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The Impact of Lease Capitalization (IFRS 16) on Golden Financing Rules on the Example of the Polish Real Estate Sector

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Abstract

Objective: The article focuses on the impact of the International Financial Reporting Standard No. 16 on the golden financing rules ratios, commonly used in financial liquidity management, informing about the soundness of a company's financing structure. Implementation of the standard was an attempt to include in financial statements more lease-type economic relations that were previously regarded as off-balance sheet items. This, in turn, has a certain effect on enterprises' assets and capital structure.
Material and Methods: The study was conducted on a sample of real estate sector enterprises listed on the Polish stock exchange. The article includes a comparative calculation of the golden financing rules ratios computed without and with the application of the new accounting standard, and is based on the real data from financial statements.
Findings: The calculation proved a significant impact of the new standard on asset and capital structure and, as a consequence, on the golden financing rules within the analyzed sector.
Research limitations: Research is based on financial data at the transition date to IFRS 16 (1st of January 2019) when entities were obliged to implement the new standard and to reveal its impact in the financial statements. Due to that, the possibility of analysing the relevant data in a time series is limited.
Research implications: The obtained results may be substantial information for financial strategy makers in real estate companies, as well as for financial analysts involved in real estate sector research.

Keywords:	Leasing; International Financial Reporting Standard No 16; Golden financing rules; Real estate; Financial liquidity; Financing strategy
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Introduction

Effective from January 1, 2019, entities preparing financial statements in accordance with International Financial Reporting Standards / International Accounting Standards (IFRS/IAS) are obliged to apply the new standard IFRS 16, which covers leasing. IFRS 16 superseded the previously used IAS 17 and introduced significant changes in disclosure requirements for lessees' financial statements.

IAS 17 differentiated financial and operational leasing. The financial leasing settlement in line with IAS 17 assumed disclosure of lease liabilities by the lessee, but this standard allowed the inclusion of operational leasing in off-balance sheet records. IFRS 16 introduced an obligation to include liabilities arising from both of those kinds of lease contracts. Moreover, the new standard sanctioned an obligation to disclose agreements, which are not strictly lease agreements, but they grant a service recipient the right to use an identifiable asset in exchange for payment over the term of the contract (lease-type agreements). The mentioned changes in accounting rules impact asset and capital structure in the balance sheet and thus the way of calculating many commonly used financial ratios, including the golden financing rules' ratios, regarded as one of the most important areas of interest in enterprises' finance.

Taking into consideration the above-described implications of introducing the new accounting standard, the purpose of this article is to investigate the impact of IFRS 16 on enterprise liquidity ratios from a balance sheet perspective due to the reference to golden asset and capital structure rules, i.e. the golden balance sheet rule and golden banking rule. Identification of the mentioned dependencies was conducted by empirical research carried out on the basis of several companies from the real estate sector.

The real estate sector has been chosen due to high capital intensity and a significant share of fixed assets, such as properties, in the total asset amount. Even if such assets like dwellings are disclosed by developers in current assets (inventories), in an economic sense, they are regarded as relatively tough marketable goods, vulnerable to cyclicality and specific local real estate market conditions (Yousef, 2019). It means that special attention should be paid to the financing structure of such assets. The second reason for choosing real estate has been concerned with common use of lease-type rights in this sector, such as tenancy, rental, or perpetual usufruct of land. The above arguments suggest that IFRS 16 may have a significant impact on the asset and capital structure of enterprises within the real estate sector. Selection of the period of financial statements used in the research is a natural consequence of the date of introduction of IFRS 16 – the research includes the last date before implementation of the standard (December 31, 2018) and the first day of its application (January 01, 2019). At this transition, balance sheet date entities were obliged to reveal the impact of the new standard on financial statements in specially dedicated notes to financial statements.

The article is an attempt to answer the question of whether the changes introduced by the standard are only of a reporting nature or, alternatively, the implementation of IFRS 16 was necessary because the previously used method of presentation did not properly reflect the real asset and capital structure in terms of liquidity assessment. The first specific hypothesis of the article assumes that, on average, the changes of asset and capital structure revealed as a consequence of IFRS 16 implementation were material for enterprises within the real estate sector. The second hypothesis assumes that, in general, the asset and capital structure of companies within the real estate sector is still kept at a sound level even after the new standard implementation.

Besides the introduction, the paper is structured as follows. The following section provides a brief review of the literature on leasing capitalization and golden financing rules issues. The next section presents the applied methodology of calculations, source of financial data, along with the theoretical base, essential for the research methodology. It outlines the expected impact of the new accounting standard on the golden financing rules, which might be regarded as the bridge between the theoretical and empirical parts of the article. The empirical part includes numerical results of the conducted survey and the main conclusion on the researched hypotheses. The paper is summarised in the conclusions section.

LITERATURE REVIEW

The article combines two research topics undertaken in the literature, i.e., impact of leasing capitalization on enterprises' financial situation and golden financing rules as a tool of managing the asset and capital structure of enterprises.

Having in mind that the impact of leasing accounting rules might be an important issue from the point of view of a company's decisions affecting its financial position, it seems reasonable to briefly highlight the idea of corporate finance management, with special emphasis on financial liquidity, and characterize this article's research problem as one of the elements of this process.

In general, corporate financial management is a scientific discipline, which covers all financial decisions of a company, generally aimed at maximizing a company's market value for its owners (Damodaran, 2007; Czekaj & Dresler, 2005; Rutkowski, 2016; Madura, 2021; Chandra, 2011; Gajdka & Walińska, 2000; Baker & Powell, 2005; Keown et. al., 2004; Atrill, 2006; Szczepankowski, 2004; Fabozzi & Peterson, 2003; Jog & Suszyński, 1995). One of the tools to achieve this aim is value-based management concept (Dziawgo & Zawadzki, 2011; Krajewski, 2008), the usefulness of which in the real estate sector was also confirmed by several researchers (Uhruska, 2008; Kowalski & Kazak, 2020).

The three main components of corporate financial management are capital budgeting, capital structure decisions, and liquidity management (including working capital) (Chandra, 2011; Jaworski, 2017; Dębski, 2005). Financial liquidity is regarded as the most important, which reflects the view that no business is able to perform in long term if it has no effective working capital management plan (Jindrichovska, 2013).

However, financial liquidity is defined differently in the literature. One of the most common meanings is the ability of enterprises to pay current liabilities (Babuśka, 2018; Grzywacz, 2015; Jaworski, 2017). In the opinion of the author of this article, a company's ability to pay only current liabilities does not reflect the clue of financial liquidity management. In a broader concept, the financial liquidity could be defined as the element of financial management responsible for ensuring optimal structure and flow of cash in the whole cycle of company's performance, beginning from the investment stage, through the operational stage, ending at the company's liquidation, including at all those stages extraordinary, one-off events, on which the company has no influence. This is the reason financial liquidity should be measured not only at dynamic approach based on cash flow but also at a static one based on balance sheet statement (Jerzemowska, 2018; Wrzosek, 2007), which could be reflected in the golden rules of financing.

Golden balance sheet rule and the golden banking rule concern the problem of appropriate asset and capital structure from the risk of financial liquidity perspective.

The golden balance sheet rule recommends covering all fixed assets with equity (Sierpińska & Jachna, 2004). This is the most reliable way of financing of fixed assets because the time horizon of bringing benefits by the assets is of a long-term nature, and thus it is burdened by a high degree of operational and financial risk. Such specific features of fixed assets are well tailored to the nature of equity, which, as a rule, is capital with an indefinite maturity date. It might be stated that the golden balance sheet rule adopts the degree of the asset's risk and profitability related to it as the leading criterion (Dudycz, 2011). This relation is illustrated by the following formula (1).

$$\frac{equity}{fixed\ assets} \geq 1 \qquad (1)$$

Less restrictive is the golden banking rule (also called the silver balance sheet rule) (Sierpińska & Jachna, 2004), the golden financing rule (Wypych, 2000) or the banking balance sheet rule (Gawryś, 2008). The rule allows the financing of fixed assets not only with equity, but with a long-term financial debt as well (formula (2)), thus taking as the leading criterion the degree of property being tied-up and time horizon of capital (Dudycz, 2011). The sum of equity and long-term financial debt is referred to as long-term capital (Grzenkowicz, Kowalczyk, Kusak, & Podgórski, 2017).

$$\frac{long-term\ capital}{fixed\ assets} \geq 1 \qquad (2)$$

Moving forward from the financing rules to the IFRS 16, the standard was introduced to the European Union law by the Commission Regulation (EU) 2017/1986 of 31 October 2017. It regulated accounting principles concerning leasing, applied to publicly listed companies (under a few conditions), and became effective for annual reporting periods beginning on or after January 1, 2019.

The new standard abolished the division into financial and operating leasing from the perspective of a lessee, which was intended to eliminate the previously existing practices of not recognizing operating lease contracts in the balance sheet (off-balance sheet records) (Pfaff, 2020). IFRS 16 went even further, because it applied not only to agreements being named as lease agreements, but to all contracts, whose economic meaning is analogous to lease agreements, i.e., assuming transfer of a specified asset for paid use for a specified period of time. Thus, the standard significantly tightened regulations with regard to the issue of the so-called hidden leasing, which capitalization is one of the topics commonly discussed in the relevant scientific literature.

M. Krawczak and R. Dyląg (2018) indicated that research on principles of operating lease capitalization has been conducted since the 1970s. In an article from 2018, the authors cited nine selected studies conducted between 1991-2016 in various countries, while their research focused on four selected companies listed on the Polish stock exchange. The general conclusion of the article stated that capitalization of operating lease increased debt and return on equity ratios and reduced return on total assets.

Earlier than M. Krawczak and R. Dyląg, in 2016, S. Hońko undertook an assessment of the impact of IFRS 16 on financial statements of one hundred Polish listed companies. However, the research results did not confirm the research hypothesis of IFRS 16 significant influence on financial statements and analytical ratios of companies with the lowest tangible assets (supposedly using a wide range of operational lease). No confirmation of the hypothesis could have happened due to the sample selection method, lack of significant use of operating lease by the sampled companies, or unreliability of information consisting in the lack of disclosure of relevant data (Hońko, 2016).

In contrast to the mentioned study of S. Hońko, the expected (calculated ex-ante) impact of IFRS 16 on average EBITDA, financial leverage, and balance sheet sum for 40 Polish listed companies in a sectoral cross-section, including the real estate sector, was evidenced by T. Iwanowicz in 2018. Similar conclusions were pointed out in the study of I. Górowski, B. Kurek and M. Szarucki (2022), which was based on actual financial data of oil and gas, energy and mining Polish listed companies. The study evidenced that the impact of IFRS 16 on total balance sheet amount, debt to assets and debt to equity ratios is material in terms of materiality thresholds used in financial statements' auditing (0.5%-1.0%). Impact of IFRS 16 on leverage ratios was also confirmed in the recent study by A. Białek-Jaworska, J. Dobroszek and P. Szatkowska (2022), based on actual 2018-2019 financial statements of non-financial companies listed on the Polish stock exchange. However, the paper did not evidence a significant impact on profitability and liquidity ratios. The ambiguous results might have been concerned with the data set selected for statistical comparisons conducted in the paper, i.e. dates of compared financial data (December 31, 2019, vs December, 31 2018) and the division of the research sample into IFRS and Polish Accounting Act applying companies. Both comparisons were to demonstrate the IFRS 16 impact on financial position, but in fact, they might have been burdened by many factors other than the new accounting standard's implementation itself.

Foreign literature presents similar conclusions (i.e. confirmation of leasing capitalization's significant impact on key financial ratios) in comparison to research conducted on the Polish economy, e.g. compilation of 10 research from the years 1991 to 2012 collected by J. Morales-Diaz and C. Zamora-Ramirez (2018). The authors found that the remarkable impact of the new standard on financial statements could be expected to be seen in the case of sectors with high intensity of operational leasing, such as retail (due to property rental), airlines (leasing of aircrafts), or hotels (property rental). Similar conclusions were pointed out in many other research, e.g. (Sari et. al., 2016) (for the Turkish retail sector); (Magli et. al., 2018) (for Italian listed companies, presented in sector breakdown); (Săcărin, 2017) (case study); (Tumpach et. al., 2021) (Slovak companies, presented in sector breakdown).

As mentioned earlier, studies on the golden financing rules are a separate field of research in contrast to the issues of leasing impact on financial statements and financial ratios. Available literature on the topic of the golden financing rules is primarily focused on the degree of compliance with these rules for a selected sample of entities, e.g., articles published 2011-2014 by M. Wypych, in which Polish listed companies from the manufacturing sector were surveyed. The studies proved a tendency of companies to maintain an appropriate proportion of the structure of assets and sources of their financing (Wypych, 2012), as well as interdependence between a company's financial situation referred to the golden financing rules and soundness of the economy (Wypych, 2011), (Wypych, 2014).

Worth mentioning is also an article of M. Gostkowska-Drzewicka (2017) which refers the real estate sector. The author proved that the golden financing rules were taken into account in business decisions concerning assets and capital structure by several Polish listed companies from this sector. In another article, M. Gostkowska-Drzewicka researched non-financial listed companies from the Visegrad Group countries. The study proved that asset and capital structure in every country differ significantly and that the companies "strive to synchronize the maturity of the financing sources with the useful life of the assets financed via those sources" (Gostkowska-Drzewicka, 2023, p. 303).

At the end of the literature review, it is worth mentioning an article of the Korean researcher H.J. Chung (2022), in which the negative impact of IFRS 16 implementation on company valuation was presented. That was due to worsening financial ratios, which might have had a negative impact on the value of future development opportunities requiring new financing.

Summing up the conducted literature review, this article could be seen as a continuation of the leasing capitalization topic but presented in a broader context of a company's long-term financial liquidity issue with reference to the fulfilment of the golden financing rules. Combining these two fields of research is a kind of novelty. Moreover, the article fills the research gap because it is based on actual financial data resulting directly from the implementation of the IFRS 16 (not impacted by other factors as mentioned in several studies). The ex-post approach, instead of the ex-ante approach used in some studies, ensures a clear distinction between financial data with and without IFRS 16 adoption and limits problems with the reliability of data and solves the problem of influencing results by choosing different lease capitalization methods. Additionally, the article is a detailed analysis of one specified sector of the economy, i.e., the real estate sector, which might be an interesting issue for theoreticians and practitioners doing business in that part of economic activity.

RESEARCH METHODOLOGY

To verify to what extent financial reporting was impacted by the new standard, financial statements of 25 Polish listed real estate companies were analyzed. The entities were included in the index WIG-real estate on July 21, 2022. WIG-real estate is a sub-sector index, which includes a portfolio of entities included in the main Polish stock exchange index called WIG and, in parallel represents the real estate sector. As of the date of collecting the data (July 21, 2022), the total capitalization of the WIG-real estate amounted to PLN 5.1 billion, which accounted for 1.80% of WIG capitalization.

In order to point out the impact of the new standard and to eliminate other factors that may cause changes in the amounts recognized in the financial statements, the analysis focused on December 31, 2018, as the starting point before the introduction of the standard and on January 1, 2019, as the first day of the standard's application. Such an approach limits problems of data reliability, often met in other research. Information on amounts recognized due to the new standard as of January 1, 2019, was obtained from additional information in the financial statements. The financial statements were obtained from the websites of the surveyed entities. It is to be mentioned that only eighteen entities out of the surveyed twenty-five disclosed general figures on implementing the new standard as of January 1, 2019, and only seventeen specified in detail what kind of rights it was concerned with.

The research methods used in the article include analysis of documentation in the field of accounting, regulating the issues of leasing settlement, the above-mentioned empirical research, including analysis of documentation in the form of financial statements of selected enterprises in terms of selected balance sheet data, as well as literature studies, with particular emphasis on the identification of research conducted in this area. The key methodical element of the article is comparative calculation showing the difference in golden financing rules ratios calculated according to the old IAS 17 and in line with the new IFRS 16.

For a better understanding of the numerical data presented in research results, it is essential to outline the main principles referring to leasing settlement according to the new accounting standard and its possible influence on the golden financing rules. IFRS 16 requires a lessee to disclose liabilities and assets in the balance sheet at the date of first recognition of a given contract that meets the lease conditions. Lease liabilities are measured at the present value of outstanding lease payments using the lease interest rate and right-of-use assets at the amount equal to liabilities. Right-of-use assets may be disclosed both in the fixed and current assets and liabilities in the long-term and short-term parts, which may affect the change in relation between assets and capital used to finance them. As far as profit and loss account is concerned, disclosures in line with IFRS 16 should not significantly change the capital structure of a company because operating lease fees previously recorded as operational cost are currently disclosed as asset depreciation and financial cost resulting from discounting of liabilities (there might be only differences in timing of depreciation and financial cost in comparison to the invoiced lease fees).

The above information suggests that in the case of the golden balance sheet rule, the new standard should have, in general, a limited negative impact or be neutral as of the day of its implementation.

In the case of the golden banking rule, the direction of ratios' changes resulting from IFRS 16 implementation depends on if the percentage increase of long-term capital is higher than the percentage increase of fixed assets, and in turn, this is dependent on:

- amounts and proportion of IFRS 16 assets disclosed in fixed and current assets,
- amounts and proportion of IFRS 16 liabilities disclosed in the long-term and short-term parts of liabilities,
- amounts and structure of assets, equity, and liabilities at the starting point without IFRS 16 settlements.

Knowing the potential impact of the introduction of the new standard on the golden financing rules indicators resulting from theoretical considerations regarding both of these issues, in the next section of the article, it is verified on the basis of actual financial data collected for the selected sample of enterprises from the real estate sector.

Results & Discussion

At the first stage of analysis, the basic balance sheet figures were verified in order to find out the magnitude of changes caused by the new standard. Figure 1 shows that the introduction of IFRS 16 resulted in an increase in balance sheet total of approximately 2.2%, which is an average value, while in some entities that percentage was much higher (individual results in the range of 0.0%-7.4%). In absolute values, the balance sheet total amounting to PLN 45.3 billion for all eighteen surveyed entities increased by PLN 1.0 billion.

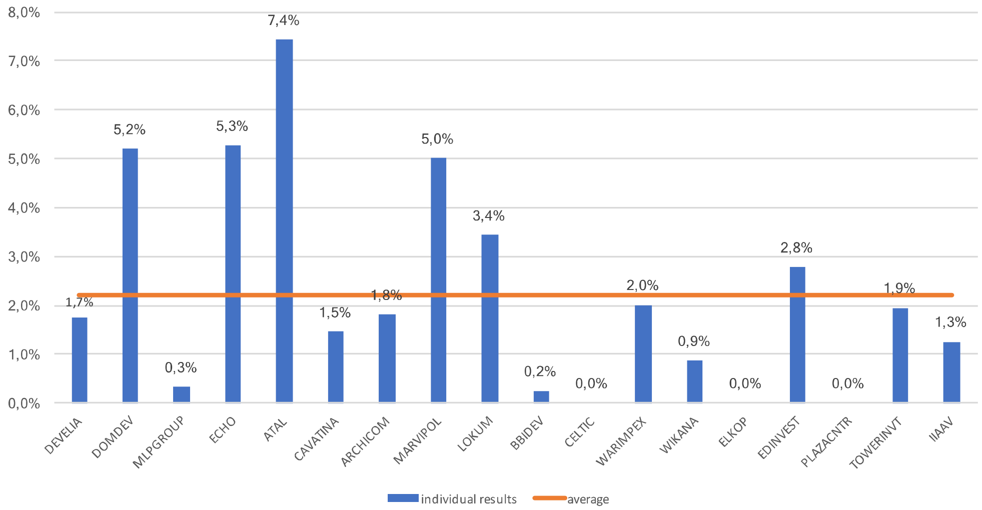

Figure 1. Percentage increase of total balance sheet amount for the analyzed entities due to implementation of IFRS 16.

Source: own study based on financial statements of analyzed entities.

Analyzing balance sheet structure in detail it should be noted that the described magnitude of changes was not the same for every balance sheet item, which is shown in Table 1.

Table 1. Impact of IFRS 16 implementation on the main balance sheet items

IMPACT OF IFRS 16 IMPLEMENTATION ON THE MAIN BALANCE SHEET ITEMS [% of change]	Average	Individual results range	
		min	max
TOTAL BALANCE SHEET AMOUNT	2,2%	0,0%	7,4%
Fixed assets	2,0%	0,0%	139,7%
Current assets	2,6%	0,0%	16,2%
Long-term liabilities	4,5%	0,0%	39,4%
Current liabilities	3,0%	0,0%	15,5%

Source: own study based on financial statements of analyzed entities.

For several items, dynamics of changes significantly exceeded the dynamics of changes in the balance sheet total: long-term liabilities increased on average by 4.5% (maximum at 39.4%), current liabilities by 3.0% (maximum at 15.5%), and current assets by 2.6% (maximum at 16.2%). Fixed assets increased by 2.0% (maximum at 139.7%).

Among economic activities that mostly contributed to the rise of assets' value due to IFRS 16 implementation (based on data of only those companies which presented detailed information on it), one can mention increase concerned with recalculation of value of the right of perpetual usufruct of land (76,96%) and disclosure of buildings' (including office) rental (22,29%). The remaining items, including means of transport and other rights (including those not assigned to specific items), amounted to a marginal share in the total increase of assets due to IFRS 16 (1.75%). The graphical abstract of the mentioned numbers is included in Figure 2. The dominant share of assets' increase due to reassessment of the value of the right of perpetual usufruct of land is fully understandable, because of its common use in the real estate sector, as well as due to the fact that this is a right between full ownership and limited property rights (Kwartnik-Pruc & Trembecka, 2012). Although the perpetual usufruct of land is a fully transferable right that could be purchased or sold, the lack of a definitive transfer of ownership indicates its quasi-leasing nature, which is in line with IFRS 16, stating that a contract contains a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. In opposition to other obligation rights such as rental, tenancy or operational leasing, which in general could have been not disclosed in balance sheet previously (before IFRS 16), the perpetual usufruct of land as a marketable right could have been recognized as an asset (valued at historical purchase cost, reassessed at fair value or disclosed in accordance with financial leasing guidelines). After IFRS 16 implementation, the right is regarded as a contract containing a lease, and settled in line with the new standard rules, which may change its value revealed in the financial statement if it was previously valued at historical or fair value (rights disclosed as financial leasing in general should remain unchanged). Moreover, in such cases, perpetual usufruct of land was revealed only as an asset and after IFRS 16 adoption, it is measured as an asset and as a liability at its present value of future payments, which is a completely different valuation concept than before IFRS 16. This specificity of perpetual usufruct of land should be taken into account in any considerations carried out with regard to its capitalisation in financial statements as leasing-type agreements. However, the analysis described in this article is based on additional notes to financial statements, which present a net effect of IFRS 16 implementation on the statements, so the analysis naturally avoids any comparison problems concerned with reassessment of assets associated with perpetual usufruct of land. Nevertheless, it should be noted that to get a full view on the transition of perpetual usufruct of land value due to IFRS 16 implementation, it should be subject to further, more comprehensive research.

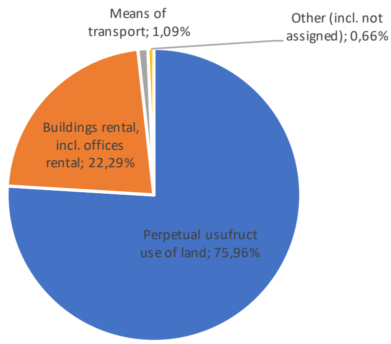

Figure 2. In-kind structure of assets/liabilities disclosed in financial statements due to implementation of IFRS 16 as of January 1, 2019.
Source: own study based on financial statements of analyzed entities.

Due to the above data, the magnitude of changes in the essential balance sheet figures resulting from the introduction of the new standard is significant from the perspective of enterprises' asset and capital structure research, and it may have a substantial impact on the fulfilment of the golden financing rules. To support (or reject) this hypothesis, average ratios of the golden financing rules for the examined entities before and after the introduction of IFRS 16 were calculated, which are presented in Table 2.

Table 2. Average ratios of the golden financing rules before and after implementation of IFRS 16 for analyzed entities from real estate sector.

Weighted average ratios	31.12.2018 (without IFRS 16)		01.01.2019 (with IFRS 16)		Change	% change
	Ratio	Rule met	Ratio	Rule met		
Golden balance sheet rule	2,20	YES	1,68	YES	-0,53	-23,91%
Golden banking rule	3,40	YES	2,74	YES	-0,66	-19,46%

Source: own study based on financial statements of analyzed entities.

Average (weighted by total balance sheet amount) ratio of the golden balance sheet rule amounted to 2.20 (as of December 31, 2018, i.e., before IFRS 16 implementation), which means fulfilment of the rule. After implementation of IFRS 16 as of January 1, 2019, the rati"o of the golden balance sheet rule decreased to 1.68 (average weighted by total balance sheet amount including IFRS 16), i.e., by 23.91%. With reference to the golden banking rule, average ratios amounted to 3.40 (before the IFRS 16 implementation) and 2.74 (after IFRS 16 implementation), which means a drop of 19.46%.

Analysis of detailed numerical data confirms expectations considered in the theoretical part of this article. As far as the golden balance sheet rule is concerned, all entities showed worsening of the ratios, or the ratios remained the same. With reference to the golden banking rule, implementation of IFRS 16 had a different effect on indicators, and it was not possible to draw an unambiguous conclusion - the direction of the changes is dependent on the individual situation of the surveyed entities, i.e. on the starting balance sheet structure as well as the structure of assets and liabilities disclosed due to IFRS 16.

Nevertheless, several regularities characterizing the analyzed real estate sector might be noticed. Firstly, the implementation of the standard mostly impacted companies focusing on real estate development activity involving construction and sale of residential and service premises (average decrease of the golden banking rule ratio of 24.47%). Those entities were characterized by a high share of current assets in total balance sheet amount (73.19% on average, based on data without IFRS 16), which was the result of recognizing the premises held for sale as inventories. Simultaneously, as long-term capital (equity and long-term debt) played a significant role in their sources of financing (67.45% on average), these entities showed high ratios of the golden banking rule without IFRS 16 settlement (9,90 on average, with maximum of 30.01), which seems to be reasonable because residential and service premises are in general assets of limited marketability, and due to that their financing by stable sources of capital is in principle highly demanded. Due to the implementation of IFRS 16, developers usually recorded a substantial rise in current assets (4.33% on average), mainly due to the recalculation of previously obtained assets' value, concerned with perpetual usufruct of land associated with the owned and held for sale residential and service premises.

Secondly, a group of entities focused on services within the real estate sector was identified. Those entities dealt mainly with services such as the rental of commercial premises1, as well as providing various services for the real estate

[1] E.g. rental of offices, commercial trade premises, hotels, or warehouses.

sector2. In some cases, these entities undertook development activity as well, but it was not their core activity. In principle (according to data without IFRS 16) this group of entities had a lower share of current assets in total balance sheet amount in comparison to developers (average of 19.52% in comparison to the mentioned 73.19% for developers), which combined with stable capital as majority of financing sources (87.29% of the total balance sheet amount) means that the golden banking rule average ratio amounts to approximately 1.18, and it is not influenced by implementation of IFRS 16 as intensely as developers (average decrease of the ratio of 5.23% to the amount of 1.12). The described considerations are summarized in Figure 3.

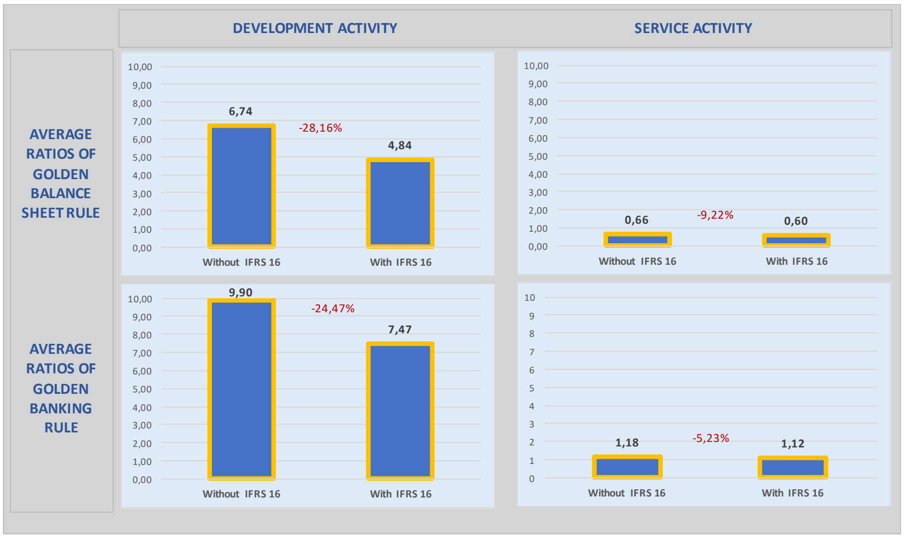

Figure 3. Impact of IFRS 16 implementation on the average ratios of the golden rules of financing in development and service activity breakdown.
Source: own study.

Referring to the literature on the subject of the research of this article, there are several studies on the impact of operational leasing capitalization (including due to IFRS 16) on financial statements; however, those studies have not concerned the golden financing rules so far. The studies were rather concerned with leverage ratios (debt to equity, debt to total equity and liabilities) or profitability ratios (return on equity, return on assets, return on sales), and they did not analyze in detail the real estate sector. As mentioned before, this was indicated, among others, by compilations of studies done by J. Krawczak and R. Dyląg (2018) on the

[2] E.g. preparation of design documentation, architectural services, asset management, project supervision, advisory in the field of real estate, purchase, and sale of land for development, multi-family housing construction on entrusted land etc.

Polish economy or J. Morales-Diaz and C. Zamora-Ramirez (2018) in foreign literature.

The real estate sector, due to the common use of such agreements as tenancy, rental, perpetual usufruct of land, as well as lease agreements, may be highly sensitive in terms of IFRS 16 impact on financial statements. Such consideration was confirmed on an ex-ante basis and on the sector-wide approach by the study of T. Iwanowicz (2018), which indicated that implementation of the new standard would have resulted in an increase of average EBITDA, financial leverage, and total balance sheet amount. Looking for studies based on actual data concerning the real estate sector in Poland, or in the broader approach in Eastern Europe, one may find a collective study of Slovak authors; however, it is only a data study, and it does not constitute a comprehensive analysis of the questioned issue (Tumpach et. al., 2021).

Results of the research conducted by the author of this article proved that the new standard on leasing caused an increase in the total balance sheet amount of the surveyed entities from the real estate sector by 2.2%, which should be regarded as a significant change. The average increase of the total balance sheet amount of 2.2% is similar to the level of 2% indicated in the study of T. Iwanowicz (2018). For comparison, the actual data collected for the real estate sector in Slovakia indicated an increase of total balance sheet amount caused by IFRS 16 of 0.612% (Section L representing “real estate activities” in accordance with the statistical classification of economic activities of the European Communities – NACE) (Tumpach et. al., 2021).

Conclusions

According to the analysis of financial statements of publicly listed companies from the real estate sector in Poland, the changes in the balance sheet resulting from IFRS 16 implementation had a significant impact on the golden rules of financing. Results of this analysis indicated that implementation of the new standard caused an increase in the balance sheet total by 2.2%, mainly due to the new way of valuation and recognition of the existing perpetual usufruct of land and rental of buildings, including offices. The new standard also had a significant impact on the asset and capital structure of the surveyed enterprises. The golden balance sheet rule ratio decreased on average by 23.91% (decrease from 2.20 to 1.68), and the golden banking rule ratio decreased on average by 19.46% (from 3.40 to 2.74).

In the case of the golden balance sheet rule, the deterioration of the ratio value was common in the majority of entities within the researched real estate sector. In its best scenario, the ratio remained at an unchanged level. In relation to the golden banking rule, the impact on individual entities took a different direction, but it was evident that the ratio had deteriorated, which was reflected in the values of the ratios averaged for the sector. Whether the change was positive, or negative was dependent on the percentage changes of fixed assets and long-term capital caused by the new standard implementation, which in turn might have been connected with the kind of core activity of an entity.

The most significant changes of the golden banking rule (decrease of 24.47%) were recorded in the case of entities involved in the development activity, what is justified by high share of current assets (residential and service premises held for sale as inventories), which were subject to further increase mostly due to reassessment of perpetual usufruct of land value assigned to the premises in accordance with the regulations of the new IFRS 16. In contrast to the developers, a group of entities focused on services (rental, services for the real estate sector) had a more balanced proportion between fixed and current assets, what accompanied by long-term capital as the majority of financing sources, causing the impact of implementing IFRS 16 was less significant than in case of developers (a decrease of 5.23%).

It is worth emphasising that the companies' financial performance after the IFRS 16 application and the reduction of the ratios still meet assumptions of the golden banking rule, which means that the real estate companies, especially those involved directly in development activity, apply safe financing strategies also under the new standard.

Summarising, the new standard adjusted assets, and sources of financing amounts, making them more appropriate for the real situation of the researched companies, and, in this sense, it should be regarded as justified adjustment. The conducted analysis is in line with the general conclusions resulting from the literature on the impact of leasing capitalization on the financial situation of enterprises, among which one may mention increase of assets and liabilities, increase of leverage ratios, worsening profitability of total assets and liquidity ratios. The novelty introduced by this article is combining the subject of the impact of leasing on financial statements and ratios with the issue of a sound asset and capital structure affecting the long-term liquidity balance of enterprises. It should be noted that worsening the golden financing rules' ratios by IFRS 16 implementation might have a negative impact on the creditworthiness of the analyzed companies, which could be an interesting topic for further research. Additionally, unlike most studies focusing on a sectoral cross-section, this article includes a detailed analysis of one specified sector of the economy. Such an approach is worth applying in case of other sectors of the economy as it may contribute to a better understanding of financing issues within them. What is equally important, the article is not based on leasing capitalization estimations, but involves the actual financial data obtained from financial statements and compares balance sheet figures before and directly after the introduction of IFRS 16, which significantly reduced the problems with the reliability and availability of data reported by many researchers in previous studies. Finally, as far as perpetual usufruct of land is concerned, as a leasing-type agreement recognized by IFRS 16 guidelines, it should be noted that due to its legal transferability (enabling sale and purchase of such right), its nature is a bit different from other obligation rights (e.g. leasing, rental, tenancy) in terms of its accounting settlement. That is the reason it would be scientifically valuable to perform further, comprehensive analysis, considering a full scope of changes in perpetual usufruct valuation due to implementation of the new standard, especially in the case of companies from the real estate sector that mostly use this type of rights. Further review of relevant literature and empirical research using additional data, performed as case studies of such companies, could examine a full scope of different effects of the introduction of IFRS 16 on perpetual usufruct.

References

Atrill, P. (2006). *Financial Management for Decision Makers*. Harlow, England: Pearson Education.

Babuśka, E. W. (2018). Płynność finansowa jako istotne kryterium oceny przedsiębiorstwa. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, 2 (974), 97-116.

Baker, H.K., & Powell, G. (2005). *Understanding Financial Management*. Oxford, UK: Blackwell Publishing.

Białek-Jaworska, A., Dobroszek, J., & Szatkowska P. (2022). Does the IFRS 16 affect the key ratios of listed companies? Evidence from Poland. *International Journal of Management and Economics*, 58(3), 299-315. https://doi.org/10.2478/ijme-2022-0016

Chandra, P. (2011). *Financial Management. Theory and Practice*. New Delhi, India: Tata McGraw Hill.

Chung, H.J. (2022). The Effects of New Accounting Standards on Firm Value: The K-IFRS 1116 Lease. *International Journal of Financial Studies*, 10, 68. https://doi.org/10.3390/ijfs10030068

COMMISSION REGULATION (EU) 2017/1986 of 31 October 2017 amending Regulation (EC) No 1126/2008 adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002 of the European Parliament and of the Council as regards International Financial Reporting Standard 16 (Official Journal of the European Union L 291/1, 9.11.2017).

COMMISSION REGULATION (EU) 2023/1803 of 13 August 2023 adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002 of the European Parliament and of the Council (Official Journal of the European Union, L 237/1, 26.9.2023).

Czekaj, J., & Dresler, Z. (2005). *Zarządzanie finansami przedsiębiorstw. Podstawy teorii.* Warszawa, Polska: Wydawnictwo Naukowe PWN.

Damodaran, A. (2007). *Finanse korporacyjne. Teoria i praktyka.* Gliwice, Polska: Wydawnictwo Helion.

Dębski, W. (2005). *Teoretyczne i praktyczne aspekty zarządzania finansami przedsiębiorstwa*. Warszawa, Polska: Wydawnictwo Naukowe PWN.

Dudycz, T. (2011). *Analiza finansowa jako narzędzie zarządzania finansami przedsiębiorstwa*. Wrocław, Polska: Wydawnictwo Indygo Zahir Media.

Dziawgo, D, & Zawadzki, A. (2011). *Finanse przedsiębiorstwa. Istota – narzędzia – zarządzanie*. Warszawa, Polska: Stowarzyszenie Księgowych w Polsce.

Fabozzi, F.J., & Peterson, P.P. (2003). *Financial Management and Analysis*. New Jersey, USA, John Wiley & Sons.

Gabryś, J. (2008). Struktura sprawozdania finansowego. In: Walczak M. (Eds.); *Sprawozdawczość i analiza finansowa w zarządzaniu przedsiębiorstwem*, tom 1. Łódź, Polska: Społeczna Wyższa Szkoła Przedsiębiorczości i Zarządzania w Łodzi.

Gajdka, J., & Walińska, E. (2000). *Zarządzanie finansowe. Teoria i praktyka*, Tom I. Warszawa, Polska: Fundacja Rozwoju Rachunkowości w Polsce.

Gostkowska-Drzewicka M., & Majerowska E. (2023). Capital structure vs financing rules - the Visegrad Group countries. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*, 169, 301-318. https://doi.org/10.29119/1641-3466.2023.169.17

Górowski, I., Kurek, B., & Szarucki, M. (2022). The Impact of a New Accounting Standard on Assets, Liabilities and Leverage of Companies: Evidence from Energy Industry. *Energies*, 2022, 15(4), 1293. https://doi.org/10.3390/en15041293

Grzenkowicz, N., Kowalczyk, J., Kusak, A., & Podgórski, Z. (2017). *Analiza finansowo-ekonomiczna jako narzędzie oceny kondycji przedsiębiorstwa*. Warszawa, Polska: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego.

Grzywacz, J. (2015). *Finanse przedsiębiorstwa 4. Decyzje i efekty*. Warszawa, Polska: Oficyna Wydawnicza Szkoła Główna Handlowa w Warszawie.

Hońko, S. (2016). Ocena wpływu zasad ujmowania umów leasingowych według MSSF 16 „Leasing" na sprawozdania finansowe wybranych spółek notowanych na GPW. *Finanse, Rynki Finansowe, Ubezpieczenia*, 80(2), 41–51. https://doi.org/10.18276/frfu.2016.2.80/1-05

Iwanowicz, T. (2018). Wprowadzenie standardu MSSF 16 oraz jego przewidywany wpływ na sytuację majątkową i finansową spółek notowanych na GPW. *Zeszyty Teoretyczne Rachunkowości*, 97 (153), 45-56. https://doi.org/10.5604/01.3001.0012.0375

Jaworski, J. (2017). *Teoria i praktyka zarządzania finansami przedsiębiorstw*. Warszawa, Polska: CeDeWu.

Jerzemowska, M. (2018). *Analiza ekonomiczna w przedsiębiorstwie*. Warszawa, Polska: Polskie Wydawnictwo Ekonomiczne.

Jindrichovska, I. (2013). Financial Management in SMEs. *European Research Studies*, Volume XVI, Issue (4), Special Issue on SMEs.

Jog, V., & Suszyński, C. (1995). *Zarządzanie finansami przedsiębiorstwa*. Warszawa, Polska: Centrum Informacji Menedżera.

Keown, A.J., Martin, J.D., Petty, J.W., & Scott, D.F., JR. (2014). *Foundations of Finance. The Logic and Practice of Financial Management*. New Jersey, USA: Pearson Education.

Kowalski, M. J., & Kazak, J. K. (2020). Value-based management for real estate developers' activities. *Real Estate Management and Valuation*, 28(4), 48-62. https://doi.org/10.1515/remav-2020-0031

Krajewski, M. (2008). *Zarządzanie finansowe w przedsiębiorstwach (zasady – efektywność – narzędzia)*. Gdańsk, Polska: Ośrodek Doradztwa i Doskonalenia Kadr.

Krawczak, M., & Dyląg, R. (2018). Wpływ MSSF 16 na sytuację finansową i majątkową wybranych spółek z indeksu WIG30. In: *Zeszyty Teoretyczne Rachunkowości*, 97 (153). Warszawa, Polska: Stowarzyszenie Księgowych w Polsce.
Kwartnik-Pruc, A., & Trembecka, A. (2012). Użytkowanie wieczyste jako forma gospodarowania nieruchomościami publicznymi na przykładzie miasta Krakowa. *Studia i Materiały Towarzystwa Naukowego Nieruchomości*, 20(4), 101-110.
Madura, J. (2021). *International Financial Management*. Boston, USA: CENGAGE.
Magli, F., Nobolo, A., & Ogliari, M. (2018). The Effects on Financial Leverage and Performance: The IFRS 16. *International Business Research*, 11(8), 76-89. https://doi.org/10.5539/ibr.v11n8p76
Morales-Díaz, J. & Zamora-Ramírez, C. (2018). IFRS 16 (leases) implementation: Impact of entities' decisions on financial statements. *AESTIMATIO, The IEB International Journal of Finance*, 17, 60-97. https://doi.org/10.5605/IEB.17.4
Pfaff, J. (2020). (Eds.). *Rachunkowość finansowa z uwzględnieniem MSSF, Międzynarodowych Standardów Sprawozdawczości Finansowej*. Warszawa, Polska: Wydawnictwo Naukowe PWN.
Rutkowski, A. (2016). *Zarządzanie finansami*. Warszawa, Polska: Polskie Wydawnictwo Ekonomiczne.
Săcărin, M. (2017). IFRS 16 "Leases" – consequences on the financial statements and financial indicators. *Audit Financiar*, XV, 1(145), 114-122. https://doi.org/10.20869/AUDITF/2017/145/114
Sari, E.S., Altintas, T., & Tas, N. (2016). The effect of the IFRS16: constructive capitalization of operating leases in the Turkish retailing sector. *Journal of Business, Economics and Finance*, 2016, 5(1), 138-147. https://doi.org/10.17261/Pressacademia.2016116657
Sierpińska, M., & Jachna, T. (2004). *Ocena przedsiębiorstwa według standardów światowych*. Warszawa, Polska: Wydawnictwo Naukowe PWN.
Szczepankowski, P.J. (2004). *Zarządzanie finansami przedsiębiorstwa*. Warszawa, Polska: Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im. Leona Koźmińskiego.
Tumpach, M., Juhászová, Z., Kubaščíková, Z., & Krišková, P. (2021). Datasets of impact of the first-time adoption of IFRS 16 in the financial statements of Slovak compulsory IFRS adopters. *Data in Brief*, 36, 106996. https://doi.org/10.1016/j.dib.2021.106996
Uhruska, M., (2008). Wykorzystanie koncepcji zarządzania wartością w sferze nieruchomości inwestycyjnych. *Studia i Materiały Towarzystwa Naukowego Nieruchomości*, 16(3), 7-18.
Wrzosek, S. (2007). Kilka uwag w sprawie analizy płynności finansowej. In: Duraj J. (Eds.) *Problemy współczesnej analizy ekonomicznej przedsiębiorstwa*. Łódź, Polska: Wydawnictwo Uniwersytetu Łódzkiego.
Wypych, M. (2000). (Eds.). Finanse przedsiębiorstwa z elementami zarządzania i analizy. Łódź, Polska.
Wypych, M. (2011). Spółki giełdowe w świetle reguł finansowania. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 172
Wypych, M. (2012). Struktura aktywów a złote reguły finansowania (na przykładzie spółek giełdowych). *Prace naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 261, 478-488.
Wypych, M. (2014). Równowaga finansowa przedsiębiorstw w warunkach niestabilnego otoczenia na przykładzie przemysłowych spółek giełdowych. In: Funkcjonowanie podmiotów na rynkach finansowych w warunkach zmian i niestabilności. *Przedsiębiorczość i Zarządzanie*, XV(6), 155-166.
Yousef, Y. (2019). The Determinants of Capital Structure: Evidence From GCC and UK Real Estate Sectors. *Real Estate Management and Valuation*, 27(2), 108-125. https://doi.org/10.2478/remav-2019-0019