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Accounting for intangibles – a critical review of policy recommendations

Douglas J. Skinner*

Abstract—I review and critically evaluate the arguments in favour of reforming current accounting and disclosure practices related to intangibles. I argue that the case for reform is actually rather weak. Proponents of reform provide little cogent evidence in support of claims that current practice is having adverse capital market effects. In fact, theory and evidence from corporate finance suggest that capital markets perform well in financing investments in innovative, high-technology activities. I discuss why mandating additional disclosure in this area is unlikely to be successful and that proposals to recognise intangibles are also flawed.

Key words: intangibles; accounting reform; accounting standards

1. Introduction

Over the last 15 years or so there have been a number of calls for accounting reforms, with claims that the traditional historical cost approach has outlived its usefulness.¹ One of the claims made in these debates is that the economy has changed in fundamental ways, that business is now fundamentally ‘knowledge-based’ rather than industrial, and that ‘intangibles’ are the new drivers of economic activity. Based on these claims, commentators contend that one of the key problems faced by financial reporting is that financial statements fail to recognise many of the most important knowledge-based intangibles, such as intellectual capital, and that this has adversely affected investments in intangibles.² This has led to calls for accounting standard-setters to re-evaluate how intangibles are accounted for, and to make reforms.

My goal in this paper is to synthesise and evaluate the current set of policy proposals in this area. My main objective is to provide a critical review of the claims made by the various commentators in this area to justify the need for reform as well as to review the proposals themselves. I argue that the case for reform is surprisingly weak, and does not support claims that large-scale reforms are necessary. More specifically, I argue that capital markets actually function rather well in financing compa-

nies that engage in innovative, high-technology, and knowledge-based activities. In addition, I argue that an approach to intangibles that involves mandating more extensive disclosure in this area is likely to be unsuccessful, but that there are market-based incentives for companies to voluntarily provide these disclosures. Moreover, I argue that proposals to modify the current accounting model to recognise intangibles on the balance sheet are flawed for a number of reasons.

The paper proceeds as follows. Section 2 discusses the definition of intangibles and so lays out the scope of my discussion. Section 3 then presents and analyses the case for reform, which I find is rather weak. Section 4 then discusses and evaluates proposals related to improving disclosure related to intangibles, while Section 5 discusses and evaluates proposals related to recognition. Section 6 concludes.

2. What exactly do we mean by ‘intangibles’?

Before evaluating the various policy proposals, it is important to clearly distinguish the different terms used by commentators in this area and arrive at a clear definition of intangibles. My review of the extant literature indicates that the majority of

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¹ For example, the Jenkins Report, a report from a committee formed by the AICPA in the United States in 1991 and chaired by Edmund Jenkins, provided a number of recommendations, such as (1) making financial reporting more forward-looking, and (2) reporting business measures outside the conventional financial reporting model, including product reject rates, market shares, measures of customer satisfaction, patents, and others. See DiPiazza et al. (2006) for a more recent call for change in the financial reporting model.

² For example, see Cañibano et al. (2000), Lev (2001), Meritum (2001), and Nakamura (1999).

the discussion on intangibles falls into two different areas.³ First, the most sweeping proposals take a broad view of intangibles, and include in this category virtually any resource that is both intangible (lacking physical substance) and of economic value to the firm.⁴ This includes all types of intellectual capital, including those items associated with the firm's human capital (the value of employee training, morale, loyalty, knowledge, etc.), process-related capital (the value of intangibles associated with information technology, production processes, etc.), and external relations (customer satisfaction, customer loyalty, business relationships, other components of brand values, etc.).

Second, mindful of the practical difficulties associated with such a wide-reaching definition, accounting standard-setters are currently evaluating accounting for a narrower set of items, most notably by limiting discussion to those intangibles that are 'identifiable' (i.e. items that have value on a stand-alone basis) and meet conventional definitions of assets.⁵ It appears that standard-setters are most concerned, at least in the short-run, with achieving better consistency in accounting for intangibles. In particular, there are concerns about the different treatment of intangibles acquired in external transactions (which are usually recognised as assets) and those that are internally developed (which are not).

Accounting standard-setters have also devoted a great deal of attention to accounting for goodwill, which is a topic that I leave aside because it is largely separable from the discussion in many of the proposals on intangibles accounting and because its recognition and measurement is related to accounting for business combinations, which I see as taking the discussion too far afield. I would note though that a loose definition of goodwill – as the excess of a business' economic value over its book value – is taken by commentators as evidence of the failure of the current accounting model to correctly recognise intangibles, a view that I address specifically below.

In this paper, I spend most time on proposals related to the broader definition of intangibles discussed above, although most of the points that I make as part of my discussion are also relevant to the narrower questions currently of interest to standard-setters.

3. The case for reform of accounting for intangibles

This section examines the case for changing current practice with respect to accounting for intangibles. The case in favour of reform rests on various claims about how the current accounting system is deficient. In most cases, I do not find these arguments very convincing and so am skeptical about the need for reform in this area. I dis-

cuss the various arguments in turn in Section 3.1 below. In particular, proponents of reform argue that alleged deficiencies in the current accounting model inhibit the ability of companies that rely on intangibles from obtaining financing in capital markets. Section 3.2 provides a counter to this argument, and suggests that markets actually work rather well in financing all types of economic activity, including innovative knowledge-based activity.

3.1. Evaluating the case for reform

There are a number of arguments in favour of reforming current practice relating to accounting and disclosure of intangibles. I summarise these arguments in turn below, and provide an accompanying evaluation of each argument.

- 1) *The economy has changed in such a way that conventional financial statements have become less relevant.*

This argument starts with the observation that businesses are increasingly creating value through knowledge-based resources that lack physical substance (i.e. intangibles). Those who make this argument sometimes also assert that the traditional industrial model, in which businesses add value by applying labour and capital to transform raw material into finished products, is becoming increasingly less important.⁶

This argument is undoubtedly true to some degree. There is little doubt that technology companies such as Google, Microsoft, Samsung, Nokia, and others play a more important role in the world's economy than was true as recently as

³ My goal in this paper is not to provide a comprehensive review of the intangibles literature. There is a large volume of literature, especially with respect to the disclosure of information about intellectual capital, and especially in Europe, that I do not reference. Instead, my goal is to discuss and evaluate the principal policy recommendations with respect to accounting for intangibles.

⁴ For example, the *Meritum Guidelines* (p. 9) defines intangibles as non-monetary sources of probable future economic benefits that lack physical substance, are controlled as a result of past transactions and events, and may or may not be separable.

⁵ See the IASB Project Update 'Intangible Assets' (June 2007). GAAP typically requires that an asset possess three essential characteristics (e.g. SFAC 6, para. 26): (i) it embodies a future economic benefit (contributes directly or indirectly to future net cash flows), (ii) a particular entity can obtain the benefit and restrict others' access to it, (iii) a particular transaction or event giving rise to the benefit or control has already occurred. This statement specifically indicates that assets may be intangible and that legal enforceability of a claim to a benefit is not a prerequisite if the entity can obtain or control the benefit in other ways. Notice that it is not clear that intangibles like intellectual capital satisfy this definition if the entity cannot fully control the associated benefits.

⁶ Lev (2001) advances the related argument that traditional forms of economic activity, such as manufacturing, have become increasingly commoditised.

20 years ago, and that more traditional companies are also increasingly relying on knowledge-based assets to generate value. I take issue, however, with the related implication that this growth occurs as a result of a substitution of resources away from more 'traditional' industries. The economic fortunes of most industries are to some degree cyclical; thus, while internet and telecom stocks were in vogue in the late 1990s, helping to fuel the growth of the 'New Economy', over the last several years we have seen a resurgence in more traditional industries, such as oil and gas, mining, commodities, and steel, largely due to booming demand for industrial output in emerging markets such as China. So I think the case that these traditional industries are passé is overstated.

Of more relevance to the accounting proposals, however, is the claim that the emergence of technology companies (i.e. those whose value is comprised of significant amounts of intangibles) naturally implies that the conventional accounting model is broken. Several arguments are offered as evidence in support of this claim, all of which I believe are largely flawed.

2) *Financial statements are less relevant than they were in the past.*

A number of research papers investigate the claim that financial statement variables are now less relevant in the sense that financial statement numbers are less closely related to security prices. While some papers claim to find support for this statement, others claim to find the opposite, including papers that specifically examine technology companies.⁷ The fact that conclusions differ across studies is due in part to the use of different methodologies, which is due in turn to the fact that there is controversy in this area about the appropriate econometric methods. In addition, some of these studies use samples that end in the early to mid-1990s, before the rise of the New Economy.

Thus it is interesting to consider a more recent study by Core et al. (2003), who specifically investigate whether there was a change in the relation between stock prices and financial variables during the 'New Economy Period', which they define as the late 1990s. They find that stock market values are both higher and more volatile during this period, that the relation between these values and financial statement variables remains stable during this period compared with preceding periods, but that the explanatory power of these financial statement variables declines during this period.⁸ Thus, while there is no decline in the usefulness of traditional financial statement variables, those variables explain a lower fraction of the variation in stock values during this period. It would be interesting to extend this research to the period after 2000–2001, after what is now viewed as a 'bubble'

in the prices of high-technology companies had burst. It is possible that the decline in explanatory power Core et al. observe is due to 'irrationally exuberant' stock prices during the late 1990s.⁹

3) *The existing accounting model simply fails to recognise many knowledge-based intangibles.*

This argument is certainly correct – in many cases, internally developed intangibles, such as brand names, customer relationships, employee morale and training, etc., fail to satisfy asset recognition criteria under current GAAP rules, whether IFRS or US GAAP. However, although this statement is correct, it does not follow that there is a problem with the accounting model. Proponents of reforming accounting for intangibles infer directly from the fact that many economically valuable intangibles are not recognised in the balance sheet that there is a problem with the accounting. For example, some claim that the failure to recognise such intangibles means that investors will systematically undervalue companies whose value is largely dependent on knowledge and technology, and consequently that these companies will have difficulty raising capital. For example, see Lev (2001) and the *Meritum Guidelines*.

This argument does not make sense to me. As discussed further below, under current accounting conventions the balance sheet is not designed to form the basis for valuation. Rather, most approaches to equity valuation rely on information from the income statement, and use that information to forecast future revenues, earnings, and cash flows. As Penman (2007) demonstrates, this approach works well to value companies, even those for which relatively large amounts of value are attributable to intangibles.

Moreover, as far as I can tell, proponents of this view do not offer any convincing evidence to support the claim that technology companies are handicapped in their ability to raise equity capital. In fact, many technology companies (for example, Google and Cisco) are valued relatively highly by

⁷ See, for example, Brown, Lo, and Lys (1999), Chang (1998), Collins, Maydew, and Weiss (1997), Francis and Schipper (1999), and Lev and Zarowin (1999). Collins et al. (1997), and Francis and Schipper (1999) both report evidence that the overall value relevance of earnings and book values has remained stable over time, while Chang (1998), Brown et al. (1999), and Lev and Zarowin (1999) report a decline in overall value relevance.

⁸ Their results are consistent across different subsamples of firms, including young technology companies.

⁹ Penman (2003) argues that an important role of the traditional financial reporting model is to serve as an anchor during bubbles 'to check speculative beliefs'. Under this view we expect exactly those results that Core et al. (2003) obtain – the fact that the traditional financial statement variables do not explain equity values very well during this period indicates that those equity values were out-of-line with fundamentals, rather than suggesting some kind of deficiency in financial reporting.

investors and seem to have had little trouble raising capital. Google currently has market value in excess of \$220bn,¹⁰ an amount that is well over 10 times its current book value (of \$17bn). It is hard to argue that Google has had difficulty raising equity capital, or that it issues shares on unfavourable terms.

This argument is supported by academic evidence. Fama and French (2004) find that the set of firms that obtain stock market financing expanded tremendously in the 1980s and 1990s – there was almost a fourfold increase in the number of firms going public on US stock exchanges between 1980 and 2001. Moreover, firms that go public are increasingly less profitable, with higher growth and lower survival rates than was the case before 1980. This is consistent with my assertion that less profitable ‘growth’ stocks that tend to be riskier have been increasingly successful in accessing public equity markets. This evidence runs counter to what those advocating reform would have us believe.

A related version of this argument points to the ‘large’ and increasing difference between book values and market values of certain companies as evidence that there is a problem with the book value number, in that it is ‘missing’ the value of intangibles.¹¹ Under this argument, commentators are essentially arguing that in an ideal world accounting book values would be set equal to the firm’s market value. Even if we assume that the gap between market and book values is solely due to the value of unrecognised intangibles,¹² a close examination of this argument reveals that it misapprehends the role of financial statements, whether one takes a stewardship (contracting) perspective or a valuation (investor) perspective on accounting.

The basic premise of the stewardship model of financial reporting is that financial statements provide information useful for contracting among the various parties to the firm. It follows from this perspective that reliability of balance sheet measurements is of paramount importance, which explains the prominent role of external transactions as a means of validating the existence and amount of transactions. This approach, which is fundamental to our current accounting model and has long-run survival value, precludes the recognition of items that do not result from external transactions and events and/or for which measurement is costly to verify. Consequently, our current model precludes the recognition of internally developed intangibles because the future benefits of these expenditures are inherently uncertain and very difficult for external auditors to verify.¹³

Consider the use of accounting in lending agreements. The asymmetric nature of lenders’ claims on firms’ assets is such that they are generally only willing to lend to the firm to the extent that it has tangible assets because these assets typically retain

much of their value in the event of bankruptcy/liquidation. Conversely, the excess of firm value over book value often disappears once the firm ceases to be a going concern. This occurs because this excess often represents the value of intangibles whose value is intrinsically linked to the firm itself, and do not have value once the firm is no longer a going concern.¹⁴

Even if one rejects the stewardship perspective on accounting and adopts instead what we might call an investor (or valuation) perspective, under which the primary role of accounting is to provide information useful to investors in valuing the company, it is still not the case that we would want book value to track the company’s market value. As Penman (2007) points out, valuation relies on information provided by the income statement rather than the balance sheet. He uses Coca-Cola as an example, and points out that Coke has a mar-

¹⁰ November 2007.

¹¹ For example, see DiPiazza (2006: 16): ‘The large discrepancies between the ‘book’ and ‘market’ values of many, if not most, public companies ... provide strong evidence of the limited usefulness of statements of assets and liabilities that are based on historical costs.’ This argument became prevalent during the late 1990s when stock prices increased dramatically, especially for technology stocks, so that the gap between book and market values became especially large. Notice that the argument ignores other possible explanations for increasing market-to-book values; for example, certain changes in GAAP rules (such as the recognition of pension and other post-employment benefit obligations) may have lowered book values.

¹² It is not. Perhaps most obviously, market values capitalise investors’ expectations about the firm’s future growth opportunities while book values do not. To the extent that public equity markets now contain a larger fraction of young ‘growth’ companies than was the case (say) 20 years ago (Fama and French, 2004), we expect that market-to-book ratios will increase over time. See Rowchowdhury and Watts (2007) for a more complete discussion of market-to-book ratios.

¹³ The future benefits associated with intangibles such as R&D are typically more uncertain than those associated with most assets currently recognised under GAAP. For evidence on this, see Kothari et al. (2002) or Shi (2003).

¹⁴ See Holthausen and Watts (2001) for further discussion of this point. Consider also Alan Greenspan’s testimony to Congress in February of 2002 about the failure of Enron: ‘As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron’s decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalised reputation. The physical assets of such a firm comprise a small portion of its asset base. Trust and reputation can vanish overnight. A factory cannot.’ (Quote taken from Lev (2002)). A front page *Wall Street Journal* article from April 2002 makes the interesting point that because value is now increasingly derived from intangibles, companies are now much more vulnerable to sudden declines in value, which shortens their life spans. See ‘The Rise and Fall of Intangible Assets Leads to Shorter Company Life Spans,’ *The Wall Street Journal*, 4 April, 2002, p. 1.

ket/book ratio in excess of six, a difference that he attributes to the fact that the value of the Coca-Cola brand name is 'missing' from the company's balance sheet. Nevertheless, he goes on to show that Coke can be valued relatively easily and accurately using conventional historical cost financial statements.¹⁵

Penman also points out that in a world under which accounting book values track market values, investors would lose much valuable information about both the historical costs of firm assets and the performance of management in transforming those assets into revenues. In other words, the traditional income statement provides investors with information about how well management performs selling goods and services above cost. Such information would be lost under a model in which book value tracked market value since the income statement would then record unrealised gains and losses on the firm's portfolio of assets and liabilities, so that analysts would lose much of the information on which fundamental analysis is based.

4) *Misallocation of resources argument*

Some commentators argue that firms with large amounts of intangibles relative to fixed, tangible assets are handicapped in their ability to obtain financing.¹⁶ Some rely on this assertion to claim more broadly that innovation in the economy is stifled by the inability of firms that rely on knowledge-based assets to fund the research and other activities necessary for innovation to continue.¹⁷ Once again, little evidence is offered in support of this claim and, indeed, both economic logic and casual empiricism suggest otherwise.

Perhaps the most fully explicated version of this line of reasoning is made by Lev (2001), who makes a number of arguments to support the claim that the current lack of disclosure about intangibles has adverse effects on capital markets. I do not find any of these arguments very convincing.

First, Lev argues that firms with large amounts of intangibles have a higher cost of capital, and cites research by Boone and Raman (2001) in support of this claim. These authors find that firms with relatively large amounts of R&D 'assets' (which they estimate using these firms' past R&D expenditures) have relatively higher bid-ask spreads, a common proxy for equity market liquidity. However, the authors fail to show that this result is attributable to deficiencies in these firms' disclosures or accounting, as opposed to simply reflecting the fact that these firms are economically different from firms whose value comprises mainly more tangible assets. As discussed further below, firms with relatively more 'growth options' are inherently riskier than other firms and naturally have larger information asymmetries, which leads to a less liquid market for their shares and to

a higher cost of capital (Amihud and Mendelson, 1986). In other words, these results simply reflect the fact that investors, as we would expect, believe that expenditures on intangibles are riskier than other investments. There is nothing surprising here – indeed, this is precisely why the current accounting model does not recognise these expenditures as assets.

Second, Lev argues that current accounting practice leads to the 'systematic undervaluation of intangibles' by investors. He points to two papers, both of which apparently show that shares of firms with relatively more R&D spending tend to outperform other firms in the years following that spending.¹⁸ The implication is that these firms were previously undervalued by market participants. I also find this evidence unconvincing. To begin with, studies that cumulate measured abnormal returns after an event date are notoriously difficult to interpret given vagaries in the measurement of expected returns – in other words, it is hard to know for sure that these were in fact abnormal returns and that there was undervaluation. For example, it may be that the market correctly discounted these firms' expected cash flows because R&D projects are inherently riskier, and that the researchers' expected returns model underestimated this risk.

Moreover, even if we agree that these firms are undervalued, an important premise of this argument is that the market fails to correctly value R&D expenditures at the time they are made because those expenditures are expensed rather than capitalised at that time. Thus, it assumes that market participants naively respond to the accounting treatment of expenditures, and fail to understand that R&D expenditures that are not capitalised

¹⁵ One could argue that if it is possible to value a company without intangibles on the balance sheet, it is also possible to value a company without tangibles on the balance sheet. This observation is correct but reflects a misunderstanding about the economic role of the balance sheet. The balance sheet's primary function is in stewardship/contracting rather than in valuation. It is clear that even for entities whose value is primarily dependent on tangible assets, the balance sheet will not necessarily be very useful for valuation, for example, because of the historical cost convention.

¹⁶ See, for example, Lev and Zarowin (1999: 383): '... the reporting inadequacies documented above may adversely affect investors' and firms' welfare ...'. Also see *Meritum Guidelines* (p. 1): '... may result in significant economic losses both for firms and their suppliers of goods, services, or capital...' or Cañibano et al. (2000: 112): 'If financial statements provide investors with biased (conservative) estimates of the firm's value (book value of equity) ... inefficiencies (myopia) may appear in the resource allocation process ...'.

¹⁷ Wallman (1995: 89) writes that 'We cannot have financial reporting and disclosure constraints that slow the pace of progress in capital markets, decrease the rate of reduction in the cost of capital, or limit innovation...'. There is little or no evidence to support any of these claims.

¹⁸ The papers are Chan et al. (2001) and Lev et al. (2005).

may well result in future benefits. In other words, it assumes a surprising lack of sophistication on the part of market participants, a view that I do not find plausible. As indicated above, the very fact that many technology firms trade at a large premium to their book values would seem to contradict the notion that investors mechanically rely on accounting asset recognition rules in assessing equity values.¹⁹

Third, Lev argues that managers of firms in R&D intensive firms make larger abnormal returns from insider trading than managers of other firms (Aboody and Lev, 2001). While this result is likely correct and would imply a higher cost of capital for these firms, this does not indicate a problem in the accounting; it is a problem related to the enforcement of the securities laws and, more fundamentally, reflects these firms' larger information asymmetries. Consequently, it is not at all clear that a different accounting or disclosure regime would change this result.²⁰

In sum, there is some evidence that the market values firms whose value is principally composed of intangibles differently from other firms (although note that the evidence on this is largely limited to firms with high levels of R&D expenditures). However, this result does not necessarily say anything about the desirability of particular accounting/disclosure treatments. Instead, it simply reflects the fact that these firms have different economic characteristics from other firms (they're riskier, with larger information asymmetries) rather than any problems with their accounting or disclosure. There is no evidence that the accounting or disclosure treatment of intangibles in and of itself results in systematically lower valuations for these firms.

3.2. *There is evidence that capital markets work well in providing different forms of financing to companies with different economic attributes.*

It is well-known in corporate finance that the nature of firms' investment opportunities affects their financing. Myers (1977) distinguishes what he labels 'assets-in-place' (assets in which the firm has already invested) from 'growth options' (investment opportunities over which the firm has an option to proceed). He shows (and there is evidence to support this view) that information asymmetries between managers and those outside the firm are significantly larger for firms whose value largely comprises growth options. These information asymmetries make it difficult for these firms to borrow against their assets, because lenders cannot be sure that managers of these firms will not opportunistically alter their investment strategies once lending is in place.²¹ Consequently, these firms typically have little debt and obtain financing principally from the equity markets. Notice that Myers' distinction between assets-in-place

and growth options corresponds quite well to the distinction between those assets conventionally recognised on the balance sheet and off-balance sheet intangibles.²² Thus, the nature of firms' financing choices adjusts to the economic nature of their investment opportunities, including intangibles.

The point here is that markets function rather well at financing activities that generate value (more formally, that have positive NPV). Over the last 15–20 years, we have seen the rise of many prominent technology companies – Microsoft, Intel, Cisco, Dell, and now Google – whose economic value is largely attributable to some form of economic intangible that is not reflected on their balance sheets. The growth and success of these companies is testament to the fact that markets work well in providing financing to firms that create value.²³

¹⁹ See Pastor and Veronesi (2003) for an economic explanation of why market-to-book ratios are relatively high for younger firms and gradually decline over time. The basic intuition is that investors learn over time about firm profitability, and that high initial market-to-book values are rational and attributable to investor uncertainty.

²⁰ Notice also that these managers' opportunistic insider trading is an example of agency problems between managers and shareholders. As has been well-known since Jensen and Meckling (1976), market forces are very good at addressing such problems. For example, if insider trading is costly to stockholders because it reduces market liquidity and increases the firm's cost of capital, the firm is likely to endogenously generate mechanisms that limit such behaviour.

²¹ For example, once managers have obtained debt financing, they could switch to higher risk investment opportunities than those discussed with lenders, reducing the value of lenders' claims. Because lenders would rationally anticipate this opportunistic behavior, they would charge the firm an excessive interest rate on the debt. Because managers of firms whose value primarily comprises growth options cannot, at reasonable cost, credibly commit to lenders that they will not take such opportunistic actions, these firms typically avoid debt financing (although lenders could potentially address such opportunism *ex ante* by including debt covenants to prevent such risk shifting, the large information asymmetries inherent in these firms' businesses mean that writing and enforcing such contractual solutions is likely to be prohibitively expensive). Thus, it is not surprising that technology firms whose value largely comprises these growth options tend to have little or no long-term debt. For evidence, see Smith and Watts (1992).

²² Other characteristics of many intangibles reinforce the idea that they are unlikely to be financed by debt. For example, many intangibles are characterised by difficult-to-enforce property rights issues – it is hard to prevent others from appropriating and enjoying the benefits associated with intangibles; employees may leave the firm, taking valuable intellectual capital with them, etc. In addition, it is less likely that secondary markets exist for many intangibles, making independent assessments of value difficult to obtain.

²³ As discussed above, large sample empirical evidence is consistent with this view (Fama and French, 2004). Notice that the nature of these firms' investment opportunities also explains their reliance on stock-based compensation, such as employee stock options, rather than cash compensation (e.g. Smith and Watts, 1992).

Indeed, the growth of the venture capital industry to finance high-tech start-ups in Silicon Valley can be explained in terms of Myers' theory. In venture capital transactions, early-stage entities – especially those in the bio-tech, telecom, and computer-related industries – have serious information asymmetry problems because of the uncertainty inherent in their investment opportunities. The rise of the venture-capital formation process – in which private investors take large equity positions in new companies – addresses these problems. For example, the large equity positions that investors take in these entities means that these investors play an active role in managing their operations and investments, mitigating information asymmetries in a way that is not possible with publicly traded equity.²⁴ Once these crucial early investments are in place and generating revenues, successful start-ups can then be taken public.

As another example of how markets work well to finance investments in intangibles, consider the growing market for intellectual property securitisations ('IP securitisations'). Like all securitisations, these are financing transactions under which an asset's claim to future cash flows is used to collateralise the issuance of debt securities. In this case, the asset is some type of enforceable legal right, such as patents, copyrights, or trademarks. These transactions are being used to finance a large array of intangibles, some prominent examples being:²⁵

- The 1997 issuance of bonds collateralised by the future sales of David Bowie's music catalogue ('Bowie Bonds').
- A US\$1.7bn financing by Dunkin' Brands backed by an array of assets that included claims to future royalties the company will receive from franchisees.
- A US\$210m financing by Paramount backed by royalties from films that it had not yet made.
- A US\$1.4bn financing based on the future licensing revenues from a portfolio of Formula 1 Grand Prix contracts.

Notice that these are cases for which the future benefits associated with the underlying intangible are inherently more uncertain than those associated with tangible assets such as factories and equipment, which are the types of assets more typically financed by debt.

To provide some evidence on whether spending on intangibles has been inhibited by its accounting treatment, I gathered data from Compustat on three different types of expenditures made by US publicly traded firms over the period 1980–2005. As a proxy for intangibles expenditures, I gathered data on both R&D and advertising expenditures.

To provide a benchmark for these expenditures, I also gathered data on capital expenditures (under US GAAP, capital expenditures are capitalised while most R&D and advertising expenditures are expensed as incurred). The data, after adjusting for inflation and standardising to an index of 100 in 1980, are shown in Figure 1 (overleaf).

The data in Figure 1 show a rather striking picture. Over the period since 1980, aggregate capital expenditures have grown rather modestly, by a bit less than 50% overall. In contrast, spending on intangibles has grown considerably. Aggregate R&D spending increases steadily over this period, and is 250% higher in 2005 than it was in 1980. This is striking evidence both that R&D spending is now relatively more important in the economy and that its accounting treatment has not obviously adversely affected its growth. Of course, proponents of the view that the conservative accounting treatment of R&D has hindered R&D spending could argue that this growth would have been even higher had R&D expenditures been capitalised. However, the fact that aggregate R&D spending has grown at a rate that is five times as large as capital expenditures tells us, at a minimum, that a good amount of R&D growth has occurred in spite of this alleged accounting handicap.

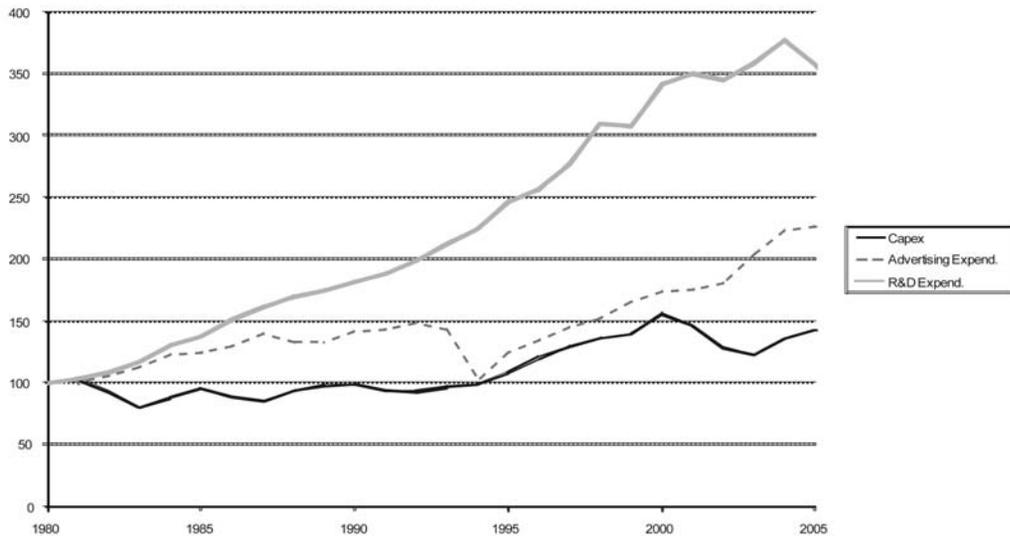
Advertising expenditures have also grown more strongly than capital expenditures, although the difference is not as strong as that for R&D. Advertising spending has grown by around 125% over the period from 1980 to 2005, which is nearly three times the 44% rate of growth in capital expenditures overall.

Overall, the point here is that financial markets are remarkably adept at finding ways of financing lots of different types of assets, including intangibles, and including those for which traditional means of financing (such as bank loans) are not available. It is thus hard for me to believe that companies have difficulty financing investments in intangibles, as long as those investments ultimately generate cash flow.

²⁴ Gompers (1995) provides evidence consistent with this view. Specifically, he reports evidence that venture capitalists are more likely to use 'early stage' financing in high technology industries where information asymmetries are significant. He also finds that early stage firms receive significantly less money per round ('staging' is shorter) to allow more frequent monitoring and that decreases in asset 'tangibility' decrease financing duration and increase monitoring intensity. He measures asset tangibility using market-to-book ratios and R&D intensities. Kaplan and Stromberg (2003: 19) also report evidence that contracts used by venture capitalists are structured to address the agency and information asymmetry problems that are more prevalent in high-technology companies.

²⁵ See 'Intangible Opportunities: Securitising Intellectual Property'. *The Economist*, 17 June 2006.

Figure 1
Inflation-adjusted capital expenditures (Capex), advertising expenditures, and R&D expenditures for US public firms, 1980–2005



4. Current proposals for the reform of accounting for intangibles

In this section I discuss several of the principal proposals for reforming current accounting practice with respect to intangibles. Because these proposals typically take a disclosure (as opposed to a recognition) approach, I address the disclosure issue first. I address proposals related to the recognition of intangibles in Section 5.

Section 4.1 summarises a recent proposal from the CEOs of the world's six largest auditing firms; Section 4.2 summarises two representative proposals from Europe/Scandinavia; Section 4.3 summarises proposals made by Baruch Lev; Section 4.4 summarises proposals made by the Garten Report (2001). Although this list may not be exhaustive (other groups and individuals have proposed changes as well), I believe the proposals I discuss cover the full range of policy ideas. Section 4.5 provides my evaluation of these proposals, although I also make specific comments in each subsection.

4.1. Vision from the CEOs of the international audit networks

In the latter part of 2006, the CEOs of the world's six largest accounting firms released a document containing what they labelled as a vision for the world's global capital markets and economy (DiPiazza et al., 2006: 16). This document contains a number of ideas for reforms in financial reporting, including reforms related to intangibles.

Because the discussion with respect to intangibles is relatively brief, I include it here in its entirety:

[Claim] 'The large discrepancies between the 'book' and 'market' values of many, if not most, public companies ... provide strong evidence of the limited usefulness of statements of assets and liabilities that are based on historical costs. Clearly, a range of 'intangibles' that are not well measured, or not measured at all, under current accounting conventions are driving company performance. Investors and other stakeholders in business information want to know what those intangibles are, and how they might plausibly affect how businesses perform *in the future*.' (DiPiazza et al., 2006: 16).

[Proposal] 'The information produced should be forward-looking, even though it may be historical in fact. For example, the following measures are all non-financial in character but are likely to be predictive, to varying degrees, of how well a company will perform in the future: innovative success ... measures of customer satisfaction, product or service defects or awards, and measures of employee satisfaction (perhaps approximated by turnover).' (DiPiazza et al., 2006: 17).

4.2. Scandinavian proposals

A number of proposals for reporting information on intangibles have come out of projects initiated by government and academics in Europe, and specifically the Scandinavian countries. I consider

two of these proposals – those from the Meritum project (the *Meritum Guidelines*) and from the Danish Government (*Danish proposal*).²⁶ Both of these proposals focus on intellectual capital and develop suggested frameworks for providing information about knowledge resources. In addition, both proposals envision the resulting ‘intellectual capital reports’ as being used both internally for purposes of managing an organisation’s intellectual property and externally for reporting to investors and other stakeholders. In neither case is there any suggested change to existing financial reporting models, i.e. both propose supplementary disclosure, and neither takes a position on whether such disclosures should be mandated.

The *Meritum Guidelines* suggest that intellectual capital has three main components – human capital (knowledge that employees take with them when they leave the firm), structural capital (knowledge that stays with the firms at the end of the working day, such as organisational routines, procedures, systems, cultures, databases, etc.), and relational capital (resources linked to the external relationships of the firm, with customers, suppliers, etc.). The Danish proposal takes a similar approach, but indicates that knowledge resources are of four major types, related to employees, customers, processes, and technologies.

These two proposals are also similar in proposing a framework that has a number of levels, each beginning with the company’s overall strategic objectives. Identifying the organisation’s overall strategic objectives allows it to identify its critical intangibles, which in turn allows it to identify the necessary intangible resources, which in turn allows it to identify the necessary intangibles activities. The Meritum proposal thus suggests an intellectual capital report with three components: (1) the vision of the company, (2) a summary of intangible resources and activities, and (3) a system of indicators or measures. As an example of the latter, the report suggests using ‘the ratio of the number of PCs to the total number of employees’ if information technology is critical to achieving the organisation’s objectives.

The Danish proposal suggests a similar type of report but uses four levels: (1) a ‘knowledge narrative’ that discusses the products and services that the company provides, what ‘makes a difference’ for its customers, necessary knowledge resources,

and the relation between value and these resources; (2) management challenges related to the knowledge resources; (3) initiatives necessary to secure and manage these resources; and (4) indicators of success in developing and managing these resources.

4.3. Baruch Lev’s proposals

Baruch Lev is an American accounting academic who is well-known for his views on financial reporting for intangibles, which are captured in his 2001 book (Lev, 2001). In his book, Lev (2001, Ch. 5) proposes a ‘Value Chain Scorecard’ based on what he calls the fundamental economic process of innovation, which starts with the discovery of new products or services, proceeds through their development and the establishment of technological feasibility, and culminates in their commercialisation. He presents (his Fig. 5.1) nine boxes, three in each of these areas:

- Discovery and learning:
 - Internal renewal (e.g. R&D, workforce training and development).
 - Acquired capabilities (e.g. technology purchase, capital expenditures).
 - Networking (e.g. R&D alliances and joint ventures, supplier and customer integration).
- Implementation:
 - IP (e.g. patents, copyrights, trademarks).
 - Technological feasibility (e.g. clinical tests, FDA approvals, beta tests).
 - Internet (e.g. alliances, online purchases, traffic).
- Commercialisation:
 - Customers (e.g. brand values, online sales, marketing alliances).
 - Performance (e.g. knowledge earnings and assets, innovation revenues).
 - Growth prospects (e.g. product pipeline and launch dates).

Lev indicates that not all of these nine categories will be applicable to all firms. He further suggests that specific indicators designed to measure these attributes be subject to three criteria: (i) quantifiable measures, (ii) standardised measures (comparability), and (iii) empirical testing to establish usefulness to users.

In many ways, this proposal is similar to those summarised above, in that he is proposing a structured approach to organising the disclosure of information about intangibles. Although he does not start with disclosures about the organisation’s strategy and objectives, he nevertheless arrives at

²⁶ See ‘Intellectual Capital Statements – the New Guidelines’ published by the Danish Ministry of Science Technology and Innovation (2003) and ‘Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report)’ a document produced by Meritum, a group of European researchers brought together under the auspices of the EU (report available at <http://www.urjc.es/innotec/tools/MERITUM%20Guidelines.pdf>) (last accessed 8 October 2007).

the same types of activity measures for reporting to investors and other users.

4.4. *The Garten Report (2001)*

This report was originally commissioned in October 1999 by Arthur Levitt, who was then Chairman of the SEC. The Garten Report makes two principal recommendations.

- That a new framework be created for supplemental reporting of intangible assets. The report recommends that this work be done by the SEC, but that no new reporting requirements be mandated. Rather, the report suggests that broad reporting principles for intangibles should be established, that 'Industry specific reporting practices ... should evolve naturally as companies and investors gain experience', and that the framework 'should not be a list of prescribed measures that all companies must report'.
- That regulators make the environment more conducive to innovation in disclosure practices, including consideration of safe harbour provisions to protect managers against litigation.

4.5. *Evaluation of these proposals*

Although all these proposals may sound reasonable in theory, I believe that there are at least several practical/implementation concerns.²⁷

First, many of the measures would be industry- or firm-specific, and so not subject to standardisation or comparison (e.g. order backlogs for Boeing).

Second, from a reporting and assurance perspective, many of these measures will be difficult to verify in an objective way in part because they often differ across firms and industries and are not measured in a standardised way.

Third, proprietary costs of disclosure are likely to be significant and will lead to preparer objections.²⁸

For these reasons, I believe that such proposals will be difficult to implement as mandated disclosures and so are probably better understood as guidelines for structuring voluntary disclosures. Moreover, to the extent that investors find such disclosures useful, market forces will provide managers with incentives to disclose them if those disclosures pass the cost-benefit test. For example, in certain industries the voluntary disclosure of important metrics has naturally evolved:

- Automobile manufacturers disclose sales by type of vehicle (cars, SUVs, light trucks, etc.) on a monthly basis.
- Some companies and industries disclose information on orders, order backlogs, etc., especially when they are in a business with relatively

small number of large and significant customers (Boeing, Airbus, defence contractors).

- Many life insurers outside of the US provide 'embedded value' information which many analysts find more useful than the GAAP financial statement numbers.²⁹
- Advertising agencies provide detailed information on employee costs (such as headcount, revenue/headcount, often broken down by geography and line of business) and organic growth because these metrics are crucial to the valuation of these entities by external investors (for example, see disclosures by WPP Group and Publicis Groupe).
- Oil and gas producers' financial statements are arguably not very good indicators of their business activities, and so these entities typically disclose other types of information about their exploration and production activities.

Consistent with this view, researchers have found evidence that in particular industries companies disclose those metrics (outside of the financial statements) that are useful to investors and that those metrics provide information to investors. For example, see Chandra et al. (1999) regarding disclosures made in the semiconductor industry or Amir and Lev (1996) regarding the wireless communication (mobile phone) industry.

Lev largely dismisses (2001: 120) the possibility that managers will voluntarily provide information about intangibles. Lev argues that if voluntary disclosure hasn't solved the problem already, it's unlikely to happen. Notice that this view assumes that existing levels of voluntary disclosure are somehow 'suboptimal', a position that, it seems to me, is hard to support with evidence. As indicated above, we do have *some* voluntary disclosure of these types of metrics (the quantity of disclosure is not zero), so against what benchmark can we establish that this level is not sufficient? The argument rests on the types of claims discussed above in Section 2. As indicated there, there is little in the way of convincing evidence that the current system is failing us in any important ways.

An additional problem with mandating disclosure on intangibles is that it is likely to be very dif-

²⁷ I am largely in agreement with the conclusions of the Garten Report, in the sense that I do not support the idea of mandating intangibles disclosure but instead favour taking regulatory action that would encourage voluntary disclosure by making it less costly.

²⁸ Proprietary costs are costs associated with disclosing potentially valuable information to the firm's competitors.

²⁹ See, for example, *European Embedded Value Principles*, CFO Forum, available at http://www.cfoforum.nl/eev_principles.pdf (last accessed 23 November 2007).

difficult to standardise these disclosures in any meaningful way.³⁰ For example, even if we restrict attention to one type of intangible – consider customer satisfaction – it is unlikely that there are either generally accepted measures of this variable or that measures could be standardised across different companies, industries, and economies. Customer satisfaction is likely to be very different in the automobile industry (where quality and reliability are likely to be important) than it is in the fast food industry (where service times, convenience, and pricing are likely to be most important). This means that it will be difficult for standard-setters to say anything very meaningful or specific about disclosure.

Moreover, because any disclosure standard in this area would have to be written at a high level of generality (to encompass the large amount of variation in the nature and measurement of intangibles across industries), there is likely to be a problem of whether such a rule would actually be effective in encouraging disclosure. If the rule lacks specificity, it will be relatively easy for companies to make vague, uninformative disclosures if they so choose. In an interesting recent paper, Marquardt and Wiedman (2007) find that even when the FASB issues guidance about appropriate disclosures in a relatively specific way (in this case with respect to the effect of contingently convertible securities on reported EPS), there is still a significant level of non-compliance, which leads me to believe that high-level disclosure standards on intangibles could be ineffective.³¹

Finally, it seems to me that a major shortcoming of mandating disclosures in this area is to sensibly weigh the benefits of disclosures against their costs. Even if we could reach conclusions about how to measure the benefits of disclosure (and I would argue that we cannot) it would seem very difficult for accounting rule-makers to assess the costs of those disclosures. Moreover, these costs are likely to vary considerably across different firms and industries, depending on many factors. For example, the largest category of costs is likely to be proprietary costs, which are likely to vary greatly depending on the competitive position of different firms and industries. All of these issues may explain why standard-setters' current conceptual framework largely ignores disclosure, especially when not tied to recognition.

Some proponents of enhanced intangibles disclosures make strong claims about the likely benefits of mandating disclosure. For example, Eccles et al. (2001, Ch. 10) argue that enhanced disclosure levels will likely lower firms' cost of capital, increase analyst following, and so forth. These authors often cite academic work on voluntary disclosure (e.g. Botosan, 1997) in support of their claims. However, they fail to appreciate that there

is a serious problem in drawing inferences about mandatory disclosure from these types of studies.³² Specifically, these papers study firms' *voluntary* disclosure choices. Presumably, managers of firms that choose to make more forthcoming disclosures do so because these choices have net benefits for their firms. It does not follow that these same benefits would accrue to firms generally if these same disclosures were mandated.

To see the problem with this logic, consider the possibility that firms voluntarily make certain disclosures because the nature of their investment opportunities generates relatively large information asymmetries, which increases their cost of capital. For example, if managers of companies engaged in the development of new drugs believe they are undervalued because their financial statements do not provide external investors with sufficient information about the value of their development activities, managers of these firms could make additional voluntary disclosures. These firms would increase disclosure above the levels that are mandated until the additional (marginal) costs of disclosure equalled the associated marginal benefits. It may well be that higher disclosure for these firms results in a lower cost of capital. However, for firms without such information asymmetries,

³⁰ This is very clear from Ittner's (2008) paper on the use of non-financial (intangible) measures for internal decision-making purposes. As he emphasises, empirical research on the use of non-financial measures reveals tremendous diversity across firms in terms of the measures they choose to use and the way that different measures are weighted across different organisations. This is a natural result of the fact that different businesses have different objectives and strategies. Moreover, he reports that the link between non-financial measures and outcome variables such as earnings and stock returns also varies widely and seems to depend on differences in the underlying structural relationships.

³¹ This is not to say that the existence of a disclosure rule in this area would not increase the ability of auditors, audit committees, analysts, and other investors to pressure company management into improving disclosures in this area; however, my sense is that management was determined to avoid useful disclosure in this area, a mandated disclosure rule may not help very much. Consider the recent US experience after the introduction of SFAS 131, which has caused firms to improve their segment disclosures. Similar to intangibles, segment disclosure is an area where there is likely to be considerable variation across firms and industries as to the way businesses operate and so in the way segments are structured as well as claims that proprietary costs are significant. Nevertheless, the 'management approach' (which requires that firms report segment data in a manner consistent with internal reporting) adopted in SFAS 131 seems to have been successful in improving disclosure. To the extent that intangibles are important drivers of value for companies, we would expect them to have developed internal information systems to manage those intangibles. Thus, along the lines of the management approach, standard-setters could encourage or require firms to report those intangibles measures used internally for management purposes to external constituents.

³² I am assuming that the results in these studies are not subject to questions about their reliability.

such disclosures may well be suboptimal – the fact that these firms choose not to make these additional disclosures is, to a first approximation, evidence that the marginal costs of such disclosures exceed the corresponding benefits.

In short then, it is very difficult to draw inferences from empirical work on voluntary disclosure about the likely costs and benefits of mandated disclosures. Moreover, to the extent that disclosures have net benefits, firms themselves have incentives to voluntarily provide such disclosures with regulatory intervention.

5. Why recognition of intangibles will not work

With respect to disclosure, Lev (2001) recognises the fact (see also Schipper (2007)) that the conceptual frameworks established by accounting standard-setters largely do not address disclosure issues, except in passing and rather superficially; these frameworks principally address issues related to the recognition of items in the financial statements. This means that standard-setters would have little conceptual basis for even thinking about disclosure outside of the financial statements themselves.³³

Consequently, Lev advocates that the large accounting firms, along with accounting and securities regulators, jointly develop a disclosure framework ('Information Structure') that would standardise disclosure and so 'initiate the revelation process' (p. 122), encouraging voluntary disclosure of information about intangibles. Once this disclosure system has been established, he then advocates changing the accounting system. His principal recommendation here is to broaden the recognition criterion so that expenditures on intangibles can be recognised as assets to a greater extent. This would be accomplished by relaxing the criteria on reliability (probable future benefits) and control (that the entity has control over the asset).

More specifically, Lev advocates a successful efforts/technological feasibility approach similar to that currently used in IAS 38 or SFAS 86, but more generally applied and implemented differently, in the sense that once technological feasibility is established, the entity would go back and capitalise past as well as current/future expenditures on the project. I have a number of concerns about this approach.

First, this approach (capitalising expenditures from past periods that were initially expensed) would seem likely to compromise the consistency of the financial statement numbers – if the value chain is long, spanning several accounting periods, this approach would involve frequent revisions in previously reported numbers, potentially reducing user confidence in the reliability of the numbers.

Second, relaxed asset recognition criteria would

likely open the door further for earnings management/manipulation, a point that Lev recognises. Lev's answer is to provide sufficient (presumably footnote) disclosure so that the accounting is transparent, which then allows users to 'undo' any accounting decisions that they found questionable. This raises the question of why recognition matters so much if that recognition is to be linked to footnote disclosure. As we know all too well from the debate over accounting for employee stock options, preparers and users of financial statements place greater weight on numbers recognised in the financial statements themselves than on otherwise similar footnote disclosures, although we don't fully understand why this is the case.³⁴ Thus, it is not clear that footnote disclosure will fully address the concern that managers would take advantage of these types of intangibles to manipulate the numbers reported in the financial statements.

One curious feature of the argument that we should relax recognition rules to allow recognition of a greater range of intangible assets is that the prescription is asymmetric – those such as Lev who make the argument that recognition rules for assets should be relaxed do not consider the possibility that, for symmetry, we should also consider relaxing recognition rules for liabilities in a corresponding way. This may bring some unintended consequences – if we begin to recognise liabilities for which the future sacrifice of resources is more uncertain than is currently the case, it is not clear that the 'problem' of high market-to-book ratios would ultimately be solved.³⁵ Moreover, to the extent that expenditures on intangibles are financed in different ways to tangible assets (for example, through joint venture or other types of off-balance-sheet arrangements), relaxed recognition criteria could result in a large change in *both* sides of corporate balance sheets.

Another practical issue here is whether these relaxed recognition criteria would also apply to other (tangible) asset categories or, indeed, more generally to recognition and derecognition in financial reporting. If so, the implications for financial reporting are far-reaching.

Most types of intangibles, at least under the broad definition discussed above, tend to have dif-

³³ Although notice that accounting standards do require qualitative disclosures in certain areas, for example, in the area of contingent liabilities – although some may argue that these disclosures are not very informative since they are often 'boilerplate' disclosures that fail to provide meaningful information.

³⁴ The other obvious case in point here is the treatment of capital versus operating leases. Although footnote disclosures related to operating leases are of a high quality, managers still invest economic resources to avoid balance sheet recognition (Imhoff and Thomas, 1988).

³⁵ Consider also that a more liberal definition of liabilities would open the door for earnings management through the use of 'hidden reserves' of earnings.

ferent economic characteristics to those assets recognised under current accounting rules.³⁶ These characteristics include:

- a. Many intangibles are not separate, saleable, or discrete items. As such, their value is intrinsically tied to the residual value of the firm. Examples of assets in these categories are customer satisfaction, employee loyalty, certain brand names, and so on. These resources increase in value as the result of many different and interrelated activities and expenditures, making it hard to uniquely identify the costs associated with these assets.
- b. The well-defined property rights associated with most tangible and financial resources currently recognised as assets often do not extend to intangibles. For example, it is often very difficult to exclude others from enjoying the benefits associated with these resources.
- c. Largely because of these characteristics, there are no liquid secondary markets for many intangibles, making it difficult to reliably measure the value of these resources. This means that it will be difficult to reliably estimate fair values for these types of resources.
- d. Because many intangibles are not separable and saleable, and because of poorly defined property rights, it is often difficult to write fully-specified contracts for intangibles.

These characteristics make it difficult for many intangibles to be recognised as assets under the current accounting model. Moreover, it is difficult to see how accounting rules could be modified in such a way as to allow such resources to be recognised as assets without changing the overall accounting model in important ways. The main reason relates to the non-separability issue – without being able to separately identify the costs or value attributable to each of these resources, it is not possible to reliably measure either their cost or their fair value. In addition, if the future benefits associated with these assets are both uncertain (for example, because of the property rights issues) and inherently connected to the benefits attributable to the entity as a whole, it is not clear that we could even identify individual assets to recognise. For example, future sales growth and profit margins are likely related to past expenditures on marketing, advertising, employee training and retention programs, product quality programs, and other expenditures that attract and sustain customer interest in the entity's products. It would be hard to attribute these benefits to separate assets such as customer satisfaction, employee loyalty, and so on.

³⁶ This discussion draws upon Holthausen and Watts (2001), Lev (2001, Ch. 2), and Maines et al. (2003).

6. Conclusions

Proposals for reforming accounting and disclosure practices in the intangibles area have been around for at least 15 years (dating at least to the origins of the Jenkins Committee) and accounting standard-setters have devoted considerable resources to this area. However, little actual progress has been made in terms of generating new accounting rules. I do not find this surprising. A close examination of claims made by those who advocate reform indicates that there is little evidence to support the notion that the current system has caused any serious problems for entities seeking to finance innovative, high-technology projects. In fact, I argue that financial markets work very well to finance these types of investments, although the way in which they are financed is naturally different from how tangible assets such as factories are financed. Moreover, I argue that proposals to mandate additional disclosure in the intangibles area are likely to be unsuccessful because of the fact that the nature and measurement of intangibles varies considerably across industries as well as for other reasons. I also argue that proposals to expand existing asset recognition criteria to include intangibles currently excluded from balance sheets are problematic in a number of respects. In the end, my view is that we need to rely on private incentives to encourage disclosure of information related to the management and valuation of intangibles, although regulators can help in this area by providing guidance about the forms that disclosure might take and by minimising any costs of disclosure, including legal costs.

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