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The relevance of segment reports – measurement methodology

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Abstract

The segment report is one of the areas of financial statements, and it obliges a company to provide information about the economic situation in each of its activity areas. The article evaluates the change of segment reporting standards from IAS14R to IFRS8 in the context of feature relevance. It presents the construction of a measure which allows the relevance of segment disclosures to be determined. The created measure was used to study periodical reports published by companies listed on the main market of the Warsaw Stock Exchange from three reporting periods – 2008, 2009 and 2013. Based on the research results, it was found that the change of segment reporting standards from IAS14R to IFRS8 in the context of relevance was legitimate.

Keywords: Segmental reporting, IAS14R, IFRS8.

Streszczenie

Przydatność sprawozdań według segmentów – metodyka pomiaru

Sprawozdanie według segmentów stanowi jedną z części sprawozdania finansowego i wymaga od jednostki, aby ta zaprezentowała syntetycznie sytuację ekonomiczną każdego z obszarów prowadzonej przez nią działalności. W artykule dokonuje się oceny zasadności zmiany standardów sprawozdawczości według segmentów z MSR 14R na MSSF 8 w kontekście cechy przydatności. Prezentuje się konstrukcję miernika pozwalającego na określenie poziomu realizacji danej cechy w oparciu o ujawnione informacje o segmentach. Badaniu z wykorzystaniem stworzonego miernika poddano raporty okresowe spółek notowanych na rynku podstawowym Giełdy Papierów Wartościowych w Warszawie za trzy okresy sprawozdawcze – 2008, 2009 oraz 2013. Na podstawie uzyskanych wyników badań stwierdzono, że zmiana standardów sprawozdawczości według segmentów z MSR 14R na MSSF S8 w kontekście realizacji cechy przydatności była zasadna.

Słowa kluczowe: Sprawozdawczość według segmentów działalności, MSR 14R, MSSF 8.

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Introduction

Financial statements are mainly for external users. They are a source of information about the economic situation of a company and are the basis for their decisions. The validity of these decisions depends largely on the quality of the information. In financial reporting, this quality is called „decision usefulness". It means that information is considered to be useful from the decision-related point of view when it is characterized by appropriate quality features. In accordance with the new International Financial Reporting Standards (IFRS) conceptual framework, decision-related usefulness is determined by three types of qualitative characteristics (Conceptual Framework, 2010, pp. 15–23): fundamental features (relevance and faithful representation), enhancing features (comparability, verifiability, timeliness, and understandability), and cost constraints.

The segment report is one of the components of a financial statement. The decision-related usefulness of the information from a financial statement, in the form presented above, also refers to the segment report. It means that the segment information disclosed should be considered useful from the decision's point of view when it is characterized by the presented qualitative characteristics. Under IFRS, two standards for segmental reporting should be considered. The first one was International Accounting Standard No. 14 *Segment reporting* (IAS14R). It was applicable for domestic companies in the period from January 1, 2005 to December 31, 2008. It was superseded by International Financial Reporting Standard No. 8 *Operating segments* (IFRS8), which came into force on January 1, 2009, and is still in effect today.

The main hypothesis of this article is the assumption that the segmental reporting standards change from IAS14R to IFRS8 in the context of the feature relevance was legitimate. The aim of the article is to evaluate this change. The realization of the aim requires the level of realization of this feature to be specified, which leads to the need to create an appropriate measure. Based on the created measure, the periodic reports of the company listed on the main market of the Warsaw Stock Exchange will be analyzed for three reporting periods – 2008, 2009 and 2013. The results of the research specify the level of segment reporting relevance, and this will allow us to evaluate the legitimacy of the standard change. It should be emphasized that in the existing studies into segment reports, there is no measure which, based on disclosed information about segments, attempts to specify the level of relevance of this area of the financial statement.

1. Current studies on segmental reporting standards

Table 1 presents a compilation of the more important studies on segment reports with regard to IAS14R or IFRS8.

Table 1. Compilation of more important studies on IAS14R and IFRS8

No.	Author(s)	Year	Studied standards	Source
1.	Świderska, Karwowski	2006	IAS14R	G.K. Świderska, M. Karwowski, *Ujawnianie informacji o segmentach działalności w sprawozdaniach finansowych grup kapitałowych w Polsce*, „Zeszyty Teoretyczne Rachunkowości", Tom 35 (91), Warszawa 2006, pp. 50–60.
2.	Sojak	2007	IAS14R	S. Sojak, *Prezentacja i ujawnianie informacji objętych obowiązkiem sprawozdawczym zgodnie z MSR 14 – przykłady*, [w:] S. Sojak, M. Jankowska, *MSR 14 Sprawozdawczość segmentów działalności*, Difin, Warszawa 2007, pp. 123–177.
3.	Sojak, Zimnicki	2008	IAS14R	S. Sojak, T. Zimnicki, *Wartość dodana sprawozdań finansowych wynikająca z ujawnienia segmentów działalności według MSR 14*, „Zeszyty Teoretyczne Rachunkowości", Tom 46 (102), Warszawa 2008, pp. 135–163.
4.	Zimnicki	2008	IAS14R	T. Zimnicki, *Zasadność podejścia MSR 14 do sprawozdawczości segmentów działalności – na przykładzie Grupy Kapitałowej Spółki notowanej na Giełdzie Papierów Wartościowych w Warszawie*, „AUNC Ekonomia", Numer XXXVIII, Zeszyt 388, Toruń 2008, pp. 201–222.
5.	Heem, Valenza	2010	IAS14R, IFRS8	G. Heem, P.T. Valenza, *An Analysis of Segment Disclosures Under IAS 14 and IFRS 8*, 2010, pp. 1-20, DOI: 10.2139 /ssrn.1615430.
6.	Sojak	2011	IAS14R, IFRS8	S. Sojak, *Wartości informacyjne sprawozdawczości według segmentów działalności na przykładzie grupy kapitałowej Orbis*, Prace Naukowe Uniwersytetu Ekonomicznego, Wrocław 2011, s. 219–239.
7.	Crawford, Extance, Helliar, Power	2012	IAS14R, IFRS8	L. Crawford, H. Extance, Ch. Helliar, D. Power, *Operating Segments: the Usefulness of IFRS 8*, ICAS, Edinburgh 2012, pp. 1–63.
8.	Nichols, Street, Cereola	2012	IAS14R, IFRS8	N.B. Nichols, D.L. Street, S. Cereola, *An analysis of the impact of adopting IFRS 8 on the segment disclosures of European blue chip companies*, „Journal of International Accounting, Auditing and Taxation", Vol. 21 Issue 2, 2012, pp. 79–105.
9.	Aleksanyan, Danbolt	2012	IAS14R, IFRS8	M. Aleksanyan, J. Danbolt, *Segment Reporting: Is IFRS 8 Really Better?*, „Accounting in Europe", Vol. 12 Issue 1, 2012, pp. 37–60.

Table 1. Compilation of more important studies on IAS14R and IFRS8 (*cont.*)

No.	Author(s)	Year	Studied standards	Source
10.	Mardini, Crawford, Power	2012	IAS14R, IFRS8	G.H. Mardini, L. Crawford, D.M. Power, *The impact of IFRS 8 on disclosure practices of Jordanian listed companies*, „Journal of Accounting in Emerging Economies", Vol. 2 Issue 1, 2012, pp. 67–90.
11.	Pardal, Morais	2012	IFRS8	P.N. Pardal, A.I. Morais, *Segment Reporting under IFRS 8 – Evidence from Spanish Listed Firms*, ESCE and ISCTE Business School Working Paper, 2012, pp. 1–24.
12.	Kang, Gray	2013	IAS14R, IFRS8	H. Kang, S.J. Gray, *Segment Reporting Practices in Australia: Has IFRS 8 Made a Difference?*, „Australian Accounting Review", Vol. 23 Issue 3, 2013, pp. 232–243.
13.	Michalak	2014	IAS14R, IFRS8	J. Michalak, *Wpływ wprowadzenia MSSF 8 na przydatność sprawozdawczości segmentów na przykładzie największych spółek europejskich*, „Zeszyty Teoretyczne Rachunkowości", Tom 80 (136), 2014, pp. 173–191.
14.	Kajüter, Nienhaus	2014	IAS14R, IFRS8	P. Kajüter, M. Nienhaus, *The Impact of IFRS 8 Adoption on the Usefulness of Segment Reports*, University of Münster, 2014, pp. 1-41, DOI: 10.2139/ssrn.2377229.
15.	Karwowski	2016	IFRS8	M. Karwowski, *Segmenty operacyjne (MSSF 8). Determinanty zakresu ujawnianych informacji*, Oficyna Wydawnicza SGH, Warszawa 2016, pp. 47-74, 94–133.

Source: author's own elaboration

Segmental reporting based on IAS14R requirements is a topic of study conducted by Świderska and Karwowski (2006), Sojak (2007), Sojak and Zimnicki (2008) and Zimnicki (2009). The main subjects of these studies were the number of disclosed segments, the type of used segmentation criteria, and the information disclosure about the segments. In the study of Sojak and Zimnicki (2008) potential benefits for external users from published segment reports were also analysed, while in the study by Zimnicki (2008), accurate representation was also examined.

Studies devoted to segmental reporting based on IFRS8 requirements were conducted by Pardal and Morais (2012) and Karwowski (2016). The main subjects of these studies included the number of disclosed segments, the type of used segmentation criteria, and the information disclosure about segments. In the study by Karwowski (2016) a lot of attention was devoted to the determinants of disclosed information about segments.

A majority of studies were related to the comparative analysis concerning the implementation of IAS14R and IFRS8 requirements by companies. Studies in this field were conducted by Heem and Valenza (2010), Sojak (2011), Crawford et al. (2012), Nichols et al. (2012), Aleksanyan and Danbolt (2012), Mardini et al. (2012), Kang and Gray (2013), Michalak (2014), and Kajüter and Nienhaus (2014). The main subjects of

these studies were, as in the earlier ones, the number of disclosed segments and the information disclosure about segments. Only in the study by Heem and Valenza (2010) was there no analysis of the type of used segmentation criteria. In the study by Sojak (2011), potential benefits resulting from disclosing information to external users were additionally analyzed. In the study conducted by Crawford et al. (2012), Mardini et al. (2012), and Kang and Gray (2013), the main emphasis was devoted to identifying the Chief Operating Decision Maker (CODM).

The cited studies show that the main focus is on the number of disclosed segments, the type of used segmentation criteria, and the disclosed information about segments. This seems reasonable, since those are the main areas of the segment reports. However, there are no references to the decision-related usefulness of segment reports and its qualitative characteristics. According to the author, this is the main criterion justifying a change of standards. There are also no attempts to create a measure which can allow the qualitative characteristics to be quantified and, as a result, the level of decision usefulness of segment reports to be assessed.

2. Quantification of the relevance

In financial reporting, the feature of relevance should be understood as one of the attributes defining the quality of information which comes from financial statements. The information should be considered relevant when its possession leads to a different decision being made than if there were a lack of such information (Conceptual Framework, 2010, p. 17). The level of information relevance can vary, and ranges from information which is completely relevant to completely irrelevant. In connection with the need for relevance quantification, a scale from 0% to 100% will be taken, where 0% means such information is completely irrelevant, with 100% denoting full relevance. It should be highlighted that the relevance of information coming from segment reports is conditioned by such areas as:

- the number of disclosed segments,
- the range of disclosed information about segments,
- the range of uses of disclosed information about segments,
- the level of economic activity disaggregation.

2.1. The number of disclosed segments

With regard to the segments, the first area of reporting which conditions the relevance is the number of disclosed segments. The bigger the number, the higher the level of the segment report relevance. It means that more areas of economic activity are disclosed with proper economic values which characterise the economic situation of the company. Such information is characterised by a higher level of relevance than aggregated information. However, if the number of disclosed segments is too big, it might cause limitations of relevance by blackout the image of the economic situation [IFRS 8.19]. In Table 2, the relationship between the number of disclosed segments and the level of relevance has been presented.

Table 2. The relationship between the number of disclosed segments and the level of segment report relevance

The number of disclosed segments between 0 and 10											
The number of disclosed segments	0	1	2	3	4	5	6	7	8	9	10
The level of relevance (in %)	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
The number of disclosed segments bigger than 10											
The number of disclosed segments	11	12	13	14	15	16	17	18	19	20	20+
The level of relevance (in %)	95.0	90.0	85.0	80.0	75.0	70.0	65.0	60.0	55.0	50.0	50.0

Source: author's own elaboration

Table 3 presents the number of disclosed segments in particular periodic reports, which come from the same reporting year, and the level of relevance resulting from them. The periodic reports include annual reports (AR), semi-annual reports (SR), first quarter reports (1QR) and third quarter reports (3QR)[1].

Table 3. The level of relevance based on the number of disclosed segments

Periodic reports	**Number of disclosed segments**		**Level of relevance in %**		**Weight of the periodic reports**	**Weighted level of relevance in %**	
	Minimum	**Maximum**	**Minimum**	**Maximum**		**Minimum**	**Maximum**
1	2	3	4	5	6	7	8
AR	0	10	0.00	100.00	25.00	0.00	25.00
SR	0	10	0.00	100.00	25.00	0.00	25.00
1QR	0	10	0.00	100.00	25.00	0.00	25.00
3QR	0	10	0.00	100.00	25.00	0.00	25.00
Level of segment reports relevance come from one reporting year based on the number of disclosed segments:						0.00	100.00

Source: author's own elaboration

The final level of segment reports which come from the same year of reporting will be assessed as a sum of the weighted levels of disclosed segment information relevance

[1] The weight of the particular periodic report is the same because the relevance level measurer evaluates the number of disclosed segments, the range of disclosed information about segments, the range of uses of disclosed information about segments and the level of economic activity disaggregation. It doesn't matter whether the annual, semi-annual or quarterly reports are analyzed.

in particular periodic reports. The highest level of relevance will be reached if a company discloses ten segments in each periodic report. The situation was presented in column 3, which shows the maximum number of disclosed segments, which thus means the maximum level of information relevance (column 5). That, in consequence, leads to the maximum level of relevance of reports with regard to the segments (column 8). On the other hand, the lowest level of relevance will be reached if the company does not disclose any segments in each of the periodic reports. The situation was presented in column 2, which shows the minimum number of disclosed segments, and it means the minimum level of information relevance with regard to the number of disclosed segments (column 4). In consequence, it leads to the minimum level of a segment report's relevance (column 7).

2.2. The range of disclosed information about segments

The second area is the range of disclosed information about segments. The wider the range, the higher the level of the segment report's relevance. It means that, along with the increase in the economic values number, external users receive more information, which helps them to evaluate the economic situation of the company more accurately. However, particular economic values are not equal to each other. It means that they do not affect the level of relevance in the same way. The economic values were divided into three groups: first level economic values, second level economic values, and third level economic values. It was assumed that the first level economic values are the most important to evaluate segment condition. The second level economic values are important while the third level ones are less important. Scheme 1 presents the economic values from all three groups with the level of relevance which they provide.

Scheme 1. The level of disclosed economic values relevance (data in %)

Economic values								
First level			Second level			Third level		
1.	Assets	16.67	1.	Fixed assets	2.14	1.	Tangible non-current assets	0.44
2.	Sales revenues	16.67	2.	Current assets	2.14	2.	Intangible assets	0.44
3.	Operating results	16.67	3.	Liabilities	2.14	3.	Other fixed assets	0.44
	Total:	50.00	4.	Other operating income	2.14	4.	Inventories	0.44
			5.	Other operating expenses	2.14	5.	Trade receivables	0.44
			6.	Sales result	2.14	6.	Cash and cash equivalents	0.44
			7.	Financial income	2.14	7.	Other current assets	0.44
			8.	Financial costs	2.14	8.	Trade liabilities	0.44
						9.	Other long-term liabilities	0.44
						10.	Other short-term liabilities	0.44
						11.	Sales revenues from external clients	0.44

Scheme 1. The level of disclosed economic values relevance (data in %) (*cont.*)

Economic values						
First level	Second level			Third level		
	9.	Gross profit	2.14	12.	Sales revenues from	0.44
	10.	Income tax	2.14		other segments	0.44
	11.	Net profit	2.14	13.	Sales revenues within	0.44
	12.	Operating	2.14		segment	0.44
		activities		14.	Amortization	0.44
		cash flow	2.14	15.	Consumption of materials	0.44
	13.	Investing		16.	Consumption of energy	0.44
		activities		17.	External services	0.44
		cash flow	2.14	18.	Taxes and duties	0.44
	14.	Financing		19.	Salaries	0.44
		activities		20.	Social insurance and others	0.44
		cash flow	2.14	21.	Other generic costs	0.44
		Total:	30.00	22.	Manufacturing costs	0.44
				23.	Board costs	0.44
				24.	Sales costs	0.44
				25.	Value of sold goods and materials	0.44
				26.	Profit from sale of non-financial assets	0.44
				27.	Subsidies	0.44
				28.	Other operation incomes	0.44
				29.	Loss on sale of non-financial assets	0.44
				30.	Revaluation of non-financial assets (in minus)	0.44
				31.	Other operation costs	0.44
				32.	Dividends and profit shares	0.44
				33.	Financial income from interest	0.44
				34.	Profit from sale of investments	0.44
				35.	Revaluation of investments (in plus)	0.44
				36.	Other financial incomes	0.44
				37.	Financial expenses on interest	0.44

Scheme 1. The level of disclosed economic values relevance (data in %) (*cont.*)

Economic values				
First level	Second level	Third level		
		38.	Loss on sale of investments	0.44
		39.	Revaluation of investments (in minus)	0.44
		40.	Other financial costs	0.44
		41.	Share in profit / loss of associates	0.44
		42.	Result of extraordinary events	0.44
		43.	Result on continued activity	0.44
		44.	Result on discontinued activity	0.44
		45.	Investment expenditure	0.44
			Total:	20.00
			Total economic values from all levels:	100.00

Source: author's own elaboration

The economic values from the first level are a consequence of implementing the segment report in a financial statement. The main aim was to provide external users with basic information about the economic situation in particular areas of the company's activity. It was necessary to disclose the information about the assets, sales revenues, and operating results. Among those economic values, costs were excluded. This is the result of the disclosure of sales revenues and operating results, which are sufficient to obtain the information about costs.

The economic values from the second level are important complementary information about the economic situation in the disclosed segments. Segment reports used to be predestined for conglomerates, meaning companies whose economic activities were conducted in different areas, frequently unrelated to one another other, where the activity could be conducted by an individual company. Such a company would be obliged by legal regulations to make full financial statements, where particular areas of the economic situation would be presented in detail. Therefore, the economic values from the second level will be based on the main positions from the balance sheet, profit and loss account, and cash flow.

The economic values from the third level are less important complementary information about the economic situation in disclosed segments. The selection of these data was determined by the possibility to disclose additional information included in the

balance sheet, profit and loss account, or cash flow, along with the IFRS directions in the context of consolidated financial statements or segmental reporting.

Table 4 presents the range of disclosed information about segments in particular periodic reports coming from one reporting year, along with their level of relevance.

Table 4. The level of relevance based on the range of disclosed information about segments

Periodic reports	Range of disclosed information about segments		Level of relevance in %		Weight of the periodic reports in %	Weighted level of relevance in %	
	Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
AR	0	62	0.00	100.00	25.00	0.00	25.00
SR	0	62	0.00	100.00	25.00	0.00	25.00
1QR	0	62	0.00	100.00	25.00	0.00	25.00
3QR	0	62	0.00	100.00	25.00	0.00	25.00
Level of segment reports relevance come from one reporting year based on the range of disclosed information about segments:						0.00	100.00

Source: author's own elaboration

The final level of segment reports coming from one year will be assessed as a sum of the weighted level of the relevance of information on the disclosed segments in particular periodic reports. The highest level of relevance will be reached when the company discloses all 62 specified economic values in each of the periodic reports. The situation was presented in column 3, which shows the maximum range of disclosed information about segments, and it means the maximum level of relevance of information on the disclosed segments (column 5). As a result, it leads to the maximum level of the segment report's relevance (column 8). On the other hand, the lowest level of relevance will be reached if the company does not disclose any of the specified economic values in each of the periodic reports. The situation was presented in column 2, which shows the minimum range of disclosed information about segments, and it means the minimum level of relevance of the information disclosed (column 4). As a result, it leads to the minimum level of relevance of the segment report (column 7).

2.3. The range of use of disclosed information about segments

The third area is the range of use of disclosed information about segments. The wider the range, the higher the level of relevance. The range of uses should be described with reference to the essence of reports with regard to the segments. The main aim was to provide external users with basic information about the economic situation in each of the areas. Among the basic measures, factors such as the effectiveness of the activity

and the associated risk should be included. In the case of segment reports, the importance of the separated areas for the company as a whole should also be added. These measures are the necessary minimum an external user should receive, and at the same time they also seem sufficient for a report with regard to segments to be considered fully relevant. The level of the range of uses of disclosed information about segment relevance is conditioned by the following measures:

- the effectiveness of the activity in particular segments,
- the risk associated with the effectiveness,
- the importance of the segments for the company as a whole.

In order to define the first measure, the segment's return on sales and return on assets can be used. They need to disclose the segment's operating results, sales revenues, and assets. The range of uses of disclosed information about segments within one reporting year depends on the disclosure of the three abovementioned economic values in particular periodic reports. Table 5 presents possible situations, along with the level of relevance.

Table 5. The level of relevance based on the effectiveness of the activity in particular segments

No.	Possible situations	Number of reports coming from one reporting year, where it was possible to assess		Level of relevance based on in %		Level of relevance based on the effectiveness of the activity in particular segments in %
		Segment's return on sales	Segment's return on assets	Segment's return on sales	Segment's return on assets	
1.	Situation 1	4	4	100.00	100.00	100.00
2.	Situation 2	4	3	100.00	75.00	87.50
3.	Situation 3	3	4	75.00	100.00	87.50
4.	Situation 4	4	2	100.00	50.00	75.00
5.	Situation 5	3	3	75.00	75.00	75.00
6.	Situation 6	2	4	50.00	100.00	75.00
7.	Situation 7	4	1	100.00	25.00	62.50
8.	Situation 8	3	2	75.00	50.00	62.50
9.	Situation 9	2	3	50.00	75.00	62.50
10.	Situation 10	1	4	25.00	100.00	62.50
11.	Situation 11	4	0	100.00	0.00	50.00
12.	Situation 12	3	1	75.00	25.00	50.00
13.	Situation 13	2	2	50.00	50.00	50.00
14.	Situation 14	1	3	25.00	75.00	50.00

Table 5. The level of relevance based on the effectiveness of the activity in particular segments (*cont.*)

No.	Possible situations	Number of reports coming from one reporting year, where it was possible to assess		Level of relevance based on in %		Level of relevance based on the effectiveness of the activity in particular segments in %
		Segment's return on sales	Segment's return on assets	Segment's return on sales	Segment's return on assets	
15.	Situation 15	0	4	0.00	100.00	50.00
16.	Situation 16	3	0	75.00	0.00	37.50
17.	Situation 17	2	1	50.00	25.00	37.50
18.	Situation 18	1	2	25.00	50.00	37.50
19.	Situation 19	0	3	0.00	75.00	37.50
20.	Situation 20	2	0	50.00	0.00	25.00
21.	Situation 21	1	1	25.00	25.00	25.00
22.	Situation 22	0	2	0.00	50.00	25.00
23.	Situation 23	1	0	25.00	0.00	12.50
24.	Situation 24	0	1	0.00	25.00	12.50
25.	Situation 25	0	0	0.00	0.00	0.00

Source: author's own elaboration

During a single reporting year, external users receive four periodic reports – annual, semi-annual, first quarter, and third quarter. It is possible to assess the return on sales and return on assets in each of them. It means that each of those economic values can be assessed four times during one reporting year. This way, external users receive fully relevant segment reports. It is presented in situation 1. The opposite is situation 25, where external users only obtain segment reports which totally lack relevance. Other possible states are between the described extremes.

The second measure is the risk associated with the effectiveness. The risk is understood as the degree to which the effectiveness of the activity deviates from its average value. The most frequently use statistical measure is the variation coefficient. In order to assess this measure, effectiveness measures from at least two periods are needed. External users receive four periodic reports during one reporting year. It is possible to assess the effectiveness measures for a maximum of four periods. This way, external users can fully assess the risk (the level of relevance is 100%). In a situation when it will be possible to assess the effectiveness measure in only:

- three periodic reports out of the four available during one reporting year, the level of relevance is reduced by one third to 66.67%;

- two periodic reports out of the four available during one reporting year, the level of the relevance is reduced additionally by one third to 33.33%;
- one periodic report out of the four available during one reporting year, the level of the relevance is reduced additionally by one third to 0.00%, since in order to assess the risk, the effectiveness measures from at least two periods are needed.

The lack of possibility to assess the effectiveness measures in any of the periodic reports means a lack of relevance. Table 6 presents possible situations along with their level of relevance. The segment report's full relevance in this area occurs when external users can assess both effectiveness measures – return on sales and return on assets – in each of the four periodic reports during one reporting year. It is presented in situation 1. The opposite is situation 25. The external users cannot assess any of those two effectiveness measures in any of the four periodic reports coming from one reporting year. A lack of segment report relevance also occurs when external users can assess only one of the effectiveness measures, or both, but only in one periodic report. It is presented in situations 22, 23 and 24. Other possible states are situated between the described extremes.

Table 6. The level of relevance based on the risk associated with the effectiveness

No.	Possible situations	Number of reports come from one reporting year, where was possible to assess		Level of relevance based on in %		Level of relevance based on the risk associated with the effectiveness in %
		Segment's return on sales	Segment's return on assets	Segment's return on sales	Segment's return on assets	
1.	Situation 1	4	4	100.00	100.00	100.00
2.	Situation 2	4	3	100.00	66.67	83.33
3.	Situation 3	3	4	66.67	100.00	83.33
4.	Situation 4	4	2	100.00	33.33	66.67
5.	Situation 5	3	3	66.67	66.67	66.67
6.	Situation 6	2	4	33.33	100.00	66.67
7.	Situation 7	4	1	100.00	0.00	50.00
8.	Situation 8	4	0	100.00	0.00	50.00
9.	Situation 9	3	2	66.67	33.33	50.00
10.	Situation 10	2	3	33.33	66.67	50.00
11.	Situation 11	1	4	0.00	100.00	50.00
12.	Situation 12	0	4	0.00	100.00	50.00

Table 6. The level of relevance based on the risk associated with the effectiveness (*cont.*)

No.	Possible situations	Number of reports come from one reporting year, where was possible to assess		Level of relevance based on in %		Level of relevance based on the risk associated with the effectiveness in %
		Segment's return on sales	Segment's return on assets	Segment's return on sales	Segment's return on assets	
13.	Situation 13	3	1	66.67	0.00	33.33
14.	Situation 14	3	0	66.67	0.00	33.33
15.	Situation 15	2	2	33.33	33.33	33.33
16.	Situation 16	1	3	0.00	66.67	33.33
17.	Situation 17	0	3	0.00	66.67	33.33
18.	Situation 18	2	1	33.33	0.00	16.67
19.	Situation 19	2	0	33.33	0.00	16.67
20.	Situation 20	1	2	0.00	33.33	16.67
21.	Situation 21	0	2	0.00	33.33	16.67
22.	Situation 22	1	1	0.00	0.00	0.00
23.	Situation 23	1	0	0.00	0.00	0.00
24.	Situation 24	0	1	0.00	0.00	0.00
25.	Situation 25	0	0	0.00	0.00	0.00

Source: author's own elaboration

The third measure is the most important of the segments for a company as a whole. The impact of each of the separate areas on the economic situation of a company can be assessed based on the level of:

- the segment's operating result in relation to the sum of all segments' operating results,
- the segment's sales revenues in relation to the sum of all segments' sales revenues,
- the segment's assets in relation to the sum of all segments' assets.

The range of uses of disclosed information about segments in the periodic report depends on the disclosure of those three economic values. Table 7 presents possible situations along with the level of relevance.

The full segment report's relevance in this area occurs when external users receive information about all three economic values – operating results, sales revenues, and assets. It is presented in situation 1. The opposite is situation 8. External users do not receive any of those three economic values. Other possible states are situated between the described extremes.

Table 7. The level of relevance based on the importance of the segments for the company as a whole

No.	Possible situation	Disclosed economic values in the periodic report			The possibility to assess the importance of the segments for the company as a whole in the periodic report based on in %			The level of relevance based on the importance of the segments for the company as a whole in the periodic report in %
		Segment's operating results*	Segment's sales revenues*	Segment's assets*	Segment's operating results	Segment's sales revenues	Segment's assets	
1.	Situation 1	1	1	1	100.00	100.00	100.00	100.00
2.	Situation 2	1	1	0	100.00	100.00	0.00	66.67
3.	Situation 3	1	0	1	100.00	0.00	100.00	66.67
4.	Situation 4	0	1	1	0.00	100.00	100.00	66.67
5.	Situation 5	1	0	0	100.00	0.00	0.00	33.33
6.	Situation 6	0	0	1	0.00	0.00	100.00	33.33
7.	Situation 7	0	1	0	0.00	100.00	0.00	33.33
8.	Situation 8	0	0	0	0.00	0.00	0.00	0.00

* The values presented in the table: „1" – the information was disclosed, „0" – the information was not disclosed.

Source: author's own elaboration

It should be noted that the final level of a segment report's relevance based on the range of uses of disclosed information about segments coming from one reporting year is assessed as the arithmetic mean from the levels of relevance based on the effectiveness of the activity in particular segments, the risk associated with this effectiveness, and the importance of the segments for the company as a whole. The highest level of relevance will be reached if the company discloses in each of the periodic reports from one reporting year the three basic economic values for particular segments – operating results, sales revenues, and assets. The lowest level of relevance will be reached in the opposite situation.

2.4. The level of economic activity disaggregation

The fourth area of segment report relevance is the level of economic activity disaggregation. The level of disaggregation grows along with the level of relevance. A wider range of the company's economic activities is presented by particular segments. Then,

the external users receive information which allows them to better evaluate the situation in particular areas of activity and in the company as a whole.

The level of disaggregation of economic activity is determined as the ratio of disclosed revenues from sales to external clients to the entity's sales revenues as a whole. The lack of sales revenues from other segments comes from the fact that, in the sales revenues of the company, these revenues do not exist, having been removed during the process of consolidation or not being sales revenues in the case of internal sales. The assets and the operating results are also not used. The lack of assets comes from the IAS14R regulations, which require this information only in annual reports. In other periodic reports, there would be a risk that, with regard to the standard regulations, such an economic value would not be disclosed. It could be understood as a zero-relevance level. The lack of operating results comes from the fact that they can be either positive or negative. This may mean, for example, the company did not disclose one of the segments whose operating results was negative. The sum of other the segments' operating results will be higher than the operating results of the company as a whole. It could be understood as economic activity disaggregation to an extent greater than full.

Table 8 presents possible levels of economic activity disaggregation along with the level of segment report relevance.

Table 8. The level of relevance based on the level of economic activity disaggregation (data in %)

Periodic reports	Level of economic activity disaggregation		Weight of the periodic reports	Weighted level of economic activity disaggregation	
	Minimum	Maximum		Minimum	Maximum
AR	0.00	100.00	25.00	0.00	25.00
SR	0.00	100.00	25.00	0.00	25.00
1QR	0.00	100.00	25.00	0.00	25.00
3QR	0.00	100.00	25.00	0.00	25.00
Level of segment reports relevance come from one reporting year based on the level of economic activity disaggregation:				0.00	100.00

Source: author's own elaboration

The final level of segment reports which come from one reporting year will be assessed as a sum of the weighted levels of economic activity disaggregation in particular periodic reports. The highest level of relevance will be reached when the company disaggregates its whole economic activity into particular segments in each of the periodic reports. The situation was presented in column 3, which shows the maximum level of economic activity disaggregation. As a result, it leads to the maximum level of segment report relevance (column 6). On the other hand, the lowest level of relevance will be

reached if the company does not disaggregate any of its economic activity into particular segments in each of the periodic reports. The situation was presented in column 2, which shows the minimum level of economic activity disaggregation. As a result, it leads to the minimum level of segment report relevance (column 5).

2.5. The construction of a segment report's relevance measure

The final level of a segment report's relevance is conditioned by the levels of relevance based on components characterized in sections 2.1–2.4. The construction of the segment report's relevance measure is as follows:

$$y_1 = \sum_{k=1}^{4} c_k z_k,$$

where: y_1 – level of relevance
c_k – weight factor of k-th element
z_k – level of k-th element
$k = 1$ – number of disclosed segments
$k = 2$ – range of disclosed information about segments
$k = 3$ – range of use disclosed information about segments
$k = 4$ – level of economic activity disaggregation

The final level of relevance (y_1) will be assessed as a sum of the weighted levels of relevance based on the following elements: the number of disclosed segments (z_1), the range of disclosed information about the segments (z_2), the range of uses of disclosed information about the segments (z_3), and the level of economic activity disaggregation (z_4). The elements connected with this are proper weight factors (c_k). The aim of those factors is to assess the force with which particular elements form the final level of segment report relevance. The values of the factors were assessed by using the Delphi method. This technique involves a panel of experts anonymously answering a questionnaire, after which a summary of their judgements is given. The group of experts were the staff of the Accounting Department and the Finance Management Department of the Faculty of Economic Sciences and Management at the Nicolaus Copernicus University in Toruń, and others with business experience. 13 experts took part in the research, coming to an agreement after the fourth stage. The following weight factors were established:

- $c_1 = 0.2931$.
- $c_2 = 0.3276$.
- $c_3 = 0.2586$.
- $c_4 = 0.1207$.

Table 9 presents the possible levels of relevance based on particular components (z_k) with weight factors (c_k) assigned to them, and the resulting level of segment report relevance.

Table 9. The level of segment reports relevance

Components of the segment reports relevance	Level of component's relevance (z_k) in %		Weight factors (c_k)	Weighted level of component's relevance (z_kc_k) in %	
	Minimum	Maximum		Minimum	Maximum
Level of relevance based on the number of disclosed segments (z_1)	0.00	100.00	0.2931	0.00	29.31
Level of relevance based on the range of disclosed information about segments (z_2)	0.00	100.00	0.3276	0.00	32.76
Level of relevance based on the range of use disclosed information about segments (z_3)	0.00	100.00	0.2586	0.00	25.86
Level of relevance based on the economic activity disaggregation (z_4)	0.00	100.00	0.1207	0.00	12.07
Level of segment report relevance coming from one reporting year (y_1):				0.00	100.00

Source: author's own elaboration

The final level of relevance of the segment reports coming from one reporting year will be assessed as a sum of the weighted levels of the components' relevance. The highest level of relevance will be reached if the company receives the maximum levels of relevance components in each of the periodic reports. It means that the company will disclose ten segments, disclose all economic values from the first, second, and third levels, and those economic values will be assigned to particular segments. Then, external users will receive a fully relevant segment report. On the other hand, the lowest level of relevance will be reached if the company receives the minimum levels of relevance components in each of the periodic reports. It means that the company will not disclose any segments, and as a result no economic values assigned to particular segments will be disclosed, resulting in no possibility for external users to use such information.

3. Segment report relevance of companies listed on the Warsaw Stock Exchange

The level of segment report relevance was assessed based on information disclosed by the analyzed companies in particular periodic reports coming from the same reporting year. The three following periods were analyzed – 2008, 2009 and 2013. 2008, when

IAS14R was valid, was compared with 2009 and 2013, when IFRS8 was valid. The evaluation of the change in the analyzed standard in the context of relevance from the perspective of 2009, when the new standard was applied for the first time, and from the perspective of 2013, when the companies had already had five years of IFRS8 experience.

The analyzed group was limited to domestic companies, which in the period from January 1, 2008 to December 31, 2013 had securities listed on the main market of the Warsaw Stock Exchange, and had published consolidated financial statements. Additionally, the reporting year had to be consistent with the calendar year. The aim of this condition was to ensure full comparability between particular periodic reports coming from the analyzed years. Based on those conditions, a group of 202 companies was determined. From this population, 50 companies were selected for research. The sample size, at 25% of the population, and random layer selection, was a compromise between ensuring the best possible reflection of the population and being able to conduct the research based on the available resources. Table 10 presents the way the structure of the sample was defined according to the population structure.

Table 10. The structure of the sample

No.	Type of economic activity	Population		Sample		
		Number of companies	Structure in %	Number of sample companies based on the population structure	Number of sample companies rounded to a whole number	Structure in %
1.	Service	107	52.97	26.49	26.00	52.00
2.	Production	72	35.64	17.82	18.00	36.00
3.	Trade	23	11.39	5.69	6.00	12.00
Total		202	100.00	50.00	50.00	100.00

Source: author's own elaboration

Each of the studied companies had the same probability of being in the sample based on random layer selection. The „RAND" function in Microsoft Excel 2007 was used.

3.1. The number of disclosed segments

As a result of the research, the level of segment report relevance based on the number of disclosed segments (z_1) was assessed and is presented in Table 11.

Table 11. Results of the relevance level study based on the number of disclosed segments (data in %)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance in service companies (z_1)	25	30	29	5	18	-1	-4	3	13
Level of relevance in production companies (z_1)	32	37	35	5	15	-2	-4	3	10
Level of relevance in trade companies (z_1)	15	15	18	0	3	3	19	3	23
Level of relevance in all companies (z_1)	27	31	30	4	16	-1	-3	3	12

Source: author's own elaboration

The level of relevance during the period of validity of IAS14R was assessed at 27%. The change of standards caused the level to increase by 4 percentage points in 2009. It meant a 16% increase in the number of disclosed segments. In 2013, in relation to 2009, the level decreased slightly, but it was significantly higher than in 2008.

The level of relevance in particular types of the analyzed companies was highly diverse in the period of validity of IAS14R. It ranged from 15% (trade companies) to 32% (production companies). After implementing IFRS8 in 2009, the biggest improvement was observed among service and production companies. It was 5 percentage points, meaning an increase by 18% (service companies) and 15% (production companies). In the case of trade companies, no change was observed in 2009. The level of relevance in 2013 in relation to year 2009 decreased insignificantly among service and production companies. Only among trade companies did the level increase. It was only 3 percentage points, but it meant an improvement by 19%. The level of relevance in 2013 was significantly higher in all analyzed types of companies in relation to 2008, when IAS14R was in force.

3.2. The range of disclosed information about segments

As a result of the research, the level of segment report relevance based on the range of disclosed information about the segments (z_2) was assessed and is presented in Table 12.

The level of relevance during the period of validity of IAS14R was assessed at 38%. The change of standards caused the level in 2009 to increase by 7 percentage points. It meant an increase in the range of disclosed information about segments by 18%. In 2013, in relation to 2009, the level decreased, but it was significantly higher than in 2008.

Table 12. Results of the relevance level study based on the range of disclosed information about segments(data in %)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance in service companies (z_2)	38	44	38	6	17	-6	-14	0	1
Level of relevance in production companies (z_2)	43	49	49	6	15	0	-1	6	14
Level of relevance in trade companies (z_2)	24	35	39	11	48	4	12	16	66
Level of relevance in all companies (z_2)	38	45	42	7	18	-3	-6	4	11

Source: author's own elaboration

The level of relevance in particular types of the analyzed companies was highly diverse in the period of validity of IAS14R. It ranged from 24% (trade companies) to 43% (production companies). After the implementation of IFRS8 in 2009, an improvement was observed among all types of company. The biggest improvement took place among trade companies (11 percentage points), and the smallest one among service and production companies (6 percentage points). In 2013, in relation to 2009, the changes were diverse. The upward trend was maintained among the trade companies, and no changes were observed among production companies, but among services companies the level decreased significantly (6 percentage points). In 2013, in relation to 2008, when IAS14R was in force, the level of relevance was maintained (service companies), or significantly increased (production and trade companies).

3.3. The range of uses of disclosed information about segments

As a result of the research, the level of segment report relevance based on the range of uses of disclosed information about the segments (z_3) was assessed and is presented in Table 13.

The level of relevance during the period of validity of IAS14R was assessed at 63%. The change of standards caused the level to increase by 9 percentage points in 2009. It meant an increase in the range of uses of disclosed information about segments by 15%. In 2013, in relation to 2009, the level decreased slightly, but it was significantly higher than in 2008.

Table 13. Results of the relevance level study based on the range of uses of disclosed information about the segments (data in %)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance in service companies (z_3)	63	72	62	10	15	-11	-15	-1	-2
Level of relevance in production companies (z_3)	72	77	84	5	7	7	8	12	16
Level of relevance in trade companies (z_3)	38	58	63	20	54	4	8	25	65
Level of relevance in all companies (z_3)	63	72	70	9	15	-3	-4	7	11

Source: author's own elaboration

The level of relevance in particular types of the analyzed companies was highly diverse when IAS14R was in force. It ranged from 38% (trade companies) to 72% (production companies). After implementing IFRS8 in 2009, the biggest improvement was observed among trade companies. It was 20 percentage points, and it meant an increase by 54%. The smallest one was observed among production companies (5 percentage points). In 2013, in relation to 2009, the upward trend was maintained by production and trade companies. The level of relevance among service companies decreased by 15% to the level of 62%. In 2013, in relation to 2008, the production and trade companies demonstrated relevance at a significantly higher level, but in service companies it decreased it a little.

3.4. The level of economic activity disaggregation

As a result of the research, the level of segment report relevance based on the level of economic activity disaggregation (z_4) was assessed and is presented in Table 14.

Table 14. Results of the relevance level study based on the level of economic activity disaggregation (data in %)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance service companies (z_4)	77	87	77	10	13	-11	-12	-1	-1

Table 14. Results of the relevance level study based on the level of economic activity disaggregation (data in %) (*cont.*)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance production companies (z_4)	85	91	93	6	7	2	3	8	10
Level of relevance trade companies (z_4)	51	72	83	21	41	11	15	32	62
Level of relevance all companies (z_4)	77	87	83	10	13	-4	-4	6	8

Source: author's own elaboration

The level of relevance during the period of validity of IAS14R was assessed at 77%. The change of standards caused the level in 2009 to increase by 10 percentage points, which meant an increase in the level of economic activity disaggregation by 13%. In 2013, in relation to 2009, the level decreased by 4%, but it was significantly higher than in 2008.

The level of relevance in particular types of the analyzed companies was highly diverse when IAS14R was in force. It ranged from 51% (trade companies) to 85% (production companies). After implementing IFRS8 in 2009, in all analyzed companies, the level of disaggregation increased. The biggest improvement was observed among trade companies (11 percentage points), and the smallest among production companies (6 percentage points). The level of relevance in 2013 in relation to 2009 increased among trade (11 percentage points) and production (2 percentage points) companies. Among service companies, the level of relevance returned to the original level. In 2013, in relation to 2008 when IAS14R was in force, the level of relevance was significantly higher among trade (32 percentage points) and production (8 percentage points) companies. The service companies maintained their original level.

3.5. The level of segment report relevance

As a result of the research, the level of segment report relevance based on the levels of relevance components (y_1) was assessed and is presented in Table 15.

Table 15. Results of the segment report relevance level study (data in %)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance in service companies (y_1)	45	53	46	7	16	-6	-12	1	2

Table 15. Results of the segment report relevance level study (data in %) (*cont.*)

Type of economic activity	Research results			Analysis of changes over time					
	IAS14R	IFRS8		2008/2009		2009/2013		2008/2013	
	2008	2009	2013	change	rate	change	rate	change	rate
Level of relevance in production companies (y_1)	52	58	59	6	11	1	2	7	13
Level of relevance in trade companies (y_1)	28	40	44	12	42	5	12	16	58
Level of relevance in all companies (y_1)	46	53	51	7	16	-2	-4	5	11

Source: author's own elaboration

The level of relevance during the period of the validity of IAS14R was assessed at 46%. The change of standards caused the level in 2009 to increase by 7 percentage points, which meant an increase in the level of economic activity disaggregation by 16%. In 2013, in relation to 2009, the level decreased slightly, but it was significantly higher than in 2008.

The level of relevance in particular types of the analyzed companies was highly diverse when IAS14R was in force. It ranged from 28% (trade companies) to 52% (production companies). After implementing IFRS8 in 2009, the biggest improvement was observed among trade companies (12 percentage points), and the smallest among production companies (6 percentage points). In 2013, in relation to 2009, the upward trend was maintained by production and trade companies. Among the service companies, the level of relevance decreased to a level of 46%. In year 2013, in relation to 2008 when IAS14R was in force, all types of the analyzed companies showed a higher level of relevance.

Conclusions

On the basis of the conducted research, it should be stated that the change of the segmental reporting standards from IAS14R to IFRS8 in the context of relevance was legitimate. The sample companies achieved significantly higher levels of relevance in 2009 (16%) and 2013 (11%) in relation to 2008. In the first year after the change of standards, the biggest improvement was observed in the range of disclosed information about segments (18%). A significant improvement was also observed in the number of disclosed segments (16%), in the range of uses of disclosed information about segments (15%), and in the level of economic activity disaggregation (13%). In 2013, in relation to 2008, the direction of the change was maintained, but the power of the change was

smaller. The biggest improvement was observed in the number of disclosed segments (12%), and the smallest in the level of economic activity disaggregation (8%).

It should be added that the changes in the types of the analyzed companies were highly diverse. The level of relevance improved most among trade companies, by 42% (in 2009) and by 58% (in 2013). In the first year after the change of standards, the biggest improvement was observed in the range of disclosed information about segments (54%) and the smallest in the number of disclosed segments (3%). In 2013, in relation to 2008, each of the analyzed areas improved even more – the biggest change took place in the range of disclosed information about segments (66%), and the smallest in the number of disclosed segments (23%). The level of relevance among service and production companies also improved, but to a lesser degree. In the first year after the implementation of IFRS8, the smallest improvement was observed among production companies (11%). The level of this improvement ranged from 7% (the range of uses of disclosed information about segments, and the level of economic activity disaggregation) to 15% (the number of disclosed segments and the range of disclosed information about segments). In 2013, in relation to 2008, the smallest improvement was observed among service companies (2%), where a significant improvement was observed in the number of disclosed segments (13%), but in other areas significant changes were not observed.

References

Aleksanyan M., Danbolt J. (2012), *Segment Reporting: Is IFRS 8 Really Better?*, „Accounting in Europe", 12 (1).

Crawford L., Extance H., Helliar Ch., Power D. (2012), *Operating Segments: The Usefulness of IFRS 8*, ICAS, Edinburgh.

Conceptual Framework for Financial Reporting (2010), *International Accounting Standards Board*, September.

Heem G., Valenza P.T. (2010), *An Analysis of Segment Disclosures Under IAS 14 and IFRS 8*, Working Paper. DOI: 10.2139 /ssrn.1615430.

Kajüter P., Nienhaus M. (2014), *The Impact of IFRS 8 Adoption on the Usefulness of Segment Reports*, „Abacus", 53 (1), pp. 28–58. DOI: 10.2139/ssrn.2377229.

Kang H., Gray S.J. (2013), *Segment Reporting Practices in Australia: Has IFRS 8 Made a Difference?*, „Australian Accounting Review", 23 (3), pp. 232–243.

Karwowski M. (2016), *Segmenty operacyjne (MSSF 8). Determinanty zakresu ujawnianych informacji*, Oficyna Wydawnicza SGH, Warszawa.

Mardini G.H., Crawford L., Power D.M. (2012), *The Impact of IFRS 8 on Disclosure Practices of Jordanian Listed Companies*, „Journal of Accounting in Emerging Economies", 2 (1), pp. 67–90.

Michalak J. (2014), *Wpływ wprowadzenia MSSF 8 na przydatność sprawozdawczości segmentów na przykładzie największych spółek europejskich*, „Zeszyty Teoretyczne Rachunkowości", 80 (136), pp. 173–191.

Nichols N.B., Street D.L., Cereola S. (2012), *An Analysis of The Impact of Adopting IFRS 8 on The Segment Disclosures of European Blue Chip Companies*, „Journal of International Accounting, Auditing and Taxation", 21 (2), pp. 79–105.

Pardal P.N., Morais A.I. (2012), *Segment Reporting under IFRS 8 – Evidence from Spanish Listed Firms*, ESCE and ISCTE Business School Working Paper.

Sojak S. (2007), *Prezentacja i ujawnianie informacji objętych obowiązkiem sprawozdawczym zgodnie z MSR 14 – przykłady*, [in:] S. Sojak, M. Jankowska, *MSR 14 Sprawozdawczość segmentów działalności*, Difin, Warszawa.

Sojak S. (2011), *Wartości informacyjne sprawozdawczości według segmentów działalności na przykładzie grupy kapitałowej Orbis*, „Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu. Nauki o Finansach", 2 (7), pp. 219–239.

Sojak S., Zimnicki T. (2008), *Wartość dodana sprawozdań finansowych wynikająca z ujawnienia segmentów działalności według MSR 14*, „Zeszyty Teoretyczne Rachunkowości", 46 (102), pp. 135–163.

Świderska G.K., Karwowski M. (2006), *Ujawnianie informacji o segmentach działalności w sprawozdaniach finansowych grup kapitałowych w Polsce*, „Zeszyty Teoretyczne Rachunkowości", 35 (91).

Zimnicki T. (2008), *Zasadność podejścia MSR 14 do sprawozdawczości segmentów działalności – na przykładzie Grupy Kapitałowej Spółki notowanej na Giełdzie Papierów Wartościowych w Warszawie*, „AUNC Ekonomia", XXXVIII (388).