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The use of quality measures of accounting information to approximate information asymmetry

Abstract. The aim of the paper was to present the characteristics and the evaluation of the possibility to use the quality measures of accounting information for studying the level of information asymmetry between the internal and external investors of the company. The essence of the information asymmetry was characterised. The phenomenon of shaping profits was indicated as one of the reasons for the lack of credibility of financial statements. Referring to the causes of the information asymmetry, the models of the quality of accruals were indicated, as well as, the Polish Corporate Disclosure Index (PCDI), as measures enabling the relative estimation of the information asymmetry. In addition, the barriers connected with the use of these measures in practice were specified.

Keywords: information asymmetry, earnings management

Introduction

A company is vulnerable to the negative consequences of the impact of the market imperfections. Information asymmetry is one of the most important. In many situations the information asymmetry can be a block in establishing the mutually beneficial contract, as it leads either to resigning from this transaction by this party, which feels ill-informed (negative selection), or to the deliberate misinformation of the party of the contract (moral hazard). The company taking

measures to mitigate these effects incurs additional transaction costs. The higher the level of information asymmetry, the higher the deviations from the optimal allocation of resources by the company, and thus, the greater the losses for the whole economy. So it is worth undertaking the attempt to measure the information asymmetry, to be able to indicate the companies, for which the undertaking of actions to reduce its negative effects can have the greatest meaning. This measurement is also necessary when the Researcher wants to study the effect of information asymmetry on decisions made by companies both in reference to the operational, investment and financial activity.

The aim of the article is present the characteristics and the evaluation of possibilities to use the quality measures of accounting information to study the level of information asymmetry between the internal and external investors of the company. Performing the measurement of the information asymmetry is a very difficult task. In the literature a lot of different variables are used, which approximate the information asymmetry. Because it cannot be expressed in any natural units. It has a multiple nature, and its different aspects are usually described not directly, but indirectly, trying to quantify some features of companies. These features are considered as indications differentiating the level of information asymmetry. The article will characterise various methods for measuring the information asymmetry. Against them the assessment will be made concerning the possibilities for using methods concerning the measurement of the quality of profits in this scope.

1. Information asymmetry as one of the causes of the market imperfections

The information asymmetry phenomenon is a situation, when people have knowledge about themselves, which is not easily available to others [Begg et al. 2007: 345]. In economy, such a situation is applied to a different range of knowledge of the parties about some transaction. The party, which has all available information (full knowledge), is better informed, is defined as the agent. The party without complete information is the principal.

The theory of information asymmetry was shaped in the 60s and 70s of the twentieth century. It describes the phenomenon of uneven access to information of the market participants and making decisions in these conditions. The foundations of the analysis of the information asymmetry phenomenon were formed by George Akerlof, Michael Spence and Joseph Stiglitz, who in 2001 were awarded

the Noble Prize for these achievements in the field of economics.[1] These scientists have created foundations of the theory of markets characterised by the information asymmetry. In connection with its occurrence, the economy is reaching the equilibrium below the optimal use of resources.

G. Akerlof built one of the first formal models of adverse selection, which occurs in the case of information asymmetry between the market participants. He analysed the situation, which can take place on the market of used cars. Akerlof assumed that the seller knows the condition of the car better than the buyer. The buyer without knowing the actual condition of the vehicle will be willing to pay an average market price of the given type of car. Dealers of cars in good shape, however, expect the amount higher from the average and therefore they will withdraw from the market, not being able to achieve the price matching the quality of the car. This leads to the failure of the market mechanism. The reason for this is the information asymmetry leading to the uncertainty regarding the quality of the transaction object. This may lead to the fact that the market will be dominated by the low quality products, the number of products will be smaller and the optimum Pareto will not be reached. The author suggests that in order to reduce the risk of the fraudulent conduct of people who are better informed than people ill-informed, the Country should ensure the appropriate system regulations [Akerlof 1970].

M. Spence showed that the problem of information asymmetry can be partially solved by entities aware of their advantages undertaking costly actions, which will reliably show their advantages to the society. This problem was mainly discussed with reference to the labour market, in 1973 introducing for the first time the term of signalling [Spence 1973]. He said that in many markets the employer cannot assess the abilities of the employed worker. Only after some time he develops an opinion about him. However, the employee can signal the level of his abilities incurring specific costs (e.g. of education).

J. Stiglitz states that information asymmetry, poor quality of information and thus the need to incur costs of obtaining information, make the statement of the classical economics, claiming that the competitiveness of markets is a sufficient condition of the effective allocation of resources and maximisation of the prosperity is not real. This happens because, in accordance to the assumptions of the efficient market, the market participants have full information and do not incur costs of acquiring information. With regard to information asymmetry connected to the acquisition of capital, it is worth mentioning the conclusions, which were

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1 The Nobel Prize for the works on information asymmetry was received in 1996 also by A. Mirrlees (for studies between private companies and the government in the context of information asymmetry) and by W. Vickrey (for the development of operation theory in conditions, when the acquisition of complete information on the market is not possible).

drawn by Stiglitz in respect to the acquisition of the loan. Information asymmetry, according to Stiglitz, is the cause for rationing the loan – that is granting it only to some applicants [Stiglitz 1981].

The existence of information asymmetry causes the increase of uncertainty. Information can be objective (apart from the sender and recipient of the information) or subjective, that is determined in relation to the given subject, which can give meaning to information and use it for own purposes – e.g., making decisions in the company. In this case, we can talk about information as the interpreted string of signals. Given that the series of signals is processed by the specific object, which can be characterised by diverse level of knowledge, it can be perceived differently. The same scope of data can be thus the source of other information.

The information asymmetry phenomenon can thus apply not only to the difference in the access to data for two different entities, but also limitations connected with the processing and understanding of information. The barrier is, among others, man's ability to accumulate and process information. It should be added that for the processing of information we need to have specialized skills. Another problem which may occur while "reading" information is the lack of the rational approach [Kubiak 2013: 16].

Considering the problems relating to the information asymmetry we should therefore bear in mind the consequences not only of the different scope of access to it (lack of access to data, hiding data from one of the parties), but also the problem of the need for having the right knowledge for interpreting the transmitted data. Both the first and the other cause of the asymmetry occurrence can cause the occurrence of negative consequences for the parties transmitting and receiving information, as well as for their environment. One should also remember that the acquisition of information costs money.

A necessary condition for the occurrence of the information asymmetry in economy is the existence of two entities remaining in the specified relation due to concluded contracts or intending to perform some transactions. Information asymmetry will take place between these entities in case when they do not have the same scope of data on the company, or when one of the parties due to the lack of specified knowledge or skills will not be able to interpret well the available data. Uneven access to data and the problem of their proper interpretation can cause the more severe consequences in case when they apply to the relations between entities with opposing interests.

The lack of rational approach when receiving and processing the obtained message can also be the cause of information asymmetry. Human nature means data can be received and processed incorrectly due to the existence of some psychological phenomena determined by human subconscious, such as, for example:
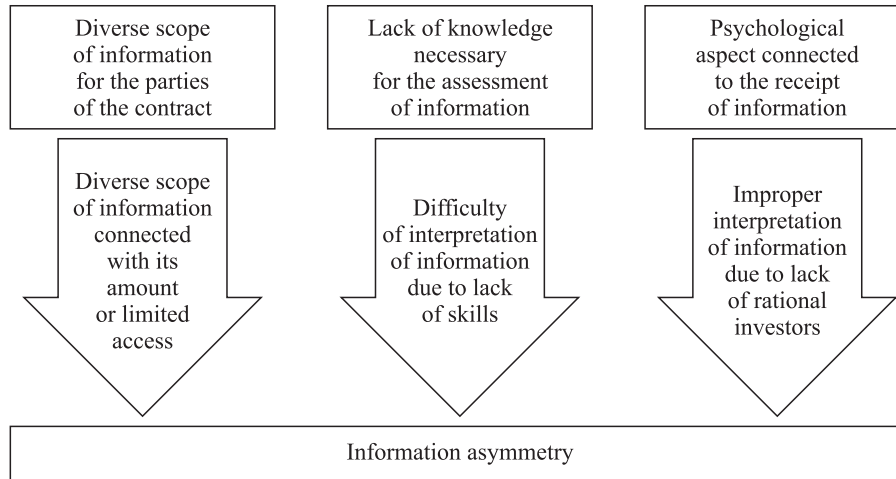
Figure 1. Causes of information asymmetry

S o u r c e: own research.

an anchoring error, conformation effect, illusion of truth, overconfidence, cognitive conservatism [more on this subject in Szyszka 2009: 211-212].

Causes of information asymmetry in relation to economic phenomena are presented in Figure 1.

2. Negative consequences of information asymmetry in the context of capital allocation

As it has already been stated, information asymmetry is one of market imperfections, which interfere with the mechanism of effective allocation of resources. In the economic literature the attention is paid to two main consequences of the information asymmetry phenomenon: negative selection and the moral hazard [Acocella 2002: 138].

In the article, the information asymmetry problem is dealt with in regard to the relationship between the internal and external investors of the company. These entities need information to make right decisions coinciding with the goal, which they want to achieve. Different interests of the parties contribute to the formation of negative results of information asymmetry. In order to achieve negative

consequences of asymmetry, companies will incur transaction costs connected to the acquisition of information and with monitoring of the concluded contracts.

The problem of negative effects of information asymmetry in the aspect of capital allocation will not occur only when the company, which is the property of one person, will not obtain capitals from the outside and when the function of managing the company will not be ceded by the owner to the board. Such a situation will occur only when 100% of own capital remains in the owner's hands, who at the same time will manage the company and will continue to finance it only from retained earnings, also without using the debt. This state occurs fundamentally only in the case of micro-companies and means the company is run in the simplest organisational form.

The company's board has the full knowledge on the current state of its finances and plans future actions. External investors of the company largely base on information passed by the board. This can result in the following negative consequences:

– *underinvestment*,
– *overinvestment*,
– value transfer due to the *assets substitution effect*, or caused by the change of relations between the financing with debt and financing with own capital.

Underinvestment occurs when the company resigns from the implementation of the investment, which in case of the full access to information would be profitable. Investors due to the lack of some information on the company and planned investments have a problem with the proper assessment of quality of the project and therefore expect too high return rate in relation to the incurred risk. The consequence of this is the use, in the assessment of effectiveness of the investment, too high discount rate, what can result in resigning from projects, which in conditions of full information would have a positive net present value (NPV). Capital providers who do not have full knowledge on the quality of projects of individual capital receivers, can average their expected return rate, what will mean either – as it has been mentioned above – lack of making investments in the case when the expected return rate from the investment is lower than desired return rate by investors, or the company incurring the higher capital cost (when the expected return rate is higher than desired). Another reason for the resignation from the investment due to difficulties with estimating its value, apart from the high desired return rate, can be the credit refusal (credit rationing). It can involve the refusal or limitation of financing and concern both companies undertaking highly or little risky projects – due to difficulties of their proper assessment.

Underinvestment can also be connected to the occurrence of the phenomenon of negative selection. Such a situation can appear when the company is in a difficult financial situation and at the same time has an attractive, but endowed with

risk, project with the positive NPV, which requires funding with own capital. Then owners can resign from undertaking the project with positive NPV, as in the case of success, the benefits will be taken mostly by the creditors, and the potential losses will be borne mostly by the owners [Myers 1977].

The problem of overinvestment means the realisation of investments, which are characterised by the negative NPV value. It is possible in the conditions of information asymmetry and results from the phenomenon of moral hazard. In this case, the hidden actions are made by the board, which wants to implement own goals, inconsistent with the goals of the owners or creditors. Accepting the investment with the negative NPV for implementation, with the simultaneous presentation to other stakeholders as viable, enables the managers to reach the material benefits connected to its implementation, or raising their prestige. Therefore, in this case the problem is the very difficult acquisition of real information about the planned investments, in relation with the intended, hidden actions of the board.

The overinvestment can also take place when as a result of information asymmetry investors have defined the average return rate as too low in relation to the real level of risk of the investments in question. In this case the investments can be financed, which with the full access to information, due to higher expectations of investors, would not be beneficial. The situations of overinvestment presented above therefore unfortunately lead to the sparing of capital to inefficient companies.

Transfer of values between the stakeholders of the company can take place through substitution of assets or the change of relations between financing with particular capitals. The substitution of assets is the replacement of safe assets with more risky assets. Such a situation occurs already after concluding the contract and sharing the capital by the investor. This action of the board will be the action to the detriment of entities donating the capital for the disposal. The value of the foreign capital provided by the creditors is in fact constant, and in the case of making investments with higher than expected when entering into contract risk leads to the fact that in the case the project fails and the company goes bankrupt, the value of debt will decrease. While in the case the investment is successful, the whole premium for the risk will be taken by the owners.

Transfer of values between owners and creditors can also take place through the increase of the debt rate without the simultaneous investment of the borrowed funds. Incurring debt in order to pay the owners, for creditors means the reduction of values of their claims in relation to the existing assets of the company. In such a situation occur changes only within the structure of capital, and this does not entail changes within the property. The existing creditors due to the increased financial risk will have to reckon with the decrease of the debt value.

3. Problem of information asymmetry measurement

The basic problem of conducting studies of the relation of information asymmetry with the behaviour of the companies is the difficulty of information asymmetry measurement. Because it cannot be observed directly. Its direct measurement would have to entail the specification of differences within the information owned by particular stakeholders of the company. Therefore, we should accurately determine the amount and content of information available to the internal investors and available to the external investors, as well as assess their importance for the decision-making. Such quantitative and qualitative grasp of the diversity of access to information would allow the direct specification of the level of information asymmetry in companies. Apart from the tremendous effort of such studies, the barrier of their implementation is the lack of possibilities to acquire such data. Researchers are therefore left with the indirect measurement of information asymmetry. Approximation of the level of information asymmetry is done based on the occurrence of premises indicating the diversification of its level. These premises can have a different nature and hence a large number of measurement methods. Below we can find the characterised measurement methods used in studies for information asymmetry within the capital allocation. These methods are grouped according to the criterion of their relation with the causes for the formation of information asymmetry.

Methods relating to the number and accuracy of opinions and forecasts of independent specialists result from both main causes of information asymmetry. This is because the results of particular indicators within this method depend both on the amount of available data and on the difficulty in their proper interpretation. The main subject of analysis in the article is the use of quality measures of accounting information (quality of earnings) to the information asymmetry measurement. These measures in the context of the above presented scheme should be placed within the methods specifying companies exposed to the occurrence of the problem of poor interpretation of available information.

The causes of information asymmetry are, as it has already been stated: diverse scope of information and difficulty of its interpretation. The diverse scope of information can result either from the diversification of the amount and quality of information generated by companies, or due to the fact of limiting access to some information for external investors.

The first group of methods are methods determining the features of companies that determine the diversity of the numbers of information they generate regarding their financial situation and planned projects. Meters used in this group allow you to measure features, such as: size, age, public nature of the company, that is fea-
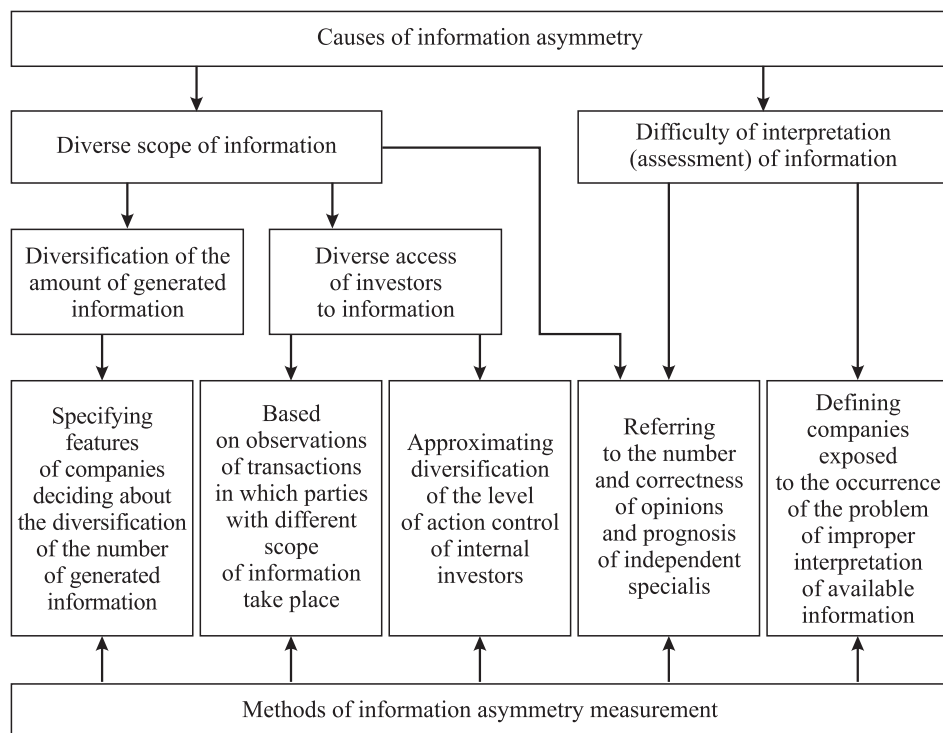
Figure 2. Measurement methods of information asymmetry divided according
to the criterion of causes of their formation

S o u r c e: Kubiak 2013: 119.

tures often connected with quality and quantity of information passed to external investors, as well with the possibility of their verification.

The diverse scope of information available to investors is also a reason for separating the second group of methods, i.e., based on observations of market transactions concerning the given company, in which you can expect the share of parties with a different scope of possessed information. This group of methods can include the indicators of the market microstructure and indicators specifying the share of people managing the company in concluding transactions as securities.

The third specified group are methods approximating the diversification of the level of control of actions of internal investors. It is related with the possibility of hiding actions conducted by internal stakeholders from external stakeholders, and thus it is connected to the existence of asymmetry existing after concluding the contract. It is therefore linked to the occurrence of groups with different interests.

Some companies will be more exposed to the occurrence of asymmetry in relation to the smaller control of actions of internal investors. Less precise control of actions usually takes place in the case of companies with great concentration of properties and connection of ownership functions with the managerial ones, as well as companies with a short period of cooperation with banks.

The second above-mentioned cause of information symmetry is the difficulty of the proper interpretation of information. As it has already been mentioned, the more specialised the knowledge required for the proper reading of data, the greater the exposition to the occurrence of information asymmetry. Given this asymmetry source, we can specify the group of methods referring to the number and correctness of opinions and forecasts of independent specialists, respectively with the present and future situation of the company and the group of methods specifying the companies exposed to the occurrence of the problem of the improper interpretation of available information. In the case of the first of these groups of methods of information asymmetry measurement we can distinguish the number of analysts giving opinion about the company, the index of errors of forecasts of analysts, or the assigned rating. The greater the number of specialised opinions, the smaller information asymmetry can be expected. Specialists are to help investors gathering all available information and interpret them thanks to the specialist knowledge.

The last separated group (covering methods referring to the problem of exposure to the improper interpretation of available data) includes: indicators specifying the structure of assets, level of investment expenditures more difficult to assess by investors, measured rate of company's growth (companies with a greater rate of growth usually require greater attention and knowledge of investors, necessary for the proper assessment of their actions) and indicators of the profit quality.

Given the above considerations, we should remember that the studies do not perform the accurate measurement of the level of information asymmetry, but its estimation, approximation. We cannot measure information asymmetry directly, but we can perform the arrangement of companies according to its relative level.

4. Earnings management in companies
in the context of information asymmetry

Earnings of every enterprise are closely scrutinized by investors, financial analysts or boards of directors in order to determine the attractiveness of a particular stock or to reward the executives. This is the reason why the management of a company sometimes decides to deliberately manipulate the earnings, so that

the pre-determined targets can be achieved. Such situation is often called "earnings management" [Brzeszczyński et al. 2011: 137-138].

Earnings management is the choice of a manager of accounting policies or other actions, including voluntary earnings forecasting, voluntary disclosure, and estimation of accruals, to affect earnings intentionally. Earnings management may undermine the credibility of financial statements, which provide useful information for stakeholders in well-functioning capital markets. Most studies in the earnings management literature have focused on two types of general earnings management: accrual management and the manipulation of real economic activities [Man, Wong 2013: 400]. An example of an accounting choice is adopting the depreciable life for new plant at the high end of industry norms or at the level lower than the high end of industry norms. An example of operating decision is a delay in the execution of normal maintenance procedures in one period in order to reduce maintenance costs in that period and to perform this procedure in the following period [Brzeszczyński et al. 2011: 137-138].

It is important to distinguished the so-called "*efficient earnings management*" from the so-called "*opportunistic earnings management.*" The opportunistic grasp assumes that managers undertake attempts to shape the financial results in order to mislead shareholders in terms of the financial situation of the company. Therefore, the use of the situation of information asymmetry takes place between managers and external stakeholders in order to achieve personal benefits by managers, e.g., in the form of greater remuneration for achieving results in the company. While the second approach assumes that the formation of financial results is a form of communication between managers and external stakeholders [Piasecki 2015: 219-220].

Shaping the financial results therefore affects the quality of financial statements. Unfortunately, this increases the information asymmetry between the company and external investors. Higher quality of financial statements decreases information asymmetry, therefore, the greater the scope of shaping the financial results by managers, the smaller the effectiveness of implemented investments.

As indicate Gary Bidle, Gilles Hilary and Rodrigo Verdi, firms with higher financial reporting quality also are found to deviate less from predicted investment levels and show less sensitivity to macroeconomic conditions. These results suggest that one mechanism linking reporting quality and investment efficiency is a reduction of frictions such as moral hazard and adverse selection that hamper efficient [Biddle et al. 2009: 112].

Shaping profits in the form of operations with the financial reporting occurs because managers have the ability to make choices of different methods and estimations within the accounting. Usually this type of behaviour is considered cheating and acting to the detriment of stakeholders, in the vast majority of works in literature shaping the financial result is assessed negatively [Wójtowicz 2010: 7].

The empirical findings presented by Janusz Brzeszczyński, Jerzy Gajdka and Tomasz Schabek provide clear support for the existence of earnings management practices driven by the desire to report positive profits [Brzeszczyński et al. 2011: 137-148].

5. Possibilities to measure information asymmetry using quality measures of accounting information

Referring the data directly resulting from financial statements measures used to determine the quality if accounting information of the company can be used for approximation of the level of information asymmetry. As it can be assumed that managers can, in order to show more beneficial results of the company at the given moment (e.g. before the issuance of shares), take actions aimed at its increase, using the right accounting of economic operations. This most often occurs through the "manipulation" with the size of accruals. The decrease of quality of thus formed profit causes problems with the proper interpretation of indicators determining the financial situation of the company. Exposure to such a situation can be determined using models examining the credibility of accruals in terms of their impact on the quality of the profit reported by the companies.

Gemma Lee and Ronald Masulis verified the hypothesis, that poor accounting information quality raises uncertainty about a firm's financial condition for outside investors. They argue that the quality of a firm's accounting information, is a reasonable proxy for asymmetric information between managers and outside investors, since accounting statements are the primary source of information about firm performance available to outside investors. Its quality should be directly related to investor uncertainty about a firm's financial health and past performance. The Authors show that poor accounting information quality is associated with higher raising underwriting costs and risk. This accounting effect lowers demand for a firm's new equity [Lee, Masulis 2009: 447].

In literature we can find many models of estimations of the values of accruals, aimed to measure the quality of the accounting information. There is no commonly accepted way enabling the estimation of the values of particular positions of the financial report shaped purposefully by the manager. Basically, we can distinguish two approaches to the measurement of the scope of shaping financial results: analysis of shaping the profits and analysis of the balance items. In the models of analysis of the balance items it is assumed that it is possible to determine values of discretionary accruals and nondiscretionary accruals. However, in this case the discretionary accruals should not be understood as the specific position in the

balance grasped in accordance with the act on accounting. Discretionary accruals are treated as values of assets and liabilities, which have their source in shaping the outcome [Piasecki 2015: 222].

Lee and Masulis proposed model based on the earnings accruals models of Dechow and Dichev and McNichols. These models can measure accounting information quality based on the standard errors of residuals from a model mapping yearly current accruals into operating cash flows in the prior, current and subsequent years estimated in each of the past 5 years, where larger standard errors imply poorer quality accounting information. Lee and Masulis propose a new measure of accruals quality, which incorporate a firm fixed effect. This measure covers unobserved firm characteristics that are time invariant, such as internal accounting policies and cash flow characteristics [Lee, Masulis 2009: 447]:

$$C_{Aj,t} = {}_{cj} + {}_{\varphi 1}CF_{Oj,t-1} + {}_{\varphi 2}CF_{Oj,t} + {}_{\varphi 3}CF_{Oj,t+1} + {}_{\varphi 4}\Delta Sales_{j,t} + {}_{\varphi 5}PP_{Ej,t} + {}_{vj,t},$$

Where:

C_A – change in working capital (accruals),
CF_O – operating cash flow,
$Sales$ – total revenue,
PPE – property, plant, and equipment [more on this subject in: Francis et al. 2004: 967-1010].

The poorer the quality of accounting information measured based on the accruals, the greater the level of information asymmetry [Lee, Masulis 2009: 467]. In the light of the theses presented in the previous chapter, it should be assumed that managers can, in order to show the more beneficial results of the company at the given time (e.g. before the issuance of shares), manipulate the size of accruals. This of course does not exhaust all the conditions of the occurrence of information asymmetry phenomena, however, it can be a useful tool of measurement of asymmetry level in studies concerning the formation of the structure of capital of companies in the light of theory of *market timing*.

Quality measures of accruals are not the only way of measuring the quality of information related to information asymmetry. According to the author, for measuring the quality of information we can also use the "disclosure indexes." These are indicators enabling the specification of the range of disclosures in financial statements.

Disclosures in accounting inform investors about accounting strategies and methods used while making financial statements. As it is observed by Marek Gruszczyński in the paper *Empirical finances of companies. Financial microeconometrics* [Gruszczyński 2012: 190] transparency in accounting disclosures minimises the problems of the agency, because it reduces information asymmetry between people managing the company and shareholders. In this paper the author

presents the structure of several gauges, which were formed for the public companies in Brazil, Thailand and Hong Kong, Portugal, China [Gruszczyński 2012: 190-196].

Polish Corporate Disclosure Index (PCDI) is the outcome of the research conducted by Warsaw School of Economics led by Gertruda Świderska. PCDI value represents the disclosure quality of three annual reports: financial statement (weight 66%), company report (weight 24%) and corporate social responsibility report (weight 10%). There are 9 areas of reporting taken into account. In each area a number of disclosure issues were examined. Within each area was given weight to groups of questions (3-4 weight depending on the area). Altogether the disclosures were investigated in 28 elements of annual reports. Polish corporate disclosure index (PCDI) is calculated as the weighted average of all 172 disclosure items examined for each company. The weights were generated by the group of experts composed of 12 accounting, including 5 certified accountants. In the case of the most important reports – financial statement – were taken into account the following areas: Non-material assets, financial risk, fair value, accounting for derivatives, leasing, segments of activity, reserves [Świderska (ed.) 2010: 109-112].

The PCDI value refers to the reliability of financial reports and therefore can, according to the author, constitute one of the ways for measuring the quality of information generated by companies.

6. Limitations in using quality measures of accounting information for the approximation of information asymmetry

As it has already been observed above, the asymmetry measurement is very difficult and essentially consists of its approximation using conditions affecting its intensity. Therefore, there is a threat of the occurrence of limitations connected with the degree to which the measure in question reflects the diversity of the level of information asymmetry, and to what extent it expresses the intensity of other features characterising the company. Considering the limitations, it is also worth referring to the scale of possibilities of using specific measures for measuring information asymmetry in companies. The assessment of usefulness of quality measures of accounting information for information asymmetry measurement will begin from the second of the above-mentioned issues.

Measurement of asymmetry using profit quality measures can be effective especially in the case of research aimed at identifying companies exposed to "manipulation" by managers of the size of profits before the moment of acquisition of

the external capital and in order to present the beneficial situation of a company listed on the public market in periodic reports. This problem therefore applies mostly to listed companied and in relation to them the use of quality measures of accruals to information asymmetry can be recommended. Nevertheless, in the case of non-listed companies, such actions can also take place, e.g., in order to improve the indicators determining the assessment of the creditworthiness by the bank, especially in the case of entities, which have a problem with the positive assessment of their financial situation.

The second problem connected with the scope of possibilities to use the above discussed quality measures of accounting information are the limitations connected with the relatively small group of entities, which are obliged to draw up the complete financial reporting. This problem also affects the measurement of the Polish Corporate Disclosure Index (PCDI) (e.g. the limited scope of companies making *corporate social responsibility (CSR) report*), and the measurement of quality of accruals (some models require access to data from the cash flow – and they are made only by companies subject to the mandatory audit of financial statements).

Referring to the problem of the threat by the situation in which the given measure to a large extent defines determinants other than information asymmetry about decisions on allocating capital, it is worth quoting the task of G. Lee and R. Masulis. They point out that using the estimating models, the quality of accruals for determining the level of information asymmetry one should pay attention to the fact that these models do not include the effect of the industry or the level of uncertainty regarding the results of the company [Lee, Masulis 2009: 466-467]. Therefore, there is a risk that this method will determine to a greater degree the risk of running the business than information asymmetry.

It is also worth paying attention to difficulties of the study in Poland concerning the effect of accruals – and in particular the provisions on the financial result. As noted by Ewa Walińska and Bogusława Bek-Gaik, the analysis of provisions titles is very difficult due to the way of revealing information in notes, which are often too synthetic and unreadable. Particularly difficult is the analysis of impact of provisions reduction on the financial result, as the size of companies did not show in notes whether the cause for solving the reserves was their use or the lack of use [Walińska, Bek-Gaik 2012: 368-370].

Conclusions

Information asymmetry causes the inefficient allocation of resources. It results not only from the difference in access to data for internal and external investors,

but also from limitations connected to the information interpretation. In this aspect for the approximation of information asymmetry we can use the quality measure of the accounting information. The negative impact on the quality of financial reports may come from the policy of shaping earnings conducted by managers. Unfortunately, this increases information asymmetry between the company and external investors. Shaping the earnings most often takes place by "manipulating" the size of accruals. Therefore, the models based on credibility of accruals in the aspect of their impact on the earning quality of the company are commonly used in this context for the approximation of information asymmetry.

According to the author, for measuring the quality of the transferred information we can also use "disclosure indexes." These are indicators that allow defining the scope of disclosures in financial reports, although in Poland they are fundamentally used only in case of listed companies.

Among the main restrictions regarding the use of methods described in the article we should mention the fact that models estimating the quality of accruals can to a greater extent describe the level of risk of the company's operation than information asymmetry. Moreover, it is also worth paying attention to the difficulties of the study in Poland regarding the impact of accruals – especially reserves – due to their great degree of illegibility and generalisation in financial statements.

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Wykorzystanie miar jakości informacji księgowej do aproksymacji asymetrii informacji

Streszczenie. *Celem artykułu było przedstawienie charakterystyki i ocena możliwości wykorzystania miar jakości informacji księgowej do badania poziomu asymetrii informacji pomiędzy wewnętrznymi a zewnętrznymi inwestorami przedsiębiorstwa. Scharakteryzowano istotę asymetrii informacji. Wskazano na zjawisko kształtowania zysków jako jeden z powodów braku wiarygodności sprawozdań finansowych. Odnosząc się do przyczyn asymetrii informacji, wskazano na modele jakości rozliczeń międzyokresowych oraz na Polish Corporate Disclosure Index (PCDI) jako na miary umożliwiające względne szacowanie asymetrii informacji. Określono także bariery związane ze stosowaniem tych miar w praktyce.*

Keywords: *asymetria informacji, kształtowanie zysków*