

A Comparison of Financial Results Based on Accrual and Cash Accounting Data

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Abstract This article aims to investigate the relationship between the indicators commonly used to assess a financial situation based on accrual and cash flow accounting. A company's financial result is distorted in different ways. Cash flows compared to financial results are not subject to manipulation resulting from accounting policies employed in a given business entity. Hence, formulated hypothesis assumes that the assessment of profitability carried out with the use of cash flow indicators reflects the true and reliable image of a company, in contrast to the indicators based on a financial result. The hypothesis about dissimilarity of the assessment of a financial condition has been proven by the analysis of the correlation between the accrual and cash results. The analysis of a financial situation based on cash flows led to a conclusion that a financial situation is more complete, reliable and not affected by balance and tax policy, but there are also differences between the assessment based on financial ratios calculated on the basis of accrual data (the balance sheet and the profit and loss account) and the financial situation of the studied companies based on cash data. The article uses the method of economic analysis, descriptive statistics and correlation analysis.

Keywords Accruals • Cash flow • Return on equity (ROE) • Return on operating assets (RoOA) • Cash productivity of sales (CPS) • Cash productivity of assets (CPA)

1 Introduction

The aim of the article is to verify the research hypothesis concerning the comparison of financial results of companies based on accrual and cash data. The primary source of information in the study of common indicators used for the assessment of a financial situation are standard financial statements, which should be prepared by business entities, i.e. the balance sheet (the statement of financial position) and the profit and loss account (the income statement). Still underrated source of

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information on a financial condition of companies is the cash flow statement, which is drawn up by only big entities and by others only occasionally.

However, as early as in the 1990s, many analysts and researchers noticed the advantages of the indicators based on cash flows. Many financial analysts believe that “the operating cash flow is a better indicator to assess the financial situation than the net income because it is less susceptible to interference from a variety of accounting practices”. A growing number of portfolio managers and analysts says that “cash flows are a more meaningful measure of a company’s value than reported earnings” (Dechow 1994, p. 3).

The cash flow is an important measure of the efficiency of the management and valuation of companies (Rayburn 1986; Dechow et al. 1998; Graham et al. 2005). Nwaeze et al. (2006) believe that cash flows are more important than earnings in evaluating the results of management and determining salaries and bonuses.

Various studies also suggest that analysts and investors—as a result of loss of confidence in accrual data, among others, after the financial crisis of 2007, which began with the fall of Enron—focus more on cash flows, and mainly on those generated from operating activities, considered to be the most important indicator to assess the financial condition of a company. All these statements are based on the assumption that cash flows are a reliable measure and cannot be easily manipulated.

However, contrary to stakeholders’ expectations, managers can manipulate cash flows and mislead their users. Therefore, it can be assumed that shareholders expect cash flows to have certain characteristics of a “super” indicator, which will reflect an actual financial situation of business entities. When such a situation occurs, the share price should go up, consequently improving financial results of an entity. Here appears, so far unexplained, reason to doubt whether, in fact, the financial results are improving, and whether we really deal with this type of a cause and effect chain.

In order to verify the research hypothesis in question and to achieve the aim of the article, the following research stages have been completed:

- Literature studies.
- Collecting annual reports of companies for the period of 2013–2014.
- Selecting the indicators and performing calculations for the studied group of companies.
- Determining correlation between indicators based on accrual data and those based on cash data.
- Testing the significance of the correlation with a Student’s *t*-Test.
- Drawing conclusions.

2 The Nature and Meaning of Cash Flows

Cash flows have become an integral part of modern business management. They are so important that their specificity, monitoring, reporting, analysis and prediction are a subject of many scientific and practical studies as well as legal and environmental deliberations, both in Poland and around the world (Śnieżek and Walińska 2006).

Heath presented his wide-ranging critique of contemporary cash flow statement as an ambiguous product in terms of its role and an unclear and sometimes even misleading cognitive value. Heath (1978) proposed replacing cash flows with three separate statements:

- The statement of basic inflows and outflows (the statement of operating activity),
- The statement of changes in loans and equity financing (the statement of financing activities),
- The statement of changes in long-term assets (the statement of investing activities).

The new statements proposed by Heath (1978) were heavily criticized, but the history shows that at the moment of the publication of *the Statement of Financial Accounting Standards (SFAS)*, and before the introduction of any changes in the cash flow statements, many enterprises had prepared cash flow statements in terms of cash and their equivalents. Regardless of the diversity of opinions on the new dimension of reporting cash flows, Heath's opinions played a very important role in the American business environment of the 1980s. When the agreement on the purpose of the cash flow statements and their basic definitions was reached, the cash basis slowly began to appear in national and international accounting regulations (Śnieżek 2008).

In modern literature on financial management one can find many definitions of the concept of cash flows. This diversity is summarized in Table 1.

When analyzing the definitions of cash flows from Table 1, it should be mentioned that cash flows are to be understood as a positive (surplus) or negative (deficit) difference between inflows (positive streams) and outflows (negative streams) over a certain period of time.

In reference to the definitions of cash flows shown in Table 1, it is worth presenting the research conducted by Wędzki (2003) in terms of the formulas to create cash flows, which indicate that:

- The cash flow statement, next to the profit and loss account, is an important source of information due to the fact that obtained categories of results, i.e. net profit (loss) and net cash flows are essential to disclose financial situations of Polish enterprises;
- The only formula by which a value of net cash flows can be accurately calculated is the free cash flow—other methods are either not correlated or the observed correlation seems to be accidental;
- The most accurate way to estimate the operating cash flow is the formula of simplified flows, thus “operating profit + depreciation and amortization” (EBITDA), and then “net profit + depreciation and amortization”. It should be noted that in the ex post analysis it is appropriate to use a simplified method of estimating operating cash flows, i.e. the formula “operating profit + depreciation and amortization”. However, in the ex ante analysis “net profit + depreciation and amortization”.

Table 1 Cash flows in literature—a review of definitions

Author	Cash flows
Nowak (1996)	The difference between the revenues (from the sale of goods and services) and expenses related to the current functioning, occurring in particular years of the calculation period (the useful life of a product)
Waśniewski and Skoczylas (1995)	The ambiguity of cash flows is expressed by the following <ul style="list-style-type: none"> • Financial result + depreciation and amortization • Financial result + an increase in reserves created from profit • Financial result + depreciation and amortization + an increase in reserves created from profit + other non-cash expense (non-expenditure) • Financial result + non-cash expenses (non-expenditure) – non-cash income (non-inflows)
Sierpińska and Wędzki (1997)	In a narrow sense, the authors point to the amount of net income and depreciation and amortization of tangible fixed assets and intangible assets. In a broader sense, the formula encompasses cash flow as the sum of a financial result and non-cash expenses (depreciation and amortization, reserves) less non-cash income (non-inflows) In the broadest sense, it is a difference between inflows and outflows
Czubakowska (1994)	The cash flow statement is used to assess financial possibilities and sources of cash surplus in a company
Wędzki (2010)	Cash flows can be calculated at four different levels, i.e. <ul style="list-style-type: none"> • Financial result + depreciation and amortization (financial surplus) • Financial result + depreciation and amortization, adjusted against the change in working capital • The difference between cash inflows and outflows in the form of the so-called budget • Financial results adjusted against all non-cash transactions in the form of cash flow
Gos (2008)	The cash flow is defined as the difference (surplus/deficit) between inflows and outflows (i.e. positive and negative streams) of cash for a certain period of time. Thus, defining cash flows one can distinguish flows in a strict and broad sense Strictly speaking, flows are streams of inflows and outflows of cash compiled in order to determine their impact on the supply of cash and to measure and control potential financial liquidity of an entity In a broader sense, cash flows represent positive and negative flows affecting the assets and liabilities. They are identified in order to determine the structure of an entity's financial liquidity and, consequently, to assess its solvency in the future

Source: Own elaboration

Cash flows can be either positive or negative. A positive value may occur if cash turnover has a large share in total sales, which is undoubtedly a positive phenomenon. It also occurs when a company in a given period uses up the materials purchased in the previous period without simultaneously rebuilding the inventory. A similar situation is observed in the case of credit purchases of raw materials and

when their consumption precedes the actual payment of liabilities. Negative values can occur in the case of a large share of credit sales (trade credit) in total turnover and when an increase in receivables has a negative impact on the current ability to pay (Waśniewski 1993). These reasons for the positive or negative cash flows relate to the operating activity. A deficit or surplus of cash is also created due to many other reasons that are associated with other types of cash flows, i.e. investment and financing. The types of cash flows are the result of the form of presentation of the cash flow statement.

The cash flow statement is an essentially similar financial statement to the profit and loss account, as it is used to measure the financial result, and more precisely, the surplus of cash from business operations for a given period. The main difference between these statements arises from different principles for recognizing inflows and outflows coming from the business activity. The cash flow statement uses the cash basis and thus it presents the actual inflows and outflows, whilst the profit and loss account presents the same values, but on the accrual basis (Wędzki 2007). The cash flow statement provides useful and reliable information, independent of the accounting principles or policies. It is a valuable source as it informs of liquidity of an entity, its sources, and it is also more objective because financial results depend mostly on employed principles of valuation of assets and liabilities, and moreover, they are susceptible to any changes resulting from the applied balance policy (Gos 2008).

3 Literature Review

The analysis of the literature on the relationship between the indicators commonly used to assess the financial situation, i.e. those based on accrual data and those on the cash flows, indicates the two streams of opinions. The first stream includes those who believe that the cash flows are very important in the study of the financial condition of a company, whilst others believe that the accrual results are more important.

The researchers from the first group, when analyzing financial results of enterprises, focused on drawbacks resulting from accountants' benefits and indicated that the cash flows are the best measure of performance of a company. Smith and Watts (1992) claims that profits can be fabricated using 'creative accounting', but the creation of cash flows is not possible. Moreover, a profit is a matter of someone's opinion or 'a fair presentation', while cash is a fact. Cash is more important than profit; it is cash that is paid out as dividends, and the lack of cash—not the lack of profit—is the reason for the fall of companies (Smith and Watts 1992).

The second group that favors the accrual results says that according to the theory of business enterprise, shareholders are seeking to increase company's assets, not necessarily cash. Ball and Brown (1968) paper is an affirmation of accrual accounting, replicated many times. Dechow (1994) and Dechow et al. (1998), among

others, affirm the importance of accruals over cash flows under a variety of conditions. Penman and Yehuda (2009) share the same opinion. Their analysis explores an additional feature of accounting: not only does accrual accounting promote earnings as the primary valuation attribute (rather than cash flows), but actually treats cash flows as irrelevant to equity valuation. Their analysis examines how accounting numbers are contemporaneously priced in the stock market, as does much of capital markets research. However, stock prices provide a benchmark for evaluating accounting numbers only if those prices are ‘efficient.’ Considerable research indicates that a variety of accounting numbers are correlated with future stock returns as well as current prices. Indeed, Sloan (1996) shows that cash flows relative to accruals predict future stock returns. While the interpretation of these predictive correlations is open to debate, one conjecture is that stock markets do not price accounting information efficiently. If so, estimates of coefficients here are open to question; indeed, to be extreme, one could attribute the results here to the market being fixated on earnings rather than cash flows. The results their the paper seemingly conflict with previous research. In Rayburn (1986), Wilson (1987), Dechow (1994), Bowen et al. (1987), Clubb (1995), and Francis et al. (2003), among others, cash flow variables in return regressions load with a positive coefficient, with and without earnings included. The difference revolves around the issue of specification. Indeed Sloan (1996), while the pricing of earnings and cash flows is our substantive concern, the issue of specification in capital market research is a subtext. In this respect, the paper responds to the Holthausen and Watts’ (2001) criticism that capital markets research in accounting has had little to contribute to normative issues faced by standard setters. With attention to specification—which Holthausen and Watts argue is necessary—we are able to draw conclusions about a very basic normative issue, the use of cash accounting versus accrual accounting for business reporting. The results presented by Penman and Yehuda (2009) in no way nullifies the results in other papers; indeed, we are able to reconcile what look like very different findings to the earlier results.

4 Methodology

Four indicators have been selected in order to verify the research hypothesis formulated in this article:

- Return on Operating Assets (RoOA),
- Return On Equity (ROE),
- Cash Productivity of Sales (CPS),
- Cash Productivity of Assets (CPA).

Table 2 presents the name of the formula, short form of the name, the formula of the indicators selected for the study and the source of information used for the calculations.

Table 2 Selected indicators

Name of the ratio	Short form	Formula	Source of information
Return on Operating Assets	RoOA	EBIT/Average Operating Assets	Balance sheet, profit and loss account
Return On Equity	ROE	Net Income/Average Shareholders' Equity	Balance sheet, profit and loss account
Cash Productivity of Sales	CPS	Cash Flow from Operating activities (CFO)/Sales Income	Cash flow
Cash Productivity of Assets	CPA	Cash Flow from Operating activities (CFO)/Average Assets	Cash flow

Source: Own elaboration

The most common indicators used to assess the profitability of activities are profitability ratios. Profitability is the basic criterion inherent in business activity. Profitability means maximization of profit or of market share (Waśniewski 1997). In assessing the profitability the author used Return on Equity (ROE) and Return on Operating Assets (RoOA).

Return on Equity (ROE) is a measure of assessing performance useful for shareholders because it illustrates the company's ability to generate profit from each zloty of the equity. Therefore, the size of this indicator is interesting, first of all, for shareholders and stakeholders. ROE evaluates the profitability of capital, not only of a basic capital, but also the capital brought by the owners in the form of surplus from the sale of shares above their nominal value, contributions to capital or profits, the amount of which supplies the equity. When analyzing this indicator, important are not only comparisons of time and plan, but also comparisons giving the opportunity to assess the profitability of shareholders' capital against other companies from a given sector, but also in comparison with alternative investment directions.

RoOA presents the operating profitability of company's assets. It is different from its standard formula presented as net income, as in the numerator it has the operating profit (EBIT) instead of the net income. Such a formula provides an assessment of the financial situation of a company in terms of the operating profitability of its assets. Operating profitability allows an enterprise to maintain a basic aim of a company business activity, i.e. generating profit. It is important to note that operating profit provides a stable position on the market and smooth functioning. Therefore, it is a more important profit for internal assessment than the net profit, which is the final result allowing one to assess a company from the outside. Maximization of net profit of a company is in the interest of its owners or other people entrusting their capital to a company as the amount of profit is reflected by the potential return benefits.

Both indicators should go up over time, and their value compared with other standards should be as high as possible. Questionable is the use of profitability ratios to measure the profitability of businesses that do not generate profits. Of

course, this type of measurement is incorrect, because the formula shows that in the numerator of both ratios there is a profit. In addition, companies that generate a net loss, frequently have a negative equity, which gives a positive value when counting ROE, however that does not reflect a positive financial situation, but, on the contrary, a very bad one.

Other indicators used in the study are the indicators based on cash generated from operations (CFO). On a cash basis, the indicators of cash productivity inform of the rate of return on sales, as well as of the assets of a company. It should be emphasized that a high value of this group of indicators is positively evaluated. The application of these measures is helpful in assessing the financial flexibility of a given entity, giving the opportunity to receive cash in unforeseen situations (Maślanka 2008). Hence, these measures examine the ability to generate cash and the ability to create positive cash flows. They are a necessary complement to the analysis of liquidity and profitability of an entity and they provide a different view on analytical areas (Śnieżek and Wiatr 2011).

The indicator of cash productivity of sales (CPS) is characterized by the so-called quality of revenue generated by the sales of products, goods and materials, namely the level of their realization in cash. In other words, it informs of the amount of cash collected from each accrual unit of sales. It should be emphasized that changes in the size of the indicator only show the lack of relationship between the two values being compared. Hence, only the evaluation of percentage fluctuations of sales revenues and changes in accrual income from sales is the basis for a positive or negative analysis of cash productivity of sales. In fact, the level of this measure is considered sufficient when its value varies from 0.15 to 0.20. It should be noted that, at a given time, only a portion of generated revenues is transformed into cash (trade credits, contracts with partners, extended payment terms). Furthermore, in a given period, an entity also shows expenses from operating activities, most of them financed by current inflows (Śnieżek and Wiatr 2011).

Cash productivity of assets (CPA) shows the totality of possibilities of company's assets to generate positive cash flows from net transactions. It answers the question of what amount of cash surplus or deficit from the core operations there is per one unit (one złoty) of assets. In this case as well, a higher value of the indicator is preferred. In practice, the most satisfactory level of this measure is 0.3–0.35. In a way comparable to ROA, the rate of cash productivity of assets is sensitive to factors, such as the possibility of the company to obtain a positive net cash flow from operating activities, and the value of assets. The lower the level of assets generates cash, the better a situation for an entity is, but only when it has an economic explanation (Śnieżek and Wiatr 2011).

5 Objectives

The study was based on the financial statements of 131 companies listed on the Warsaw Stock Exchange in Poland in the years 2013–2014. Currently, the Warsaw Stock Exchange lists 483 companies as of July, 2016. Hence, the study focuses on 27% of all the companies listed on the WSE. Among the 483 companies listed on the stock exchange, there are 420 enterprises that can be described as non-financial. The Warsaw Stock Exchange lists 36 companies engaged in finance, 16 banks, 2 insurance companies and 9 companies from the capital market sector. This means that the selected research sample shows 31% of all non-financial companies listed on the Warsaw Stock Exchange. Table 3 presents the structure of the companies according to the sectors they operate in.

Table 3 shows the structure of the studied companies according to the sectors a given company comes from. Most of the companies come from the IT sector—23%. The 15% and 14% account for real estate development and retail, respectively. The enterprises in the energy and petroleum sector, food and construction account for 12%, 10% and 9%, respectively. The fewest companies come from the following sectors: telecommunication—6%, automotive—5%, hotels and restaurants—3%, and plastics—3%. Table 4 summarizes the medians of Return on Operating Assets (RoOA) and Return on Equity (ROE) in the years 2013–2014.

The median divides the group into two parts in such a way that 50% of the companies have values of less than or equal to the median, and 50% equal to or less than the median. In the case of RoOA, in the analyzed period, the sector of hotels and restaurants has the highest operating profitability of assets at the level of 8%. Information technology and plastics sectors have 5–6%. The lowest values are observed in the telecommunication sector at the level of 0–1%.

In the case of ROE, which informs of the rate of return for the owners, it should be noted that the median of this ratio has the highest value in the automotive sector,

Table 3 The structure of the companies according to sectors

Name of the industry	No. of companies	% (out of total 131)
Energy and petroleum	16	12
Hotels and restaurants	4	3
Telecommunication	8	6
Retail	18	14
Real estate development	20	15
Food sector	13	10
Automotive industry	6	5
IT	30	23
Construction industry	12	9
Plastic industry	4	3
Total	131	100

Source: Own elaboration

Table 4 The median of return on operating assets (RoOA) and return on equity (ROE) in the years 2013–2014

Name of the industry	RoOA		ROE	
	2013	2014	2013	2014
Energy and petroleum	0.02	0.00	0.08	0.07
Hotels and restaurants	0.08	0.08	0.03	0.03
Telecommunication	0.00	0.01	0.01	0.01
Retail	0.05	0.04	0.09	0.09
Real estate development	0.02	0.02	0.02	0.01
Food sector	0.04	0.05	0.09	0.08
Automotive industry	0.06	0.05	0.15	0.14
IT	0.06	0.06	0.10	0.06
Construction industry	0.02	0.03	0.05	0.04
Plastic industry	0.06	0.06	0.09	0.11

Source: Own elaboration

Table 5 The median of the cash productivity of sales (CPS) and the cash productivity of assets (CPA) in the years 2013–2014

Item	Name of the industry	CPS		CPA	
		2013	2014	2013	2014
1.	Energy and petroleum	0.06	0.04	0.05	0.02
2.	Hotels and restaurants	0.14	0.10	0.09	0.11
3.	Telecommunication	0.00	0.06	-0.01	0.01
4.	Retail	0.01	0.03	0.05	0.04
5.	Real estate development	-0.12	0.07	0.00	0.00
6.	Food sector	0.03	0.03	0.06	0.06
7.	Automotive industry	0.09	0.05	0.10	0.07
8.	IT	0.11	0.06	0.11	0.10
9.	Construction industry	0.06	0.04	0.04	0.04
10.	Plastic industry	0.12	0.07	0.11	0.06

Source: Own elaboration

amounting to 14–15%. Plastics sector is characterized by the average profitability of the equity at the level of 9–11%. In retail sector, 50% of companies achieve ROE >9%, and 50% <9%. The telecommunication sector is characterized by the lowest profitability with the median of 1%. The values of the indicators in the 2 years tend to be constant.

Table 5 presents the median of the cash productivity of sales (CPS) and the cash productivity of assets (CPA) in the years 2013–2014.

The analysis of the medians of the cash productivity of sales in the years 2013–2014 allows one to conclude that the examined sectors are characterized by a varying cash productivity of sales. The sector of hotels and restaurants is characterized by the highest average profitability of sales at the level of 14% and 10%, respectively. A high average cash productivity of sales was also observed in the sectors of information technology and plastics. In 2013, the lowest cash

productivity of 12% was recorded in the sector of real estate development. In 2014, the cash productivity of sales was significantly lower than in the previous year.

The analysis of the medians of the cash productivity of assets leads to a conclusion that the level of this productivity in all the sectors is less varied than the cash productivity of sales. In four out of ten sectors, the average cash productivity of assets was at the level of 10%, at least in one of the studied years. The worst result was recorded in the sector of real estate development where the average was zero. The telecommunication sector recorded negative average values of productivity in 2013. Comparing the values of these indicators, it should be noted that there was a decline in the average values, or they remained constant in both studied periods.

6 Indicators of Performance Analysis

The correlation analysis was performed in order to compare financial results based on the accrual and cash accounting data. The analysis was based on four variables. Two of them based on accrual data, i.e. RoOA and ROE, and two based on the cash data, i.e. cash productivity of sales (CPS) and cash productivity of assets (CPA).

The correlation analysis uses different measures defined by features (quantitative, qualitative), presentation of statistical data (individual data, correlation tables) and the association or relationship between variables (linear, curvilinear) (Sobczyk 2006). When the two features are quantitative, and their association is linear, the most widely used measure is the Pearson's product-moment correlation coefficient.

The Pearson's product-moment correlation coefficient (or the PPMCC) can be expressed as follows:

$$r_{xy} = r_{yx} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{ns(x)s(y)} = \frac{\text{cov}(x,y)}{s(x)s(y)} \quad (1)$$

where:

x is the variable RoOA or ROE

y is the variable CPS or CPA

s(x) is the standard deviation of RoOA or ROE

s(y) is the standard deviation of CPS or CPA

cov(x,y) the covariance, i.e. the mean value of the product of the deviations of two variables from their respective arithmetic means.

Table 6 presents the results obtained from the Pearson's product-moment correlation coefficient for the variables RoOA and ROE, CPS and CPA.

Table 6 The results obtained from PPMCC to compare accrual and cash results

Variable x	Variable y	Pearson's correlation coefficient	
		2013	2014
RoOA	CPA	0.09	0.39
ROE	CPS	0.05	0.03
ROE	CPA	0.06	0.20
RoOA	CPS	0.35	0.05

Table 7 The results of Student's *t*-Test and statistical significance

Years	Variable X	Variable Y	Results of Student's <i>t</i> -Test, $n - 2 = 129$ degrees of freedom	P—statistical significance
2013	RoOA	CPA	0.50	0.618
	ROE	CPS	0.04	0.968
	ROE	CPA	0.38	0.704
	RoOA	CPS	0.85	0.397
2014	RoOA	CPA	0.32	0.749
	ROE	CPS	0.25	0.803
	ROE	CPA	0.84	0.402
	RoOA	CPS	0.87	0.386

The analysis of the results of the correlation coefficient calculated for the two periods 2013 and 2014 presented in Table 7 indicates a positive very weak or a weak correlation between the two variables.

Firstly, the relationship or association between Return on Operating Assets (RoOA) and Cash Productivity of Assets (CPA) was assessed. Both indicators are used to evaluate the effective use of business assets—RoOA based on the accrual basis, and CPA in terms of cash. From the point of view of the theory of accounting, both indicators contain comparable economic categories in the numerator, i.e. RoOA—operating profit, and CPA—cash flows from operating activities. However, despite the similar content found in the formulas of these indicators, the correlation between the two variables was very weak in 2013 or weak in 2014.

Secondly, the relationship between Return on Equity (ROE) and Cash Productivity of Sales (CPS) was examined. In both studied years they showed a very weak association. Considering these indicators, when comparing their structures, it can be said that both are based on different non-comparable economic terms. The numerators of these indicators contain net profit in ROE and operating cash flow in CPS, and in the denominator equity in ROE and sales income in CPS. That supports a thesis found in economic theory that the increase in cash lowers the level of equity in a company.

The analysis of the power and direction of the relationship between ROE and CPA in 2013–2014 indicates that in the 2 years it was low and positive. This means that the tendency towards an increase or decrease in the value of both indicators is identical. The relationship between accrual and cash profitability are of little or no significance.

When analyzing the correlation between RoOA and CPS it can be determined that it was very weak in 2014 or weak in 2013.

The significance level is a numeric value which represents point-based assessment of the power of association in a general population. Hence the need to test the significance of the correlation coefficient calculated based on a random sample. Thus, the following set of hypotheses was verified: $H_0: \rho = 0$, $H_1: \rho \neq 0$. The verification of the null hypothesis is helpful to assess whether the existing relationship between X and Y in a sample is only a coincidence or a regularity in the population.

Given the significance level of 5%, as recommended in the social studies and $n - 2 = 129$ degrees of freedom, it can be said that all the results are statistically significant. When the results of the significance level are $>5\%$ ($p > 0.05$), this means that there is no reason to reject the research hypothesis on the existence of low or weak relationship between the two studied values, and thus the results are statistically significant. For example, for $p = 0.618$, it means that 61.8% of the results are accidental, and 38% are not accidental, meaning that these are the results of our research.

7 Conclusions

This article aims to investigate the relationship between the indicators commonly used to assess a financial situation based on accrual and cash flow accounting. A financial result can be a subject of manipulation arising from the possibility of using alternative accounting and financial methods. It results in the loss of credibility of the assessment of the financial condition of a company based on the accrual data. Cash flows compared to financial results are not subject to manipulation resulting from accounting policies employed in a given entity. Hence, formulated hypothesis assumes that the assessment of profitability carried out with the use of cash flow indicators reflects the true and reliable image of a company, in contrast to the indicators based on a financial result. The hypothesis about dissimilarity of the assessment of a financial condition has been proven by the analysis of the correlation between the accrual and cash results. The analysis of a financial situation based on cash flows led to the conclusion that a financial situation is more complete, reliable and not affected by balance and tax policy, but also there are differences between the assessment based on financial ratios calculated on the basis of accrual data (the balance sheet and the profit and loss account) and the financial situation of the studied companies based on cash data.

Here appears a question of how to assess the financial position of a company—whether to include accrual data or cash data and why these measures are not consistent with each other. It is not enough to say that the accrual and cash data are not consistent with each other, because this is due to the method of recording economic events occurring in a given business entity—on the accrual basis (economic event is accrual document), and in cash terms (economic event is the impact

or cash expenditure). The drawbacks of the net profit as the basic economic category of a company defining its target business activity were tested and confirmed by, above all, the bankruptcy of Enron and the fall of WorldCom. These bankruptcies drew public attention to many dangers of the fictitious financial reporting and imperfections of the current system. Both bankruptcies resulted in the financial crisis of 2008, which had far-reaching consequences. Managers' pride and their greed led to the devaluation of the value of information derived from the financial statements, and above all, of the economic category derived from net profit. Despite the growing importance of cash flows as a universal measure, it should be stressed that multidirectional assessment of the financial situation requires collecting information from all available sources, i.e. the balance sheet, profit and loss account and the cash flow statement. Believing that preparers of financial statements will rebuild their credibility and will diligently prepare financial statements, accrual results should be confronted with cash data in the assessment of the financial situation.

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