gov/sites/default/files/microsites/PERAB_Tax_Reform_Report.pdf. See generally Fullerton & Lyon, *supra* note 14 (quantifying, in terms of social welfare costs, the misallocation of resources that results from allowing the deduction of intangibles).

219. See Hubbard, *supra* note 80, at 2046–47 (discussing the failure of pharmaceutical companies to invest in manufacturing because they focus mostly on research and development).

220. See Gravelle & Taylor, *supra* note 14, at 81 (analyzing the efficiency implications of the differential treatment of acquired and self-created intangibles); Allen Walburn, Comment, *Depreciation of Intangibles: An Area of the Tax Law in Need of Change*, 30 SAN DIEGO L. REV. 453, 469–70 (1993).

221. See Nguyen & Maine, *supra* note 14, at 16–27.

Equity concerns arise over the current taxation of intellectual capital, particularly when business investment in intellectual capital is compared to individuals' investments in their own human capital. Although a full treatment is beyond the scope of this Article, the treatment of education and training provides an illustration of these concerns. Employer-provided training is deductible, but a worker's own investments in education and training are for the most part neither deductible nor capitalized. The individual never recovers the costs of her own investments in education and training. This has equity implications for employees versus self-employed individuals and for business owners versus workers. See Fellows & Kahng, *supra* note 39, at 362–65 (discussing the disparate tax treatment of individuals' human capital in the context of education and training).

taxable income, creates an incentive to overinvest in it.²²² These conflicting incentive effects are not corrective of each other. The misallocations they produce will occur unevenly in different sectors of the economy depending on the size and nature of the business, the level of competition in that sector, and many other variables.²²³ Most importantly, the tax deduction for self-created intellectual capital not only leads to miscalculation of taxable income, but likely introduces inefficiencies and inaccurate valuations into the economy.

Some have argued that the tax deduction for self-created intellectual capital is intended to subsidize at least certain types of intellectual capital, principally R&D, because these investments produce positive externalities (so-called spillover effects) and are thus socially valuable.²²⁴ Tax law clearly has explicit incentives for R&D, such as the R&D credit²²⁵ and the tax credit to develop drugs for rare diseases or conditions (the orphan drug tax credit).²²⁶ However, it is not entirely clear that Congress intended the R&D deduction to be an explicit subsidy.²²⁷ Rather, ease of administration figures more prominently as a

222. See Leslie A. Robinson & Richard Sansing, *The Effect of "Invisible" Tax Preferences on Investment and Tax Preference Measures*, 46 J. ACCT. & ECON. 389 (2008) (quantifying the effects on corporate investment of these competing incentives).

223. See *id.* at 402–03.

224. See Fullerton & Lyon, *supra* note 14, at 82; Martin A. Sullivan, *Will International Tax Reform Slow U.S. Technology Development?*, 141 TAX NOTES 459, 459 (2013); Yale, *Capitalization Exceptions*, *supra* note 14, at 564.

Another rationale might be that policy makers need to subsidize investments in intellectual capital to offset the aversion that people have to risky investments. See Nakamura, *Investing in Intangibles*, *supra* note 6, at 30. This author has not seen that argument made by tax scholars, although it is a common rationale for other tax preferences such as capital gains. See, e.g., Michael Livingston, *Risky Business: Economics, Culture and Taxation of High-Risk Activities*, 48 TAX L. REV. 163, 191 (1993).

225. See I.R.C. § 41 (2012).

226. See *id.* § 45C.

227. See *Snow v. Comm'r*, 416 U.S. 500, 503–04 (1974) (finding that the purpose of the R&D deduction is to encourage smaller firms to invest in R&D); Mark L. McConaghy & Richard B. Ruge, *Congressional Intent, Long-Standing Authorities Support Broad Reading of Section 174*, 58 TAX NOTES 639 (1993) (explaining that the legislative history suggests the R&D deduction was meant to apply broadly); Xuan-Thao Nguyen & Jeffrey A. Maine, *The History of Intellectual Property Taxation: Promoting Innovation and Other Intellectual Property Goals?*, 64 SMU L. REV. 795, 831–32 (2011) (describing the historical view that the R&D deduction is an incentive).

The government currently takes an ambivalent stance on whether the R&D deduction is a tax expenditure—an explicit tax subsidy. On one hand, the government lists the R&D deduction, along with the I.R.C. § 41 research and expenditure credit, as tax expenditures in the congressional and Treasury Department tax expenditure budgets. See J. COMM. ON TAXATION, ESTIMATES OF FEDERAL TAX EXPENDITURES FOR FISCAL YEARS 2012–2017 30 tbl.1 (Comm. Print 2013), available at <https://www.jct.gov/publications.html?func=startdown&id=4503>; OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, ANALYTICAL PERSPECTIVES: FISCAL YEAR 2013 BUDGET OF THE U.S. GOVERNMENT 254 tbl.17-2 (2012), available at

rationale for allowing deductions for intellectual capital.²²⁸ Moreover, even assuming that the R&D deduction was in fact intended as a subsidy, one can make a strong argument that it is overly generous, particularly in the presence of other generous R&D subsidies such as the R&D credit, and especially as applied to multinational businesses that are adept at reducing the tax on intangibles-based income through the use of transfer pricing and other avoidance techniques.²²⁹ Finally, even if an R&D subsidy can be justified, the current law allowing for the deduction of almost all self-created intellectual capital is over inclusive. For example, it is hard to justify a deduction for advertising to promote a brand on the grounds that it provides socially valuable spillover effects. In fact, some have argued the exact opposite—that advertising has negative externalities.²³⁰ Instead of a blanket rule of deductibility, tax law should begin with the correct treatment of intellectual capital investments (i.e., capitalization) and then specify what circumstances warrant divergence from this treatment.²³¹ Under this approach, the orphan drug tax credit, which targets the development of drugs to treat rare diseases or conditions, for example, might be a justifiable subsidy but the wholesale deduction of all R&D would not.

To summarize, foundational principles of tax law and Supreme Court jurisprudence seem to dictate that taxpayers must capitalize investments in intellectual capital. In practice, however, taxpayers must

<http://www.gpo.gov/fdsys/pkg/BUDGET-2013-PER/pdf/BUDGET-2013-PER.pdf>. On the other hand, the Treasury explanation states that while the deduction is considered a tax expenditure under the “normal tax method,” it is considered not to be one under the “reference law baseline”:

Research and experimentation (R&E) projects can be viewed as investments because, if successful, their benefits accrue for several years. It is often difficult, however, to identify whether a specific R&E project is successful and, if successful, what its expected life will be. Because of this ambiguity, the reference law baseline tax system would allow of expensing of R&E expenditures. In contrast, under the normal tax method, the expensing of R&E expenditures is viewed as a tax expenditure.

Id. at 266.

228. See *infra* notes 249–54 and accompanying text.

229. See generally Graetz & Doud, *supra* note 38, at 392–404 (evaluating current technological innovation tax incentives such as the R&D credit, patent boxes, and super-deductions in light of income-shifting strategies of multinational businesses, but not identifying or analyzing the R&D deduction as a tax subsidy).

230. See Fullerton & Lyon, *supra* note 14, at 83. See generally Mona Hymel, *Consumerism, Advertising, and the Role of Tax Policy*, 20 VA. TAX REV. 347 (2000) (discussing the public welfare concerns of federal tax policy on advertising).

231. This comports with both the “norm of capitalization” articulated in *INDOPCO* and the well-established view that deviations from the ideal income tax base should be explicitly and intentionally acknowledged as such. See STANLEY S. SURREY & PAUL R. MCDANIEL, *TAX EXPENDITURES* (1985).

capitalize intellectual capital only when it is acquired from third parties. Taxpayers may deduct most investments in self-created intellectual capital, which results in substantial revenue losses and serious misallocations of resources.

IV. ASSESSMENT AND REFORM

This Part assesses the tax treatment of intellectual capital in the context of a bigger picture that includes the fields of knowledge management, financial accounting, and national accounting. Scholars in these disciplines portray intellectual capital as a central driver of economic productivity that has been poorly understood and inaccurately measured. They argue persuasively for improvements in measuring, monitoring, and reporting intellectual capital.

As in these other fields, tax law fundamentally mismeasures intellectual capital and must be reformed. However, the reader must keep in mind that each discipline brings a different perspective to intellectual capital. Thus, while financial accounting, national accounting, and tax law have much in common, they also differ in meaningful ways. What they have in common is a fundamental objective—the accurate measurement of economic income—as well as a fundamental failure to achieve this objective with respect to intellectual capital.²³² At the same time, the systems differ with respect to the purposes for which they measure economic income—to maximize corporate profitability, to provide accurate information to shareholders, to allow governments to formulate fiscal policy, or to raise revenue through tax collection.²³³ Moreover, the systems sometimes have objectives ancillary to the primary goal of accurately measuring economic income.²³⁴ In evaluating the taxation of intellectual capital and considering proposals for reform, this Part draws on the research, methodologies, and reform proposals in other fields but remains cognizant that differences of objective and purpose might dictate different prescriptions.

A. *Financial Accounting and Tax*

In financial accounting, Lev and Zarowin propose to require capitalization of self-created intellectual capital.²³⁵ Under their proposal,

232. See Lily Kahng, *Perspectives on the Relationship Between Financial and Tax Accounting*, in *CONTROVERSIES IN TAX LAW: A MATTER OF PERSPECTIVE* (forthcoming 2014) (comparing financial and tax accounting systems).

233. See *id.* (manuscript at 4–5).

234. In particular, other objectives of the tax system include ease of administration, achieving a predictable stream of income, and promoting economic or social policies through the use of tax preferences. *Id.* (manuscript at 5).

235. See *supra* text accompanying note 86.

once pre-specified feasibility tests were met, managers would capitalize and amortize intellectual capital in accordance with industry norms and research findings about the useful lives of various investments.²³⁶ This proposal could be adapted to the tax system, although it would need modification to be administrable. In particular, Congress would have to formulate the feasibility tests with objectivity and specificity and make the amortization periods simple and formulaic, much like the current tax law depreciation schedules for tangible property.²³⁷

Lev and Zarowin's second proposal—to reverse outlays expensed in prior years once they produce demonstrable benefits in the future²³⁸—is theoretically intriguing as a mechanism to deal with the fact that intellectual capital outlays can produce future benefits that are uncertain at the time of the expenditure. It is similar to depreciation recapture for tangible property under current law, which in effect reverses depreciation deductions when it becomes clear (upon subsequent sale) that the depreciation deductions were more generous than the actual devaluation of the asset.²³⁹ However, depreciation recapture merely changes the character of gain (from capital to ordinary) realized upon the sale or other disposition of the depreciated property.²⁴⁰ In contrast, Lev and Zarowin's proposal would require a taxpayer to revisit prior years and “undo” deductions for intellectual capital, along with adjustments to multiple subsequent years to reflect capitalization and amortization of the intellectual capital. The administrative constraints of the tax system—with its emphasis on certainty, finality, and an assured revenue stream—militate against such a fluid treatment.²⁴¹ On the other hand, tax law also has a set of tax benefit principles that allow for adjustments when the IRS improperly taxes a prior year's transaction or event.²⁴²

Within the financial accounting realm, it seems unlikely that the FASB will adopt Lev and Zarowin's proposals in the near future. Many scholars express concerns about their capitalization approach. These concerns also bear on whether and to what extent the tax system should require capitalization of intellectual capital.

236. See *supra* notes 86–89 and accompanying text.

237. See I.R.C. § 168 (2012).

238. See *supra* notes 88–89 and accompanying text.

239. See I.R.C. §§ 1245(a)(1), 1250(a)(1).

240. See *id.* §§ 1245(a)(1), 1250(a)(1).

241. See *Burnet v. Sanford & Brooks Co.*, 282 U.S. 359, 365–66 (1931) (highlighting the need for a fixed accounting period to produce ascertainable amounts of revenue at regular intervals). See generally MICHAEL J. GRAETZ & DEBORAH SCHENK, *FEDERAL INCOME TAXATION: PRINCIPLES AND POLICIES* 599–620 (7th ed. 2013) (discussing the annual accounting period and exceptions thereto).

242. See I.R.C. §§ 111, 1341; *Hillsboro Nat'l Bank v. Comm'r*, 460 U.S. 370, 372 (1983); *United States v. Skelly Oil. Co.*, 394 U.S. 678, 680–81 (1969).

Critics of capitalization proposals, such as Lev and Zarowin's, argue that the future benefits of self-created intellectual capital are speculative or uncertain.²⁴³ They argue that in keeping with the inherent conservatism of financial accounting, businesses should expense outlays for self-created intellectual capital, on the assumption that such outlays will produce no future benefit.²⁴⁴

Regardless of whether this argument is persuasive for financial accounting, it fails in the tax context because tax law does not share the conservatism of financial accounting. As the Supreme Court observed in *Thor Power Tool Co. v. Commissioner*,²⁴⁵ "financial accounting has as its foundation the principle of conservatism, with its corollary that 'possible errors in measurement [should] be in the direction of understatement rather than overstatement of net income and net assets'"²⁴⁶ in contrast to "the major responsibility of the Internal Revenue Service . . . protect[ion of] the public fisc."²⁴⁷ Thus, one cannot impute the conservatism of financial accounting, which arguably militates against capitalization, to the tax law, which seeks to ensure the collection of revenue. Indeed, a contrary rule in *favor* of capitalization and *against* deductibility would most enhance revenue for the Treasury. It would also comport with the Court's assertion in *INDOPCO* that "deductions are exceptions to the norm of capitalization."²⁴⁸

Even if a principle of conservatism does not govern tax law, that intellectual capital investments sometimes produce uncertain or speculative future benefits remains a serious obstacle to accurate measurement. Indeed, some scholars seem to assume that the current tax law deduction for self-created intellectual capital is an intentional legislative or administrative decision based on the grounds that it is too difficult to value in the first place.²⁴⁹

243. See *supra* note 90 and accompanying text.

244. See Hulten, *supra* note 80, at 3–4 (noting that both financial accounting and national accounting tend toward conservatism); ICAEW REPORT, *supra* note 98, at 13–14. This also explains why *acquired* intellectual property is capitalized in both financial accounting and tax—a market transaction of certainty establishing its value has occurred.

245. 439 U.S. 522 (1979).

246. *Id.* at 542 (alteration in original) (footnote omitted).

247. *Id.* Stating that "the accountant's conservatism cannot bind the Commissioner in his efforts to collect taxes," the Court upheld the power of the IRS to disallow a loss deduction on unsold inventory, even though the loss had been reported by the taxpayer in its financial statements, and rejected the taxpayer's argument that the tax loss was presumptively valid by reason of its financial accounting treatment. *Id.* at 543, 537–39.

248. *INDOPCO, Inc. v. Comm'r*, 503 U.S. 79, 84 (1992).

249. See Gravelle & Taylor, *supra* note 14, at 81 (stating that the "tax treatment of created intangibles is largely due to administrative considerations, since it would be difficult in practice to identify those costs which are creating an intangible"); Weisbach, *supra* note 14, at 200 (stating that "[b]ecause of [valuation] problems, the tax law often does not even try to measure depreciation for intangibles" and that "[i]nstead, it allows an immediate deduction, effectively

There is scant direct evidence of a deliberate decision that self-created intellectual capital should be deductible because it is too difficult to value.²⁵⁰ Nonetheless, concerns about administrability are clearly a dominant theme throughout the long and tortured history of capitalization.²⁵¹ For example, in the aftermath of *INDOPCO*, capitalization issues consumed as much as 40% of the IRS's audit resources for medium and large businesses, and one purpose of *INDOPCO* regulations clearly was to reduce IRS and taxpayer resources devoted to capitalization issues.²⁵² That said, administrative

choosing not to tax the return to these activities at all"). But see Johnson, *Undertaxation of Intangibles*, *supra* note 14, at 1291 ("[T]here is no indication [that] a reasoned balance between convenience and a level economic playing field was ever under consideration. The expensing of intangible investments is not part of a deliberate decision to punish the disfavored tangible investments . . . or to subsidize intangible investments.").

250. The only evidence of legislative purpose to this effect is from a Joint Committee on Taxation report studying the impact on small business of replacing the federal income tax:

Under present law, many expenditures by a business that may contribute to the creation of intangible assets are currently deductible as expenses of doing business. Thus, for example, salaries of employees, advertising, and other operating expenses generally are currently deductible, even though these expenditures may create or enhance the goodwill, going concern value, reputation, or customer base of the business. Expensing generally is allowed under present law because of the administrative difficulty of ascertaining the extent to which these expenditures contribute to the value of the intangible asset.

JOINT COMM. ON TAXATION, 104TH CONG., IMPACT ON SMALL BUSINESS OF REPLACING THE FEDERAL INCOME TAX 83 (Comm. Print 1996), available at <https://www.jct.gov/publications.html?func=stardown&id=2183>. The text of the report is about 100 pages long and studies the impact on small business of replacing the income tax with a national sales tax, a value-added tax, or a consumption tax, and devotes only a few pages to a discussion of the taxation of intangibles. See *id.* at 82–93.

There is evidence that Congress enacted the R&D deduction to address the administrative difficulties of capitalizing R&D expenditures. S. REP. NO. 83-1622, at 33 (1954) (describing the difficulties of capitalization where a project is not abandoned or where a useful life is not determinable, and stating that the purpose of the R&D deduction is to "eliminate uncertainty and encourage taxpayers to carry on research and experimentation"); See H.R. REP. NO. 83-1337, at 28 (1954) (describing the difficulties of capitalization where a project is not abandoned or where a useful life is not determinable, and stating that the purpose of the R&D deduction is to "eliminate uncertainty and encourage taxpayers to carry on research and experimentation"); Donald C. Alexander, *Research and Experimental Expenditures Under the 1954 Code*, 10 TAX L. REV. 549, 551–52 (1955) (describing the difficulties of capitalizing R&D expenditures under prior law that Congress intended to ameliorate by enacting the Internal Revenue Code of 1954, which provided that such costs should be deducted); David S. Hudson, *The Tax Concept of Research or Experimentation*, 45 TAX LAWYER 85, 112–13 (1991) (stating that the purpose of the R&D deduction was "to eliminate disputes about what the proper treatment of such expenditures should be, and to ameliorate the hardships created by the capitalization rules").

251. See Bankman, *supra* note 166, at 183; Lee et al., *Rough Justice (Part One)*, *supra* note 14, at 637–40; Lee, *Transaction Costs*, *supra* note 14, at 308–10.

252. See Lee, *Transaction Costs*, *supra* note 14, at 310.

concerns about the uncertainty and difficulty of valuation do not justify a default rule of deductibility. In other contexts involving these administrative concerns, default rules often favor the government, not the taxpayer.²⁵³ Alternatively, when faced with these administrative challenges, the law sometimes adopts a “rough justice” rule. I.R.C. § 197’s fifteen-year amortization period for acquired intangibles aptly illustrates this rule; tax law is replete with other examples as well.²⁵⁴

A second objection to capitalization of intellectual capital in financial accounting is the risk of earnings management—that managers would capitalize aggressively to overstate profits and asset values.²⁵⁵ This risk is a serious concern, as even Lev and Zarowin acknowledge.²⁵⁶ Cases like that of Enron, which involved the fraudulent reporting of intangible assets such as synthetic leases, contribute to the unease about whether intangibles should be capitalized.²⁵⁷ Regardless of how serious the earnings management concern is to the financial reporting of intellectual capital, the tax system does not share this concern. This is because in tax, businesses have the exact opposite incentive—to aggressively *deduct* (rather than capitalize) in order to *understate* (rather than overstate) income reported to the tax authorities.²⁵⁸ There is little risk that businesses would aggressively capitalize their intellectual capital investments for tax purposes.

A third objection to capitalization of self-created intellectual capital for financial accounting purposes is that quantitative reporting does not adequately capture the value of intellectual capital. This argument looks

253. See, e.g., I.R.C. § 274(d) (2012) (disallowing business or investment deductions that the taxpayer cannot substantiate); Treas. Reg. § 1.162-5(b)(1) (2003) (allowing no deduction for education expenses on the grounds that they are an “an inseparable aggregate of personal and capital expenditures”); *Robinette v. Helvering*, 318 U.S. 184, 187–89 (1943) (concluding that, in determining the amount of a gift, the value of the retained interest was presumed to be zero where it was not capable of valuation using actuarial methods).

254. See, e.g., *supra* notes 172–93 and accompanying text (discussing I.R.C. § 197). Another example of this “rough justice” approach is the 50% limitation on deductions for business meals and entertainment. See I.R.C. § 274(n). The use of safe harbors, which draw somewhat arbitrary lines in order to provide certainty, provides a further example. See Emily Cauble, *Safe Harbors in Tax Law*, 47 CONN. L. REV. (forthcoming 2015) (manuscript at 15–18), available at <http://ssrn.com/abstract=2318438>.

255. See *supra* note 97.

256. See Lev & Zarowin, *supra* note 84, at 379.

257. See Arewa, *supra* note 93, at 72–76, 83–90 (describing the challenges and uncertainties arising from attempts to account for intangibles in financial reporting, which facilitated fraudulent overstatement of the value of intangible assets by Enron and other corporations); Quick & Goldschmid, *supra* note 93, at 61–62.

258. Scholars and policymakers have considered whether this contrariety of incentives can be used to rein in both earnings management and tax avoidance. This could be accomplished by requiring conformity between the financial and taxable income, or by imposing a tax on the difference between the two, or by requiring disclosure of differences. See Kahng, *supra* note 232 (manuscript at 10–11).

to other scorecard metrics such as the Skandia Navigator, the Balanced Scorecard, or narrative accounts as sources of more accurate and complete information about the ways in which intellectual capital adds value to a business. Even if this is true in financial reporting—and there is no consensus at this time—the tax system cannot use scorecards or narratives. It must have a clear rule or set of rules about how intellectual capital should be taxed, even if those rules are sometimes inaccurate.²⁵⁹

B. *National Accounting and Tax*

The national accounting model developed by Corrado, Hulten, and Sichel has both theoretical and practical implications for the tax treatment of intellectual capital. The model is based on the foundational theoretical claim that intellectual capital ought to be treated like other capital investments. This theoretical claim is equally compelling for tax purposes.

In addition to establishing a theoretical foundation for capitalization of intellectual capital, Corrado, Hulten, and Sichel's model demonstrates how this theoretical ideal can be implemented for macroeconomic purposes. Some, but not all, of their research is transferable to the tax context. Specifically, the basic methodology—to identify and capitalize inputs related to intellectual capital and to depreciate these investments over their useful lives—matches up well with the tax approach of capitalization and depreciation. In contrast, some other national accounting methodologies do not match up well; for example, the approach that looks at stock values to infer the value of intangibles owned by businesses is not easily adaptable for tax purposes.²⁶⁰

Furthermore, Corrado, Hulten, and Sichel's expansive taxonomy promotes awareness and acceptance of a capacious definition of intellectual capital beyond the traditional narrower conception that includes only scientific R&D or legally protected intellectual property. It also helps legitimize what might seem to be a radical claim that certain outlays (e.g., compensation or advertising) ought to be capitalized. Moreover, Corrado, Hulten, and Sichel's model exemplifies

259. See generally David A. Weisbach, *Line Drawing, Doctrine, and Efficiency in the Tax Law*, 84 CORNELL L. REV. 1627 (1999) (describing that tax law is full of arbitrary line drawing and advocating for those lines to be drawn more efficiently). Perhaps the analogous approach to the financial reporting narrative approach would be the use of a facts-and-circumstances standard in tax law as opposed to a bright-line rule to determine whether and to what extent taxpayers should capitalize intellectual capital. The Supreme Court jurisprudence in this area—*INDOPCO* and *Newark Morning Ledger*—essentially amounts to such a facts-and-circumstances approach. See *Newark Morning Ledger Co. v. United States*, 507 U.S. 546, 570 (1993); *INDOPCO, Inc. v. Comm'r*, 503 U.S. 79, 86 (1992).

260. See, e.g., Robert E. Hall, *The Stock Market and Capital Accumulation*, 91 AM. ECON. REV. 1185, 1198–99 (2001).

how businesses can use empirical data to estimate what portion of expenses, such as advertising or managerial compensation, provide future benefits and to approximate the useful lives of intellectual capital investments. It refutes the tax argument that, because intellectual capital is difficult to measure, tax law should simply abandon any capitalization effort and allow the deduction of all intellectual capital. In presenting their model, Corrado, Hulten, and Sichel cite John Maynard Keynes's trenchant observation that "it is better to be imprecisely right than precisely wrong."²⁶¹

Congress could potentially adopt the design features of Corrado, Hulten, and Sichel's model for the tax system. Indeed, in its 2013 proposals to capitalize and amortize over five years R&D and 50% of advertising, the Senate Finance Committee explicitly refers to Corrado, Hulten, and Sichel's model and their empirical estimates in a staff discussion draft.²⁶²

Although the adoption of their model for tax purposes is a tantalizing idea, this author believes it has serious administrative drawbacks that render it unworkable. One crucial difference between tax and national accounting is who quantifies and classifies intellectual capital outlays. In national accounting, the BEA relies on empirical data such as R&D data collected by the National Science Foundation and employment data gathered by the U.S. Bureau of Labor Statistics. Furthermore, the BEA presumably has a team of disinterested experts to determine whether a particular expenditure ought to be classified as R&D or something else—market research or advertising, for example.

In contrast, the tax system would need to rely on taxpayers to report accurately the amount and character of their intellectual capital investments. The history of acquired intangibles culminating in the enactment of I.R.C. § 197 demonstrates the perils of having taxpayers quantify and classify their intellectual capital expenditures.²⁶³ Faced with a system that allowed taxpayers to currently deduct some expenses, capitalize and amortize others over varying periods, and never recover still others (e.g., goodwill), depending on how they were classified, taxpayers predictably engaged in aggressive tax-minimizing strategies that were extremely difficult and costly for the IRS to monitor and

261. Corrado et al., *Intangible Capital*, *supra* note 6, at 683.

262. See U.S. S. COMM. ON FINANCE, SUMMARY OF STAFF DISCUSSION DRAFT: COST RECOVERY AND ACCOUNTING 8 n.2 (Nov. 21, 2013) [hereinafter U.S. S. COMM. ON FINANCE, COST RECOVERY] available at <http://www.finance.senate.gov/imo/media/doc/Chairman's%20Staff%20Discussion%20Draft%20on%20Cost%20Recovery%20and%20Accounting%20Summary.pdf>; cf. TAX REFORM ACT OF 2014, *supra* note 216, at 56–57 (proposing to capitalize and amortize over five years R&D and 50% of advertising); Johnson, *First Do No Harm*, *supra* note 14, at 551 (praising the proposals to capitalize R&D and advertising).

263. See *supra* notes 188–91 and accompanying text.

deter.²⁶⁴ Both the IRS and taxpayers wasted enormous resources litigating capitalization controversies.

In addition to the administrative intractability of adopting Corrado, Hulten, and Sichel's model for tax purposes, the data on which they base their estimates are likely too uncertain to form the basis of a tax capitalization system. Although suitable for their admittedly "illustrative, not definitive"²⁶⁵ purposes, Corrado, Hulten, and Sichel are at pains to point out that their estimates are often rough and somewhat arbitrary and that their results are "clearly provisional."²⁶⁶ For this reason, the BEA limited its capitalization to R&D and artistic creations, and indicated that the data is not yet reliable enough to capitalize product design or organizational innovation.²⁶⁷ For tax purposes, creating a complex matrix of expenditures with varying recovery periods and methods of amortization based on insufficient or unsettled empirical data is probably not acceptable from either a policy or a political standpoint.

C. Reform Proposal

This author proposes that Congress require that all investments in self-created intellectual capital be capitalized and amortized over a single and fixed time period. To identify investments subject to this treatment, the proposal would adopt Corrado, Hulten, and Sichel's taxonomy. Thus, the proposal would apply to computer software, scientific and nonscientific R&D, advertising, employee training, and organizational innovation.²⁶⁸ The proposal would apply to self-created intellectual capital only. The current law's treatment of acquired intellectual capital under I.R.C. § 197 would remain in place.

Consistent with the general treatment of capitalized expenditures under current law, taxpayers would capitalize expenditures for specific intellectual capital assets to the basis of those assets. For example, a taxpayer would capitalize R&D to develop a patent to the basis of the patent. This would enable the taxpayer to compute gain or loss upon the sale or other disposition of an asset. Taxpayers would capitalize to

264. The same problem continues to exist with respect to the R&D credit. Taxpayers are extremely aggressive about classifying which expenditures count as "qualified research expenses," as defined by I.R.C. § 41(b). See generally Annette Nellen, *Tax Treatment of Research Expenditures* (Oct. 2008), http://www.cob.sjsu.edu/nellen_a/223E%20Reading/TaxIncentives-ResearchExpenditures.pdf (clarifying potential research expenses that qualify under I.R.C. § 41(b)).

265. See Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 38.

266. See Corrado et al., *Intangible Capital*, *supra* note 6, at 683.

267. See Lange, *supra* note 112 (interviewing BEA director Stephen Landefeld, who indicated an interest in capitalizing product design and organizational planning, once reliable data is available).

268. See *supra* text accompanying note 128.

goodwill those expenditures, such as employee training and organizational innovation, which do not create separate assets.²⁶⁹

As in Corrado, Hulten, and Sichel's model, only a percentage of advertising expenses would be capitalized—the recent legislative proposals of 50% seem reasonable in view of empirical estimates.²⁷⁰ Likewise, organizational innovation would include a fixed percentage of overall managerial and executive compensation.²⁷¹ Corrado, Hulten, and Sichel use 20% as an estimate of the managerial and executive time devoted to organization change, although they admit that this percentage is arbitrary.²⁷² This author's proposal would adopt their 20% as a general matter, but require a higher percentage—50%—of executive compensation to be capitalized.²⁷³ After all, executives and the compensation consultants extoll the rare and precious ability of executives to formulate and execute long-range strategic visions and plans. Management consultants routinely advise executives to reduce the amount of time they spend on the mundane tasks of running their businesses and to delegate those matters to underlings whenever possible. As a political matter, executives would be hard-pressed to argue that they do not provide long-term value to their companies.

Selecting a unitary amortization period for investments in self-created intellectual capital under the proposal is challenging. Whatever period Congress chooses will certainly be inaccurate for at least some intellectual capital investments. I.R.C. § 197 establishes an important precedent for this sort of tradeoff between a uniform but inaccurate amortization period on one hand, and a simple rule that is easy to administer and difficult to manipulate on the other. Congress estimated this uniform fifteen-year period would raise revenue—an indication that it erred on the side of a longer amortization period as compared to pre-enactment law with respect to the assets covered by it.²⁷⁴ The fifteen-year period bears some relation to the composite useful life of the intangibles that are subject to it, but policy and budgetary considerations also drove the choice of fifteen years.²⁷⁵

269. The analogue under I.R.C. § 197 is any residual purchase price that is not allocated to enumerated assets pursuant to I.R.C. § 1060. See *supra* notes 172–75 and accompanying text.

270. See *supra* note 262 and accompanying text.

271. It would also include amounts paid to outside consultants.

272. See Corrado et al., *Measuring Capital and Technology*, *supra* note 6, at 29.

273. The executives whose compensation would be subject to this higher percentage of capitalization would include the CEO plus the four highest compensated officers. Cf. I.R.C. § 162(m)(3) (2012).

274. See Israel Blumenfrucht, *Section 197: Intangible to Assess*, MGMT. ACCT., May 1994, at 22, 22 (noting that Congress scored I.R.C. § 197 as a revenue raiser because many intangible assets would be amortized over a longer period than under prior law).

275. See Johnson, *Extend the Life*, *supra* note 14, at 1055–56.

The proposal outlined in this Article would similarly account for the useful lives of all the covered investments, but as Corrado, Hulten, and Sichel point out, the empirical data are limited and therefore, any estimates would be very rough. A survey of their estimates for all categories of intellectual property indicates a range of about three to seven years.²⁷⁶ In line with what Corrado, Hulten, and Sichel report, research from the United Kingdom has estimated the productive lives of specific types of intellectual capital as follows: firm-specific training (2.7 years), software (3.2 years), branding (2.8 years), R&D (4.6 years), design (4 years), and business process improvement (4.2 years).²⁷⁷ In contrast, recent OECD research indicates that productive lives might be considerably longer. For example, the OECD finds that firms expect investments in organizational capital to last an average of four to six years in services, and between seven and ten years in manufacturing.²⁷⁸ They also find that “R&D appears to be much more long-lived than previously thought.”²⁷⁹

To select an appropriate amortization period requires additional careful thought and thorough examination of available empirical data. For the time being, as a placeholder, this author proposes a five-year amortization period.²⁸⁰ Regardless of the initial period selected, the proposal would provide for a periodic assessment of the amortization period with recalibration, if necessary. This would accommodate the evolving body of empirical knowledge, as well as the likelihood that useful lives of different investments will vary over time depending on a multitude of factors, such as the rate of technological change, industry-specific factors, and global economic conditions.

This proposal would result in a more accurate (or perhaps less inaccurate) measurement of intellectual capital investments. It would also raise substantial tax revenues which could be used to reduce the national budget deficit, to finance government spending programs, or to fund a reduction in tax rates or other tax reforms. To illustrate, the House Ways and Means Committee has estimated that replacing the deduction for scientific R&D with capitalization and five-year amortization would increase tax revenues by \$192.6 billion over the next ten years.²⁸¹ Corrado, Hulten, and Sichel estimated scientific R&D to be less than one-fifth of all investments in intellectual capital for the

276. See Corrado et al., *Intangible Capital*, *supra* note 6, at 675–76.

277. See OECD REPORT, *supra* note 7, at 14.

278. See *id.*

279. See *id.* at 69.

280. The five-year period is consistent with recent legislative proposals relating to R&D, advertising, and intangible drilling. See U.S. S. COMM. ON FINANCE, COST RECOVERY, *supra* note 262, at 8; see also TAX REFORM ACT OF 2014, *supra* note 216, at 55–56.

281. See TAX REFORM ACT OF 2014, *supra* note 216, at 55.

years 2001–2003.²⁸² Extrapolating from these estimates, the proposal could increase revenues by as much as \$1 trillion. The proposal would also reduce the allocative inefficiencies that result from the current law's under-taxation of income from intellectual capital.²⁸³ Furthermore, it would help establish a more accurate baseline measure of income, which would enhance clarity and intentionality in decisions to depart from that baseline.

CONCLUSION

In the taxation of intellectual capital, the stakes are high: One trillion dollars per year of investments in intellectual capital and hundreds of billions of dollars in tax revenues. This Article argues that tax academics, lawmakers, and policymakers stand to gain much from an interdisciplinary perspective when it comes to the taxation of intellectual capital. Scholars in other fields make a theoretically persuasive claim, thoroughly supported by decades of research, that intellectual capital is a central driver of economic productivity that has been poorly understood and inaccurately measured. Fortified by the work of these scholars, this Article argues that tax law must reform its fundamentally flawed treatment of intellectual capital.

In considering how Congress should reform tax law, this Article endeavors to capitalize on the wealth of research and advances in other fields, particularly those that share a common goal with tax law—the accurate measurement of economic income. At the same time, this Article remains cognizant of the unique objectives, needs, and design constraints of the tax system. The result is a proposal that, although not perfect, will measure income more effectively, raise tax revenues, and improve the efficiency and fairness of the tax system.

282. For the years 2000–2003, they estimated total annual investment in intellectual capital to be \$1.226 trillion and scientific R&D to be \$230.5 billion. See Corrado et al., *Intangible Capital*, *supra* note 6, at 671 tbl.1.

283. See *supra* notes 218–23 and accompanying text.

