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REPORTING OF R&D COSTS UNDER IAS 38 – THE CASE OF BIOPHARMACEUTICAL COMPANIES

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Abstract

The objective of the paper is to provide insights into the effects of IAS 38 on the financial information provided by companies operating in the biopharmaceutical industry, taking into account the increased expenditure on research and development activities during the COVID-19 pandemic. Financial reports for 2019 and 2020 of BioNTech SE (the company responsible for the development of one of the authorized COVID-19 vaccines) are analysed and given as an example for how the capitalization and expensing of R&D costs affect the information provided by entities. Example for improvement of the R&D accounting treatment is presented in the case of IFRS 6 "Exploration for and Evaluation of Mineral Resources".

Keywords: research and development costs, intangible assets, biopharmaceutical industry, COVID-19 vaccines, accounting policy

JEL: M41

Discussion of the relevant literature

The role of IAS 38 and intangible assets nowadays

The importance of IAS 38 "Intangible assets" has been growing throughout the years of its existence (Mindermann, 2009). Qureshi and Siddiqui (2020) studied the degree to which intangible assets affect financial performance, financial policies and market value of 80 entities from the technological sector in 14 countries around the world. They concluded that intangible assets affect dividend policy and market value positively, due to higher investor interest and trust. Five years earlier Gamayuni (2015) tested empirically the relationship between intangible assets, financial policies, financial performance and firm value of going-public company in Indonesia. The researcher established that the more intangible assets a company owned, the higher its return on assets (ROA). Bubic and Susak (2015) also examined the impact of intangible assets on financial performance of Croatian companies. They showed that EBIT and EBITDA had strong, positive and

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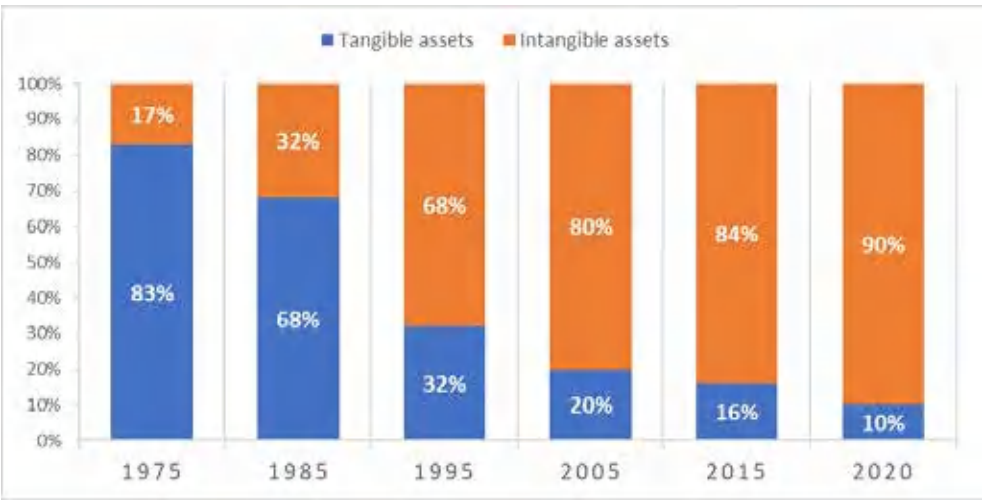
statistically significant relationship with the intangible assets' ratio (intangible assets / total assets). Li and Wang (2014) also present results that research and development (R&D) expenditure and sales training have positive relationship to the ROA of technology companies listed on the Hong Kong stock exchange. Study performed by the Organisation for Economic Co-operation and Development (OECD) show that intangibles assets are positively correlated with productivity (Demmou and Franco, 2021). Additionally, analysis of Demmou et al. (2021) predicted that intangible-intensive sector companies are better positioned to cope with the challenges presented by the COVID-19 crisis.

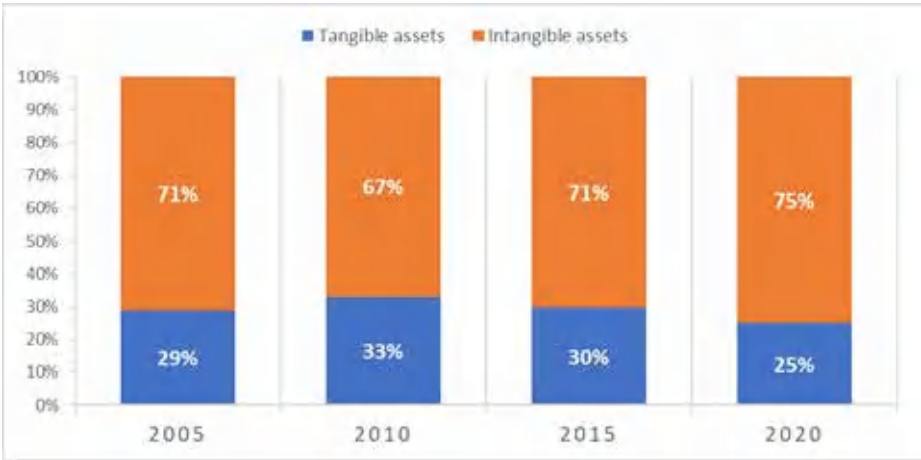
The fundamental cause for the growing importance of IAS 38 is the fact that the relative share of intangible as part of the market value of entities has been increasing. In July 2020 Ocean Tomo LLC updated their study in order to determine what are the components of market value and what is the role of intangible assets across a range of global indices. The results from the study speak for themselves – companies from S&P 500 have experienced a surge in relative share of intangible assets (from 17% in 1975 to the astounding 90% in 2020, Figure 1).



Source: Ocean Tomo LLC (2020).

Figure 1: Components of S&P 500 market value

The same trend can be observed with companies part of S&P Europe 350 (Figure 2) for the period 2005 – 2020.



Source: Ocean Tomo LLC (2020).

Figure 2: Components of S&P Europe 350 market value

The science and practice of accounting have always been tightly related to business life and business development. Naturally, this leads to a bond which predetermines the development of the accounting science and practices – business trends pose business needs which have to be accounted for. Moreover, growth in sectors such as ICT and engineering have allowed for new and more complex business activities. New ideas have presented new opportunities, and new opportunities have led to more creative managerial decisions which have to be reflected in the financial statements of entities.

As a matter of course, the transition from labor intensive to more intellectually intensive business activities have led to the dominant role of intangible assets in the economy of our days. Furthermore, frantic business environment has forced entities to increase their spending on research and development (R&D) which also fall into the scope of IAS 38 (OECD, 2021). This, of course, has been enhanced by the current COVID-19 crisis. Mazzi et al. (2022) explore investors' views on accounting for R&D and how they affect their process of decision-making. They conducted 17 interviews with buy-side and sell-side investors in order to determine what is the level of usefulness of the disclosed R&D accounting information. Four main conclusions can be derived from their study:

1. There is absence of investor engagement in the standard-setting process. The importance of user participation in the standard-setting process have been researched before (Durocher et al., 2007).
2. Investors use R&D accounting information in the process of measuring company value and performance.

3. Large majority of investors supported capitalization of R&D costs and were opposed to expensing.
4. There is lack of guidance and disclosure for R&D costs which allows for managerial manipulation, impairment of comparability and decision-usefulness.

The issues with IAS 38's conservatism will be studied in the following pages in order to determine what are their effects on the financial statements of companies part of the biopharmaceutical industry in today's pandemic times.

The conservatism of IAS 38

In April 2001 the International Accounting Standards Board (IASB) adopted IAS 38 "Intangible Assets". The origins of IAS 38 can be traced all the way back to 1978 when the predecessor of IASB – the International Accounting Standards Committee adopted IAS 9 "Research and Development Costs" which was subsequently replaced by IAS 38. The standard has been revised and amended by the IASB (both in 2004 and 2014), but it still preserved its conservative nature. The six criteria for capitalization of development costs come as a proof of this – they remained practically unchanged since 1997 when they were established in IAS 9 (Mazzi et al., 2022). Nonetheless, IAS 38 appeared to be of a more conservative nature since it required the entity to assess the future economic benefits which are expected from the asset using IAS 36 "Impairment of Assets" as basis (Davies er al., 1999 cited in Mazzi et al., 2022).

The prudence concept established in the Conceptual Framework for Financial Reporting (par. 2.16) requires entities to exercise caution in times of uncertainty, so that assets and revenues are not overstated, and liabilities and expenses are not understated. Naturally, IAS 38 follows this course and poses a high bar for when intangible assets (in particular, development costs) should be recognized in the financial statements of entities. This supports the forming of two logically opposing sides which can be observed in a study of Mazzi et al. (2022). The first side defends the argument that entities should be facilitated in the process of capitalization of development expenditures. Non-recognition of development assets leads to inability of accurate estimation of Return on Assets (ROA) which in turn might lead to under- or over-investing. The opposite opinion is, of course, also relevant and follows the prudence concept in its entirety – assets of the entity should not be overstated due to the fact that this might lead to misleading and untrue financial position and performance. In addition to that, the six criteria for capitalization of development costs are subject to managerial judgment which decreases their objectivity and poses opportunities for managerial manipulation. Moreover, some of the interviewees expressed their dissatisfaction with the un-

clear wording of the criteria which additionally impaired their trust in capitalized development costs.

A good example of being flexible with the prudence concept is the introduction of IFRS 6 "Exploration for and Evaluation of Mineral Resources" in 2004. The standard allows companies to capitalize exploration and evaluation expenditures which are usually subject to high level of economic and technological uncertainty. This is balanced out by the introduction of additional indications for impairment. This results in accounting policy which allows companies from the sector to be more flexible both in recognition and derecognition of intangibles and to provide more relevant information in their financial statements.

The biopharmaceutical industry and accounting treatment of R&D costs

The biopharmaceutical industry has always been one of the most dynamic and innovative industries alongside with automotive, technology and aerospace industries. With the development of biotechnology, the biopharmaceutical field have thrived due to the fact that it is, in most of the cases, reliant on cutting edge technology. With the commencement of the COVID-19 pandemic, the pressure on the industry to develop a vaccine has been growing. This forced companies and governments to invest millions of dollars into R&D activities which naturally brought attention back to the relevance of IAS 38 (Tan, 2020; Deloitte, 2020; RSM, 2020).

The purpose of financial statements is to provide relevant and faithful information to the users of financial information. The investment and financing decision made on the basis of this information can be detrimental not only to individuals, but to economies as a whole (Markova and Hristov, 2021). The pandemic has made biopharmaceutical companies of huge interest to investors (Biospace, 2021) and, in addition to that, government grants have also been directed to biopharmaceutical companies with the purpose of speeding up the process of developing the vaccine (Reuters, 2021). The well-being of the global economy as a whole and intensified spending of public resources are enough reasons to reevaluate the implications which IAS 38 has on financial statements of the entities from the biopharmaceutical industry.

Explanation of the methodology

The main purpose of the paper is to present the problems of R&D expensing and capitalization in the context of the global COVID-19 pandemic. BioNTech SE was chosen as a subject of the study due to three main reasons:

- It is an entity based in Germany and it applies the International Financial Reporting Standards (IFRS);
- It is a representative of the biopharmaceutical industry;

- It is one of the entities which successfully developed one of the approved COVID-19 vaccines which presumably means that they have met the six criteria for capitalization of development costs set out in IAS 38

Effects of R&D capitalization or expensing are measured through four financial indicators (ratios): return on assets (ROA); debt ratio (DR); asset turnover ratio (ATR); and operating margin (OM). Ratios are calculated on two basis: original data, published by BioNTech SE and hypothetical data (where all R&D expenditures are capitalized). ROA and OM are chosen as indicators for profitability; DR is chosen as indicator for leverage; and ATR is chosen as indicator for efficiency. In addition to the effects of R&D accounting treatment on the financial performance of the entity, the paper briefly analyses the usefulness of the accounting information provided under the requirements of IAS 38.

The period analysed is 2019 – 2020 since this is the period of intense R&D expenditure. Data for 2021 are still not officially available.

Data use and sources

Data are derived from the translated financial reports published by BioNTech SE (2019; 2020). Hypothetical data consists of transferring R&D expensing (for 2020) to intangible assets and observing the effects on the abovementioned ratios. Calculation of ratios is presented in Table 1.

Table 1: Calculation of observed ratios

Financial indicators	Calculation
Return on Assets (ROA)	profit for the period / average total assets
Debt Ratio (DR)	total liabilities / total assets
Asset Turnover Ratio (ATR)	commercial revenues (sale of vaccines) / average total assets
Operating Margin (OM)	operating profit / commercial revenues (sale of vaccines)

Source: The authors

Description of the results from the study

In its R&D accounting policy BioNTech SE sets that "*Due to the inherent risk of failure in pharmaceutical development and the uncertainty of approval, management has determined that these criteria*[3] *are not met in the biotech sector until regulatory approval has been obtained.*" (BioNTech SE, 2020, p. 14). Due

[3] AN: the six criteria for capitalization of development costs set out in IAS 38 par. 57.

to this peculiarity of the biopharmaceutical sector, it could be safely assumed that capitalization of development costs can be undertaken only after most of the expenditures have already been incurred (since the project should be complete when presented for approval before government institutions). This implies that in both research and development phases all expenditures should be fully expensed (due to the lack of government approval at those stages).

Table 2 represents the ROA, DR, ATR and OM in the case of full expensing which is the original case of BioNTech SE and full capitalization which is the hypothetical case developed by the authors. Due to lack of disclosure, it was not possible to discern what amount of the capitalized intangible assets were capitalized development expenditures (if any) since they were combined in a group called "Concessions, licenses, in-process R&D and similar rights". Additionally, it was not possible to establish what part of R&D expenses is incurred in research phase and what in development.

Table 2: Financial indicators for 2020

Financial indicator for 2020	Original data (full expenser)	Hypothetical data (full capitalizer)
Return on Assets (ROA)	0.0098	0.2693
Debt Ratio (DR)	0.4083	0.3195
Asset Turnover Ratio (ATR)	0.1948	0.1614
Operating Margin (OM)	(0.2716)	1.8539

Source: The authors

As it can be observed from Table 2 R&D accounting treatment has significant effects on the financial indicators observed. Since intangible assets are one of the components of total assets it is natural that R&D accounting treatment affects all managerial policies which are based on the amount of total or long-term assets. In addition to that, those indicators can affect third parties' decisions such as investing and crediting decisions.

Certainly, capitalization of all R&D expenditures is in no way or form a good practice. The example is developed only for the purposes of presenting the importance of R&D accounting policy for users of financial information. Similar studies have been performed before (Gamayuni, 2015; Qureshi and Siddiqui, 2020; Dargenidou et al., 2021) on the basis of which similar conclusions can be formed.

Conclusion

IFRS 6 "Exploration for and Evaluation of Mineral Resources" was introduced in 2004 in order to reflect the specificities of the extraction of mineral resources. This was provoked by the considerable exploration and evaluation expenditures incurred by companies from the sector. In our days, we observe the same phenomenon with the biopharmaceutical industry.

Rigorous development of business life naturally poses the necessity the six criteria for capitalization of development expenditures set out in IAS 38 to be revised. Following the example of IFRS 6, we may conclude that companies from the biopharmaceutical industry should be given more liberal opportunity to capitalize development expenditures. Currently, this is virtually impossible due to the fact that most of the expenditures are incurred before the date of government approval (which is considered to be the date on which the company meets the six criteria for capitalization). To avoid managerial manipulation through capitalization additional provisions for impairment of such assets should be established. This would encourage companies to make adjustments to the value of the capitalized development costs if such are necessary. In this way, the possibility to overstate the amount of assets in the financial statements of the company is diminished. This would allow companies to be more flexible in their R&D accounting policies due to the ability to recognize and impair development assets more liberally.

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