

Intangibles research project – quantitative report draft

Executive Summary

Project Type	Research Project
Project Scope	Significant
Purpose of the paper	
This paper asks the Board for feedback on a draft of the findings from the quantitative analysis on intangibles in UK company financial statements.	
Summary of the Issue	
The Secretariat has produced a draft of the quantitative report. It examines the reported intangibles in UK companies' financial statements to provide a more comprehensive understanding of the size, nature and extent of reported intangibles. It also looks at the impact of mergers and acquisitions on reported intangibles along with estimating possible unrecognised intangibles.	
Decisions for the Board	
<ol style="list-style-type: none">1. Does the Board have any comments on the draft report (Appendix A), specifically:<ol style="list-style-type: none">a) balance, style and tone of the narrative?b) detailed analyses and results?2. What conclusions do the Board members draw from Sections 2 – 4 of the draft report. Do these merit inclusion in the final report? Do any of these merit elevating to the Executive Summary?	
Recommendation	
N/A	
Appendices	
Appendix A Draft survey report	

Background

1. During 2022, the UKEB decided to undertake a multi-output, proactive research project that would contribute to the international debate on intangible items. The research considers how the accounting for, and reporting of, intangible items could be improved to provide investors with more useful general purpose financial statements to help them make better informed decisions.
2. The initial phase of the research is focused on understanding stakeholders' views (particularly investors) of the accounting for, as well as the current state of the reporting of, intangibles in the UK. This involves three reports:
 - a) A qualitative report focused on stakeholder views about the accounting for intangible assets, supported by economic analysis and a review of key literature. This report was published in March 2023;
 - b) A quantitative report examining the prevalence and economic relevance of intangible items for UK reporters, including an analysis of current practices among UK listed companies using IFRS Accounting Standards. A draft of the report is included at Appendix A;
 - c) An investor focused report based on a survey of users. A draft of the report was presented to the Board in January.

Quantitative report update

3. The report examines the intangibles in UK companies' financial statements to provide a more comprehensive understanding of the size, nature and extent of reported intangibles. A two-tiered approach which examined the population of UK listed companies as a whole was complemented by a closer review of the financial statements from a sample of 80 companies randomly drawn from the population.
4. The report also looks at the impact of mergers and acquisitions on reported intangibles along with estimating possible unrecognised intangibles.
5. The Secretariat has produced a draft of the quantitative report for consideration by the Board. As this is a draft, some content is still to be finalised, including cross-referencing. Also, in reviewing the draft the Secretariat has identified an opportunity to undertake further review of the specific types of intangibles at an industry level.

6. The report follows the structure below. This structure is consistent with previous UKEB reports:

Executive summary (to be finalised in March 2024)

Section 1: Introduction

Section 2: Intangibles in the Financial Statements of UK Companies

Section 3: Intangibles and acquisitions

Section 4: Unrecognised Intangibles

Section 5: Conclusions (to be submitted in March 2024)

Appendix A: Glossary (to be finalised in March 2024)

Appendix B: Research Methodology

Appendix C: Intangibles Terminology

Appendix D: Acquisition – Market level trends

Appendix E: References (to be finalised in March 2024)

7. Board member feedback on the content of the draft sections as well as on the balance, style and tone of the narrative are welcome. In particular, feedback on any conclusions Board members draw from the analysis included in Sections 2 – 4 and whether these merit inclusion in the Executive Summary would be helpful.
8. The research team intends to incorporate this feedback in the final version of the report to be shared with the Board at its March 2024 meeting.

Questions for the Board

1. Does the Board have any comments on the draft report (Appendix A), specifically:
 - a) balance, style and tone of the narrative?
 - b) detailed analyses and results?
2. What conclusions do the Board members draw from Sections 2 – 4 of the draft report. Do these merit inclusion in the final report? Do any of these merit elevating to the Executive Summary?

Next steps

9. The Secretariat anticipates submitting final drafts for both the survey and the quantitative report at the March 2024 Board meeting.

Accounting for Intangibles

A quantitative analysis of UK Financial
Reports

Month Year

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IFRS Foundation Copyright and disclaimer wording to be inserted here.

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Executive Summary

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I. Introduction

The UKEB Intangibles Research Project

- 1.1 Following the results of the Third Agenda Consultation completed in July 2022, the International Accounting Standards Board (IASB) announced that it expects to review the accounting requirements for intangibles within the next few years.
- 1.2 While the nature and scope of the project are yet to be finalised, the project is positioned as a “comprehensive review”.
- 1.3 The IASB noted that many stakeholders responding to the Third Agenda Consultation highlighted deficiencies in the reporting of intangible assets relating to all aspects of IAS 38, including its scope, its recognition and measurement requirements and the adequacy of disclosures.
- 1.4 The IASB acknowledged that any project on intangibles is likely to be large and complex for both the IASB and its stakeholders. It also noted that the project should “aim to address intangibles more broadly”, focusing not just on “assets”, but also including intangible items currently expensed.
- 1.5 In anticipation of an IASB review of intangible items, the UK Endorsement Board (UKEB) decided to initiate a research project focused on understanding UK stakeholders’ views and on the accounting for intangibles and gathering evidence about the UK intangibles landscape.
- 1.6 The UKEB wants to understand whether there are concerns with the current approach to the accounting for, and reporting on, intangibles, particularly under IAS 38 Intangible Assets, as well as, for concerns that are identified, possible ways in which these could be addressed.
- 1.7 The UKEB’s first report, which discussed UK stakeholders’ views on the accounting for intangibles, was published in March 2023. This is referred to as the ‘Qualitative Report’ hereafter.
- 1.8 This was followed by a report of the findings of a survey of UK users of financial statements about current and future accounting for intangibles, conducted in autumn 2023, which was published in XXXX 2024. This is referred to as the ‘Survey Report’ hereafter.
- 1.9 This is the third and final report to be published as part of the UKEB’s planned intangibles research project. It examines the reported intangibles in UK companies’ financial statements to provide a more comprehensive understanding of the size, nature and extent of reported intangibles. It also looks at the impact of mergers and acquisitions on reported intangibles along with estimating possible unrecognised intangibles. It will be referred to as the ‘Quantitative Report’ hereafter.

Terminology and Accounting

1.10 In this report:

- a) The term “intangible assets” is used to refer to intangible items specifically qualifying for recognition on the balance sheet (capitalisation) in accordance with IAS 38.
- b) The terms “intangibles”, “intangible item” or “intangible expenditure” are used with a more general meaning, depending on the context, and include items that may or may not be currently recognised as assets under IAS 38, but may qualify as assets in the economic meaning of the term.^{1,2}
- c) The terms “internally generated” and “purchased” intangibles are given the same meaning as used in IAS 38.

1.11 This report assumes familiarity with the accounting for intangibles under IAS 38 *Intangible Assets*. Readers looking for more background on the accounting requirements are directed to the UKEB’s report published in March 2023: “Accounting for Intangibles - UK Stakeholders’ Views” paragraphs 1.10 – 1.25.

Quantitative analysis conducted

1.12 This report includes findings from three sets of quantitative analysis:

- a) Section 2 reports the examination of the financial statements data on intangible assets reported by all UK listed companies using data from Thomson Reuters Eikon for the period from 2011-2021. This is complemented by a review of financial statements information on intangible assets included in the notes of a sample of 80 companies within that population.
- b) Section 3 reports an investigation of M&A transactions data from Thomson Reuters Eikon over the same time period (2011-2021), both at a market level (i.e., for the population of listed companies in the UK), and for a selected sample of the 20 largest M&A deals over this period. The main aim was investigating themes linking the narrative for the deal in the acquirer’s financial statements with the reporting of the purchase price allocation in the notes to the financial statements.

¹ In the economic literature the expression “intangible capital” is also common. See qualitative report published in March 2023, paragraph [2.1](#).

² The IASB has also started to use similar terminology (i.e., intangible items) for similar reasons. In the IASB’s April 2022 paper suggesting they undertake an intangibles project they acknowledge that “although this paper refers to a project on intangible assets... one key issue to consider in such a project is whether it should be limited to accounting for and disclosing information about financial statement elements—intangible assets and expenses arising from expenditure on intangible items—or whether the project should aim to address intangible items more broadly” (paragraph 36).

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- c) Section 4 estimates the value of unrecognised intangibles in UK listed companies, using an established methodology from the academic literature, for the period 2011-2021. In addition, the estimated distribution of unrecognised intangibles between industries and companies of different sizes is also analysed.

1.13 Taken together, these analyses uncover the landscape of intangibles among UK listed companies and how this evolved over the ten years from 2011 to 2021.

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2. Intangibles in the Financial Statements of UK Companies

- 2.1 This section provides a comprehensive analysis of the prevalence of intangible assets among listed UK companies applying IFRS accounting standards in their financial statements. It also provides more granular information about the amount and nature of intangibles recognised on company balance sheets.
- 2.2 The evidence reported in this section was obtained following a two-tiered approach which examined the population of UK listed companies as a whole (described in paragraphs 2.6-2.43). This was followed by a closer review of the financial statements from a sample of 80 companies randomly drawn from the population (described in paragraphs 2.44-2.66).
- 2.3 The population considered for this report was comprised of all companies listed on the London Stock Exchange (LSE)³ using IFRS for financial reporting between 2011 and 2021, excluding funds and trusts, Real Estate Investment Trusts (REITS) and other listed entities that are mere investment vehicles.⁴ The population characteristics were as follows⁵:

Table XX 2021 Population characteristics

Characteristic	Population
Number of companies	1,093
Total assets	£11.5 trillion ⁶
Total revenues	£1.8 trillion
Market capitalisation	£2.55 trillion

- 2.4 The sample comprises 80 companies randomly drawn from the population. This review gathered more detailed and complementary information from

³ Since it is possible to obtain information for all listed companies from the abovementioned databases, it was possible to perform quantitative analyses on the entire population.

⁴ Investment vehicles and real estate firms are excluded due to the nature of their financial statements and of their business model. Using the Industry Classification Benchmark (ICB), these companies would fall into the ICB codes 3000 – 4000.

⁵ Summary statistics for the sample of entities, including tests to assess whether randomisation worked correctly, are displayed in Appendix XX.

⁶ Entities in the financial industry such as banks and insurers (122 companies), hold large amounts of financial assets at fair value on their balance sheets. These entities increase the aggregate assets of listed entities significantly (£6.7 trillion in assets is held by these companies). In addition, the revenues of these entities are often not recognised in accordance with IFRS 15 but are often a form of investment income.

companies' financial statements, including qualitative data, which was not otherwise available. The results are considered to be generalisable to the population as a whole.⁷

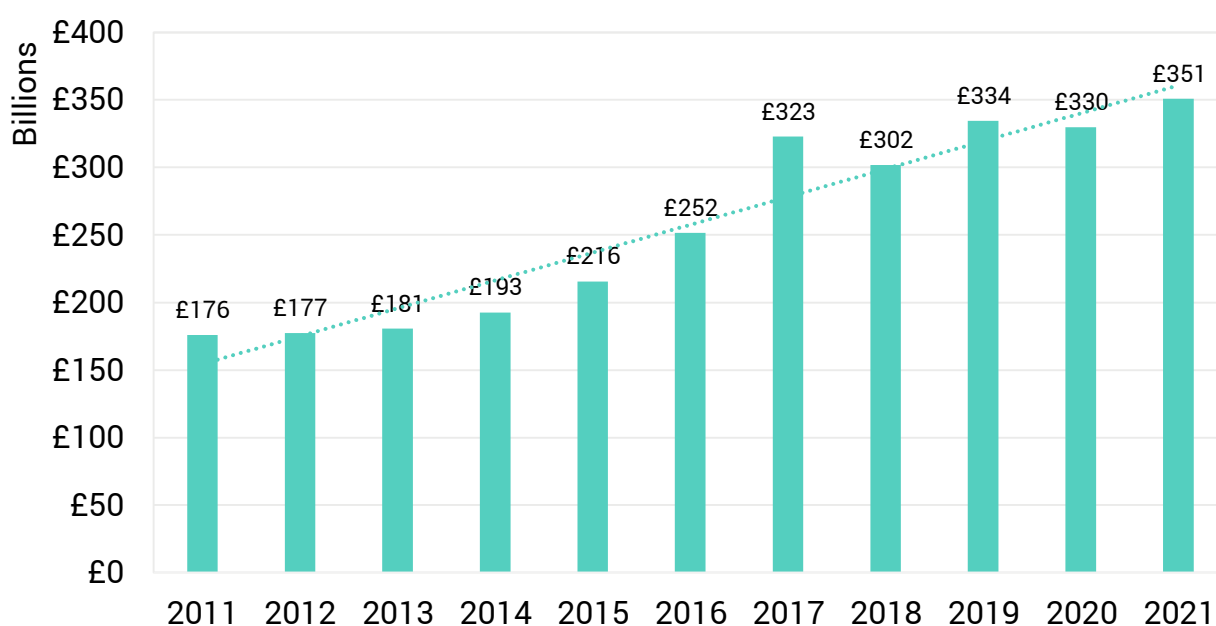
- 2.5 The likely focus of the IASB's intangibles project will be on **identifiable** intangible assets under IAS 38. Goodwill is a **non-identifiable intangible** asset that is recognised under IFRS 3 as the difference between fair value consideration and the fair value of identified assets in a business combination. The IASB currently has a separate project specifically on the accounting for goodwill. Therefore, in this report, unless specifically mentioned, goodwill has been excluded from consideration.

Population data analysis

Total Intangibles

- 2.6 At the end of 2021, the total value of net intangible assets (capitalised on the balance sheet under current IFRS standards) for all companies listed on the LSE amounted to £351 billion. Recognised intangible assets have shown a consistent upward trend between 2011 and 2021, with growth at an average rate of 9% per year.⁸ These results are presented in chart 1.

- 2.7 Chart 1: value of net intangible assets, all UK listed companies (2011 – 2021)



Source: Thomson Reuters – Eikon

⁷ Appendix B provides details of the sample of companies used as well as results from tests to ensure statistical representativeness.

⁸ All values representing net intangible assets are excluding goodwill and may include exploration and evaluation where applicable.

- 2.8 Significant increases in intangible assets in particular years, such as in 2017 and 2021, were often primarily attributable to individually large acquisitions, such as British American Tobacco's acquisition of Reynolds in 2017 or the London Stock Exchange acquisition of Refinitiv in 2021.⁹ Section 3 provides more detail on the relationship between M&A transactions and implications for the financial reporting of intangible assets under existing IFRS accounting standards.
- 2.9 Most listed entities have some intangibles recorded in their financial statements. In 2021, about 860 companies (79%, of companies in the population) had at least one recognised intangible. This number was relatively stable over the 2011-2021 period.
- 2.10 By quartile of market capitalisation, intangible assets are present on the balance sheets of:
- a) 94% of Quartile 4 (Q4) companies (the largest 25%);¹⁰
 - b) 83% of Quartile 3 (Q3) companies;
 - c) 82% of Quartile 2 (Q2) companies;
 - d) 61% of Quartile 1 (Q1) companies (the smallest 25%).

Relative share of intangibles and goodwill

- 2.11 Intangible assets¹¹ made up, on average, 2.39% of companies' total assets over the period. The relative share of intangible assets as a percentage of total assets fluctuated between a low of 1.67% in 2011 to a high of 3.03% in 2021, but the trend over the period was generally upwards, as shown in table XX.
- 2.12 Goodwill, disclosed separately from identifiable intangible assets, accounted for 3.17% of total assets on average over the 2011 – 2021 period.
- 2.13 Excluding companies in the financial sector (e.g. banks, insurance providers and investment brokers), the average ratio of intangible assets to total assets was 7.87% and the average ratio of goodwill to total assets was 10.35% in 2021.

⁹ The dips, when observed, are attributable to de-listings and impairments of assets, as confirmed by further analyses.

¹⁰ The thresholds of each quartile in 2012, measured using market capitalisation, were Q1: £ 40 million, Q2: £209 million and Q3: £ 965 million

¹¹ As noted at paragraph 1.10, the term intangible assets is used in this report to mean those items currently recognised in the financial statements.

Table XX: Net intangible assets, goodwill as a percentage of total assets for all UK listed entities (2011 - 2021)

Year	Goodwill	Net Intangible Assets (excl. GW)
2011	2.96%	1.67%
2012	2.86%	1.73%
2013	2.84%	1.83%
2014	2.76%	1.97%
2015	2.90%	2.21%
2016	3.11%	2.35%
2017	3.45%	2.99%
2018	3.88%	2.82%
2019	3.41%	3.01%
2020	3.32%	2.73%
2021	3.41%	3.03%
Average	3.17%	2.39%

Source: Thomson Reuters – Eikon

- 2.14 Together goodwill and intangible assets made up an average of 5.56% of companies' total assets over the 2011-2021 period. This may be a smaller proportion than would have been expected given trends towards a "knowledge economy" in which intangible items play an increasingly significant role.¹²
- 2.15 Therefore, further examination of the distribution of intangibles within the population of listed companies was conducted.

Distribution of Intangibles

- 2.16 The value of intangibles is not distributed evenly across companies. While most companies have intangibles recorded in their financial statements, larger companies – as measured by market capitalisation – account for the majority of the value of reported intangible assets across the population. This is illustrated in chart 2.

¹² As was also noted in the UKEB's Qualitative Report on intangibles at paragraph 3.23-3.38, stakeholders identified restrictive recognition requirements in IAS 38 as an area of concern.

- 2.17 As of 2021, the largest 25% of companies in the population by market capitalisation (Q4), accounted for £338 billion of the total intangible assets reported. In comparison, for the same year end, the smallest 75% of companies by market capitalisation (Q1-Q3) held a combined value of intangible assets of £12 billion.
- 2.18 As a percentage, intangible assets held by the largest companies by market capitalisation (Q4) represented 96.64% of the total intangible assets reported for all companies. Companies in the next 25% of market capitalisation (Q3) held just 2.28% of intangible assets, followed by companies in the next 25% of market capitalisation (Q2) (0.75%) and the smallest 25% of companies by market capitalisation (Q1) (0.34%).
- 2.19 It should be noted that this distribution of intangibles is largely consistent with the distribution of total assets by quartile. By comparison as at the end of 2021, companies in the largest 25% by market capitalisation (Q4) held 97% of total assets, followed by companies in the next 25% (Q3), (1.15%), the next 25% (Q2) (0.32%) and the smallest 25% (Q1) (0.08%).
- 2.20 Therefore, both assets and intangible assets are highly concentrated with a relatively small number of large companies holding the vast majority of recognised assets on their balance sheets.

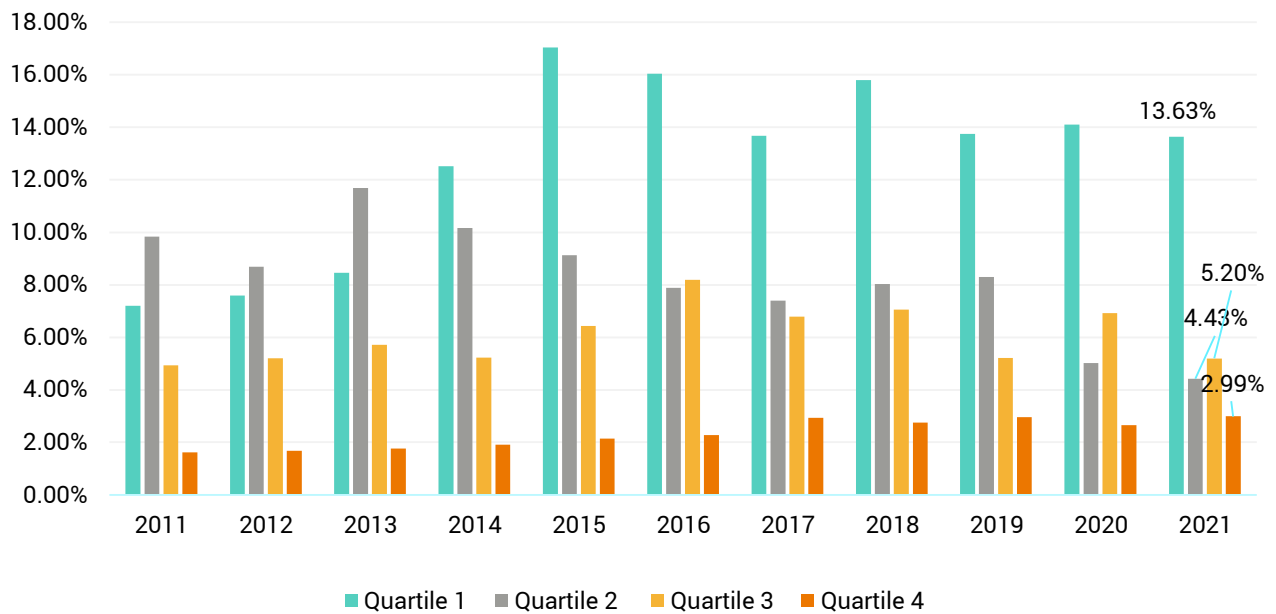
Chart 2: value of net intangible assets, per quartile of market capitalisation, absolute values (2011 – 2021)



Source: Thomson Reuters – Eikon

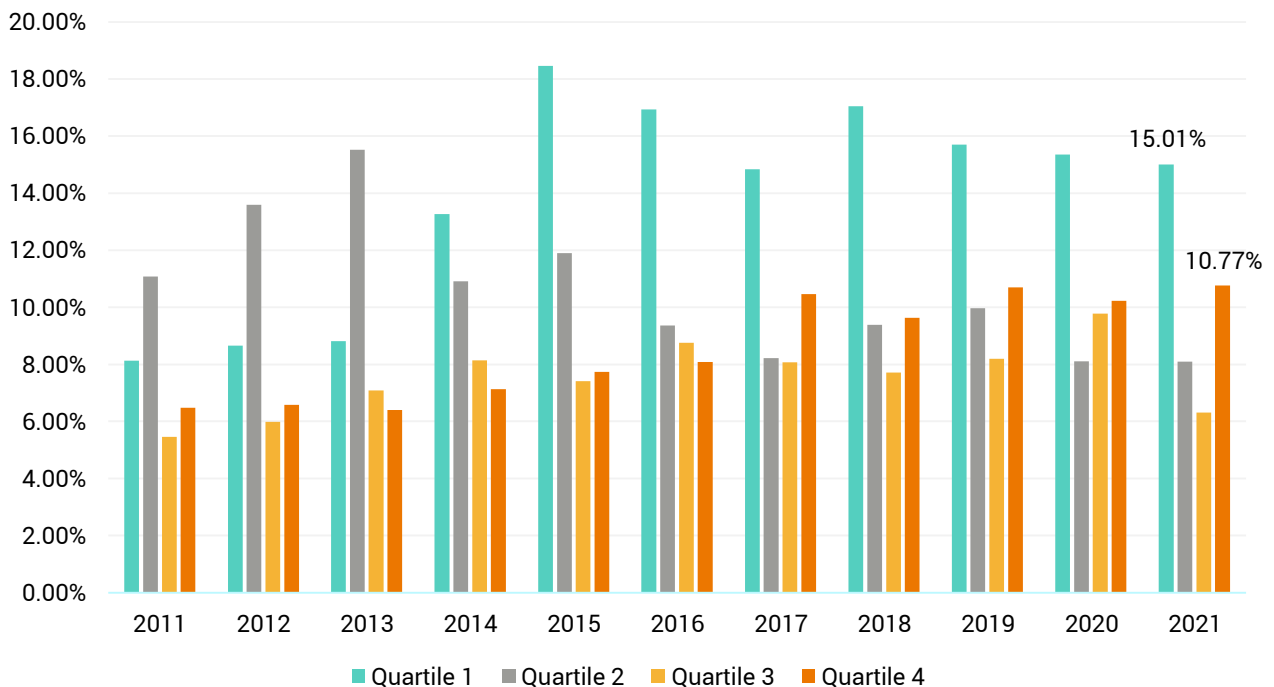
- 2.21 However, when considering the relative proportion of intangible assets to total assets for listed companies of different sizes, intangible assets generally made up a larger proportion of the balance sheets of smaller listed companies.
- 2.22 Between 2011 and 2021, the share of intangible assets to total assets for companies in the smallest 50% by market capitalisation (Q1 and Q2) was often larger when compared with the larger companies (Q3 and Q4). For example, in 2021, intangible assets made up about 15% of total assets for companies in the smallest 25% by market capitalisation (Q1), but in comparison this was only 3% for companies in the largest 25% (Q4) (11% excluding financial services). These findings are presented in charts 3a and 3b.
- 2.23 Chart 3b shows the impact that financial services companies (retail and investment banks, insurance companies and broker-dealers) have on the data. They both significantly dilute the relative value of intangible assets, and also reduce the differences in value of intangibles across quartiles.

Chart 3a: total net intangible assets as share of total assets, per quartile of market capitalisation – including banks and insurance (2011 – 2021)



Source: Thomson Reuters – Eikon

Chart 3b: total net intangible assets as share of total assets, per quartile of market capitalisation – excluding banks and insurance (2011 – 2021)



Source: Thomson Reuters – Eikon

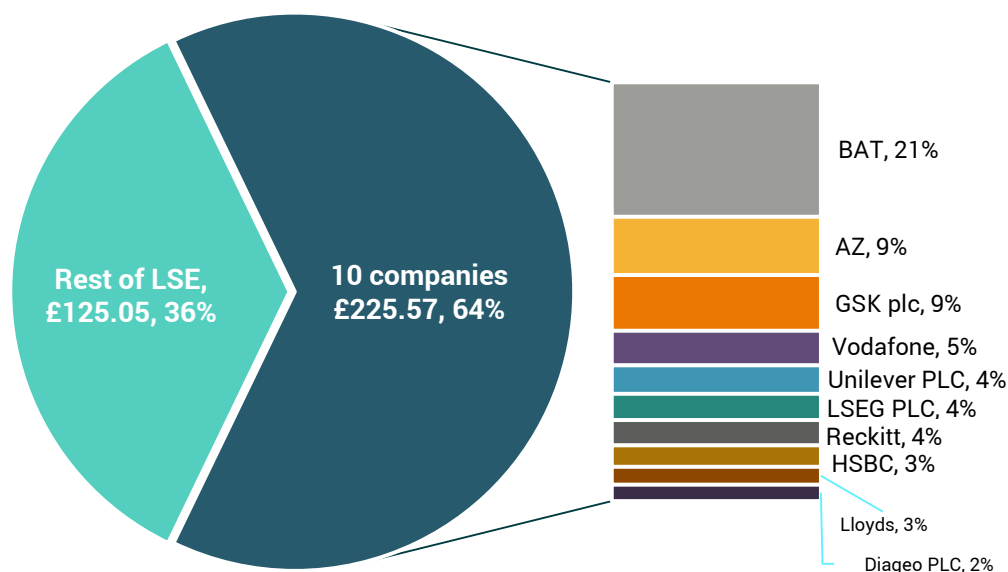
- 2.24 The UK results reported above in charts 3a and 3b are in line with those reported by Tsavoulatas, André and Dionysiou (2014) for the UK and broadly comparable with the ones reported by the AASB (2023), which show that, for non-financial industry companies listed on the Australian Stock Exchange, the average share of intangible assets over total assets is 9% for larger companies and 17% for smaller companies.¹³
- 2.25 Taken together, these findings may suggest that, although larger companies hold a higher absolute value of intangible assets, intangible assets are relatively more important to the business models of smaller companies. As noted below technology companies particularly predominate at the smaller company level, and have proportionally more intangibles on average.

Concentration of Intangibles

- 2.26 Building on the findings of intangible asset concentration, further investigation was conducted, which indicates that the distribution of intangible assets is in fact more concentrated than the distribution of total assets. In 2021, just ten companies held almost two thirds of the total intangible assets balance. These findings are presented in chart 4.
- 2.27 It should be noted that the ten companies identified in Chart 4 account for only 37% of the total assets of all listed companies. Indicating that the size of intangibles in their balance sheet is not simply a factor of them being disproportionately large in terms of total assets.
- 2.28 The concentration of intangible assets among a few, large companies was found to be the result of large corporate transactions, which resulted in the recognition of purchased intangible assets on the acquirers' balance sheets as discussed further in Section 3. The majority of intangible assets purchased and recognised by the acquirers which had been internally generated by acquirees were not able to be recognised on acquirees' balance sheets prior to acquisition because of the IAS 38 rules prohibiting capitalisation of internally generated intangibles.

¹³ Pinnuck, Wallis, Li, Lee, Waters, and Mattocks (2023), "Australian-listed companies: recognised intangible assets and key audit matters", AASB-AUASB Research Report. The AASB also excludes financial from their calculation. It must be noted however that their figure is the average calculated across all companies and years (2010 to 2011), and the figures reported in Chart 2b are ratios of totals, by year.

Chart 4: Concentration of net intangible assets across the LSE (total value of intangibles on balance sheets £'bn 2021)



Source: Thomson Reuters – Eikon

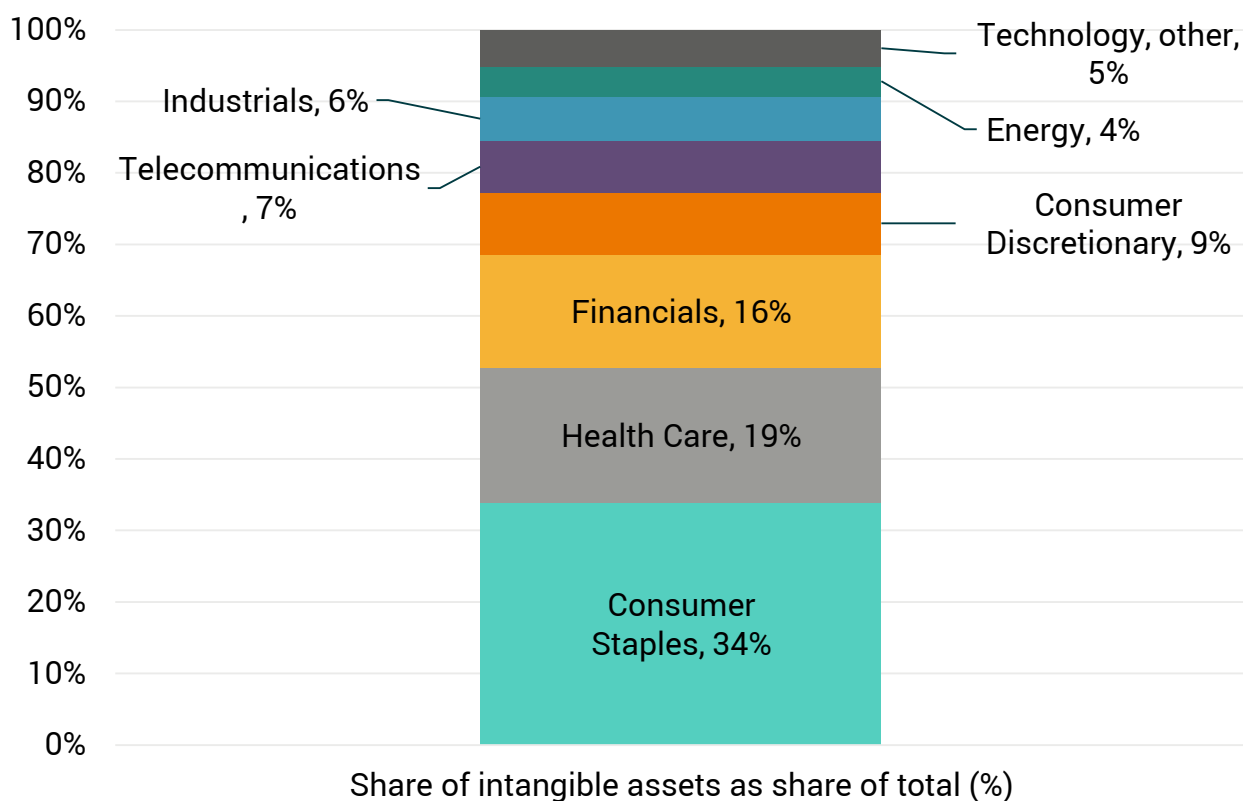
2.29 This very “top-heavy” concentration of intangibles is not unique to the UK. UKEB calculations based on data reported by the Australian Accounting Standards Board (AASB) (2023) and Reuters-Eikon identify that a similar concentration of intangible assets can be found among companies listed on the Australian Stock Exchange (ASX). In Australia, the 20 largest companies accounting for 64% of intangible assets recognised in the market.

Intangibles by Industry

2.30 Industry-specific differences in the prevalence of intangible assets were also identified.¹⁴ While a few industries consistently represented the majority of reported intangible assets over the period, certain industries, for which intangible assets may typically be thought of as being economically, account for a much smaller proportion than might have been expected.

¹⁴ This report uses the ICB industry classification.

Chart XX: Distribution of intangible assets by industry (2021)



Source: Thomson Reuters – Eikon

- 2.31 As at the end of 2021, the consumer staples and health care held the highest value of intangible assets. These findings are presented in chart X.¹⁵
- 2.32 The value of intangible assets held by these industries stood at £118 billion and £66 billion, respectively.
- 2.33 In contrast, the technology, basic materials, and utility industries were among the industries with the lowest absolute value of intangible assets in 2021. These three industries accounted for £8 billion, £6 billion, and £4 billion of intangible assets respectively.
- 2.34 The higher value of intangible assets in the consumer staples, consumer discretionary and health care industries, for instance, may be traced back to their more acquisitive approach to growth.
- 2.35 The following corporate M&A transactions illustrate where large amounts of purchased intangible assets were recognised in companies in these industries specifically:

¹⁵ The findings on the value of intangible assets per industry in 2021 were by and large consistent with what was found over the whole period (2011 – 2021).

- a) British American Tobacco's (BAT) acquisition of Reynolds American Inc., in 2017 which resulted in the recognition of brands valued at £75 billion ¹⁶
- b) AstraZeneca's acquisition of Alexion Pharmaceuticals Inc., in 2021, which resulted in the recognition of intangible assets valued at \$27 billion ¹⁷

2.36 These findings have prompted further consideration of the impact of M&A on intangible assets, which is discussed in section XX.

2.37 The findings are largely consistent, even if they are scaled to account for the relative size of these industries. See Table XX below.

Table XX: Relative size of intangibles assets across industries (2021)

	Industry	Net Intangible Assets (£'bn)	Intangible Assets as a share of total assets (%)	Goodwill as a share of total assets (%)
1	Consumer Staples	118.92	29.11%	22.16%
2	Health Care	66.09	34.36%	16.27%
3	Financials	55.56	0.62%	0.52%
4	Consumer Discretionary	30.50	8.78%	19.77%
5	Telecommunications	25.05	12.95%	19.65%
6	Industrials	22.04	7.64%	20.38%
7	Energy	14.68	2.64%	4.59%
8	Technology	7.58	20.82%	40.62%
9	Basic Materials	6.32	1.75%	2.70%
10	Utilities	3.70	2.28%	4.04%
11	Real Estate	0.26	1.94%	4.90%
	Total	351		

Source: Thomson Reuters – Eikon

2.38 The utility industry results are unsurprising given that only a few listed companies fall into this industry and their business model is not heavily reliant on intangibles;

2.39 The basic materials industry results are again in line with the business model not being heavily reliant on intangibles in this industry;

¹⁶ For further details, see [deal announcement](#) and [announcement following completion](#)

¹⁷ For further details, see [press release](#).

2.40 For the technology industry, it is worth noting that while the value of intangibles is significantly smaller, in absolute size, intangibles still represent a relatively large percentage of the total assets.

Chart XX: Intangible assets as a share of total assets by industry for the largest 25% of companies (2021)

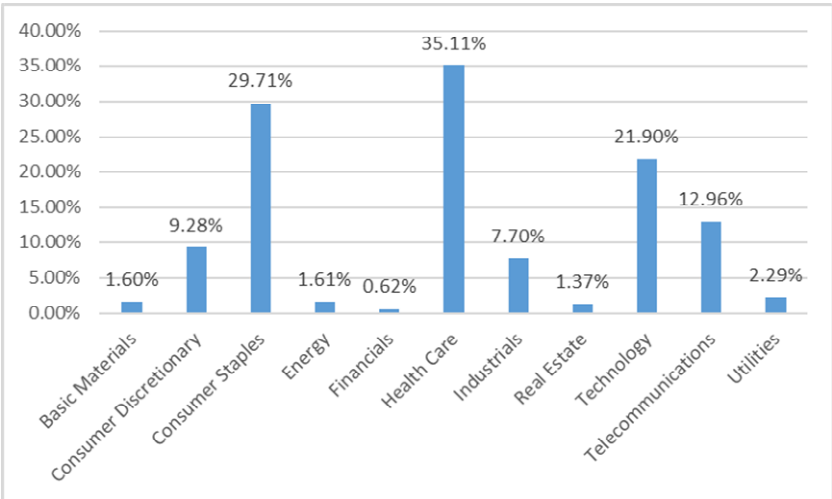
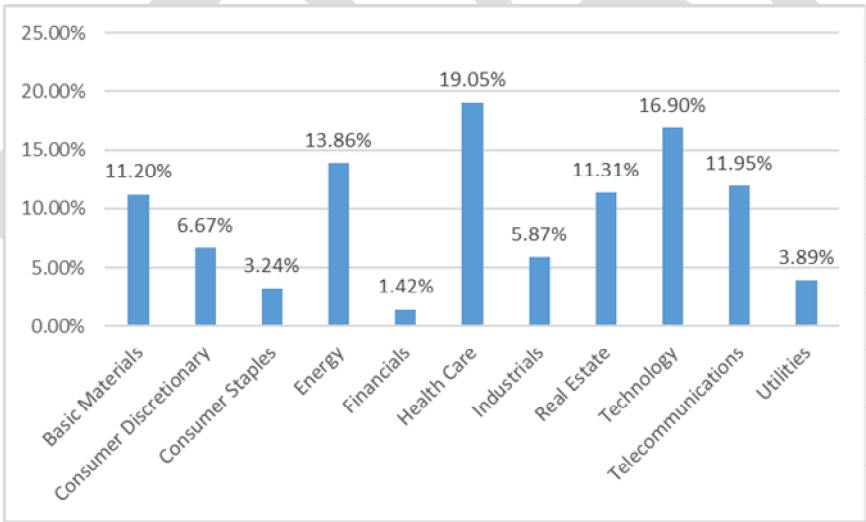


Chart XX: Intangible assets as a share of total assets by industry for the smallest 50% of companies (2021)



2.41 As noted in paragraph XX, for smaller companies, intangible assets make up a larger proportion of their balance sheet. But as can be seen this is only true for some industries. [Note: The Secretariat is currently analysing the specific nature of industry differences observed among the smallest 50% of companies by market capitalisation (Q1 and Q2). These findings will be included in the final draft report.]

Population data analysis

- 2.42 Taken together, the findings from the population data analysis suggest that large, listed and acquisitive companies in some industries have recognised significant purchased intangible assets on their balance sheets, as permitted by the IFRS 3 requirements on business combinations. For smaller listed companies in industries where intangible items may be key to the business model, but where they are created through organic growth, recognised relatively limited intangible assets, primarily due to the more restrictive recognition criteria in IAS 38.
- 2.43 The population data analysis provides a 'broad brush' landscape of intangible assets recognised by UK listed companies. In order to understand more about the types of intangible assets recognised on balance sheets, more granular evidence was sought from the financial statements of a sample of UK listed companies. The following section reports this review.

Sample Financial Statements Review: A further breakdown of Intangibles

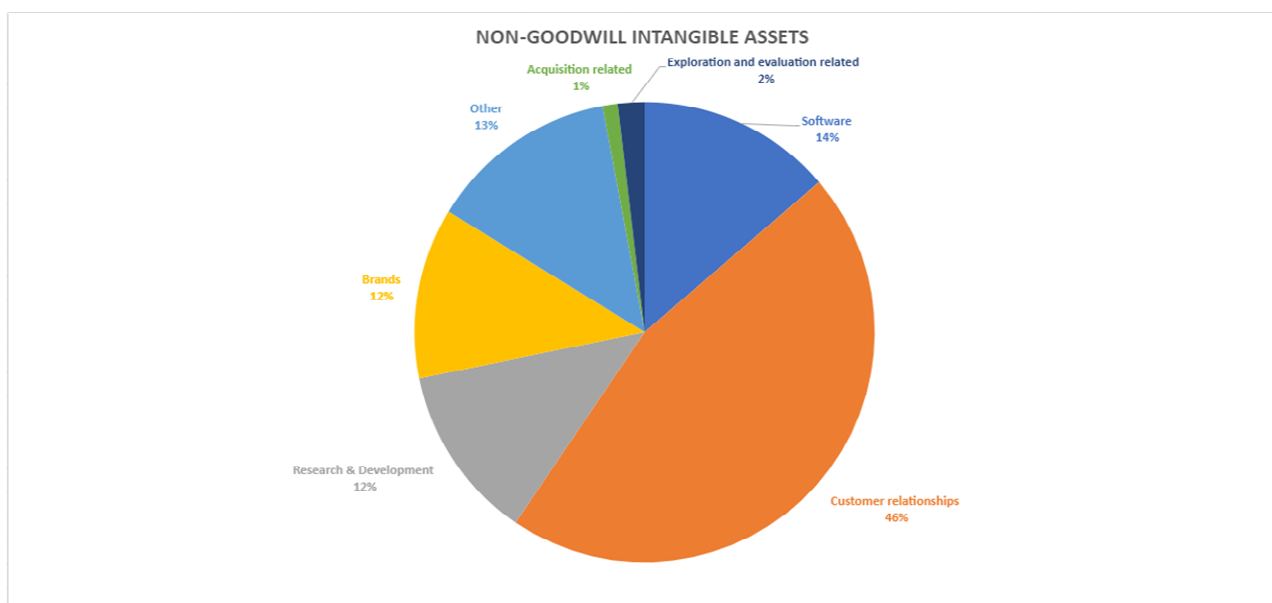
- 2.44 As noted above, a review of the financial statements of a sample of 80 companies listed on both the main market and AIM was conducted to better understand the type and nature of intangible assets.
- 2.45 Consistently with what was reported from the population data (see paragraphs 2.6-2.43), 87.5% of the sample companies had recognised intangible assets in their financial statements (either goodwill and/or other intangibles). Only one company in the sample reported goodwill and no other intangible assets.

Recognised intangible assets

- 2.46 On the face of the balance sheet, 54% of companies with intangible assets reported a combined "total intangibles" figure while the remaining 46% split out "goodwill" and "other intangibles". There was no discernible pattern as to which companies choose to combine goodwill and other intangible assets and which did not. For example, disaggregating goodwill from other intangible assets does not appear to be based on the relative size of the intangibles, calculated either as a share of total assets or relative to each other. This is notable in the context of the IASB's tentative decision to include a requirement in the forthcoming IFRS 18 *Presentation and disclosure in financial statements* to report goodwill separately from other intangible assets on the face of the balance sheet.¹⁸

¹⁸ [IASB November 2023 meeting Staff Paper Agenda Reference: 21, paragraph C43](#)

Chart XX

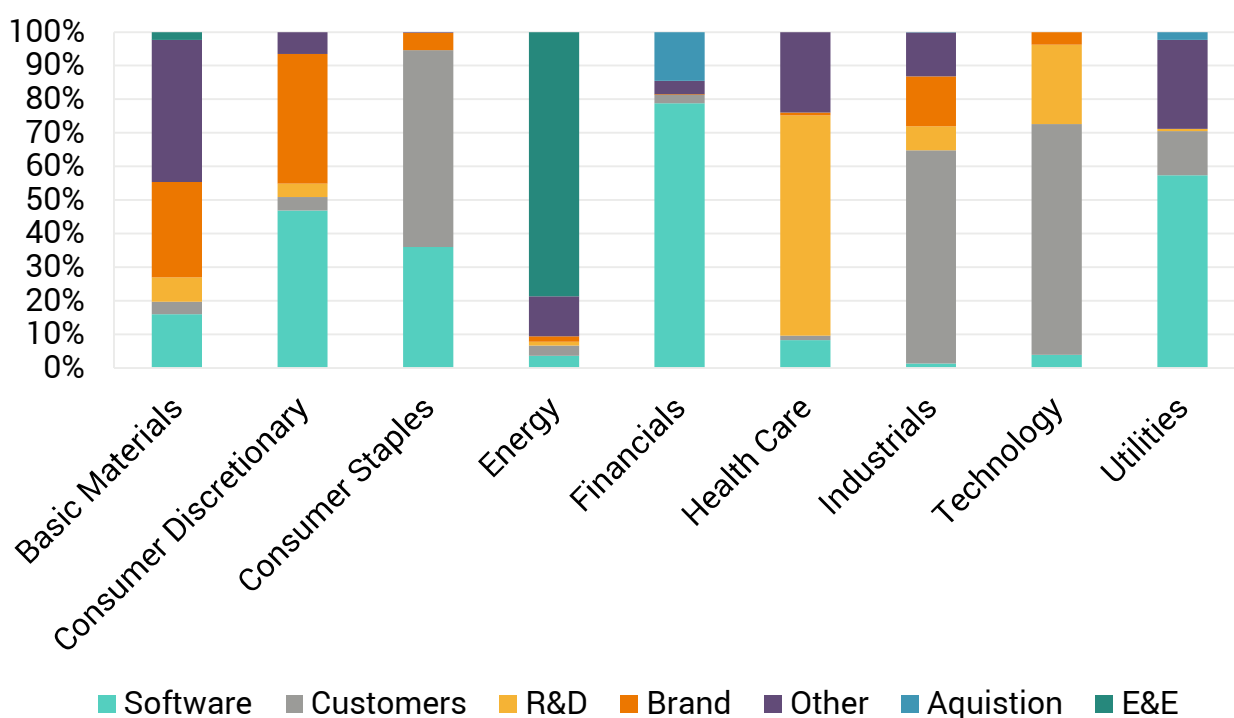


- 2.47 Chart **XX** above shows the breakdown of non-goodwill intangible assets reported across all industries in the notes to financial statements.
- 2.48 Nearly half of all non-goodwill intangible assets recognised by the sample companies relate to **customer relationships** (46%). This category included items such as “customer contracts” and “customer lists”. These items can only be recognised by the acquirer in a business combination under IFRS 3, as IAS 38 prohibits capitalisation of these if they are internally generated.
- 2.49 The importance of **customer relationship** assets appears to be in line with “knowledge economy” trends, in which access to customers and their data is an important element of many companies’ business models, products and services. 30 companies in the sample (37.5%) had assets of this type. Of these assets, 97% by value were shown as a separate category of intangible asset in the notes to the financial statements. 3% by value were combined with other types of intangible assets in the notes.
- 2.50 It is worth noting that the term **intellectual property** was used to describe intangible assets in the notes to the financial statements to cover items more closely related to research and development (such as patents) as well as items more closely related to brands (such as trademarks and copyrights). Therefore, to the extent possible, intellectual property was allocated to the most appropriate category based on the information provided in the notes to the financial statements.
- 2.51 The **software** assets were held by 39 companies in the sample. Only for 5% by value of these assets, the category label clearly showed they were purchased. For 82% by value, software was presented as a separate category of intangible assets in the notes, and for the other 18% by value, it was combined with other types of intangible assets.

- 2.52 The **research and development** asset category appeared to contain a diverse range of assets. 34 companies had assets of this type. 28% by value were described as “development costs”, presumably by reference to the capitalisation criteria in IAS 38. However, 51% of these assets by value had a label which combined them with other types of intangible assets, such as technology or intellectual property. It was not possible to discern from the disclosure notes or category labels the extent to which these assets had been purchased or internally generated.
- 2.53 Intangible assets categorised as **brand** in Chart XX formed the same proportion of the total value as **research and development** assets. Similarly, to the ‘customer relationships’ assets, these assets were assumed to relate to purchased brands as IAS 38 prohibits capitalisation of internally generated brands, advertising and marketing expenses. 28 companies had assets of this type. 69% by value were described as purchased. 53% by value were presented as a separate category of intangible assets in the notes, whereas for the other 47%, brands were combined with other types of intangible assets, both intellectual property items and others such as franchise agreements.
- 2.54 Intangible assets categorised as **other** in the notes to the accounts were also investigated further for the sample companies, using the notes to the financial statements. There was no discernible pattern in the types of items included as **other** by the 13 companies that used this category– they ranged from energy certificates to brands and technologies acquired. This finding is again interesting in the context of the IASB’s tentative decision that IFRS 18 *Presentation and disclosure in financial statements* will require entities to only use the label ‘other’ for a line item if they are unable to find a more informative label.¹⁹
- 2.55 Companies have on average between two and three distinct types of non-goodwill intangibles categorised in their financial statements. The categorisation of different types of intangible assets, either reported separately or combined with other types of intangible assets, as well as the use of the ‘other’ category, varied greatly between companies. While some industry-specific judgements and the application of materiality would be expected to result in a degree of variation, the extent of variation in the use of combined and other categories, coupled with limited explanations of why that categorisation had been chosen, was notable.
- 2.56 Appendix B to this report lists the various terms that were used to describe categories of intangible assets in the notes to the financial statements.

¹⁹ [IASB November 2023 meeting Staff Paper Agenda Reference: 21, paragraph C43](#)

Breakdown by industry



(typo Acquisition, to fix)

- 2.57 Unsurprisingly, the distribution of types of intangible assets within industries is quite diverse. Though half of the value in intangible assets is related to **customer relationships** in the overall sample, the breakdown by sector reveals that these types of intangibles are concentrated in the consumer staples, industrials and technology industries.
- 2.58 **R&D** is most prevalent in the health care industries, which is expected given the relative size of pharmaceutical companies listed on the London Stock Exchange. Software related intangibles dominate in the financial services industry, suggesting that they invest in FinTech.
- 2.59 [Secretariat will add a break-down of the types of intangibles held by the largest and smallest 25% of companies for comparison]

Expensed intangible items

- 2.60 34 companies (42.5%) in the sample recognised research and development as an intangible asset, this expenditure having met the IAS 38 capitalisation criteria.
- 2.61 IAS 38 para 126 requires “An entity shall disclose the aggregate amount of research and development expenditure recognised as an expense during the period”. In addition, paragraph 128 states that “An entity is encouraged, but not required, to disclose... a brief description of significant intangible assets controlled by the entity but not recognised as assets because they did not meet the recognition criteria in this Standard”. It would have been expected that more

entities would disclose this information, on this basis. Therefore, for R&D expenditure which does not meet the capitalisation criteria in IAS 38, the expense recognised in the period should be disclosed in the notes to the financial statements.

- 2.62 Keyword searches were conducted on the company financial statements for the companies in the sample, to identify instances where there was a quantified disclosure in the notes to the financial statements of “research”, “research and development” or “R&D” expenses. 33 companies had such disclosures, of which 31 quantified the amount expensed in the period, and 2 disclosed a nil expense.

[This analysis will be developed a little to look at the amounts and relationship with capitalised R&D. Also relevant industries].

- 2.63 Further keyword searches were conducted, to identify instances where there was a quantified disaggregated disclosure in the notes of “training”, “learning and development” or “L&D” expenses. No companies in the sample had such a disclosure, although a handful disclosed training expense in the front half of the annual report.
- 2.64 The final keyword search conducted was to identify instances where there was a quantified disaggregated disclosure in the notes of “advertising”, “promotion” or “marketing” expenses. 21 companies in the sample had such a disclosure. The majority disaggregated the expense from other expenses included in administrative expenses or operating costs, but a few of them aggregated advertising expense with other costs such as travel and sales team expenses.
- 2.65 This supports the findings from both the qualitative and survey research conducted by the UKEB that has consistently found users want more disaggregated information on significant expenditure on intangibles that is not recognised in the balance sheet of companies.

Sample financial statements review

- 2.66 The data collected from the sample of UK listed companies’ financial statements and disclosure notes suggest that there is diversity in how intangible assets are disaggregated and categorised by companies. Some of the diversity observed appears to be industry sector specific. However, other aspects, such as whether goodwill is reported separately from other intangible assets on the face of the balance sheet, or the amount of information about expensed intangible items, do not appear to be industry-related.

3. Intangibles and acquisitions

Introduction

- 3.1 As noted in the previous section, the requirements of existing IFRS accounting standards mean that companies growing via acquisition drive the overall prevalence and distribution of intangible assets reported for UK listed entities²⁰.
- 3.2 This section examines the extent to which M&A activity correlates with recognised intangible assets, as well as implications for comparability between companies which arise from the inconsistency in accounting for acquired and internally generated intangibles. Further information about M&A activity in the UK is reported in Appendix D.
- 3.3 Data was collected from the Thomson Reuters Eikon and Datastream databases for all corporate transactions involving UK listed companies between 2011 and 2021.²¹

Background

- 3.4 The problem that requirements under IFRS Accounting Standards generally lead to inconsistent accounting for intangibles depending on whether they are acquired externally or internally generated is well-known and debated extensively in both the accounting and economics literature (for recent contributions, see Ewens, Peters and Wang, 2022; Ma and Zhang, 2023).²²
- 3.5 The economics literature suggests that intangible assets may have become one of the main drivers of M&A activity. Traditionally, deals were viewed as a means to reallocate tangible capital from firms with low productivity to those with high productivity (Jovanovic and Rousseau, 2002). However, the prevailing view on the motives of M&A is changing, considering that intangible assets represent an increasingly important share of the fair value consideration of M&A deals (see paragraphs 3.8-3.15 below).

²⁰ Under IFRS 3, acquirer companies are required to recognise acquired identifiable intangible assets separately from goodwill. However, under IAS 38, there are various prohibitions on capitalisation of internally generated intangibles, with only development costs (including software development costs) being permitted to be recognised as intangible assets, if six criteria within the standard are met.

²¹ The data obtained from Reuters-Eikon was cross-validated using ONS data on M&A activity in the UK. The cross-validation exercises confirmed the accuracy of the data obtained from Thomson Reuters Eikon. Appendix XX contains further detail.

²² For a comprehensive overview of the issue see Tsavoulatas, André and Dionysiou (2014). For a discussion on the recognition of brands specifically, see Sinclair and Keller (2014, 2016).

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- 3.6 As intangible assets are difficult to acquire as stand-alone items on the market, and obtaining information about them is costly, deals are often the most efficient way to acquire intangible assets.
- 3.7 In many industries intangible assets have become the key driver for M&A activity (see for example Bhattacharya and Li, 2020). There is evidence that companies that have exhausted their internal growth opportunities acquire intangible assets and technology to expand their business (Levine, 2017; Bhattacharya and Li, 2020) Several recent studies also consistently find that intangibles acquired in a deal have a positive correlation or effect on acquirer's economic performance and key performance indicators. For example, Mazulis, Resa and Guo (2023) find that acquirers whose deals are characterised by a higher share of intangible assets over fair value of consideration (excluding goodwill) have higher stock market returns in the three years following the deal, suggesting that shareholders of such companies are better off.

Correlation between intangibles recognition and acquisitions

- 3.8 This section analyses the extent to which intangible assets recognition is correlated with M&A activity. This examination is grounded in the recognition rules under IFRS *Accounting Standards*, whereby intangibles are much more easily recognised under IFRS 3 *Business Combinations* than under IAS 38 *Intangible Assets*, as well as in concerns expressed by stakeholders in the Qualitative Report (see Qualitative Report, paragraphs XX-XX and XX-XX) and in the Survey Report (see Survey Report, paragraphs XX-XX and XX-XX).
- 3.9 Institutional and firm-level factors affect the companies' incentives to acquire another company. For example, the availability of suppliers, potential target companies, and competition are some institutional factors that may have differential impacts across companies. Firm-level considerations which impact this decision include the costs the firm would face to produce, the skills to perform the process, quality measures and the ability to cope with volume changes.

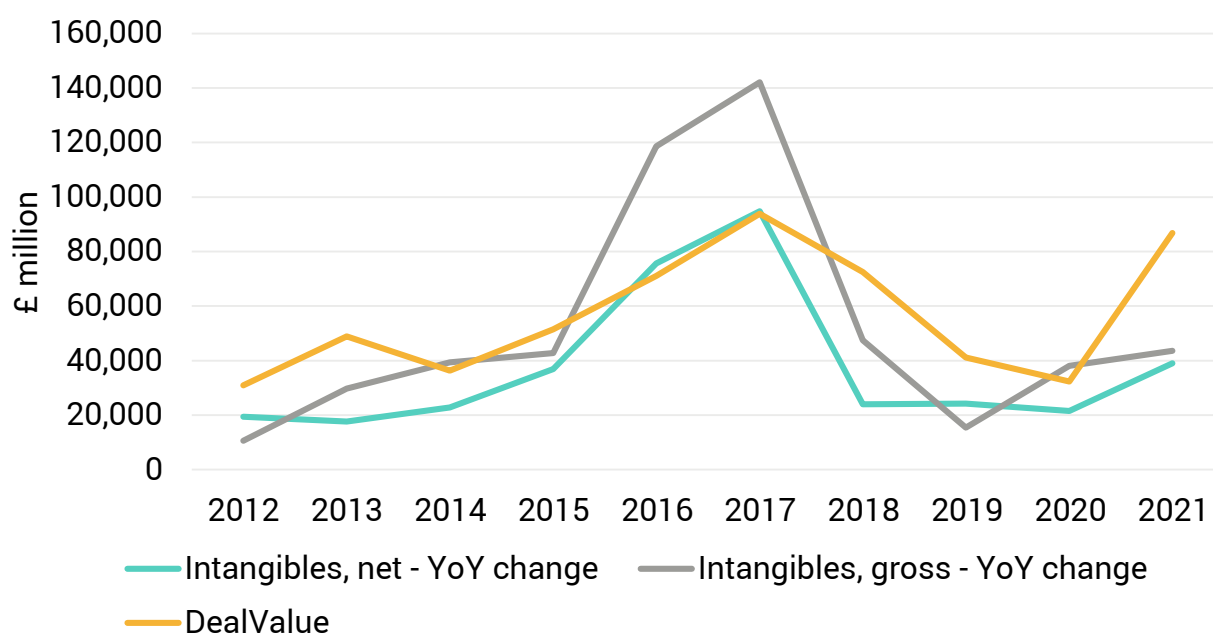
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- 3.10 This section computes a correlation between the value of acquisitions^{23,24} and the change in recognised intangibles on companies' balance sheets.
- 3.11 Conceptually, the most appropriate measure to capture intangible assets recognition would be the year-on-year change in gross intangible assets. However, Reuters-Eikon data is characterised by many missing values on the field of gross intangibles because companies often do not report the breakdown between gross intangible assets, accumulated amortisation and intangible assets net of amortisation and impairments in the notes to the Financial Statements, from which the Reuters-Eikon draws. Therefore, analyses are conducted using *both* gross and net intangibles, and results are compared for robustness.²⁵
- 3.12 A simple plot of the year-on-year change of gross and net intangibles against the value of acquisitions shows that these two time-series are correlated.

²³ Reuters-Eikon classifies mergers and acquisitions in a non-standard way. Mergers in Reuters-Eikon are either “true mergers” or acquisitions where the buyer acquires 100% of the target companies. That may include business combinations under common control. Acquisitions are instead deals where the buyer buys less than 100% of the target companies but may nonetheless acquire control. A business combination is defined as an acquisition under IFRS 3 when control passes to an acquirer, but the data does not allow reverse engineering when the buyer exerts control in the absence of a majority stake. Empirical analyses show however that many acquisition that led to the recognition of intangible assets (such as the acquisition of Reynolds by Imperial Brands) were classified as generic “acquisitions of assets” by Eikon. For the purposes of this examination of mergers and acquisitions as classified by Reuters-Eikon are therefore lumped together, excluding however business combinations under common control when identified.

²⁴ Under IFRS 3, all business combinations are treated as acquisitions, rather than mergers, with one company identified as the acquirer, and the other as the target. In some deals, such as where the relative balance sheet size of both companies is similar or it is difficult to establish whether control has passed to an acquirer, identification of the acquirer can be a complex judgement. Therefore, it is likely that some business combinations identified as mergers by Reuters Eikon are treated as acquisitions for accounting purposes.

²⁵ On Reuters-Eikon, the year-on-year change in intangible assets is characterised by confounding factors, namely: The year-on-year change of both gross and net intangibles would be affected by disposals, assets held for sale accounted separately as per IFRS 5 Non-current Assets Held for Sale and Discontinued Operations and foreign exchange movements. In addition, the year-on-year change of net intangibles only would also be affected by amortisations and impairments. Therefore, to obtain a cleaner estimate of asset additions through business combinations or internally generated activities, correlations are calculated between M&A deals value, and positive year on year changes in both gross and net intangibles, under the assumption that positive changes would by and large capture recognition of intangible assets during the year.

Chart 10: Correlation between positive yoy changes in intangible assets and M&A activity



Source: Thomson Reuters Eikon. Acquisitions: mergers, or deals where the acquirer has obtained a majority stake.

3.13 Table 2 displays correlation coefficients between the change in recognised intangibles and the value of acquisitions.

Table 2: correlation between recognition of intangible assets and M&A deal value

	Intangibles, net - YoY change	Intangibles, gross - YoY change	Acquisitions - deal value
Intangibles, net - YoY change	100%	96.18%*	72.46%*
Intangibles, gross - YoY change	96.18%*	100%	73.70%*
Acquisitions - deal value	72.46%*	73.70%*	100%

Note: * = statistically different from zero at the 5% level.

3.14 The key takeaways from this analysis are:

- a) The change in gross and net intangibles capture nearly the same information, as evidenced by the almost perfect correlation between the two (96.18%). This suggests that missing values are likely to be randomly distributed across companies and therefore the two indicators can be used interchangeably.
- b) The incremental recognition of intangible assets, as measured by the year-on-year positive change in net or gross intangible assets, is positively correlated with acquisitions. The correlation is around 73% with net

intangibles and 74% with gross intangibles, the sign of an existing relationship between the two indicators²⁶.

- 3.15 A correlation does not allow conclusions to be drawn on causality. It is true that asset recognition is a consequence of acquisitions, but, as noted above, it must be noted that companies may embark on a merger because they are motivated to obtain the intangibles held by the target company. The following section provides additional evidence to shed further light on this.

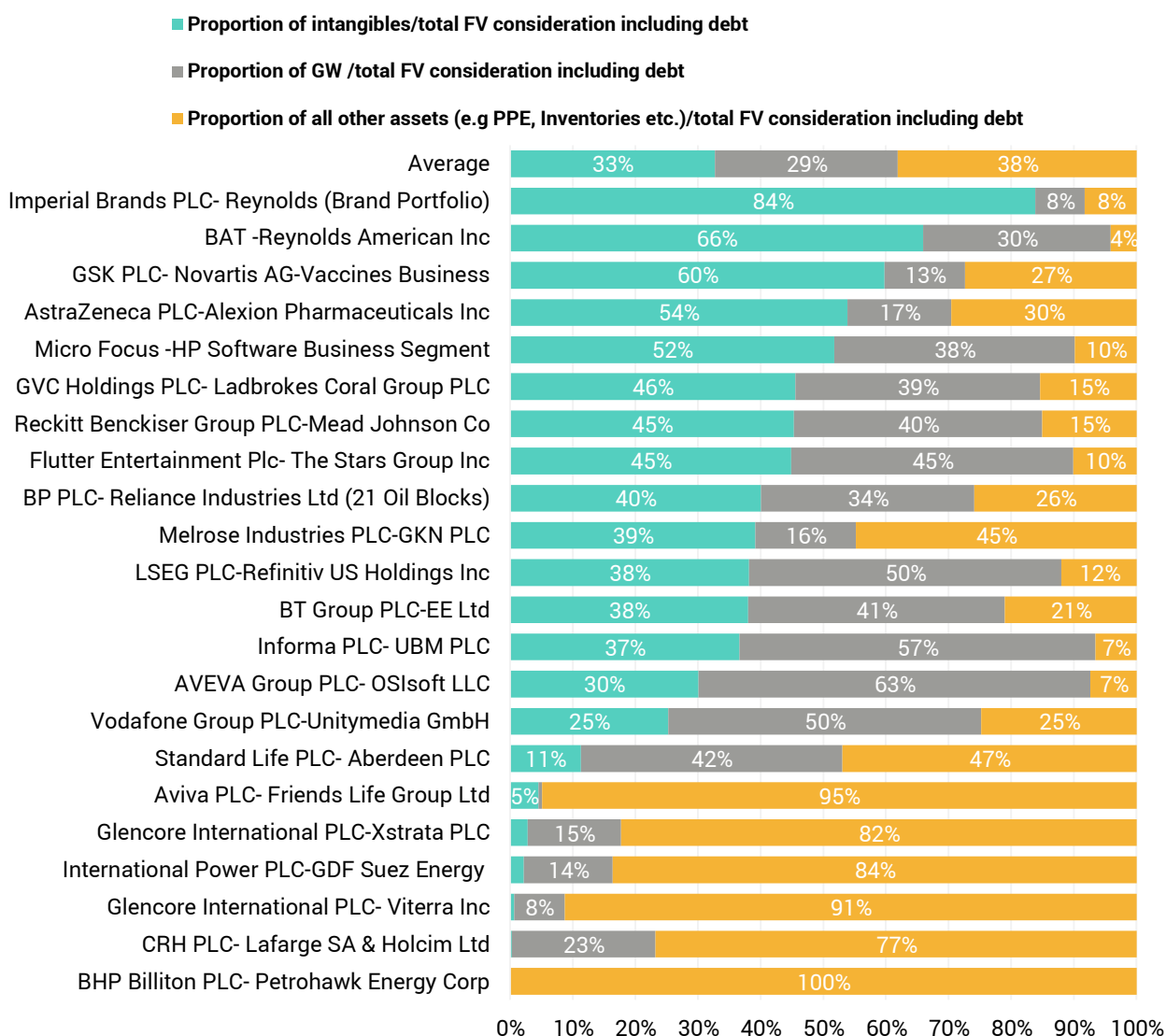
Review of the largest 20 acquisitions over the 2011-2021 period

- 3.16 To investigate whether intangible assets could represent an important driver for engaging in a merger or an acquisition, a review of the largest 20 deals (based on the value of consideration transferred) by UK listed acquirers between 2011 – 2021 was conducted.
- 3.17 The following values were collected for each transaction:
- The fair value of acquired intangible assets;
 - The total fair value of acquired assets and liabilities;
 - Goodwill; and
 - The total fair value of consideration transferred.²⁷
- 3.18 On average, intangible assets (other than goodwill) comprised 33% of the assets acquired. Goodwill accounted for 29% of the assets acquired, and all other assets made up the remaining 37%.
- 3.19 Therefore, total intangible assets (both identifiable and unidentifiable) represented nearly two thirds of the assets acquired in these deals.
- 3.20 It is worth noting though, that the actual distribution can be quite different for each M&A transaction. These findings are presented in chart **XX**.

²⁶ There is no univocal interpretation as to what consists a “weak” or a “strong” correlation, for example <https://link.springer.com/article/10.1057/jt.2009.5> and <https://www.scribbr.com/statistics/pearson-correlation-coefficient/>.

²⁷ The cumulative value of these deals was over £250 billion. A full list of the transactions analysed can be found in Appendix XX.

Chart XX: Purchase Price Allocation: 20 most valuable acquisitions by UK listed entities (2011 – 2021)



Source: Thomson Reuters Eikon.

3.21 These findings are consistent with the existing literature, for example:

- a) Mazulis et al (2023) analyse 5,420 U.S. Mergers and acquisitions between 2002–2021 and found that the share of intangibles over total assets “is on average 27.4%... [And this figure] has grown substantially over the sample period: averaging 20.5% before 2010 and rising to 31.4% by 2021”. The authors also report that goodwill over total assets was 25% on average.

-
- b) EY India (2022) have also reported comparable results, finding that about a third of enterprise value in a business combination can be allocated to intangible assets, goodwill, and all other assets, respectively.²⁸
- 3.22 Accounting for a business combination under IFRS 3 could result in the impression that intangible assets acquired and recognised in a business combination appear “out of thin air”. From an economic perspective this is obviously not true, as not only do these assets exist prior to a deal, but as noted they may often be one of the main drivers of the deal from the acquirer’s perspective. This raises two separate, but related questions:
- a) What is the impact of the inconsistency in the accounting for acquired intangible assets and internally generated intangible items on returns on capital, being a key metric for users of financial statements?
- b) Is it possible to estimate internally generated intangibles that are of economic relevance but are not recognised because of current accounting requirements?
- 3.23 The top 3 deals in terms of recognised intangibles other than goodwill, as shown in Chart XX, were further investigated to understand whether there were common themes in how the deal was reported in the acquirer’s financial statements (both in the narrative and in the notes to the financial statements) in the year of acquisition.
- 3.24 For the 2015 acquisition of Reynolds by Imperial Brands plc intangible assets other than goodwill represented 84% of the consideration. In Imperial Brands plc’s 2015 annual report, the narrative for the acquisition focused on the brands and non-cigarette products which were acquired. The note to the financial statements disaggregating the fair value of assets acquired clearly showed intangible assets being the largest item acquired.
- 3.25 The 2017 acquisition of Reynolds American by BAT plc included intangible assets other than goodwill representing 66% of the consideration. In the BAT 2017 annual report, the narrative for the acquisition again focused on the brands and next generation (i.e., vaping and other non-cigarette) products which were acquired. The note to the financial statements clearly showed intangible assets being the largest item acquired.
- 3.26 The 2015 acquisition of Novartis’ Consumer Healthcare and Vaccines businesses by GSK plc included intangible assets other than goodwill representing 60% of the consideration. In GSK’s 2015 annual report, the narrative for the acquisition focused on the brands, vaccine technology being acquired, and the potential cost savings in the combined businesses. The note to the financial statements clearly showed intangible assets being the largest item acquired.

²⁸ See [EY Purchase Price Allocation Study](#) and also [KPMG Netherlands Study](#)

- 3.27 These three deals show a common pattern of the narrative suggesting brand acquisition being the key driver of the deal is reflected in the purchase price allocation in the financial statements. However, given the judgemental nature of the identification and fair valuation of identifiable intangible assets acquired in a business combination, it is hardly surprising that it was highlighted as a key audit matter in the auditor's report in each case, and that the auditor highlighted in each case management judgements and assumptions underlying the forecast cash flows, growth rates, useful lives and discount rates used to value the intangible assets acquired.
- 3.28 In addition, the 2021 annual report of AstraZeneca, the year in which its acquisition of Alexion Pharmaceuticals, which was one of the very large M&A deals discussed in section 2, was reviewed. The narrative in this case suggested the medicines pipeline of rare medicines was the key deal driver and that is reflected in the notes to the financial statements which show intangible assets as clearly the largest individual item acquired. Again, purchase price allocation was a key audit matter in the auditor's report.
- 3.29 A deal within the top 20 for which goodwill and intangible assets represented a similar proportion of purchase price allocation (50% and 38% respectively) was the 2021 acquisition of Refinitiv by the London Stock Exchange Group (LSEG). In LSEG's 2021 annual report, the narrative for the deal highlighted revenue synergies, specifically the increased access to customers and markets offered by the acquisition, and the expectation that the combined group would develop new data analytics products and services to offer to these customers. Purchase price allocation was again a key audit matter in the auditor's report, and within the notes to the financial statements, intangible assets, specifically those relating to customer contracts and relationships are clearly shown as the largest individual items acquired.
- 3.30 Three deals in which the proportion of acquired intangibles other than goodwill was much lower were also investigated to understand whether there were common themes in how the deal was reported in the acquirer's financial statements (both in the narrative and in the notes to the financial statements) in the year of acquisition, and whether these themes differed from those emerging from the top 3 deals described above. These three deals were chosen for further investigation because two were in the same industry (financial services) and the third was in an industry where tangible assets are more likely to drive deals than intangible assets (mining).
- 3.31 The acquisition of Aberdeen by Standard Life took place in 2017 and intangible assets other than goodwill represented 11% of the consideration. In Standard Life's 2017 annual report, the narrative discussed the view of Standard Life that this deal was a merger, but explained that the IFRS 3 accounting treatment resulted in Standard Life being the acquirer in the business combination. The narrative focuses on acquisition of customers and synergies between the combined businesses. The allocation of purchase cost was identified as a key audit matter, and the note to the financial statements shows equity securities

and interests in pooled investment vehicles (i.e. financial assets) being the largest item acquired.

- 3.32 The acquisition of Friends Life by Aviva plc in 2015 with intangible assets other than goodwill representing only 5% of the consideration. It is notable also that there was negligible goodwill on this transaction. The narrative about the deal in the Aviva 2015 annual report focuses on synergies, specifically cost savings in the combined businesses, and acquisition of investment funds. This is consistent with the note to the financial statements, which shows investments as the largest item acquired. Again, purchase cost allocation was identified as a key audit matter.
- 3.33 Finally, for the acquisition of Xstrata by Glencore plc in 2013 intangible assets other than goodwill represented less than 5% of the consideration. The narrative about the deal in the Glencore 2013 annual report discusses a shift in the business model to a more capital light business, economies of scale provided by the combination, and reach in emerging markets. The purchase cost allocation is again highlighted as a key audit matter, and the note to the financial statements shows property, plant and equipment (tangible non-monetary assets) as the largest item acquired.
- 3.34 It is interesting to note that the acquirer's narrative themes about the deals with a high proportion of intangible assets acquired are very different from that about the outlier deals with a low proportion of intangible assets acquired. However, there is commonality within industries in terms of the asset profiles acquired – consumer and healthcare acquiring brands and technology, financial services acquiring financial assets, miners, physical assets.
- 3.35 While analysts following an industry have well-developed and sophisticated methods to help them compare financial statements of companies in the same industry that have grown by acquisition, and those that have grown organically. The same may not be the case for less sophisticated users of financial statements, for whom the distorting effect of the different accounting treatments for acquired intangibles under IFRS 3 and internally generated intangibles under IAS 38 may undermine the comparability of financial statements of operationally similar companies in the same industry.
- 3.36 The extent of disclosure about the acquirer's approach to valuing intangible assets in the notes to the financial statements varied greatly among the deals investigated, ranging from: no disclosure, brief disclosure of the overall methodology and key assumptions, up to a detailed step-by-step explanation of the approach followed with key assumptions. The disclosure was limited where intangible assets were not a significant allocation of the purchase price. However, even the larger deals had limited disclosures, for example for the two deals where the intangible assets represented a relatively high proportion of the consideration, no disclosure was made about the valuation approach .

Impact of recognition criteria on returns to capital

- 3.37 The different recognition criteria for purchased intangibles (particularly as part of a business combination) and internally generated intangible assets impact the comparability of financial statements of companies that grow through acquisition and those that grow organically.
- 3.38 One specific consequence of the different accounting treatments for acquired and internally generated intangibles is that book rates of return, such as return on equity (ROE) or return on assets (ROA) may not be comparable between companies that grow organically and companies that grow by acquisition.^{29,30}
- 3.39 To illustrate how the performance metrics may be affected by existing IFRS accounting standards, consider the following ROA calculation:

$$\text{Return on Assets (ROA)} = \frac{\text{Net profit}}{\text{Total Assets}}$$

- 3.40 For an entity which has grown organically, accounting for the spending on intangible items is predominantly **expensed through the P&L**, as opposed to capitalised as an intangible asset on the balance sheet. These divergent treatments would have the following impacts:
- A lower net profit, since intangible-related costs will typically be higher compared with the situation where an asset is recognised on the balance sheet and only annual amortisation costs and impairment losses are charged to the P&L (assuming growing expenditure on intangibles);
 - A lower value of total assets, since intangible assets are not recognised on the balance sheet.
- 3.41 While the net effect cannot be predicted a priori, expensing intangibles rather than recognising them typically leads to a higher ROA.

²⁹ This is noted by Penman (2023) with reference to internally generated intangible assets: "A 'real' economic return on investment compares the income from investment (in the numerator) with the investment made to generate the income (in the denominator). That yields an appropriate measure of profitability, return on investment, that can be compared with a hurdle rate, the cost of capital, to assess over- or underperformance. However, [because of recognition criteria] accountants charge some investment against the numerator, reducing earnings from investment, and leave investment out of the denominator. They are mixing stocks and flows, a primitive mistake in any stocks-and-flows system. And, in so doing, they are omitting information about assets from the balance sheet that can project future cash flows. Good heavens, a perversion!". Just to note that the cited paper does not endorse blanket recognition for intangible assets, as one may incorrectly infer from this out-of-context excerpt, but proposes the concept of "conditional recognition", i.e., recognition of intangible assets for which a reliable useful life and amortisation schedule can be identified.

³⁰ See also an [article](#) on the topic on the Footnotes Analysts.

- 3.42 To better understand how capitalising versus expensing intangibles would affect ROA, a simple illustrative example was developed with artificial data, and is presented in Appendix D starting at Para D11.

Real-life example

- 3.43 To evaluate how expensing as opposed to capitalising intangible expenditure may affect ROA, calculations using financial statement information were conducted for a pair of companies that are similar on a range of characteristics but only differ in that one of them has likely grown via acquisition (as inferred by the intangible assets recognised on the balance sheet), while the other has likely grown organically (as inferred by *the lack of* intangible assets recognised on the balance sheet).^{31 32}
- 3.44 The presence of intangible assets on the balance, is thus used as a proxy to categorise companies as ‘capitalisers’ (which may most likely, but not exclusively be a result of acquisitions) while the absence of intangible assets on the balance sheet is used as a proxy to categorise companies as ‘expensers’. Given that the companies in each pair are similar along a range of characteristics, a performance metric such as the ROA should also be similar for ‘capitaliser’ and the ‘expenser’.
- 3.45 The comparison that follows focuses on a pair of companies in the technology sector and calculates the average ROA for each company over the period from 2017 to 2021. Appendix D includes another example with a pair of companies.

Pair one: technology companies

- 3.46 Company 1 and Company 2³³ are two UK listed entities in the technology industry.
- 3.47 Companies in the technology industry were intentionally selected since it is reasonable to assume that there will be some portion of investment in intangible items expensed through P&L, given the requirements of IAS 38 and the nature of the business.
- 3.48 As at the end of 2021 the two companies:

³¹ The pairs of companies were selected assessing similarity along the following range of characteristics:

- Industry;
- Revenues, operating costs, and profits;
- Total assets excluding intangible assets;
- Market capitalisation.

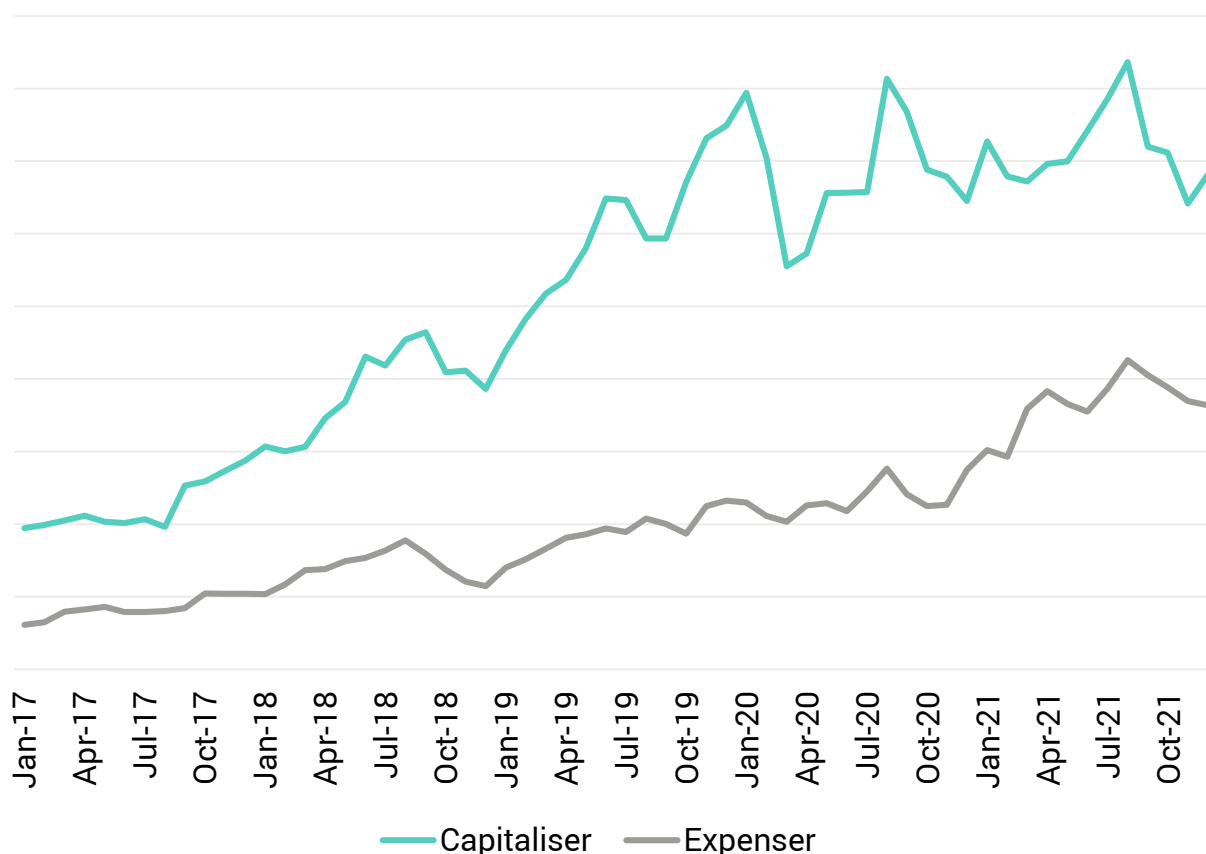
³² In the examples, the names of the companies as well as precise financial and market information have been concealed because of commercial sensitivities. It must be noted that the report intends to provide evidence to improve the accounting for intangible assets but does not aim to provide investment advice (and its authors are not qualified to do so).

³³ Companies were anonymised.

- a) had comparable revenues and operating costs in the range of hundreds of millions (pound sterling). It follows that their operating profits were of a similar magnitude;
- b) had very different levels of intangible assets and goodwill. This is largely because Company 1 has focused on a “growth by acquisition” strategy that has increased its asset base over recent years;
- c) had different though comparable levels of assets excluding intangibles and goodwill, with Company 1 reporting roughly double the assets of Company 2. It must be noted that financial assets and PPE recognised on the balance sheet are relatively unimportant as proportions of total assets for both companies, given the industry being considered.

3.49 The two companies appeared to have very different, albeit correlated, stock prices and market capitalisation figures, with Company 1 (the acquisitive one) characterised by a higher price and market capitalisation. The two companies had comparable levels of market capitalisation, though the two started diverging following completion of M&A deals by Company 1 that were well-received by the market. See Chart **XX**

Chart XX: Market capitalisation of pair of companies

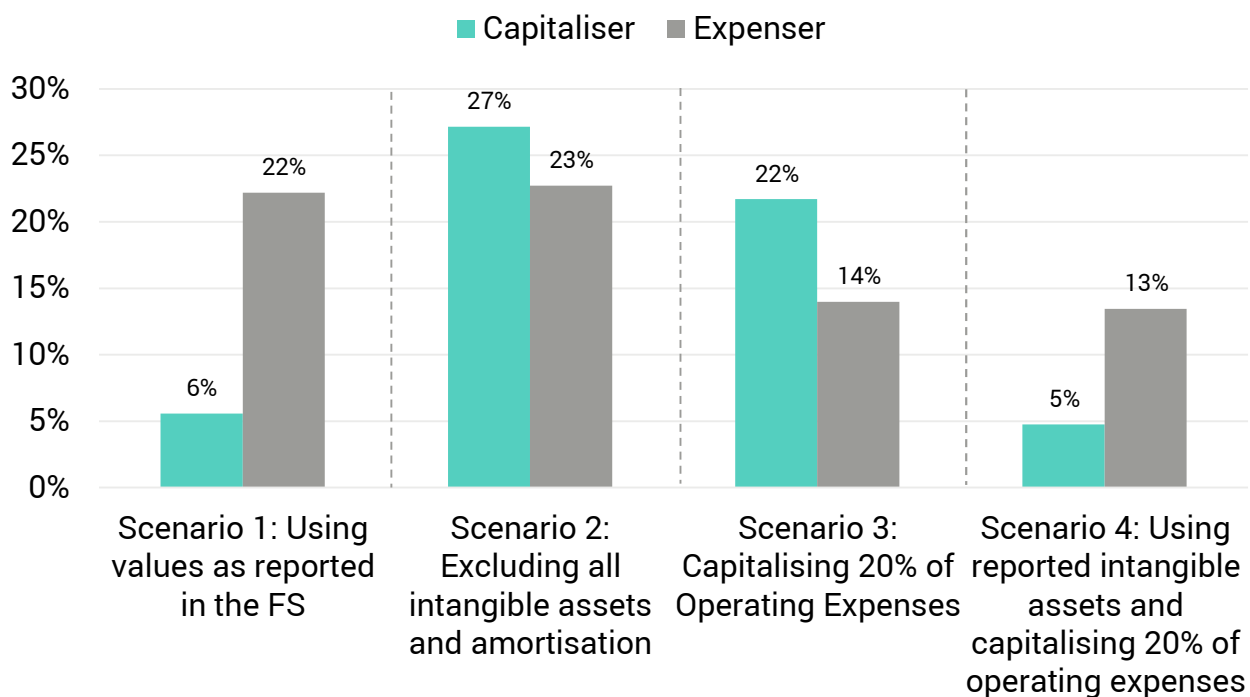


Source: Thomson Reuters Eikon

ROA Comparison

- 3.50 The comparison of the ROA for these companies was conducted under four different scenarios, to see how the accounting for intangibles influences book rates of return. The four scenarios (which were used in sequential order) are as follows:
- Using financial figures as reported in IFRS financial statements;
 - Excluding all recognised intangible assets, effectively treating all intangibles as unrecognised;
 - Capitalising 20% of operating expenses as an intangible asset;
 - Using financial figures as reported and capitalising 20% of operating expenses as an intangible asset.
- 3.51 The results of the first stage of this comparison, which used figures as they were reported in the financial statements, indicate that the average ROA for the company which does not recognise intangible assets was much higher (22%) than compared with the company which capitalises intangible assets (6%), consistent with expectations.
- 3.52 However, in the next scenario, where any intangible assets and amortisation were removed entirely from the financial statements of both companies (a common practice among users of financial statements, see Survey Report, paragraphs XX-XX), the average ROA of both appeared to be relatively similar. The average ROA for the 'capitaliser' increased to 27% , while the ROA for the 'expenser' remained similar, at 23%. This may suggest that their performance (as measured by ROA) may be much more comparable.
- 3.53 The third scenario set the intangible asset base of both companies to zero, and then capitalised 20% of each company's operating expenses as intangible assets in order to recalculate the ROA, in accordance with the academic practice (see paragraphs XX-XX below). The idea is that these adjustments bring both companies to a similar baseline without any intangible assets, and then, capitalises a portion of their expenditure since both companies can reasonably be expected to have some value of intangible expenses.
- 3.54 Under this scenario, the ROA between the two delivered a different story. The capitaliser had an ROA of 22%, while the ROA of the 'expenser' fell to 14%, suggesting that if internally generated intangibles were to be recognised, the performance of the 'expenser' would look worse. This is consistent with the stock price performance of Company 1 relative to Company 2.
- 3.55 Under the fourth scenario, the information reported in the financial statements was added to the 20% of operating expenses to calculate the average ROA for each company. Reintroducing the intangible assets initially recognised on the balance sheet brought the average ROA of the 'expenser' to 13% and for the 'capitaliser' to 5%.

Chart XX: Average return on assets under different scenarios. (2017 – 2021)



Source: UKEB

Intangibles and acquisitions

- 3.56 IFRS recognition criteria lead to a differential treatment of intangibles depending on whether they are internally generated or acquired in a business combination, which leads to comparability issues as acknowledged by stakeholders by and large (see Qualitative Report, paragraphs 3.39-3.48) and users in particular (see Survey Report, paragraphs 2.38-2.58).
- 3.57 Given that the economics literature also suggests that companies that have saturated internal growth often undertake acquisition to acquire internally generated intangibles, the relationship between intangibles recognition and the value of acquisitions in the UK was examined.
- 3.58 Intangible asset recognition appears to be strongly correlated with the value of acquisitions over the 2011-2021 period (74%). While a correlation is hardly surprising, the magnitude of the correlation is suggestive of the scale of the phenomenon.
- 3.59 For the 20 largest deals in the UK reviewed nearly two thirds of the value of those deals, on average, was attributable to intangibles (including goodwill), consistently with what found in other jurisdictions. Narrative reporting and notes to the financial statements seem to suggest that intangibles were an important driver of these acquisitions.
- 3.60 As noted, differential accounting treatment hampers comparisons of companies based on commonly used performance indicators, such as ROA and ROE, a widely known issue among practitioners. This typically leads users to

discard intangibles from their assessments, and/or to re-calculate intangibles assets using their own methodologies, in order to obtain more comparable data.

- 3.61 The comparison performed to understand whether pairs of otherwise similar companies, but with different growth profiles (one organically and one by acquisition) do really show different performance showed higher ROA for the company that had grown internally compared with that grown by acquisition. Stripping out intangibles altogether and capitalising a portion of operating costs to estimate unrecognised intangibles however flips the results, suggesting that the company growing by acquisition was instead the better performer, a result consistent with the stock price movements of the two companies.

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4. Unrecognised Intangibles [requires further development]

Estimating unrecognised intangibles

- 4.1 This section provides an estimate of unrecognised intangible assets based on the Perpetual Inventory Method (PIM)³⁴, a technique commonly used in the academic literature.
- 4.2 Given internally generated intangibles are largely expensed under IAS 38 recognition criteria it is fair to assume that a portion of a company's costs could include expenses related to intangibles which could be expected to provide future economic benefit. For example, a company's costs may include advertising expenses contributing to a company's brand or training expenses contributing to a company's human capital.
- 4.3 An approach taken by the academic literature is therefore to capitalise a predetermined share of a company's general costs. The share of costs capitalised varies between studies, for example Peters and Taylor (2019) (a widely cited paper in this area) recast 30% of SG&A expenditure as investment in intangible capital, and as such an intangible asset. The same study uses five years as an amortisation period for the intangible asset, though again periods vary between studies.
- 4.4 Whilst this method is based on various assumptions and can only lead to an approximation of unrecognised intangible assets³⁵, its widespread use in the academic literature suggests that it can provide a useful estimate. Using this approach allows an estimate to be made of unrecognised intangibles at a market level, together with more granular estimates broken down by industry, company size and index constituency.

Methodology

- 4.5 Expense data from the P&L statements of all companies listed in the UK between 2011 and 2021 was collected from Reuters-Eikon.³⁶
- 4.6 The PIM was then applied to this time series of expenditures, thereby capitalising expenses by adding new investment to a stock of capital that is in turn amortised every period. Different techniques allow the calculation of initial

³⁴ An application of the PIM was presented in the Qualitative report (Paragraphs 2.64 – 2.65), to provide estimates of unrecognised intangible assets (such as brands and human capital) for individual UK listed companies.

³⁵ More recent papers have proposed alternative and arguably more precise methods, see [to add XXX XXX].

³⁶ Only companies for which at least 7 years of data were observed were retained.

values and amortisation rates found in the literature depending on the intangible asset considered.³⁷

- 4.7 For the purpose of this exercise, two sets of alternative assumptions were used. For the first approach, 20% of Selling General & Administrative expenses (SG&A) is capitalised and an amortisation rate of 15% is used. The second approach follows Peters and Taylor (2019) and capitalises 30% of SG&A and an amortisation rate of 20% is used.

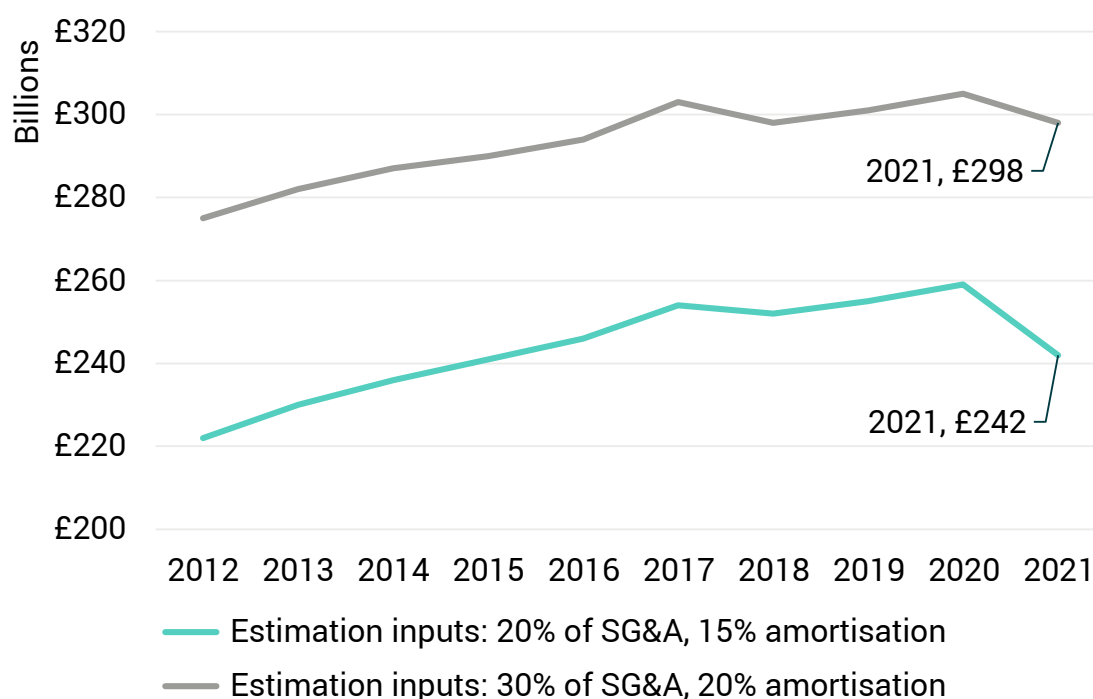
Market-wide estimates

- 4.8 Using the first set of assumptions, it is estimated that at the end of 2021, the value of unrecognised intangible assets for the population of listed entities (see paragraphs XX-XX) was approximately £242 billion. Using the second set of assumptions, the value of unrecognised intangible assets for the same period is estimated to be £298 billion. Contrasting these findings with the intangible assets actually recognised in companies balance sheets – valued at £351 billion – suggests that nearly half of the value of intangible items may be ‘missing’ or from company balance sheets.
- 4.9 This proportion is consistent with published economic estimates of unrecognised intangibles included in the UKEB’s Qualitative report (paragraph 2.53)³⁸.
- 4.10 Over the period considered, the estimates of unrecognised intangibles were found to have an upward trend, using both sets of assumptions. This is consistent with the growing importance of intangible capital (largely unrecognised) as a driver of the knowledge economy.
- 4.11 These findings are presented in chart XX

³⁷ For branding, amortisation rates are typically assumed to be 45%-50% depending on the contribution. For R&D they are generally assumed to be 15%. For a generic intangible asset, they are assumed to be 20%-30% depending on the contribution. See Villalonga (2004), for example, where R&D is amortised at a 15% annual rate, and advertising at 45%; Bontempi and Mairesse (2014), where the total stock of intangible capital is amortised at a 30% rate; Peters and Taylor (2017), who capitalise 30% of SG&A and attribute this to intangible assets; Mairesse and Mulkay (2007), who apply a 15% rate to R&D; Bongaerts, Kang and Van Dijk (2022) who capitalise 20% of SG&A and attribute this to intangible assets. For some intangible asset types, amortisation rates are not separated from success rates, because of the difficulty in identifying a success outcome (how to unequivocally measure whether, say, a marketing campaign or a training programme, was successful?). Because of its nature, the success of R&D can be more easily calculated as successful R&D programmes give rise to enforceable rights such as patents and licences.

³⁸ Martin, J. (2019). Measuring the Other Half: New Measures of Intangible Investment from the ONS. National Institute Economic Review, 249(1), R17–R29. <https://doi.org/10.1177/002795011924900111>

Chart XX: Value of unrecognised intangible assets for UK listed entities (£' Bn)



Source: UKEB

Company-level estimates

- 4.12 The average value of unrecognised intangible assets for each listed entity in the population (see paragraphs XX-XX) was estimated to be in the ballpark of £400 million in 2021 (dependent on the proportion of SGA and amortisation rate used in the estimations). This is in close comparison to average value of recognised intangible assets across the listed company population analysed in section 2, which was approximately £360 million in 2021.
- 4.13 A significant degree of skewness in the distribution of unrecognised intangible assets was also found, which aligns with the results reported in Section 2 about the concentration of recognised intangible assets from the population analysis. Despite the average value of unrecognised intangible assets being around £400 million per entity in 2021, the median value was approximately £20 million, suggesting that a few large companies hold the majority of unrecognised intangible assets.
- 4.14 As further evidence of this, the threshold of the third quartile (i.e., the value after which the largest 25% of observations are found) is approximately £140 billion.
- 4.15 The distribution of unrecognised intangible assets per quartile of market capitalisation also shows a strong degree of concentration among the largest 25% of entities. The estimations indicated that listed entities in the fourth quartile would account for 92% of unrecognised intangible assets. Similarly, breaking down the estimates by index constituency, the FTSE 100 is estimated

to hold the largest proportion of unrecognised intangible assets (between 77% and 89% of the total depending on the assumptions used). Entities which are constituents of the All-Share Index (excluding FTSE 100) accounted for between 10% and 20% of the total, while AIM companies accounted for <3%.

- 4.16 The breakdown of the estimates across industries indicate that the consumer staples, consumer discretionary, industrials and health care industries hold the largest proportions of unrecognised intangible assets. This could be due to the large outlays on research which does not meet the recognition criteria for capitalisation, advertising and maintaining customer relationships. At the end of 2021, these industries are estimated to hold a combined total 66% of unrecognised intangible assets.
- 4.17 Entities in the technology, basic materials and utility industries were found to be among those with the lowest amount of unrecognised intangible assets using these estimates.
- 4.18 Entities in the technology industry are estimated to hold 1.66% of the total unrecognised intangible assets. This may be a result of the investment in intangibles by this industry being relatively much smaller in magnitude to other industries.
- 4.19 The basic materials and utilities industries held 6.72% and 1.71% of the total unrecognised intangible assets respectively. These relatively low concentrations align with the relatively low prevalence of recognised intangible assets observed in these industries, reported in section 2.

5. Section 5: Conclusions

UKEB Heading 2

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Appendix A: Glossary

Term	Description
Amortisation	the systematic allocation of the depreciable amount of an intangible asset over its useful life
Acquired	purchased in a business combination
AIM	Alternative Investment Market. A sub-market of the London Stock Exchange that is not a 'regulated market'
Annual report	Annual report and accounts
Capitalised	Recognised as an asset on the balance sheet
Consideration	payment made by the acquirer in a business combination; may be cash or non-cash
expensed	Recognised as an expense through the statement of profit and loss
Fair value	The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. (IFRS 13 definition)
Financial statements	Published annual financial statements including notes to the accounts
FRC	Financial Reporting Council
Goodwill	An asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised (IFRS 3 definition)
IAS 38	IAS 38 Intangible Assets

Term	Description
IASB	International Accounting Standards Board
IFRS Accounting Standards	Accounting standards developed by the IASB
IFRS 3	IFRS 3 <i>Business Combinations</i>
Impairment	A situation in which the carrying amount of an asset on the balance sheet exceeds its recoverable amount
Intangible item	An identifiable item without physical substance
Intangible asset	An identifiable item without physical substance which meets the recognition criteria to be capitalised on the balance sheet
Internally generated	Produced through organic growth rather than as a result of acquisitions
Key audit matter	Those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements of the current period. Key audit matters are selected from matters communicated with those charged with governance (ISA 701, paragraph 8)
M&A	Mergers and acquisitions
P&L	(Statement of) profit and loss
R&D	Research and development
Secretariat	The technical staff of the UKEB
SG&A	Selling, general and administrative – a categorisation of expenses
UKEB	The UK Endorsement Board

Term	Description
Unrecognised	An item which has not been recognised in the financial statements
Value relevance	The ability of a company's financial information to influence investment and lending decisions, in turn affecting their valuation in financial markets

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Appendix B: Research Methodology

- B1. This Appendix provides further details on how the population and the sample used to conduct this study were selected.
- B2. The two forms of analysis are intended to complement each other. Population data allowed for a broad analysis of the prevalence of intangibles across the population of companies listed on the London Stock Exchange. The sample data allowed for more detailed analysis of granular information such as the specific types of intangibles in the financial statements and qualitative information disclosed in the notes, conducted on a more limited number of companies.

Population

- B3. The quantitative analysis of the population focuses on all companies listed on the London Stock Exchange (LSE), including on the Alternative Investment Market (AIM), who apply IFRS accounting standards and were not purely investment vehicles (e.g., listed funds and trusts). As of 2021 there were a total of 1093 companies with these characteristics, 731 of which were listed on the AIM.
- 5.1 Population data was collected from the Thomson Reuters Eikon and Datastream databases, and was comprised of companies' financials, performance metrics, industry classifications, index constituency, and capital markets indicators (e.g., market capitalisation).
- 5.2 Data from the year-end financial statements of each entity for the 2011-2021 period was used.
- B4. Table XX provides summary data for the population of companies analysed in this report, broken down by year:

Table XX: Population summary data

Year	Total Assets (£'tn)	Total Revenue (£'tn)	Total Market Capitalisation (£'tn)	Number of companies
2011	9.73	1.96	1.25	1,173
2012	9.55	1.99	1.37	1,181
2013	9.02	2.03	1.68	1,176
2014	9.17	1.93	1.66	1,204
2015	9.06	1.67	1.74	1,210

2016	10.40	1.76	1.82	1,172
2017	10.60	2.06	2.31	1,174
2018	10.72	2.09	2.23	1,144
2019	11.05	2.10	2.21	1,098
2020	11.79	1.65	1.91	1,055
2021	11.50	1.80	2.55	1,093

Source: Thomson Reuters Eikon

Sample

- B5. The analysis of the population of entities was complemented by the review of the financial statements of a random sample of 80 companies, drawn from the population of companies listed in 2021 (therefore including companies listed on both the main market of the LSE and on AIM). The sample was stratified by quartile of market capitalisation, meaning that 20 random companies were drawn for each quartile.
- B6. A review of the financial statements of a sample of 80 companies listed on both the main market and AIM was conducted to better understand the type and nature of intangible assets recognised therein.
- B7. Statistical analysis (reported in Appendix XX) shows that the features of the sample are not statistically different from the ones of the population, suggesting that randomisation was performed correctly and the sample is not biased. This includes the sample companies having a very similar distribution of intangibles and goodwill to the population.
- B8. The key advantage of hand-collecting information from financial statements for a more contained sample of companies is to allow the review of more granular information about intangibles than that provided can be conducted using information from a data aggregator such as Reuters-Eikon. This is because data aggregators typically contain only information reported on the face of the financial statements, whilst hand-collected data can focus on more granular information contained in the notes to the financial statements. Both IAS 38 and IFRS 3 prescribe notes disclosures about recognised intangible assets.
- B9. Tests were conducted to ensure that the sample was a random draw from the population. To start with, t-tests were conducted to test whether the sample means of a number of indicators (e.g., revenue, market capitalisation, total assets) were different from the population means. The null hypothesis that the means were equal could not be rejected.

- B10. Concerns arose however about the concentration of the data/skewness of the distribution, in that in presence of very skewed distribution the underlying statistical assumptions for a t-test may not be respected.³⁹ To overcome this issue, other tests were conducted, for example a median test, to check whether the whether the sample medians of a number of indicators (e.g., revenue, market capitalisation, total assets) were different from the population medians⁴⁰, as well as t-test conducted excluding the largest 5th percentile of companies by market capitalisation. All tests could not reject the null of equal medians/means, suggesting that the sample was a random draw from the population.
- B11. The collection of a random sample ensured that the review was not biased towards characteristics like company size and industry and therefore that the results could be generalised, compatibly with the sample collected.
- B12. The summary statistics of the sample of companies drawn from the population is provided in Table XX.

Table XX: Sample summary statistics

	Total Assets (£'bn)	Revenue (£'bn)	Market Capitalisation (£'bn)
Mean	10.57 (0.3919) [†]	3.02 (0.08342) ^{***}	3.27 (0.1834) [*]
Median	0.27	0.26	0.55
Standard deviation	65.69	8.72	12.02
N	80		

Significance: *** 0.05, **0.1, *0.2

Note: † refers to p-value obtained from Wilcoxon test, the p-value > 0.1 suggests that the null hypothesis that the distribution of the sample of total assets is different from the distribution of total assets in the population cannot be rejected, indicating a randomly selected value from the sample is assumed to be equal to a randomly selected value of population

³⁹ More in detail, in presence of very skewed distributions the Central Limit Theorem (CLT), which states that the sample mean has a normal distribution regardless of the underlying distribution of its data, may not be valid. This assertion was tested by calculating sample means of 1000 randomly generated samples of 80 companies drawn from the population and testing whether those were normally distributed – which led to the conclusion that they were not. The same exercise was conducted excluding the largest 5% of companies, which led instead to the conclusion that the sample means were normally distributed.

⁴⁰ As noted by Fagerland and Sandvik (2009) “When distributions deviate from normality, several approaches are available. The most common non-parametric alternative is the Wilcoxon–Mann–Whitney (WMW) test.” Additionally, “...for markedly skewed distributions, the mean can be a poor measure of central tendency because outliers inflate its value. This can be ameliorated by removing the smallest and the largest values in the sample”. These findings justify the approach of testing the representativeness of the sample using both a Wilcoxon test and a ‘trimmed dataset’ which excludes outliers.

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Appendix C: Intangibles Terminology

Software related	Customer related
Acquired software and IP & Internal Software Development	Acquired customer relationships
Application software	Acquisition related intangible assets - customer related
Capitalised software	Contracts and other intangibles
Computer software (16)	Customer relationships & contracts (3)
External software	Customer & distributor relationships
Other software assets	Customer contracts
Portal	Customer contracts & relationships (5)
Purchased software (2)	Customer lists
SIP, RTP and SBC licences	Customer lists, contracts, licences and other assets
Software (11)	Customer relationships & Supply agreements
Software and licences	Customer relationships (12)
Software development	Customer relationships and brands
Software Licenses	Customer relationships and contracts
Research & Development	Brand related
Assets under construction (2)	Brand names
Assets under the course of development & Power Supply licence & Website development costs	Brand names / Intellectual property & trademarks
Capitalised Development (3)	Branding
Development & website costs	Brands (12)
Development costs & Know how	Brands and intellectual property
Development costs (7)	Brands, trade names and patents
Development costs/ Patents and licences	Intellectual Property
Development expenditure	Intellectual Property Rights
Intellectual Property	Licences and trademarks/ Intellectual property
Internal Developments & Technology Platform	Patents, brands and trademarks
Internally generated IP	Patents, trademarks and licences
Know-how & Assets in course of construction	Trade names (2)
Landfill void	Trademark (3)
Licences (3)	Trademarks & Franchise agreements

License and patents	
Patents and licences	
Product development costs & Technology	
Product related intangibles	
Technology	
Website & Patents	
Website and development costs & Website technology	
Website development	
Website platform	
Other related	Acquisition related
Contracts and other intangibles	Acquired intangible assets
EUA/ROC/RECs	Acquired research and technology
Other (5)	Acquired technology
Other identified intangibles	Acquisition intangible assets
Other intangible assets (6)	Acquisition related intangibles

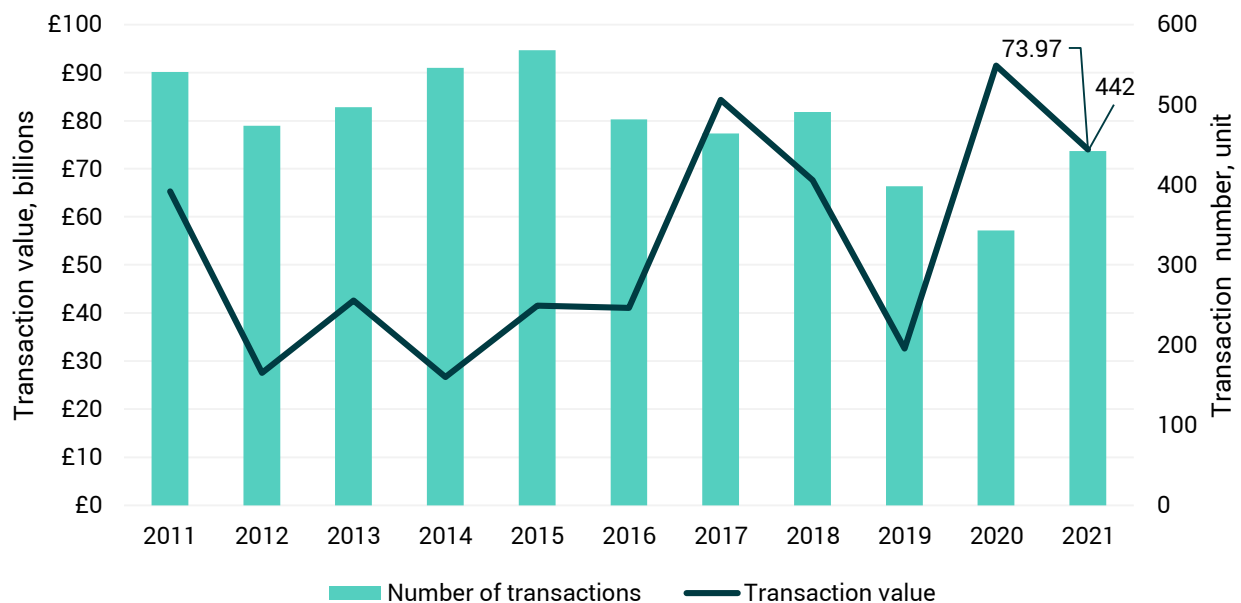
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Appendix D: Acquisitions – market-level trends

Acquisitions – market-level trends in the UK

- D1. Data was collected for all corporate transactions conducted by the companies in the population (excluding funds and trusts) from the Thomson Reuters-Eikon database over the period from 2011 to 2021. The data comprises of all completed corporate transactions where the target entities could be domiciled in the UK or outside of the UK and could either be listed or unlisted. The types of transactions analysed excluded share buybacks and any internal organisational restructuring.
- D2. Chart XX shows the general trend in acquisitions by UK listed entities between 2011 and 2021.

Chart x: Value and number of corporate transactions by UK listed acquirors 2011 - 2021

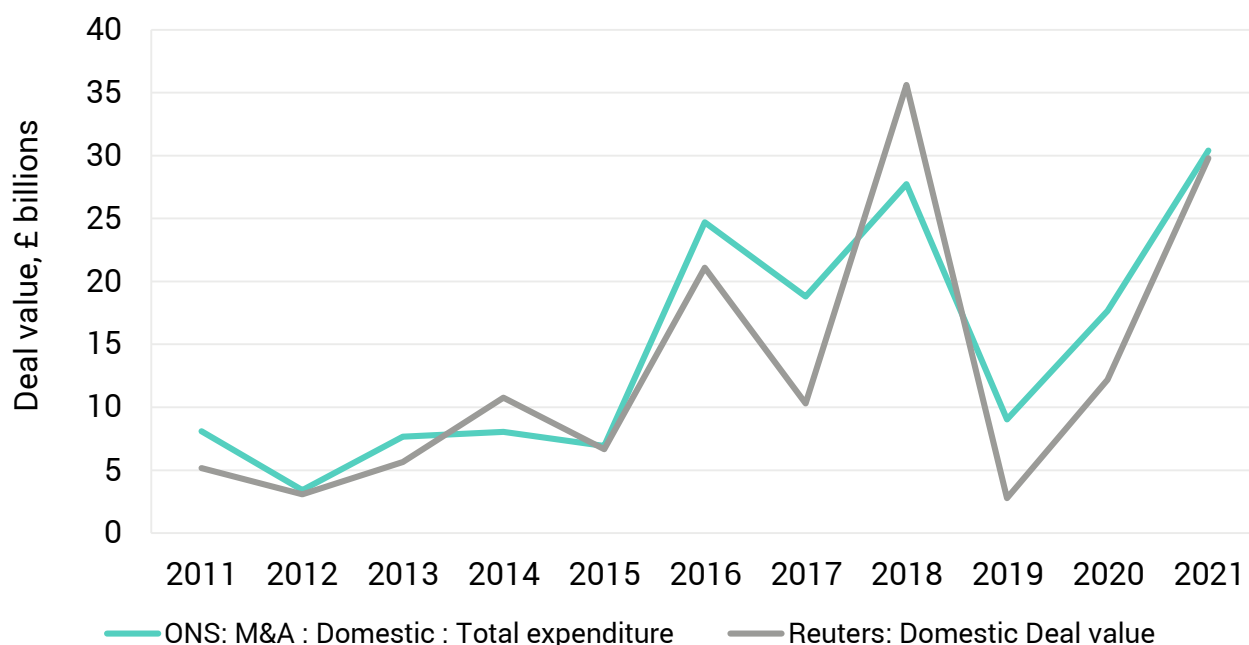


Source: Thomson Reuters-Eikon.

- D3. During 2021, a total of 442 transactions were completed with a combined value of nearly £74 billion. Over the period, an average of 476 transactions were completed per year with an average total deal value of £54 billion per year. The data shows no clear trend over the period with respect to the value or the number of deals.
- D4. To ensure the robustness of any further analyses, the data obtained from Thomson Reuters-Eikon was cross-validated against ONS data.

- D5. Chart XX plots the value of domestic deals⁴¹ as calculated by the UKEB using Reuters-Eikon data against the value of domestic deals as published by the ONS. The two time-series show a high degree of correlation (92%).

Chart XX: Thomson Reuters Eikon data versus ONS data, mergers, correlation



Source: Thomson Reuters Eikon, ONS

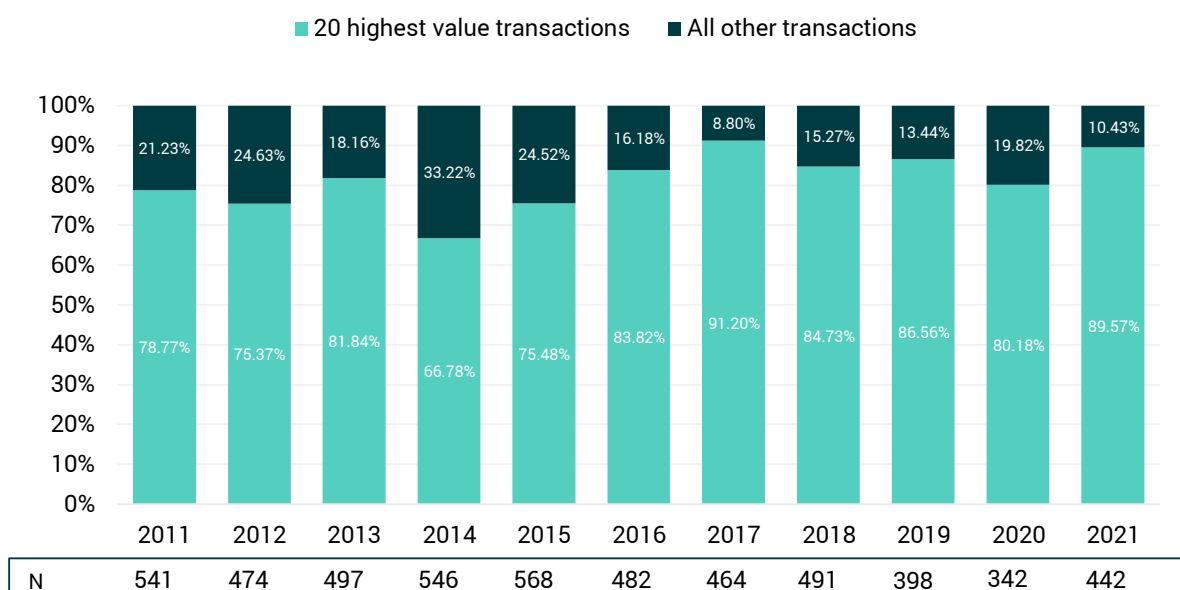
- D6. A similar review was conducted on the value of foreign deals, leading to comparable results.
- D7. The cross validation suggests that the data on acquisitions from Reuters is robust.

Concentration of acquisitions in the UK

- D8. The value of corporate transactions involving UK listed acquirers was found to be highly concentrated in each of the years considered.
- D9. The 20 largest transactions by consideration transferred, were found to represent ~67% or more of the total value of all transactions in any given year.
- D10. Chart XX illustrates the relative share of the 20-largest transactions to the total deal value for each year from 2011 to 2021.

⁴¹ Transactions in which both the acquirer and the target company are domiciled in the UK are considered domestic.

Chart XX: Concentration of the value of corporate transactions



Source: Thomson Reuters-Eikon.

D11. Given that the recognition of intangible assets was found to largely be driven by corporate transactions, the 20 the largest transactions which took place in between 2011 and 2021 were analysed to determine how prevalent intangibles were within these deals. Since the concentration of deal value was highest among the 20 largest transactions it is expected that this review would provide the most meaningful information.

D12. The transactions analysed are listed in table **XX** below.

Table XX: 20 largest M&A transactions by fair value consideration, 2011-2021

N o.	Acquiring entity	Target entity	Total consideration (£ Mil)	Acquiror Industry	Year of completion
1	British American Tobacco PLC	Reynolds American Inc	71,915	Consumer Staples	2017
2	AstraZeneca PLC	Alexion Pharma. Inc	30,025	Healthcare	2021
3	Glencore PLC	Xstrata PLC	29,496	Materials	2013

4	Reckitt Benckiser Group PLC	Mead Johnson Nutrition Co	13,044	Consumer Staples	2017
5	London Stock Exchange Group PLC	Refinitiv US Holdings Inc	12,359	Financials	2021
6	BT Group PLC	EE Ltd	10,971	Telecommunications	2016
7	Vodafone Group PLC	UnityMedia GmbH	9,378	Telecommunications	2019
8	BHP Billiton PLC	Petro hawk Energy Corp	7,244	Energy and Power	2011
9	Melrose Industries	GKN PLC	7,955.70	Industrials	2018
10	Flutter Entertainment Plc	The Stars Group Inc	6,253	Media and Entertainment	2020
11	International Power PLC	GDF Suez Energy Services Intl	6,208	Energy and Power	2011
12	Aviva PLC	Friends Life Group Ltd	5,975	Financials	2015
13	Micro Focus Intl PLC	HP (Software Segment)	5,021	High Technology	2017
14	Imperial Brands PLC	Reynolds American Inc-Cigarette Brands	4,613	Consumer Staples	2015
15	CRH PLC	Lafarge SA & Holcim Ltd	4,610	Materials	2015
16	BP PLC	Reliance Industries Ltd-21 Oil Blocks	4,317	Energy and Power	2011
17	Informa PLC	UBM PLC	4,190	Media and Entertainment	2018
18	Standard Life PLC	Aberdeen PLC	4,089	Financials	2017
19	GlaxoSmithKline PLC	Novartis AG-Vaccines Business	3,979	Healthcare	2015

20	AVEVA Group PLC	OSIsoft LLC	3,825	High Technology	2021
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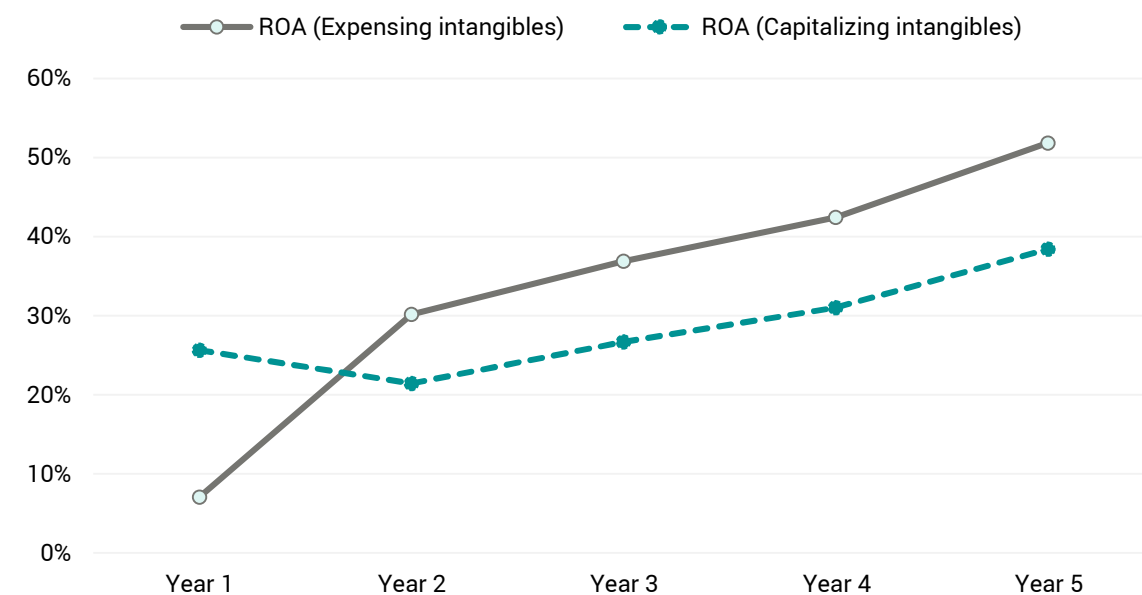
A simple illustrative example of capitalising versus expensing intangibles

- D13. To understand how capitalising versus expensing intangibles would affect ROA, a simple illustrative example was developed with artificial data, reported in table XX below. The following assumptions were used:
- Five years of data are generated for an individual company under two scenarios: one in which it capitalises an intangible asset on the balance sheet, and one in which the costs incurred are expensed through the P&L; the example has been worked out so that the company is profitable;
 - Revenue for each year is randomly generated as $5000\text{CU} \pm$ a random integer between 0CU and 500CU;
 - Cost of sales for each year is randomly generated as $2000 \pm \text{CU}$ a random integer between 0CU and 200CU;
 - Starting PPE is 8000CU, depreciated over a useful life of 10 years. No CAPEX is introduced over the course of the five years for simplicity;
- D14. In example one (capitalisation), an intangible asset with a value of 2000CU is recognised on the balance sheet and amortised over a useful life of ten years. This can be thought of as an acquired asset. In example two (expensing), intangible expenses equal to 2000CU are incurred in year one. These can be thought of investment that is expensed through P&L because it does not meet the capitalisation criteria in IAS 38.

	Recognising intangibles					Expensing intangibles				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	5,164	4,768	4,951	5,232	5,333	5,164	4,768	4,951	5,232	5,333
Cost of sales (excl int expenses)	1,800	1,876	1,913	2,175	2,086	1,800	1,876	1,913	2,175	2,086
Amortisation and depreciation	800	920	828	745	671	800	720	648	583	525
Intangible expenses						2,000				
Profit	2,564	1,972	2,210	2,312	2,576	564	2,172	2,390	2,474	2,722
PPE	8,000	9,200	8,280	7,452	6,707	8,000	7,200	6,480	5,832	5,249
Intangible assets	2,000									
Total Assets	10,000	9,200	8,280	7,452	6,707	8,000	7,200	6,480	5,832	5,249
ROA (Capitalizing intangibles)	26%	21%	27%	31%	38%	7%	30%	37%	42%	52%

- D15. As reported in Table XX, in year 1 under the “expensing” scenario the entity has a lower reported ROA because, all things equal, it would have a much lower operating profit figure than in the “capitalising” scenario.
- D16. However, in Years 2-4 the reported ROA is higher in the “expensing” scenario, consistent with the anecdotal evidence.
- D17. The ROAs over time are illustrated in chart XX.

Chart XX: Return on assets for different treatment of intangible expenditure.



Source: UKEB

- D18. While this model is illustrative of how inconsistent accounting may affect ROA, they are liable to the criticism that results do not reflect real-life conditions. As such, an example using reported data obtained from the financial statements of companies is contained in Section XX of the main body of the report.

References

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