

PRISM WP5: Part 2; Feb02

The measurement of intangibles in macroeconomic statistics Peter Hill and Richard Youngman

Revisiting Intangibles – A Misnomer?

1. Background

1.1 Sound and transparent information flow between the providers and recipients of financial, social and political capital – at national, company and project/division levels - is a prerequisite to effective capital allocation and, therefore, to stable and sustainable growth. Without measurement and reporting systems which are closely aligned to the real value drivers of the economy, imperfect economic decisions will be made by policy-makers, corporate executives and financiers alike – to the detriment of all.

1.2 In this project we are interested in examining macroeconomic statistics' deficiencies in providing useful information with regard to investments made in Intangibles. We are focused on estimating the size and impact of those deficiencies, and in the possibilities for improving the situation. In this, the first report, "Revisiting Intangibles – A Misnomer?" we will review some of the conceptual and definitional issues. The objective of the review is to provide a base from which, during the life of the project, we will gradually devise a framework for the development and improvement of the data collected and presented in macroeconomic statistics. Such thoughts will form the heart of the third and final report in the series.

1.3. In the second report, "Intangibles – an empirical study of macroeconomic data", we are interested in building a numerical picture of the macroeconomic scene; in particular, we are focused on data which provides insights on the significance and impact of so-called intangibles within the economy. This statistical review should do two things. First, it should show there are significant investment flows which are not being conveyed to the end user and which are of sufficient scale as to materially misrepresent trends within economies. This should in effect underline our case that macroeconomic statistics needs revision and attention from a broad range of people to improve the relevance, accuracy and utility of the information it is providing. Second, it should pinpoint where the deficiencies are. This will provide further input for the development of the "new" framework in the third report of the series.

2. Introduction

2.1. So what do we mean by intangibles? Firstly, it should be noted that the literature is riddled with different terms, including "intangible assets", "intellectual capital" and "knowledge assets". We would concur with the assessment of Baruch Lev, the Philip Bardes Professor of Accounting and Finance with the Stern School of Business at NYU, that they are used interchangeably in referring to effectively the same thing, some kind of claim to future benefits.¹ There are a number of different views, definitions and practices in circulation when it comes to understanding what we mean by "intangible assets". It is important for the reader of our work to be clear what we mean by the term in our study of the measurement of intangibles in macroeconomic statistics.

¹ Baruch Lev (2001) "Intangibles – Management, Measurement and Reporting" p5

2.2. This report, therefore, will provide an overview of the range of concepts, definitions and practical treatments of intangibles in current circulation. We have concentrated this investigation on the most relevant interest groups, in particular the national and business accountants, but have also looked at the ideas generated by a selection of leading thinkers' and organizations' work in this field.

2.3. The dictionary provides an unpromising start. The Oxford English Dictionary doesn't add any clarity, defining intangible as "not tangible, incapable of being touched, impalpable". Webster's International Dictionary defines intangible as "incapable of being defined or determined with certainty or precision". If this is really so, no wonder such confusion exists and maybe we are doomed to failure if we are expecting one standard to emerge. Or, perhaps, we are actually faced with a misnomer and that "intangibles" represents an unfortunate choice of name for what it purports to describe.

2.4. On the asset side, it is only with the widest definition that uniform agreement is reached. It is generally accepted by all parties that every economic asset must function as a store of value, the value of which depends upon the amounts of the economic benefits that can be derived by holding it or using it over a period of time. Once we part from this basic and broad definition, the differences of opinion start to emerge both for intellectual and practical reasons.

2.5. Our study concerns itself with the measurement of intangibles within macroeconomic statistics so it seems appropriate to start with national accountants' treatment of intangible assets and contrast and compare from there.

3. National Accountants

3.1. Unless indicated otherwise we have used the 1993 System of National Accounts (1993 SNA) as the benchmark for how national accountants currently treat intangibles. This system forms the guidelines which are followed, precisely or, at least, very closely by most countries and statistical bodies in the world. It was last revised in 1993.

3.2. Assets as defined in the SNA are entities that must be owned by some unit, or units, and from which economic benefits are derived by their owner(s) by holding or using them over a period of time. The ownership criterion is important for determining which naturally occurring – i.e. non-produced – assets are included in national accounts and which are not. Naturally occurring assets such as land and mineral deposits are included in the balance sheets provided that institutional units are exercising *effective* ownership rights over them – that is, they are actually in a position to be able to benefit from them.

3.3. There are two different sub-categories of assets in national accounts. National accountants distinguish between produced and non-produced, and between tangible and intangible. We concern ourselves in this report merely with the intangible assets, both produced and non-produced.

“Intangible fixed assets are non-financial *produced* fixed assets that mainly consist of mineral exploration, computer software, entertainment, literary or artistic originals intended to be used for more than one year.”²

² AN. 112 – Annex to chapter 13, SNA

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“Intangible non-produced assets are assets that entitle their owners to engage in certain specific activities or to produce certain specific goods or services and to exclude other institutional units from doing so except with the permission of the owner.”³

3.4. The SNA goes on to state that “intangible non-produced assets include patented entities, transferable contracts, purchased goodwill, etc. Entities not evidenced by legal or accounting actions – i.e., such actions as the granting of a patent or the conveyance of some economic benefit to a third party – are excluded.”⁴

3.5. Expenditures which fall outside of the above definitions are treated as intermediate consumption, as inputs into production that are expensed within the same accounting period. Some of the judgements made as to where the borderline between investments and expenses should be drawn in practice are clearly open to debate. Below we note some of the key exclusions the SNA makes from what some would regard as intangible assets. At least on a conceptual level, most would agree that the following expenditures are made in the expectation of medium- and long-term future economic benefits.

3.6. Research and Development.

3.6.1. While it is recognized that expenditures on research and development may bring future benefits, they are currently treated by the SNA (and therefore by national accountants) as intermediate consumption expenditures as they do not lead to the acquisition of assets that can be easily identified, quantified and valued for a balance sheet.

3.6.2. It is interesting to note that in the first draft of the SNA Research and Development expenditure was proposed to be treated as gross fixed capital formation (along with other intangible fixed assets). However it was excluded due to the perceived difficulty in obtaining the requisite and reliable data. However there are current moves afoot to revise the treatment of R&D. A taskforce set up by the OECD is concerned with bridging the gap between R&D data and the system of national accounts.

3.7 Training.

3.7.1. Similarly expenditures on training is treated as an expense not as investment towards an intangible asset we might call Knowledge. Indeed a recent OECD study⁵ which attempted to calculate various countries’ ongoing investment in Knowledge argued that training should be included in such a calculation. The only reason the numbers were not included in the calculation was a lack of good data about training and development expenditures at the firm level.

3.7.2. Economic and business literature is awash with the importance of concepts as lifelong learning, knowledge acquisition and human capital, and their socio-economic impact. And yet very little information is actually disclosed about activities and expenditures in this area.

3.8 Education.

3.8.1. While knowledge, skills and qualifications are clearly assets under the broadest definition with which we began, they cannot be equated with fixed assets as defined within the SNA. Why?

³ 13.62 (AN.22 – Annex to chapter 13), SNA

⁴ SNA 13.19

⁵ OECD (2001): “Investment in Knowledge”

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They are not deemed to be produced, as learning, studying and practising are not deemed to be processes of production. Furthermore, education assets are embodied within people. They cannot be transferred as assets to others and cannot be counted in the balance sheets of the enterprises in which the individuals work. Therefore they fall outside of the current definition of a national accounting asset.

3.8.2. Does it seem right to simply expense them because they fall outside of current conventions on fixed assets? Just as they may not be fixed assets, nor are they current expenses. Are we “missing” a different category of asset?

3.8.3. Disclosure of some sort to end users should at the very least be considered.

3.9 Summary

3.9.1 As it stands today, National accountants essentially only recognise the following as intangible assets. Whilst this definition is limited, as discussed below, the application is generally harmonized across different jurisdictions, something which is not often the case in business accounting

- Produced – software, mineral deposits, and artistic/entertainment originals.
- Non-produced – patented entities, purchased goodwill, and transferable contracts.

3.9.2. This raises a number of issues and questions that are worth noting and considering at this point.

3.9.2.1. Firstly, there are some anomalies and inconsistencies in the current fixed asset threshold. The door to the club has been opened, but only a few members admitted. Why, for example, does one include artistic originals, but exclude scientific ones? Why do we include software and exclude all research and development? The difference between the two is hard to justify. Why include the knowledge gained from mineral exploration, but not from other “knowledge-discovery activities”? Why distinguish between purchased assets and those produced on own account? Whereas in principle, no distinction is made in the 1993 SNA between the two, why is the purchase of a patent included as the acquisition of a non-produced asset, whereas own account expenditures on research and development are not capitalised?

3.9.2.2. Secondly, a number of restrictive criteria for asset recognition exist which may not be wholly appropriate or justifiable. Peter van de Ven has explored these issues.⁶

He argues that the accounting requirement that assets should demonstrably bring economic benefits is difficult to apply, since “it is the whole range of assets invested and the synergies between them which gives rise to future earnings.” In practice, he says, this convention discriminates against intangible assets relative to tangibles. Bak (1999) put forward the notion that “...impairment of a factory is out of the question as long as the brand name of its products take care of selling it. If depreciation on capitalised brand name investments would have to be allocated, impairment might follow suit.”

He further argues that the apparent need to separately identify a trading price for intangible assets as some kind of proof for an estimated value of an intangible asset tends to also discriminate

⁶ Peter van de Ven (2000): “Intangibles: Invaluables? Should the asset boundary in the 1993 SNA be extended?”

against intangibles. As Burgert et al (1990) pointed out the main difference between so-called tangibles and intangibles is the difficulty in replacing the latter, or using them in an alternative fashion, or selling them on the market. Maybe this is too restrictive since some assets, by their very nature, are difficult to dispose of. Knowledge created from private research is cited as an example. However, it is also arguable that there is equipment and software, both fixed assets under SNA guidelines, which is so specific to a process of production that no second-hand market exists.

3.9.2.3. Thirdly, one has to consider whether our fixation on providing a financial valuation on everything impedes the provision of the most useful information. Where we find flows of investments in intangibles hard or inappropriate to convert into stock figures, does that preclude disclosure of the information in any format? Should we be re-thinking how financial and non-financial data can be presented and interpreted to create a better overall picture for the user?

3.9.3. Finally, some might argue that macro economics and national accountancy can only move forward in line with the provision of micro data. While it is indeed true that macro statistics are heavily reliant on provision of information by companies (and their accountants), it is also true that national accountants produce figures for software asset stocks when many companies, including Microsoft and Oracle, routinely do not capitalise software in their own accounts. This, therefore, is not a good reason per se for intangible information to remain in its sub-standard state. Poor data provision by the micro level undermines the collection of quality and timely information; it does not justify national accountants and statisticians standing still.

4. Business Accounting

4.1. Business and national accounting do have strong linkages. And indeed macro estimates will always be significantly weaker without more robust micro data provision. Software is a case in point as the macro data of software expenditure is seven times greater than what the micro data says it is.

4.2. There are, however, significant differences between the current practices of national and business accounting. Indeed the SNA explicitly recognises that such conflicts between business and national accounting can arise. It even includes a paragraph which explains the way forward when such a conflict arises:

"The design and structure of the System draws heavily on economic theory and principles as well as business accounting practices. ... When business accounting practices conflict with economic principles, priority is given to the latter, as the System is designed primarily for purposes of economic analysis and policy-making. ..."⁷

4.3. It is no surprise, therefore, to find that there are instances where business accountants' approach is markedly different from both national accountants and indeed economists. And the area of intangibles is one such area.

4.4. There does not appear to be much debate about whether intangible assets *can* exist on a conceptual level. Indeed, as far back as 1985, the US body, FASB (Financial Accounting Standards Board), adopted "in principle" the following concept of an asset:

⁷ SNA 1.59

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“Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events...Assets may be acquired without cost, they may be intangible, and although not exchangeable they may be usable by the entity in producing or distributing other goods or services....legal enforceability of a claim to the benefit is not a prerequisite for a benefit to qualify as an asset... The common characteristic possessed by all assets is “service potential” or “future economic benefit”.⁸

4.5. Baruch Lev has recently outlined what he sees as the economic characteristics of intangibles.⁹ He emphasises that they do differ from tangibles and argues that they should be treated accordingly. In particular, he points to their “partial excludability” and “non-tradability” as characteristics which discriminate against their recognition as assets alongside tangibles. “Partial excludability” refers to the fact that non-owners can often not be precluded from enjoying some of the benefits of someone else’s intangible investments. However, there is much in the above FASB definition which suggests the grounds for exclusion may not be totally robust anyway.

4.6. Whatever the “in principle” definition may say, accountancy conventions impose their own rules and protocols. And these vary from one jurisdiction to another in spite of ongoing attempts to harmonise international accountancy standards.

4.6.1. In the US, for example, accountants took the above asset definition and imposed on it conditions of reliability and verifiability:

“To be recognized [as assets in financial reports], information about the existence and amount of an asset, liability, or change therein must be reliable. Reliability may affect the timing of recognition. The first available information about an event that may have resulted in an asset...is sometimes too uncertain to be recognized: it may not yet be clear whether the effects of the event [e.g., R&D investment] meet one or more of the definitions or whether they are measurable, and the cost of resolving those uncertainties may be excessive.”¹⁰

4.6.2. A similar philosophy is detected from within IASB (International Accounting Standards Board) in its IAS 38, “Intangible Assets”, which was approved by the IASC Board in July 1998 and became operative for annual financial statements covering periods beginning on or after 1 July 1999. IAS 38 applies to all intangible assets that are not specifically dealt with in other International Accounting Standards. It applies, among other things, to expenditures on advertising, training, start-up, and research and development (R&D) activities. The main features of IAS 38 are as follows:

- An intangible asset should be recognised initially, at cost, in the financial statements, *if, and only if:*
 - (a) the asset meets the definition of an intangible asset. Particularly, there should be an identifiable asset that is controlled and clearly distinguishable from an enterprise's goodwill;

⁸ Financial Accounting Standards Board, 1985, Statement of Financial Accounting Concepts No. 6, Elements of Financial Statements, paragraphs 25-28.

⁹ Baruch Lev (2001) “Intangibles – Management, Measurement and Reporting”

¹⁰ Financial Accounting Standards Board, 1984, Statement of Financial Accounting Concepts No. 5, Recognition and Measurement in Financial Statements of Business Enterprises, paragraphs 75-76.

- (b) it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and
- (c) the cost of the asset can be measured reliably.

This requirement applies whether an intangible asset is acquired externally or generated internally. IAS 38 also includes additional recognition criteria for internally generated intangible assets.

- If an intangible item does not meet both the definition, and the criteria for the recognition, of an intangible asset, IAS 38 requires the expenditure on this item to be recognised as an expense when it is incurred. An enterprise is not permitted to include this expenditure in the cost of an intangible asset at a later date.
- It follows from the recognition criteria that all expenditure on research should be recognised as an expense. The same treatment applies to start-up costs, training costs and advertising costs. IAS 38 also specifically prohibits the recognition as assets of internally generated goodwill, brands, mastheads, publishing titles, customer lists and items similar in substance. However, some development expenditure may result in the recognition of an intangible asset (for example, some internally developed computer software).
- In the case of a business combination that is an acquisition, IAS 38 builds on IAS 22, “Business Combinations” to emphasise that if an intangible item does not meet both the definition and the criteria for the recognition for an intangible asset, the expenditure for this item (included in the cost of acquisition) should form part of the amount attributed to goodwill at the date of acquisition. This means that, among other things, unlike current practices in certain countries, purchased R&D-in-process should not be recognised as an expense immediately at the date of acquisition but it should be recognised as part of the goodwill recognised at the date of acquisition and amortised under IAS 22, unless it meets the criteria for separate recognition as an intangible asset.

4.6.3. As to how these guidelines pan out in practice we have drawn heavily on the work completed by Herve Stolowy’s work, “How Accounting standards approach intangibles” under the umbrella of the MERITUM project.¹¹ His study of 23 countries concluded that:

- The concept of “reliable” measurement is pervasive. If there is a reference to a market, an intangible asset can be recognized. Therefore, all countries in the sample recognize purchased intangible assets since there is no issue in such cases with recognition or valuation.
- No overall homogeneity in the approach to intangibles exists internationally because at national level not one country prescribes just one treatment for each type of intangible. All the countries recognize the concept of intangible assets and all – except Ireland - define intangibles by lists comprising those intangible assets which may be recorded as such.

4.6.4. This lack of harmonisation across jurisdictions can be demonstrated by outlining a few examples of the differences Stolowy refers to in his work.¹²

¹¹ MERITUM - ‘Measuring intangibles to understand and improve innovation management’

¹² Herve Stolowy (& Anne Jeny) – “How Accounting standards approach and classify intangibles – an international survey” (May, 1999) <http://campus.hec.fr/profs/stolowy/perso/papers/liste.html>

1) Definitions

Three different definitional approaches are identified by Stolowy:

- Definitions by opposition
 - “Fixed assets other than tangible or financial” is the catch-all approach used by, inter alia, Austria, France and Germany.
- Definitions by tautology
 - Words to the effect that intangible assets are characterized by their lack of physical substance are used by, inter alia, Canada, Ireland, UK and USA.
- Real Definitions
 - Attempts have been made to identify more precisely what an intangible asset is. They are more often than not simultaneously using one or other of the above approaches.
 - Take the UK definition as an example.
 - Intangible assets are “Non-financial fixed assets that do not have physical substance but are identifiable and are controlled by the entity through custody or legal rights”

2) Lists of Intangible Assets

Alongside these definitions countries tend to use inventories to add clarity to the definitions. This immediately narrows the field of intangible assets and will also only be as relevant and up to date as the guidelines if one accepts economic assets are evolutionary in nature. For the purposes of this paper we highlight the following:

- These lists can be divided into three classes of intangibles.
 - These are goodwill, research and development and the catch-all, other intangible assets.
- There is wide variation in these lists of intangible assets.
 - Research and Development expenditures, for example, are explicitly listed by some (including, inter alia, Belgium, Denmark, Finland, France, Italy, the Netherlands, and the European Union), explicitly excluded by others (such as the UK) and not mentioned at all by many others. 20 of the 23 countries and organizations in the sample will allow R&D (or at least development) to be capitalized under certain conditions.
- The precise lists of some.
 - The precisely defined lists of countries such as Australia, Denmark, Germany, and the Netherlands contrast with others’ approach
- The loose, imprecise approach of others.
 - These list-types tend to leave the matter open to interpretation by using language such as “Intangible assets such as...” (Canada), “Intangible Assets may include such items as” (Switzerland) and “other similar intangible assets that can be specifically identified with reasonably descriptive names” (USA).

3) Recognition and Identifiability

As stated above the recognition issue does not generally arise where there is a transaction such as a corporate takeover. However, even here, capitalization may be optional or mandatory dependent on the standard. The exceptional treatment of writing off goodwill in the event of an acquisition against reserves is no longer adopted by international accounting standards and rarely recommended at a national level. However, it is interesting to note that Denmark, Germany, the Netherlands and Switzerland do still allow it.

In the case of internally generated assets the picture is far more divergent. Stolowy found, inter alia, that:

- No countries in his sample allow for recognition of internally-generated goodwill
- 18 of the 23 will recognise other intangibles as assets under some circumstances. Austria and Germany do not allow recognition of any internally-generated intangible assets under any circumstances
- These recognition conditions are far from harmonized and raise their own practical difficulties.
 - Consider IAS38 by way of example. It will only permit recognition *if and only if* it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise and the cost of the asset can be measured reliably.
 - Conservative risk management and the lack of standardised, reliable and generally accepted valuation techniques will continue, therefore, to limit the recognition of intangible assets on the balance sheet

4) Treatment of changes in value of Intangible Assets

Once recognised and capitalized as assets in the balance sheet, once again we note the varying methodologies and interpretations in existence for the ongoing valuation of these assets. Four possible treatments exist:

- Amortisation over time
 - The cost of the asset is spread over time but the duration of this time does vary.
 - Some official standards will simply indicate guidelines that the time chosen must reflect the useful life of the asset while others provide upper limits (which vary from 5 to 40 years).
- No amortisation – the value remains unchanged
- Impairment testing
 - The annual impairment concept put forward by the IASB has been adopted by some countries – for example, for goodwill, by Canada, Ireland, the Netherlands, the UK and the USA.
 - Some countries will even allow revaluation of intangible assets. In addition to the IASB, they are Australia, Ireland and the UK.
 - Of particular significance in this area was the recent FASB142 statement issued in June 2001.
 - FASB142 addresses financial accounting and reporting for acquired goodwill and other intangible assets and supersedes APB Opinion No. 17, Intangible Assets.
 - It recommends that impairment testing supersede amortization in terms of how goodwill and other intangible assets should be accounted for after they have been initially recognized in the financial statements.
 - It does not presume that these assets are wasting assets. Instead, goodwill and intangible assets that have indefinite useful lives will not be amortized but rather will be tested at least annually for impairment. Intangible assets that have finite useful lives will continue to be amortized over their useful lives, but without the constraint of an arbitrary ceiling.
 - The provisions of the Statement are required to be applied starting with fiscal years beginning after December 15, 2001

4.7. Summary

4.7.1. The current treatment of intangibles under national accounting is at least reasonably clear in its scope, if flawed or inadequate. There is negligible divergence from the SNA and so the position is reasonably harmonized from an international viewpoint.

4.7.2. However, we have clearly demonstrated that this is not the case with business accounting. Moves are afoot to harmonize international accounting standards in general but in the field of intangibles, as with others, it would seem that there is a long, long way to go. Indeed it is arguable that it is this concentration on harmonisation of *existing* conventions which is a factor in precluding progressive debate on the disclosure of relevant information on intangibles.

4.7.3. The problem largely stems from inconsistencies at a national level where not only are standards different from one country to another but even within national borders their application can be inconsistently applied. A recent article in the Financial Times, for example, noted this very fact. “Dixons’ slip-up is indicative of wide variations in the way British companies account for goodwill....The leeway offered by existing rules has allowed a wide range of approaches and practices to take root.”¹³

4.7.4. And to the extent that business accounts feed macroeconomic data, national statisticians are going to be limited in the quality and quantity of output on intangibles which they can provide policy makers and the like without major progress in this regard.

4.7.5. Maybe we are caught in the vicious circle alluded to by Lev in his latest book. Voluntary disclosure is not working as there are no real incentives for the key players to radically change the status quo. Managers are protected by a system which facilitates the inflation of future profits and the protection from wholesale embarrassments. Accountants are understandably fearful of litigation resulting from putting values to assets which are inherently difficult to value. And financial analysts reckon they are privy to certain “off-line” information flows about intangibles; the democratization of information threatens their standing and future revenue flows. And, Lev argues, policy-makers will not grasp the baton, take hold of the issue and stimulate the necessary regulatory change at the micro level until macro data demonstrates the scale and the implications of the deficient information systems. Yet macro data is constrained by the very deficiencies at micro level we are trying to solve. Our attempt to scale the issue in this project we hope will make some contribution to breaking this circle.

5. Other thoughts on Intangibles

5.1. We will now examine a selection of the ideas of some commentators external to the accountancy profession. We have chosen a subjective selection of ideas and sources which serve to illustrate how many different ways there are to dissect this particular issue. The selection chosen offer thoughts on methodologies, models and taxonomies for the provision of intangibles-related information – principally at the micro level. The summary is divided into three parts. Given the micro-macro information chain, this summary is intended to provide us with some thoughts on a framework by which we could collect relevant data for statistics at the macroeconomic level.

¹³ “Bad news on goodwill” – Michael Peel - FT 8th November 2001

5.2. Intellectual Capital Reporting

The first category we have surveyed has been that belonging to initiatives by firms to report on their Intellectual Capital base. A selection of the different approaches has been outlined to explore what they may have to offer a suitable macro taxonomy.

5.2.1. Hubert Saint-Onge, for many years the VP of learning organization and leadership development at CIBC, believed a company's Intellectual Capital was made up of three major elements. One, human capital - defined as the ability of people to develop solutions to customer problems. Two, customer capital – a total of the penetration of customers within a market, the coverage they had of the specified market, their loyalty to the company concerned, and the profitability which they had achieved for the company. Three, structural capital, seen as the ability required and the capabilities used to respond efficiently and effectively to market needs.

5.2.2. Like Saint-Onge, Patrick Sullivan's ICM Model recognized the importance of human and structural capital. He also underlined the importance of intellectual assets, seen as the specific knowledge and intellectual property which a company can own (patents, trademarks, copyrights, etc.). The importance of the model is its emphasis on the "complementary business assets" (manufacturing, distribution and sales) which, together with the above, constitute a company's Intellectual Capital.

5.2.3. The Skandia Navigator proposed that a company's capital can be divided into financial and intellectual capital. Intellectual Capital is the sum of human capital and structural capital (which can be further sub-divided into customer capital and organizational capital, the latter divided into innovation capital and process capital.) The Navigator model offers five areas of focus: Financial, Customer, Process, Renewal and Development, and Human, the latter being regarded as the very heart of all the activities under the Intellectual Capital umbrella.

5.2.4. In devising the IC Index, Johan and Goran Roos proposed that it was of the utmost importance that any IC indicator should show flow. "Flow indicators convey much more information than stocks". Indicators should be put in place which are clearly linked to company operations and provide managers with indicators for strategic planning. These indicators are then "weighted" according to three factors – the strategy, the characteristics of the company, and the characteristics of the industry – to produce indices for different areas like relationship capital, human capital, innovation capital, etc. "The main benefit of an IC-index is making uncertain and subjective feelings about what is happening in the company more visible, thus forcing management to discuss the issues and come up with a solution".

5.2.5. The Balanced Scorecard of Kaplan and Norton (1992) suggested managers focus on four perspectives. One, the Customer – how do customers see us? Two, Internal – what must we excel at? Three, Innovation and Learning – can we continue to improve and create value? Four, Financial – how do we look to our shareholders?

5.2.6. In the mid-1980s Sveiby developed a model similar to the later balanced scorecard, in that its three areas of importance were external structure, internal structure and people's competencies. This model is known as the Intangible assets monitor. But there are fundamental differences too. One, Sveiby is convinced that people are an organization's only profit generators (whereas Kaplan & Norton regard them as costs). The profits resulting from people's actions (whether products, services, patents, etc) are indications of a company's success. "Human actions are converted into both tangible and intangible knowledge "structures", which are directed outwards (external structures) and inwards (internal structures)". He argued that "these structures

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are assets because they affect the revenue streams”. Two, Sveiby does not include a financial measurement as “human knowledge has very little to do with money.”

5.2.7. Using their model, Tango, (built around Sveiby’s work) Celemi has undertaken 2 intangible asset audits of their own, sub-divided into 3 areas - Our customers, Our organization, and Our people. Within each of these three, Celemi defined a number of important matters. It is used as an appendix to the financial statement. It lists the findings and – most importantly – it includes footnotes allowing others to interpret as they see fit.

5.3. Research Groups

Our second category contains some thoughts offered by publicly-funded reports produced by collaborative project groups made up of multi-disciplined and multi-racial experts within this field. There have been two recent major reports produced within the Intangibles space, one European and one initiated by the Brookings Institution in Washington. It is interesting to note their ideas on what intangibles mean and how they can be sub-categorised.

5.3.1. The former, the so-called High Level Expert Group (HLEG), took the following as its working definition:

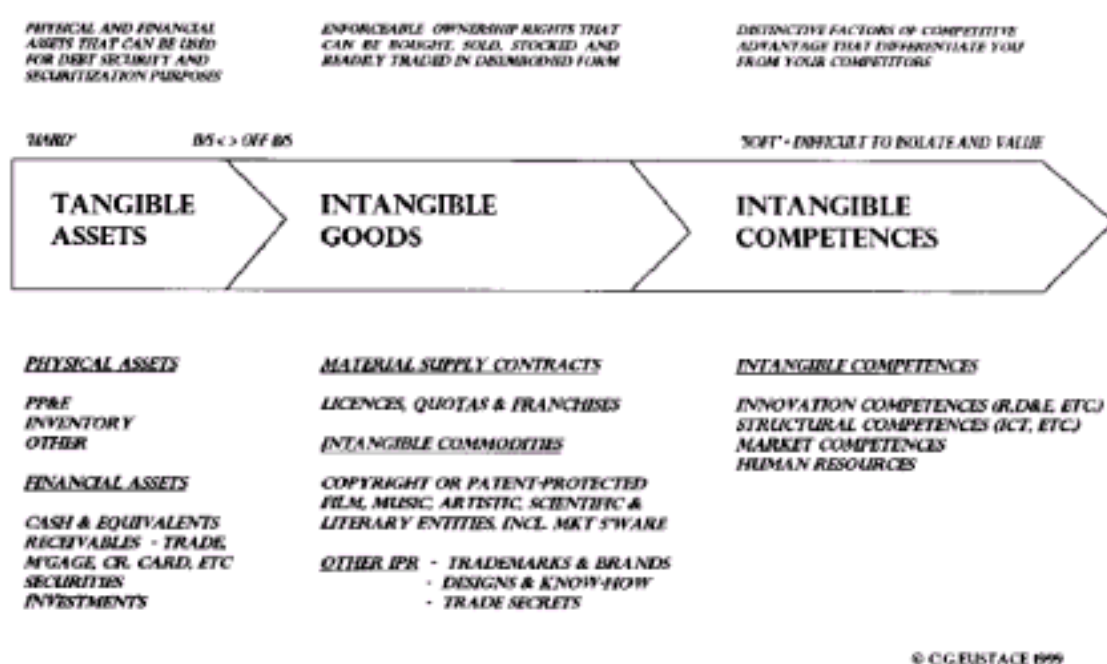
“Non-material factors that contribute to enterprise performance in the production of goods or the provision of services, or that are expected to generate future economic benefits to the entities or individuals that control their deployment.”

The report¹⁴ also cited the “New Corporate Asset Base”¹⁵ model devised during some work carried out by the City University Business School into the use of Intellectual Property Rights as debt security. It illustrates the different types of assets deployed within most companies today. In particular it makes a distinction within the intangibles between intangibles goods - which are essentially identifiable products of an identifiable production process which could be traded - and intangible competencies, which are largely inseparable from the organisational fabric.

¹⁴ Report of the European HLEG on the Intangible Economy (2000): “The Intangible Economy: Impact and Policy Issues”

¹⁵ Eustace (2000)

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5.3.2. The Brookings Institution’s task force report¹⁶ provided a very similar definition:

“We define intangibles as non-physical factors that contribute to or are used in producing goods or providing services, or that are expected to generate future productive benefits for the individuals or firms that control the use of those factors.”

The report goes on to introduce a managerial classification system for the different types of intangibles “in order to support, improve and promote business reporting models”. Three different levels of intangible assets are outlined:

- 1) **At level one, intangibles that can be sold.**
They are relatively easy to define and delineate, and a market exists. Examples of assets in this category might include brands, copyrights, patents and trademarks.
- 2) **At level two, intangibles that cannot be sold but which are in a certain way controlled by firms.**
Such intangibles cannot be separated from other intangibles for measurement or valuation purposes. Business processes and reputation are cited as examples.
- 3) **At level three, intangibles that cannot be sold nor are controlled by firms.**
Such intangibles are inseparable from other intangibles. Human and organisational capital is regarded as being on this level.

5.4 Other notable works

In the final category, we have picked up on three other notable works.

¹⁶ Report of the Brookings Task Force on Understanding Intangible Sources of Value (2000): “Unseen Wealth”

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5.4.1. Connected to the Brookings project, Baruch Lev recently published “Intangibles: Management, Measurement and Reporting”. In this book, Lev defines an intangible asset as

“a claim to future benefits that does not have a physical or financial (a stock or a bond) embodiment”.

This claim is generated by innovation (discovery), unique organizational designs or human resource practices. And when the claim is legally secured – patents, trademarks, copyright – the asset is generally referred to as intellectual property.

Intangibles, he notes, often interact with tangible and financial assets to create corporate value and economic growth.

5.4.2. Another recent book, “Weightless Wealth” by Daniel Andriessen and Rene Tissen, members of KPMG’s Knowledge Advisory Services, identified five classes of intangible assets within companies. They were Assets and Endowments (e.g. installed customer base, brand and image, network of suppliers), Skills and Tacit Knowledge (e.g. know-how and competencies), collective values and norms (e.g. client focus, reliability, quality), Technology and explicit knowledge (e.g. patents, manuals, procedures) and Primary and Management Processes (e.g. leadership and control, communication and management information)

5.4.3. The third work we have chosen to cite was that produced by MM Croes¹⁷ in his effort to provide some macro estimates of intangible investments made within OECD countries. This report defines intangibles for statistical purposes as:

“Expenditures for all new goal-oriented activities within a country or disembodied tools used in a country. These activities and disembodied tools are aimed at a quantitative change or extension of existing knowledge, or at the acquisition or improvement of existing goods, or aimed at the acquisition of completely new knowledge.”

“The results are assets concerning the stock of knowledge, power on the market or strength of the internal organization.”

Note the distinction Croes makes between activities and disembodied tools. We think this concept of embodiment points to an important possibility for classification purposes. Tangability may be a misguided concept; embodiment may be more useful.

Croes goes on to suggest an order for these intangibles. Innovation and R&D, then marketing (including advertising), followed by IT (software) and ending with education. Education should ideally be categorised, he says, in accordance with its purpose – was it for the purpose of innovation or marketing, for example?

¹⁷ Croes M.M. “Data for Intangibles in selected OECD countries”

6. Concluding Thoughts

6.1. Jack Triplett¹⁸ clearly outlined in Lev's recent book that part of the difficulty in measuring intangibles starts with the difficulties in defining them, in agreeing what should be included. Without clear definitions and lists as with tangibles, he says, collecting statistics is riven with problems at the outset.

6.2. There is much truth in this assertion and indeed this largely explains why we have chosen to review at length existing thoughts and ideas on the subject. It is also true that a large part of the solution to the deficiencies in macroeconomic statistics when it comes to intangibles lies with there being a solution to the micro problem – as this is where the data actually lies. To this end, the work of Stefano Zambon within our research consortium, is highly important and will be influential on the evolution of our thoughts.

6.3. Whilst the linkages between macro and micro are clear, consideration must also be given to the differences, in particular to how assets might be conceived (or even measured) in different ways. Whereas the future benefits of individual research and development projects, for example, are indeed hard to estimate (certainly with much reliability), this is arguably not true at the aggregate level. The power of big numbers and portfolio characteristics would seem to allow an opportunity for more reliable data at the macro level – so long as the expenditures and other pertinent information was disclosed. Investments into brand values provide another example. At the micro level one can see that marketing expenditures to support a brand (like Coke) might be regarded as investing in a fixed asset from which economic benefits could be derived over the long-term. At the macro level, however, one could take a different view. What value has been added to the stocks of a country by such expenditures? Is it not conceivable that this is a zero-sum game where any value increase in Coke has taken away from, say, Pepsi?

6.4. In this study we are interested in what would provide users of macroeconomic statistics with better information. Once such a framework is established we can work backwards to discuss how we might get there – or close to it – on a practical level. We need a picture of where we are going. Our review has clearly pointed to a number of major points and problems, three of which we have summarised below.

6.4.1. Tangible-Intangible – is this dimension too limiting?

Firstly, it seems to us that the definitional difficulties which have arisen in the intangibles field are partly a result of the terminology and classifications employed. Use of the term, Intangible, and its frequent definition as anything that is not tangible, conceivably sets the wrong thought pattern. In our survey of writings about intangibles, we have found examples of so-called intangibles which actually have little in common with tangibles. Here we are referring to concepts such as Sullivan's "complementary business assets", Eustace's competencies, and Skandia's structural capital. Such intangibles are woven into the fabric of organizations and are not readily definable, separable or tradeable. On the other hand, there are intangibles which have everything in common with so-called tangibles. Intellectual property is produced just as much as a factory. Indeed, the more one looks at tangibles, the more one can see an argument that so-called tangible assets – certainly produced ones – are little more than the embodiment of a number of intangibles and input factors which would include brands, innovation, knowledge, and software.

¹⁸ Jack Triplett is a visiting fellow in the economic studies program at Brookings

6.4.2. Fixed Asset or Expense – is this a restrictive pattern of thinking?

We are initially tempted, therefore, to get away from some aspects of current thinking as they lead, in accountancy and information disclosure terms, to arbitrary distinctions being drawn between fixed assets and current expenses. These produce end results which, arguably, help nobody. In general, the accountancy profession takes the view that if expenditures do not lead to assets which are clearly identified, delineated and easily quantified in financial value terms by reference to a market, then such expenditures are not investments. Under current practice they not only do not lead to assets, but, worse still, they are not even disclosed. This fixation on financially valuing everything is arguably impeding the provision and disclosure of useful and relevant information. As argued by the Roos, information on flows is highly valuable.

The criteria of asset recognition which have become established need re-visiting. The requirement to allocate future earnings to individual assets is very restrictive, as van de Ven has pointed out. In reality it is a tough and arbitrary job to do so for many so-called tangibles, so why are intangibles excluded on this basis? A similar argument holds for the requirement to separately identify a trading price for qualification as an intangible asset. Only in the case of a corporate acquisition might certain intangibles be recognised, but only then in the form of the basket of items, goodwill.

6.4.3. Micro and Macro are closely linked – but not rigidly so

Different things will be relevant at the two different levels. Some assets which are excluded at micro level on the basis of lack of control might be considered assets at a national level or where spillovers might occur. Any sensible information system must take into account these ideas.

We believe macro statistics can part from micro in some ways. We need to distinguish between macro's need for micro's data-feed and any such need to slavishly follow the same accounting conventions or management systems. Customer capital, for example, is a common theme within the Intellectual Capital reporting schema of which we provided an overview. Such information has no relevance at the macro level. However, by contrast, the user of macroeconomic statistics may be interested in assessing a country's socio-economic situation with information on public goods such as the competitiveness of the business environment. Policy makers need such information to effectively intervene in their economies.

7. Next Steps

7.1. This report will be further refined as the project progresses, albeit the bulk of the work has been done. The initial ideas on what definitional aspects of assets and intangibles might usefully be reviewed will provide the basis for the way forward. Reappraising these with a clear eye on what is useful to the user in indicating economic impact will lead us, in the third strand of our work, to a re-conceptualisation of so-called intangibles, and to proposing some classifications and categories for a new macro framework. This will link with the empirical report's findings.