



## Management accounting practices in developing countries since the 1990s: the case of Poland

ANNA SZYCHTA\*

### Abstract

The aim of this paper is to identify the type of management accounting (MA) practices used in business entities surveyed in Poland, and to recognize the direction and factors of changes in MA methods and tasks in the almost three decades of the dynamically developing market economy in Poland, after the change of the socio-political system at the turn of the 1980s and 1990s. The author answers several research questions based on a review of the previous literature and data obtained from three surveys conducted in 1999, 2005, and 2016. This study confirmed that the number of companies in Poland which have departments that carry out tasks in the area of MA/controllership has increased steadily. The research indicates that operational MA methods dominated in enterprises between 2010–2015, just like in 2000–2005 and in the 1990s. It also found that in no more than 10% of the medium and large business entities which responded in 2016 are the methods of strategic MA used. In the first period of the development of the market economy in Poland, i.e., until 2004, many different economic and institutional factors influenced the introduction and change in MA practices, and in the next period, the respondents of the empirical studies pointed to economic factors as being more important. The paper contributes to the literature on the development of MA in Central and Eastern European countries on the example of Poland.

**Keywords:** management accounting, practices, change, economic factors, institutional drivers, Poland.

### Streszczenie

#### Praktyki rachunkowości zarządczej w krajach rozwijających się od lat 90. XX wieku na przykładzie Polski

Celem artykułu jest identyfikacja rodzaju praktyk rachunkowości zarządczej stosowanych w badanych podmiotach gospodarczych w Polsce oraz rozpoznanie kierunku i czynników zmian metod i zadań rachunkowości zarządczej w ciągu prawie trzech dekad dynamicznie rozwijającej się gospodarki rynkowej, po zmianie ustroju społeczno-politycznego na przełomie lat 80. i 90. XX wieku. Autorka odpowiada na kilka pytań badawczych na podstawie przeglądu literatury przedmiotowej oraz danych uzyskanych z trzech badań ankietowych przeprowadzonych w roku 1999, 2005 i 2016. Badania te potwierdziły, że liczba firm w Polsce, które mają działy wykonujące zadania w obszarze rachunkowości zarządczej/controllership, stale się zwiększa. Badania wskazują, że operacyjne metody rachunkowości zarządczej dominowały w przedsiębiorstwach w latach 2010–2015, podobnie jak w latach 2000–2005 oraz w latach 90. XX w., a nie więcej niż 10% średnich i dużych przedsiębiorstw, które wzięły udział w badaniu w 2016 roku, stosuje metody strategicznej rachunkowości zarządczej. W pierwszym okresie rozwoju gospodarki rynkowej w Polsce, tj. do 2004 roku, wiele różnych czynników ekonomicznych i instytucjonalnych wpłynęło na wprowadzenie i zmianę praktyk rachunkowości zarządczej, a w następnym okresie respondenci wskazywali na czynniki ekonomiczne jako na ważniejsze. Artykuł stanowi wkład w literaturę dotyczącą rozwoju rachunkowości zarządczej w krajach Europy Środkowej i Wschodniej na przykładzie Polski.

**Słowa kluczowe:** rachunkowość zarządcza, praktyki, zmiana, czynniki ekonomiczne, czynniki instytucjonalne, Polska.

\* Anna Szychta, dr hab., associate professor, Department of Accounting, Faculty of Management, University of Lodz, anna.szychta@uni.lodz.pl



## Introduction

Poland and the other Central and Eastern European (CEE) countries are post-communist states in which political and socio-economic reforms took place in the early 1990s. Radical reforms restored – after the functioning of the socialist, centrally-planned economy in 1945–1989 – the market economy in Poland with the successfully developing Warsaw Stock Exchange (WSE)<sup>1</sup>. They enabled the Polish economy to join the globalization process and to harmonize financial accounting legislation with international regulations (European Union Directives on accounting and International Financial Reporting Standards – IFRS).

The introduction of a market economy in Poland led to the need to apply MA methods in privatized and newly-run business entities. Generally speaking, the processes of development in the area of MA practices in Poland since the early 1990s seem to be similar to the changes in other post-communist countries of CEE, as they occurred under the influence of two major processes, i.e., the socio-economic restructuring in a given country and the convergence in the development of MA practices in different countries in the globalized world. Nevertheless, the development of MA and changes in MA practices differ in detail in these countries as a result of the influence of differentiating institutional factors such as national cultures, organizational cultures, government regulations, and national professional institutions, e.g., accounting associations or controlling organizations.

In Poland, since the first half of the 1990s, many empirical studies have been carried out that illustrate the state of implementing cost accounting systems and other MA methods during the study period (e.g. Sobańska, Szychta, 1995; Sobańska, Wnuk, 1999a, b; Radek, Schwarz, 2000; Sobańska 2002; Szychta, 2002, 2009; Wnuk-Pel, 2011; Zarzycka, 2016). So far, few publications have presented the results of empirical research that would show whether and in what direction there have been changes in the application of some MA practices in enterprises in the three decades since 1989 in Poland. The author's motivation to conduct empirical research and write this paper was the need to examine the methods of MA used by companies over 25 years after the start of the implementation of market mechanisms and institutions in Poland, and to reveal what has changed in this area in this important period of the recent history of Poland.

Therefore, the aim of this paper is to identify the type of management accounting practices used in business entities surveyed in Poland, and to recognize the direction and factors of changes in MA methods and tasks in the almost three decades of the dynamically developing market economy in Poland after the change of the socio-political

---

<sup>1</sup> The WSE is the largest stock exchange in CEE with a market capitalization over PLN 1,394 billion in November 2017. There are currently 477 listed companies on the WSE main market (*GPW Main Market*, 2017).

system at the turn of the 1980s and 1990s. To achieve this goal, the author will answer five research questions formulated in a later part of the paper.

This paper deals with the development and change of MA practices in Poland at the macro level, as defined by Granlund and Lukka (1998). The macro level of MA primarily includes concepts, ideas and MA system designs. The micro level of MA means behavior patterns of management accountants and styles of MA information used by managers.

The basis for the answers to the above questions is a questionnaire survey conducted by the author among Polish business entities in 2016. The data obtained from 102 enterprises through this empirical study will be compared with findings of the survey conducted in accordance with a similar questionnaire in 2005, and partly with the results of a survey carried out in 1999.

The findings of the surveys presented in the paper do not apply to all business entities in Poland because the entities surveyed were not selected as a random sample. The survey questionnaires were filled in by respondents in enterprises that agreed to participate in the surveys. The samples of business entities are not sufficiently representative, and this is a limitation of the research. However, this study, which takes into account three surveys conducted in the period 1999–2016, can provide an outline of the trend in MA practices that are shaping up with the successful development of the market economy in Poland after the political and socio-economic transformation.

The paper contributes to the existing literature on the development of MA in the developing countries of CEE on the example of Poland. Studying the development and changes in MA practices in this country is interesting for the following reasons: (1) from a historical point of view, Poland is an important and the largest country in the CEE region (except for Ukraine) – it played a leading role in the collapse of the communist system in this region in 1989; (2) since the early 1990s, the market economy in Poland has been characterized by dynamic growth and its adaptation to progressing globalization; (3) changes in the Polish accounting regulation system in this period are similar to those in other post-communist countries in CEE but there are not many studies that would provide a basis for concluding that the similarities in the development of MA practices in these countries are relevant. The findings presented in this paper can provide detailed information for subsequent comparative studies on the similarities and differences in the development of MA in all or some CEE countries.

The paper is structured as follows. The first section presents synthetically the socio-economic context of MA development in Poland since the 1990s. The second section deals with a literature review and the theoretical background of further considerations in this paper. The next section describes the method of empirical research. The fourth section provides information about the findings of the empirical research and contains answers to the research questions. Finally, some general conclusions are drawn.

## 1. Socio-economic context of management accounting in Poland after 1989

After the fall of the communist system in 1989, Poland underwent a number of radical economic and accounting reforms. The groundbreaking changes in the political system resulted in the reestablishment of a market economy and the subsequent implementation of its mechanisms. In the socio-economic development of the country since 1990, two subperiods can be distinguished: the first covers the years 1990–2004, and the second one from May 2004 to today.

The first subperiod was a time of socio-economic transformations in the country, with such processes as the privatization of State-owned enterprises, the building of a capital market, the fight against inflation in the first half of the 1990s, and legislative actions preparatory to Poland's accession to the European Union (EU). The transformation of financial accounting in this subperiod consisted in the creation of the Polish system of accountancy regulations, which conformed to the EU Directives and some International Accounting Standards (IAS) requirements. The national financial accounting policy was first formulated in the Regulation of 1991 on Accounting (*Rozporządzenie*, 1991), and next in the Accounting Act (AA) of 29 September 1994 (*Ustawa*, 1994). The promulgation of the AA meant that the accountancy regulation system which developed in Poland in the 1990s combined the conservative continental tradition with the liberal Anglo-American approach. The adoption of some IAS provisions required a transition to an investor-oriented approach. The comprehensively revised version of the AA in 2000, effective from 1 January 2002, included many of the provision from the IAS, which meant considerable progress in the development of the national accounting framework, which allowed much greater compatibility with IAS (for more, see e.g., Szychta, Kabalski, 2016, pp. 374–378).

The second subperiod is a time of reinforcing the market economy in Poland. It is characterized by strong influence exerted on market economy by globalization process, the growing influence of international corporations, and the integration of the domestic economy with the European market, the liberalization of the electricity market, and other socio-economic reforms. Since 1 May 2004, Poland has been an economically important member of the European Union. Poland has experienced positive Gross Domestic Product (GDP) growth since the 1990s. The average annual GDP growth rate in Poland in 2004–2014 was 3.9%, while the average annual rate in the 28 EU countries was 0.9%. Even in the period of the financial crisis in 2008–2010, Poland reached a GDP level of 3.9%, 2.6% and 3.7% in the three subsequent years (*Rachunki narodowe*, 2015). In 2015, 2016, and 2017, the GDP growth rate amounted respectively to 3.9%, 2.8% and 4.6%. According to the World Bank representative, the predictions for 2017 of “economic growth of 4%, fiscal deficit below 3% of GDP and inflation under control were proof of the good condition of the Polish economy” in 2017 (*Raport Banku*, 2017).

In the second subperiod of shaping the market economy in Poland, further accounting reforms began with the introduction of Regulation No 1606/2002 of the European Parliament and the Council of 19 July 2002 on the Application of IAS by stock exchange companies, effective from 1 January 2005. The subsequent amendments to the AA (2014–2016) incorporated a new EU Directive on financial reporting (2013/34/UE) and changes in its provisions. In addition, the Accounting Standards Committee, which was established in Poland in 2001, issued eleven national accounting standards in 2003–2017 for use by business entities that do not need to apply IFRS. These national standards, however, are strongly oriented towards IFRS.

The reestablishment of a market economy in Poland had a great impact not only on changes in financial accounting regulations, but also on the practice, teaching and research in the area of financial and management accounting. 1992 – only three years after the change – marked the beginning of increased interest in designing and implementing MA techniques in enterprises and the growing recognition by some Polish accountants and managers of the need to introduce changes in the accounting system, including the development of new, internal reports for management purposes (Sobańska, Szychta, 1996, p. 115; Szychta, 2002, p. 403). Since that time, there has been a growing interest in enterprises to modernize the cost accounting systems and to implement MA methods.

The implementation of and change in MA practices in Poland were influenced by many detailed economic and institutional factors. An important feature of the development of accounting oriented towards the information needs of managers in business entities in Poland is that it has developed over 25 years, under the influence of two simultaneous approaches: management accounting in the Anglo-American manner, and *Controlling* developed in German-speaking countries. These two approaches have had a varied impact on the practice and the academic sphere in Poland. Scientific research on accounting is somewhat dominated by the Anglo-American concept of MA, while business is mostly under the influence of the concept of *Controlling*, which has its origins mainly in Germany – the western neighbor of Poland (cf. Szychta, Dobroszek, 2017, pp. 176–177).

## **2. Literature review and theoretical background**

### **2.1. Review of foreign literature**

The contemporary practice of MA is not static in nature. The existing literature of the subject provides plentiful empirical evidence for the existence of MA changes in practice and the heterogeneous nature of MA change. Changes in MA practices are defined as the introduction of new MA systems and techniques in a company and changing the way in which traditional MA practices are used (Scapens et al. 2003, p. VII). MA

change in business entities is a complex process. It is not just a technical task, but also an organizational and cultural process.

Development and changes in MA practices in enterprises operating in an increasingly complex environment have been the subject of numerous empirical studies and discussions in publications primarily since the 1980s, when Johnson and Kaplan (1987) issued their widely known book on the status and the development of MA from a North American perspective. A large number of findings based on surveys and case studies have been published in English dealing with changes in MA practices in companies in highly developed Western countries (e.g. Innes, Mitchell, 1990; Shields, 1998; Granlund, Lukka, 1998; Vaivio, 1999; Burns, Scapens, 2000; Quattrone, Hopper, 2001; Scapens et al., 2003; Burns et al., 2003; Wickramasinghe, Alawattage, 2007; Chanegrih, 2008). Over the last twenty years, research on the development and change of MA in less developed countries has also been undertaken (e.g. Firth, 1996; Andreson, Lanen, 1999; Williams, Seaman, 2001; Sulaiman, Mitchell, 2005; Hopper et al., 2009; Yap et al., 2016). Publications in English-language scientific journals mainly concern such countries as China, Bangladesh, Ghana, Sri Lanka, and Egypt (see Hopper et al., 2009, pp. 510–512).

As Sulaiman and Mitchell (2005, p. 425) emphasize, MA change is multi-dimensional, and it may be studied in relation to its origins, its organizational and external context, its technical nature, its participants, or its consequences. For example, in publications in English, the circumstances and forces which drive the development of and change in MA practices were investigated by Innes and Michell (1990), Granlund and Lukka (1998), and Burns and Scapens (2000). Studies also concerned factors influencing the MA change process and MA change models (e.g. Cobb et al., 1995; Kasurinen, 2002), the consequences resulting from changes made (e.g. Innes and Michell, 1990; Scapens, Roberts, 1993), directions of change (e.g. Scapens et al., 2003), and a typology of MA change (Sulaiman, Mitchell, 2005; Chanegrih, 2008).

Changes in MA in practice can be at macro and micro levels. The macro level of MA includes concepts, ideas, MA system designs, and, at least partly, the purpose of using certain pieces of MA information, which form the basis or framework for the micro-level action to take place. By contrast, the micro level of MA means behavior patterns of management accountants and styles of MA information use by managers. Therefore, the micro level deals with the practical “doing” of MA in the everyday life of management accountants and managers using MA information (Granlund, Lukka, 1998, p. 154).

The extensive English-language literature presents the results of research on changes in the practice of MA both at the macro and micro levels, and from different theoretical perspectives. Luft and Shields (2007) identified (in the form of maps) three categories of research on the development and changes in the practice of MA, which were presented in articles published in six leading journals before 2002. The first study group (Map D) concerned implementing MA change. The researchers answered the following question: How did a given set of organizations come to implement this specific management

accounting practice, e.g., activity-based costing? They looked at the impact or association of specific factors with the implementation of MA change, and they based their studies on contingency theory, (new-) institutional theory and model institutional isomorphism according to DiMaggio and Powell (1983), or the process model of organizational change (Luft, Shields, 2007, p. 36). The second group of research (Map I) focused on processes of change and stabilization in organizations that help explain the role of MA. The researchers based their investigations on such social-science theories as discourse theory and ethnography. This type of studies often shows MA practice as part of systems in which organizational structure, information technology, and production shift into and out of alignment with each other and with MA practice (Luft, Shields, 2007, p. 37–38). The third category of research on development and change in MA considered MA in its historical and social context (Map H). The studies referred to the “general character of management accounting practice as a system of calculation-based control through financial standards” (Luft, Shields, 2007, p. 37). Proponents of this research approach have highlighted influences on the historical rise of MA, drawing on a variety of social-science antecedents, including political economy, institutional sociology, political models of organization, and discourse theory.

The implementation of and change in MA practices at the macro level are influenced by many detailed economic and institutional factors (Granlund, Lukka, 1998).

Economic factors (called technical or functional according to institutional theorists) include increased competition, global economic fluctuations, deregulation of markets, advanced technology, and modern information technology.

In accordance with the framework proposed by Granlund and Lukka (1998, p. 157), based on the model of institutional isomorphism (DiMaggio, Powell, 1983), institutional factors include three groups of drivers: coercive, normative, and mimetic. Coercive pressures are connected with the impact of activity and regulations of such institutions as transnational and global organizations (e.g. EU, WTO), the international harmonization of financial statement legislation, corporate (inter-) dependencies, headquarters, or parent company. Institutional factors which belong to the normative category are mediated by the values, norms, and rules which people adopt in their various domains of social conduct (Granlund, Lukka, 1998, p. 163). Important normative pressures in the field of MA practices are the professionalization of management accountants/controllers, university education, training and courses by other institutions, national professional associations, organizational cultures, and national culture. Mimetic factors include processes that make enterprises imitate others in the adoption and use of MA practices. These include, for example: the activities of international and global consulting firms, and educational and organizational patterns in MA used in other, usually neighboring countries.

In the era of the globalization of the markets, economic and institutional factors have led mainly to the convergence of MA practices at the macro level in different countries. Some of the institutional factors belonging to the coercive pressures group (e.g. national legislation, national institutions) and to the normative group (national cultures, corporate cultures) contribute to the divergence of MA practices.

As far as MA change in Central and Eastern European (CEE) countries is concerned, empirical studies have been undertaken since the 1990s, but they are not very numerous, varied, or profound. The results of empirical research on MA conducted so far in Poland and other CEE countries are less known in the international accounting community because they are rarely published in English in highly regarded journals and monographs.

The earliest research published in English concerned the application of MA techniques and factors influencing MA practices in Polish, Hungarian and Estonian enterprises in the first decade after the fall of communism (Sobańska, Wnuk, 1999a, b; 2001; Szychta, 2002; Vámosi, 2000; Haldma, Lääts, 2002). The issue of changes in the scope of MA systems in a dynamic economic context on the example of Estonian companies in 2004–2007 was examined by Lääts and Haldma (2012). In the last few years have Romanian authors published articles relating to the status of MA in their country. For example, Albu and Albu (2012) analyzed factors associated with the adoption and use of MA techniques in developing countries on the case of Romanian institutional settings. Almasan et al. (2016) investigated the manner in which some features of MA information (type and mode of communication) are perceived by Polish and Romanian managers. They showed that the surveyed managers in these countries mainly use financial information for short- and medium-term decision-making.

The mentioned publications indicate progress in the development of MA practices in the CEE region, but it is diverse in particular countries. This is caused by several factors which were considered through the lens of contingency theory by Haldma and Lääts (2002) in Estonia, and by Šiška (2016) in the Czech Republic. Albu and Albu (2012) in Romania took into account contingency theory and several institutional drivers (e.g. the source of capital, the degree of competition, and the development of financial reporting). The change in MA in a Romanian company from an institutional and contingency perspective was also considered recently by Jinga and Dumitru (2015). These authors stated (p. 1915) that management accounting has limited use in companies with Romanian capital. In turn, Šiška (2016, p. 1390) confirmed that similar significant contingency factors affect MA practices in Czech enterprises in the same way they affect companies in developed countries. He showed that MA practices taken all together are significantly and positively influenced by the diagnostic use of these practices, the dynamic tension between diagnostic and interactive use, the size of the enterprise, and whether the company does its business in manufacturing. The interactive use is a statistically significant contingency in the case of strategic MA practices applied.

## 2.2. Review of publications of Polish authors

For about 25 years, research in the field of MA in Poland has been expanded, as in other CEE transition countries, although few findings have been published in English in widely available international journals. Most of the works presenting the results of empirical research on MA practices in Poland have been published in Polish since the

1990s<sup>2</sup>. The objectives of this research carried out so far, mainly in the form of surveys and case studies, were:

- investigating the type of cost accounting systems and MA methods used in the companies surveyed (e.g. Jarugowa, Skowroński, 1994; Sobańska, Szychta, 1995, 1996; Gierusz et al., 1996; Radek, Schwarz, 2000; Szychta, 2001, 2002, 2007, 2009; Szadziwska, 2002; Januszewski, Gierusz, 2004; Michalak, 2007, 2008; Wnuk-Pel, 2010a, 2011, 2013a; Dobroszek, Szychta, 2015);
- characterizing change in MA systems and factors affecting the shape of MA in business entities in Poland (e.g. Sobańska, Wnuk, 1999; Sobańska, 2002; Szychta, 2002, 2009; Wnuk-Pel, 2010b, 2013b);
- describing the effect of particular factors on, and/or the result of the implementation of MA methods in different type of entities (e.g. business entities, hospitals, universities) (e.g. Sobańska, 2002; Szychta, 2002, 2007; Sobańska et al., 2009; Wnuk-Pel, 2009; Baran, 2013; Świdzka, Raulinajtys-Grzybek, 2013; Dobroszek, 2016; Raulinajtys-Grzybek et al., 2017);
- identifying tasks and the role of management accountants and controllers in the Polish socio-economic environment (Szychta, 2005, 2009; Zarzycka, 2012, 2016);
- determining the type and ways of using information from the MA system in enterprises and the level of manager satisfaction with this information (Wnuk-Pel, 2010c; Almasan et al., 2016).

The findings of the study presented in the next part of this paper are related to the first two objectives, so, the main findings of some previous research should be recalled.

Sobańska and Szychta (1995, p. 6–7) emphasized that during the early stage of the transformations, Polish enterprises generally used cost accounting systems based on full costing, which had been adopted in the former economic system. Beginning in 1992, the interest in designing and implementing MA systems increased markedly, as did the awareness in the accounting and financial services in enterprises of the need to restructure and develop internal reporting for management purposes. The authors of this paper have monitored the changes taking place in 20 Polish companies since the beginning of the economic transition (through participation in a project for the introduction of MA in companies and the provision of consultancy advice service). The changes in the cost accounting system in those enterprises were based on the implementation of multilevel contribution margin costing, or improvements in pre-existing full costing systems (Sobańska, Szychta, 1995, p. 12).

Radek and Schwarz (2000, p. 64) (on the basis of a survey of 200 companies carried out in 1998) stated that all the MA tasks mentioned in the questionnaire had also been implemented in Poland in the previous system, i.e., the planned economy, and with the

---

<sup>2</sup> For example, academic staff of the Accounting Department at the University of Lodz are the authors of over 80 articles, papers, and monographs on the application and development of MA in Poland based on empirical research. About half of these works have been written in English, but only a few have been published in foreign journals.

change in this system, the importance of all tasks in the surveyed companies had increased. However, this study showed that full costing was used in the second half of the 1990s in 72.6% of companies, and variable costing in only 18.3% of companies. Cost budgets were drawn up in about 73% of companies, and cost analysis was the preferred way to control costs in more than 70% of the surveyed enterprises.

Drawing on the findings of another empirical study in 1999–2000 in 103 companies, Sobańska and Wnuk (2001) concluded that in most companies (52%), regardless of the number of employees, the dominant form of cost accounting was a full costing system, and till 1998, small and medium enterprises set up in the 1990s using Polish capital did not show any interest in modernizing their costing system. They used traditional cost accounting structures adequate only to the purpose of financial accounting. The authors of this article noticed that an increasing interest of these enterprises in building cost and MA systems can be seen from 1999.

New MA methods, like activity-based costing (ABC) and target costing (TC), began to be applied in Poland in the late 1990s in only a few companies, mainly those with foreign capital (see Sobańska, Wnuk, 2001). For example, the empirical study conducted by Szychta (2002) from November 1998 to the end of 1999, (supplemented by direct interviews in the enterprises) did not demonstrate the application of these methods by any of the 60 study enterprises (return indicator: 20.7%). The aim of this research was to identify the costing systems and MA methods used in business entities in Poland at the end of 20th century. The main conclusions of this study were as follows: since the early 1990s, Polish companies have been implementing methods and techniques of operational MA; short-term budgeting was the most widely used method for the effects of economic resources management; and for cost reduction in large enterprises which are commercial companies, MA methods were used to a greater extent than in smaller companies (Szychta, 2002, p. 416).

In the second survey conducted by Szychta (2007, 2009), information was received from 90 companies (a 28% response) in 2005. This research allowed the author to state, among others, that MA practice in companies operating in Poland was undergoing an evolution involving improvements to currently used methods and techniques, and the implementation of innovative solutions. Polish business entities mostly applied the methods of operational MA and attached the greatest importance to two of the management accountants' tasks: cost and expenditure control, and performance measurement. The requirements set for Polish management accountants in respect of knowledge, skills, and attitudes were high, as in the case of their counterparts in countries where MA has been practiced in enterprises for much longer. Management accountants in Poland need to continuously expand their knowledge to be able to implement the methods of strategic MA (Szychta, 2009, pp. 91–92).

According to research conducted by Wnuk-Pel (2011, pp. 103–104), in the years 2005–2008, of 495 surveyed companies, 46 enterprises (9.3%) used ABC and 9 (1.8%) TC. Although the majority of companies still applied actual cost accounting (full or variable), i.e., 79.2%, in the second half of the first decade of the 21st century, this

result concerning ABC and TC confirms that, with the development of the market economy in Poland, there is a diffusion of innovative solutions in the field of cost accounting.

Zarzycka (2016, p. 266) concludes, based on a recent survey, that a positive aspect of the 116 surveyed companies is the widespread implementation of modern MA tools, especially in areas of measuring performance. Performance measurement with non-financials and qualitative measures is dominant (78%), followed by benchmarking (40%) and BSC (28%). This study has shown that ABC is used in as many as 34% of the surveyed companies, kaizen costing in 24%, and target costing in 14%. Relatively high indicators of the use of these cost accounting systems are probably due to the structure of the surveyed companies, with large companies dominating (58%) and financed by foreign capital (72%).

In the case of the second of the above-mentioned issues, in the first publications on the matter, the authors wrote about the reasons for introducing changes in cost accounting and selected MA methods in the first decade of the transformation in Poland. These changes were mainly due to revised financial accounting legislation in Poland in line with the requirements of EU Directives on accounting and International Accounting Standards (IAS), changes in the form of business ownership, the development of the capital market, foreign investment in Poland, growing competition on the domestic market, and the impact of globalization processes on Poland's economy, and development and widespread use of modern information technologies (e.g. Sobańska, Wnuk, 2001; Szychta, 2002). Radek and Schwarz's (2000, p. 75) survey respondents assessed the impact of the following drivers on accounting changes in their companies in the 1990s, [giving them ratings ranging from 1 to 5, i.e., from the lowest (1) to the highest impact (5)]: market competition (average rating 3.5), customer requirements (3.5), modern IT programs (3.5), cost rationalization (3.3), the introduction of the Accounting Act (2.9), international sales markets (2.8), and shifts in the cost structure of the company (2.7).

In the following years, more detailed studies on macro-level and micro-level MA practice and its changes were launched. For instance, Michalak (2008, p. 160) identified the direct causes of changes (catalysts) in performance measurement systems in Polish firms thanks to a survey conducted in 2004–2005 which covered 96 companies. The factors were as follows: change in strategy (about 51%), change in the IT system (about 30%), change in management (about 19%), change in the owner (about 16%) and changes in the parent company (7%). In turn, Wnuk-Pel (2013b) explored factors influencing MA change on the example of the implementation of activity-based costing in four Polish companies and he tested the relevance of the MA change model proposed by Kasurinen (2002). Wnuk-Pel verified this model in a positive manner, thus proving its suitability to analyze the context of change.

Undoubtedly, the mentioned studies, and others, contribute to the characterization of MA practices in Poland and the changes in MA over the past quarter-century, but they describe the application of some MA method or methods, or some aspects of MA

practice on the basis of a single survey or one or more case studies. The contribution of this paper is an attempt to show MA practices in Polish enterprises and to specify the direction and type of changes based on data obtained in three surveys conducted by the same researcher during the successful development of the market economy in Poland since the late 20<sup>th</sup> century. To achieve the main goal of this paper, the author will answer the following research questions, formulated based on a review of previous publications:

1. Have changes occurred in MA practices in Poland in recent years and, if so, in what direction?
2. What factors affected the implementation of MA methods in the business entities in 2010–2015, and to what extent?
3. Have there been changes in the influence of the factors on the MA methods used in the latest surveyed companies compared to the impact of these factors in the years 2000–2005?
4. What tasks of management accountants were considered to be the most important in the business entities surveyed recently and in 2005?
5. Have there been changes in the assessment of the attributes that management accountants/controllers should have in Poland?

Taking into account the aspects and perspectives of research mentioned by the author in subsection 3.1, the further part of the paper analyzes the application and change in MA practices in Poland at the macro level, and with reference to the theoretical framework of Granlund and Lukka (1998).

### 3. The research method

In seeking to identify the type of MA practices used in business entities in Poland since the 1990s, as well as the factors and the direction of change in the development of MA practices, the author has carried out an empirical research project based on questionnaires. The survey questionnaire was conducted from March 2016 to January 2017. A slightly revised version of the survey form used by Szychta in 2005 was applied for this research. The questionnaire contained 20 questions, in response to which the appropriate suggested answer or answers had to be marked, or the missing answer options could be self-written by the respondent. The respondents had to give numerical or descriptive data in some points, too. In response to a few questions, they assessed the case/issue using the Likert scale from 1 to 5, i.e., from the lowest to the highest rating.

The author prepared a list of business entities using two lists of companies published by the newspaper *Rzeczpospolita*, i.e., the “List 500”<sup>3</sup> and the “TLS 2015 Business

---

<sup>3</sup> The “List 500” has been published annually since 1999 by *Rzeczpospolita* and shows the largest companies in Poland in terms of sales revenue.

Ranking”<sup>4</sup>, and a list about 150 of companies in which graduates of postgraduate and doctoral studies in accounting and management at the Faculty of Management at University of Łódź were employed. The necessary address data of enterprises were found on the Internet. Banks and other financial institutions, and budgetary units were omitted from the study.

Questionnaires were delivered to 480 business entities in two ways: by traditional mail or personally by the author (192) and by e-mail (288). Each questionnaire was mailed or delivered together with a cover letter and a self-addressed return envelope. In the majority of successful cases of getting back completed questionnaires by e-mail, a repeated request for their return was necessary. The respondents returned 106 questionnaires, but due to the fact that 4 questionnaires were incomplete, 102 (a 21.3% response) questionnaires were included in the analysis of the data.

The returned questionnaires were completed by management accountants or controllers (30%), accountants (27%), members of the board of directors (top managers) or the owner of the company (29%), and lower level managers (14%).

In order to analyze the obtained data, simple statistical techniques were applied, and the findings were compared with the data obtained in the previous survey conducted by Szychta in 2005 and in part with the results of an empirical study executed by Szychta in 1999.

## 4. Findings and discussion

### 4.1. Characteristic of business entities covered by the surveys

The information presented in this paper was mostly obtained through a questionnaire survey conducted in 2016. However, to enable the identification of changes taking place in MA practices, characteristics of the business entities covered by the two previous surveys, conducted in 1999 and 2005, are provided below (Szychta, 2002, 2009).

The recently surveyed enterprises were divided into small (employing below 50 people), medium (employing 50–250 employees) and large (more than 250 employees). The dominant group consisted of large enterprises (47.1%). More than three-quarters of the companies participating in the study are medium and large enterprises (77.5%) (see Table 1). In both of the previous surveys, the main group of enterprises was comprised of business entities which employed over 100 persons, i.e., 71.7% in 1999 and 63.3% in 2005, i.e., large and medium enterprises (Szychta, 2009, p. 80).

In the group of business entities surveyed in 2016, there were entities with different lifetimes. The overwhelming majority of enterprises were established in the period of

---

<sup>4</sup> The “TLS 2015 Business Ranking” contains a list of companies belonging to the sector of transportation, freight forwarding and logistics. This ranking included 163 of the largest logistics companies in Poland in terms of sales revenue.

the market economy in Poland, i.e., 79.4% in the period from 1 to 25 years. 14.7% of companies had been operating for more than 25 years, of which 9 companies count more than 50 years (see Table 1).

**Table 1.** Average annual level of employment in the surveyed enterprises in 2016 and the lifetime of the enterprises

Item	Number of enterprises	Per cent of enterprises (%)	Item	Number of enterprises	Per cent of enterprises (%)
<b>Number of employees</b>			<b>Enterprise lifetime</b>		
Below 50 – small firms	23	22.5	1–5 years	15	14.7
50–250 – medium enterprises	31	30.4	6–10 years	12	11.8
More than 250 – large enterprises	48	47.1	11–25 years	54	52.9
<b>Total</b>	<b>102</b>	<b>100.0</b>	26–50 years	6	5.9
			More than 50 years	9	8.8
			No data	6	5.9
			<b>Total</b>	<b>102</b>	<b>100.0</b>

Source: Author's own elaboration based on the survey in 2016.

Table 2 presents a classification of the business entities according to the type of activity. The majority of the enterprises surveyed in 2016 were, as in 1999 and 2005, manufacturing and services firms. However, the percentage of service entities increased (by about 11% compared to 2005) and manufacturing companies decreased (by 12% compared to 2005), which is in line with the overall trend in the Polish market economy since the 1990s.

**Table 2.** Classification of surveyed enterprises by type of business

Type of business	Number (per cent) of enterprises		
	1999	2005	2016
Production, production and services, production and trade	38 (63.4)	47 (52.2)	41 (40.2)
Services	11 (18.3)	27 (30.0)	42 (41.2)
Trade	8 (13.3)	13 (14.5)	11 (10.8)
Trade and services	3 (5.0)	3 (3.3)	8 (7.8)
<b>Total</b>	<b>60 (100.0)</b>	<b>90 (100.0)</b>	<b>102 (100.0)</b>
<i>Return indicator</i>	<i>20.7</i>	<i>28</i>	<i>21.3</i>

Source: Author's own elaboration based on Szychta (2002, 2009) and the survey in 2016.

Commercial companies were the largest group (almost 80%) of the surveyed units in 2016, whereas almost all companies surveyed in 2005 formed this group (Table 3). It should be emphasized that in 2016, in this group, there were no one-person State Treasury companies that had functioned in Poland during the years of the systemic transformation from the centrally planned system to the market system. The recently surveyed group also included ordinary partnerships and sole proprietorships, state business entities without legal personality, and units of other legal forms, e.g., cooperatives (about 20% of the total).

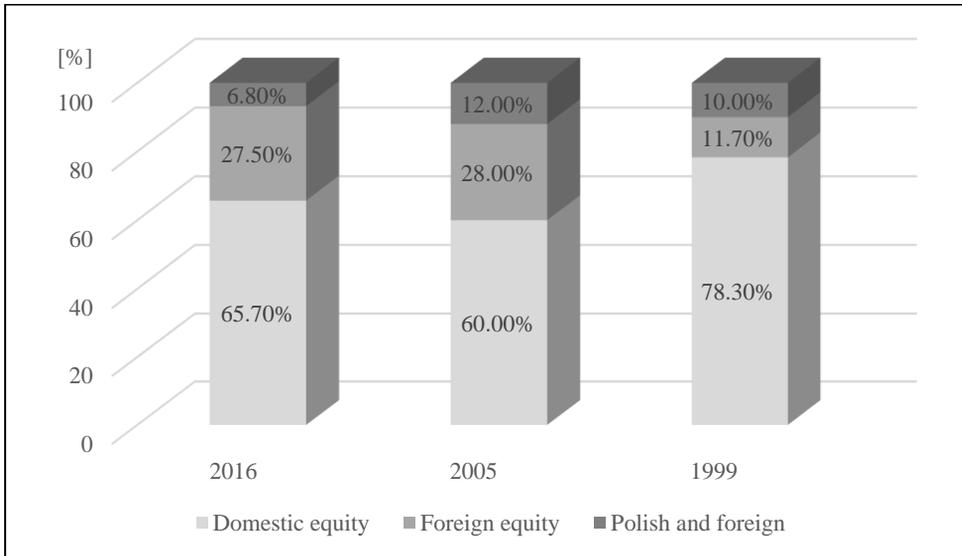
**Table 3.** Ownership forms of the surveyed enterprises

Organizational and legal form	Number and (per cent) of entities		
	1999	2005	2016
Joint-stock company	18 (30.0)	27 (30)	21 (20.6)
Limited liability company	18 (30.0)	56 (62.3)	57 (55.9)
Another form of commercial company	2 (3.3)	3 (3.3)	3 (3.0)
One-person State Company (joint-stock company)	8 (13.3)	2 (2.2)	0
<b>Total commercial companies</b>	<b>46 (76.6)</b>	<b>88 (97.8)</b>	<b>81 (79.5)</b>
Ordinary partnership and sole proprietorship	7 (11.7)	1 (1.1)	5 (4.9)
State or municipal enterprise	7 (11.7)	0	0
State organizational entity without legal personality	0	1 (1.1)	5 (4.9)
Other form	0	0	11 (10.8)
<b>Total</b>	<b>60 (100)</b>	<b>90 (100)</b>	<b>102 (100.0)</b>

Source: Author's own elaboration based on Szychta (2002, 2009) and the survey in 2016.

As Figure 1 shows, in the 2016 survey, the equity capital in 65.7% of the enterprises came entirely from domestic sources, in 27.5% of companies it was from foreign sources, and in the rest of the enterprises (6.8%) the equity came from Poland and from abroad. These relationships were similar in 2005, i.e., the sample companies that were 100% domestically financed accounted for 60%, 28% of the companies were financed by foreign capital, and the remaining 12% by both domestic and foreign capital. In the first survey (1999), more enterprises had the equity capital (78.3%) entirely from domestic sources, and only in 11.7% of companies was it from foreign sources (Szychta, 2009, p. 81). The percentage increase of enterprises with equity derived entirely or partially from abroad in the last two surveys results forms an upward trend in the total number of companies in Poland with foreign capital since the 1990s<sup>5</sup>.

<sup>5</sup> For example, the number of companies with foreign capital in Poland was 20015 in 2006, 23078 in 2010, and 25961 in 2015 (GUS, 2012, p. 34; GUS, 2016, p. 34).

**Figure 1.** Origin of equity of the surveyed business enterprises

Source: Author's own elaboration based on Szychta (2002, 2009) and the survey in 2016.

Of all the companies in 2016, 46.1% sold their products only in Poland and the remaining (53.1%) in the domestic and foreign markets. Among the companies covered by the second survey, 56.7% traded only in Poland, with the rest trading both in Poland and abroad. In 1999, nearly one-half of the enterprises (29) sold their products and goods only on the home market, and the remaining companies (31) sold both at home and abroad (see Szychta, 2009, p.82).

#### **4.2. The trend of changes in management accounting in business entities in Poland**

In order to answer the first question formulated in the introduction of this paper, i.e., *have changes occurred in MA practices in Poland in recent years, and if so, in what direction*, the results of the study will be presented below on the number and type of departments which perform MA tasks in companies, the implemented cost accounting systems, and the type of MA methods used (see Tables 4, 5, and 6).

The survey findings show that in 90% of enterprises in the sample examined in 2016, MA tasks were performed by specially appointed departments. The participants in the research from ten small companies responded that there is no such department in their companies and that the necessary MA activity is performed by the company owner or accountant. In previous studies, fewer companies had a separate department performing MA tasks, i.e., 74.2% of entities in 2005, and 72% of companies in 1999 (Szychta, 2009, p. 82).

**Table 4.** Departments in companies performing MA tasks

Name of department	Per cent of enterprises surveyed in year <sup>a</sup>	
	2005	2016
Controlling department	40.0	54.9
Management accounting department	7.8	8.8
Cost accounting department	1.1	6.9
Other department	25.5	25.4
No department	25.8	9.8

<sup>a</sup> The percentages do not add up to 100% because some enterprises have two departments.

Source: Author's own elaboration based on Szychta (2009) and the survey in 2016.

According to the respondents of both surveys, MA tasks were carried out by the employees of the controlling, management accounting, or cost accounting departments. However, in one quarter of cases, the respondents stated that information for management purposes is supplied by people working in departments (sections) bearing a variety of names, such as economic analysis office, financial analysis department, budgeting department, analysis and planning section, economic department, department of accounting, planning, or controlling.

Both studies have shown that companies in Poland more often set up controlling departments than MA departments. In addition, there was a percentage increase in the number of controlling departments – from 40% in 2005 to 54.9% in 2016. Therefore, as regards the organization of management accounting in business entities, these surveys have confirmed that the influence of the German tradition in MA practice is stronger than the Anglo-American tradition, which is indicated, among others, by a greater number of controlling departments than MA departments.

It is worth noting that, in 2016, in the eight companies in which a controlling department operated, it was alongside an MA department (four cases) or a section of cost accounting (four cases). A similar situation was noted in two enterprises in the survey in 2005. This may indicate that in companies where the controlling department and MA department exist, management accounting and controlling are treated as two different concepts, as Sobańska (2010)<sup>6</sup> emphasized.

MA tasks were performed in these departments by specialists, most commonly called controllers or analysts, and less frequently management accountants. 1–2 such specialists worked in small and medium-sized enterprises in 2016 (in about 46% of companies with a controlling department or similar), 3–5 controllers worked in 30% of

<sup>6</sup> According to Sobańska (2010, p. 97), the influence of the information provided to Polish enterprises about the Anglo-American concepts of MA and *controlling* derived mainly from Germany, led to the awareness in practice (particularly in managers and accountants) that these are two different concepts. However, “the objectives, tasks, methods, and techniques do not now show any differences, and even the specialists performing these professions in reality are named identically i.e., controllers. In the life of large international companies with German and Anglo-American capital, and in which both concepts are present, we do not observe any differences or problems in cooperation between these specialists” (Sobańska, 2010, p. 98).

companies with such department, and 6–9 in about 9% of enterprises. The respondents pointed out that in 17 (16.7%) large companies employing over 2000 people, 11 or more controllers/analysts work in the area of MA. In three of these cases, it was 35, 50 and even 485 specialists (in 460 of subunits of this very large organizational unit).

At this point it is worth knowing that in Poland both the profession of management accountant (code 241106) and the profession of controller (code 241102) were introduced into the elementary occupational group of bookkeeping and accounting specialists (code 2411) in the classification of professions and specializations, binding in Poland from 2010 (*Rozporządzenie*, 2010; see more Szychta, 2011). These provisions do not specify the tasks or duties of those specialists, which may indicate the difference between the two professions, according to the legislator.

Data on the use of particular cost accounting systems in business entities surveyed in 2016 compared with corresponding data from the previous questionnaire surveys are presented in Table 5.

**Table 5.** Application of costing systems in the surveyed business entities

Type of cost accounting system	Per cent of enterprises using this system in year <sup>a</sup>		
	1999	2005	2016
1. Absorption (full) costing based on actual costs	90.0	71.1	75.5
2. Standard costing (based on full costs)	8.3	13.2	20.6
<b>3. Full costing – total</b>	<b>98.3</b>	<b>84.3</b>	<b>96.1</b>
4. Variable costing based on actual costs	15.0	22.2	20.6
5. Variable costing based on standard costs	1.7	10.0	15.7
<b>6. Variable costing – total</b>	<b>16.7</b>	<b>32.2</b>	<b>36.3</b>
7. Activity-based costing	0	10.0	14.7
8. Target costing	0	3.3	6.9
9. Kaizen costing	0	0	5.9
10. Life cycle costing	0	0	2.9
11. Other type of costing	0	0	3.9

<sup>a</sup> The percentages do not add up to 100% because – according to the respondents – some enterprises employ more than one costing system.

Source: Author's own elaboration based on Szychta (2002, 2009) and the survey in 2016.

The most recent survey shows that almost all companies (96.1%) have implemented full costing based on actual or standard costs, which is due to the need to prepare mandatory financial statements. A positive fact is the percentage growth of entities in which standard costing was implemented, compared to the year 1999 and 2005. Many companies use, in addition to full costing, another type of cost accounting system for management purposes. The implementation of variable costing for operational decision making has

considerably increased compared to its application in 1999. One large manufacturing company, whose equity is 100% foreign, uses value stream costing as part of the lean management accounting system. These facts, along with the information that about 15% of companies have implemented activity-based costing (ABC) and that there are cases of applying other cost accounting systems (target costing, life cycle costing) needed in strategic management, is indicative of the gradual and positive changes that have taken place in Polish cost accounting practice in recent years.

It should also be added that the respondents were asked about the year in which the current cost accounting system was introduced. In the case of 15 business entities with a life cycle of more than 25 years, i.e., in enterprises that were set up in the centrally planned economy, the change in the cost accounting system was introduced in the 1990s, and several of these units have re-modernized the system in the last few years.

In about 64% of the entities surveyed in 2016, no changes to the costing system are planned for the immediate future. However, about 19% of enterprises are planning changes consisting of implementing variable costing in the multi-step and multi-block form (7%), activity-based costing (5%), standard costing (2%), or modifying the currently used costing (5%) in connection with the intended implementation of other new MA methods.

The survey conducted in 2016 allowed the level of the application of principal MA methods in the period 2010–2015 to be established. The results, relative to the 2005 and 1999 findings, are presented in Table 6.

**Table 6.** Level of application of MA methods in the surveyed business entities

MA method	Per cent of companies using the method in the years		
	1999	2000–2005	2010–2015
• Annual operational budgeting	80.0	71.1	79.4
• Variance analysis for costs, revenues and results	71.7	54.4	67.6
• Long-term planning	60.0	45.6	58.8
• Unit costing	72.0	56.7	47.1
• Sales profitability assessment using various criteria	X <sup>a</sup>	56.7	50.0
• Rolling forecasts for basic operational and financial values	X <sup>a</sup>	40.0	35.3
• Determination of break-event point	47.0	42.2	28.4
• Investment appraisal	40.0	41.1	30.4
• Balanced scorecard	0	10.0	7.8
10. Economic value added (EVA)	0	5.6	6.9
11. Other methods	0	0	2.0

<sup>a</sup> In the 1999 questionnaire, there was no inquiry as to the application of these methods.

The results of the three surveys confirm that the most widely used MA methods in business entities in Poland are annual operational budgeting and cost, revenue, and results variance analysis, which is an integral element of budgeting. In recent years (2010–2015), operational budgets have been drawn up by about 80% of the enterprises surveyed, and variance analysis by about two-thirds of them. Similar percentages were recorded in the 1999 survey. It is interesting to note that these two methods were found to be most popular among management accountants in the period 1995–2000 in 279 British companies covered by a survey carried out in 2000 by Scapens et al. (2003, p. 25). Budgets were regarded by 82%, and variance analysis by 51% of the respondents, as vitally important for management accountants in the last years of the 20th century in Great Britain. Moreover, the respondents predicted budgets and variance analysis would be vitally important (76% and 62% respectively) for management accountants in 2000–2005, too.

Long-term planning was less widely used by the enterprises surveyed than short-term planning (operational budgeting). The 2016 research found a similar percentage (about 60%) of companies making long-term plans compared to the survey conducted 17 years earlier. Rolling forecasts for basic operational and financial values were used in an even lower percentage of the companies surveyed (40% in 2005 and about 35% in 2016).

It should be noted that fewer of the recently examined companies calculated actual unit cost when determining the unit cost of a product – the variable, production, or full cost – than was shown in the two previous studies. This information is disturbing because the absence of data on unit costs of products or services makes it impossible to determine their profitability. Profitability analysis for products sold using various criteria, i.e., by product, customer, and/or market was carried out in only 50% of the companies in 2010–2015, while it was done in 56.7% of enterprises in 2000–2005. Furthermore, two respondents reported in the 2016 survey (see Table 6, point 11: Other methods) that in their company they apply indicator analysis and a comparative performance analysis of branches of the company across Europe, Africa, and the Middle East.

Since 1999, there has also been a significant decrease in the calculation of the break-even point by the companies surveyed – from 47.0% in 1999 to 28.4% in 2010–2015.

As for methods of strategic MA, investment project efficiency appraisal methods were used by 30.4% of the companies recently surveyed. In the previous studies, the percentage of companies was higher by about 10%. A small percentage of the surveyed companies implemented the balanced scorecard (BSC) and economic value added (EVA). The respondents stated that the BSC was used in five large, mainly manufacturing companies, and in three medium-sized service companies in 2010–2015. Seven of these companies financed their activities with 100% foreign capital, and in one, the equity came from domestic and foreign sources.

Although from the beginning of the 21<sup>st</sup> century a small percentage of companies have used the BSC, EVA, or such strategic costing as ABC, target costing, or life cycle costing, this is a good sign that that some business entities in Poland are familiar with and employ modern MA methods.

The respondents in the recent survey (in 2016) said that changes are expected in the immediate future in about 20% of the entities surveyed. The changes will mainly involve implementing variable costing or activity-based costing, improving the system of budgeting, establishing or expanding the controlling department, applying integrated information system for better internal reporting, and improving the currently used solutions and adjusting them to any changes in the environment (e.g. changes in the regulations in railway transport).

The findings of the 2016 survey presented above, in conjunction with the results of the two earlier surveys, allow the author to respond positively to the first research question, i.e., there have been changes in MA practices in Poland in recent years, but they are slow. The changes consist in increasing the number of companies using variable costing, but at the same time diminishing such operational MA methods as a break-even point and a sales profitability assessment. The empirical study has shown that traditional MA practices still dominate in companies in Poland, and only in some medium and large companies, mainly financed by foreign capital, are new methods of strategic MA implemented, such as ABC, target costing, or BSC.

The survey respondents were asked in 2005 and 2016 to indicate which of the factors listed in the questionnaire – or others – and to what extent they were believed to be drivers of change in the MA methods used within their organization, respectively in the years 2000–2005 and 2010–2015. The participants in both surveys assessed the influence of the factors by giving them the following ratings (Likert scale): 1 – no impact, 2 – little impact, 3 – considerable impact, 4 – strong impact, 5 – very strong impact.

The average ratings of these factors shown in Table 7 allow the author to answer the next two research questions:

- *What factors affected the implementation of MA methods in the business entities in 2010–2015, and to what extent?*
- *Have there been changes in the influence of the factors on the MA methods used in the recently surveyed companies compared to the impact of these factors in the years 2000–2005?*

**Table 7.** Drivers of change in the application of MA methods in the surveyed entities in Poland

Factors	Average score in years (on a scale 1–5) <sup>a</sup>	
	2000–2005	2010–2015
1. The need to reduce costs	4.17	4.07
2. The need to improve financial results	3.71	3.91
3. Increased competition	2.95	2.88
4. Implementation of integrated management software	2.84	2.55
5. Decisions of the new management	2.64	2.53
6. Implementation of ISO standards	1.97	1.84

**Table 7.** Drivers of change in the application of MA methods in the surveyed entities in Poland (*cont.*)

Factors	Average score in years (on a scale 1–5) <sup>a</sup>	
	2000–2005	2010–2015
7. Attempt to regain lost markets	1.86	2.14
8. Recommendation (order) of the new owner of the company	1.74	1.63
9. Implementation of new production technologies	1.67	1.67
10. Privatization of the enterprise	1.38	1.24

<sup>a</sup> Evaluation scale: 1 – no impact, 2 – little impact, 3 – considerable impact, 4 – strong impact, 5 – very strong impact.

Source: Author's own elaboration based on Szychta (2009) and the survey in 2016.

The weighted average results of both surveys indicate that two interconnected factors were major change drivers in the years 2000–2005, as well in 2010–2015:

- the need to reduce costs,
- the need to improve the financial results of the company.

The impact of the first factor was strong (average score above 4) and the second factor was slightly lower than strong (average score 3.71 in the years 2000–2005 and 3.91 in 2010–2015).

Other factors believed to be driving the modification of MA practices were increased competition and the implementation of integrated management-oriented IT programs. The factors regarded as the least important were privatization of the company, new production technologies, and the recommendation of the new owner of the company – the average score was less than 2 (little impact).

Both studies lead to the conclusion that there has been no significant change in the type of drivers or the level of their impact on changes in the application of MA methods in business entities in Poland in the last few years. Most of the factors affecting the MA changes (listed in Table 8) are economic in nature. Institutional factors include decisions of the new management, the recommendation (order) of the new owner of the company, and the implementation of ISO standards. Therefore, the implementation of MA practices and gradual changes in these practices in enterprises in Poland are mainly affected by economic factors. This is probably related to the assumption adopted by management that applying MA in a company can reduce costs and improve its financial performance.

The respondents' replies to the request indicate that the relative importance of ten key tasks of management accountants, listed in the questionnaire, are the basis for answering the fourth research question: *What tasks of management accountants were considered to be the most important in the business entities surveyed recently and in 2005?*

The respondents evaluated the importance of their tasks according to a Likert scale: 1 – no importance, 2 – little importance, 3 – considerable importance, 4 – important, 5 – very important. The weighted average evaluations of these tasks calculated by the author are shown in Table 8.

**Table 8.** Evaluation of the importance of management accountants'/controllers' tasks in the surveyed business entities

Tasks	Average score in years (on a scale 1–5) <sup>a</sup>	
	2000–2005	2010–2015
• Costs and expenditures control	4.33	4.40
• Business performance evaluation	4.19	4.24
• Preparation and interpretation of the management accounts	3.85	<b>4.03 ↑</b>
• Budgets planning and management	3.68	<b>3.91 ↑</b>
• Interpretation of operational information	3.65	<b>3.87 ↑</b>
• Profit improvement	3.56	<b>3.76 ↑</b>
• Capital expenditure evaluation/control	3.09	3.02
• Providing information supporting lower-level management decision-making	3.06	3.09
• Business strategy implementation	2.86	2.83
10. Designing and implementing new information systems in the company	2.77	<b>2.64 ↓</b>

<sup>a</sup> Evaluation scale: 1 – no importance, 2 – little importance, 3 – considerable importance, 4 – important, 5 – very important.

Source: Author's own elaboration based on Szychta (2009) and the survey in 2016.

The following three tasks were vitally important in companies both in the years 2000–2005 and ten years later: costs and expenditures control, performance measurement and evaluation, and preparing and interpreting management accounts. Although budgeting is the most frequently used MA method in the surveyed companies in Poland (see Table 6), the task of planning/managing budgets (Table 8) is only in fourth place in the ranking of the average importance of the tasks of management accountants/controllers. The respondents continue to rate the same two tasks as having the least importance in the work of management accountants/controllers. These are: designing and implementing new information systems in the company, and business strategy implementation – they had scores below 3.

Both surveys showed that there were only minor changes in the assessment of the main tasks of management accountants/controllers in 2010–2015 compared to 2000–2005. These specialists are primarily focused on performing current and short-term tasks in enterprises in Poland.

The respondents also evaluated the impact of ten factors (listed in the questionnaire) on the tasks and roles of contemporary management accountants within their enterprises (Table 9). The following four factors were regarded as major determinants of these tasks in 2010–2015 and ten years earlier: advances in information technology, stronger orientation to customer needs, implementation of a new IT program in the enterprise accounting system, and new accounting legislation. The respondents assessed the impact of these factors slightly lower in recent years than in 2000–2005.

New production technologies and ownership changes turned out to be regarded as having little influence on the development of the role and tasks of management accountants in the surveyed companies in both periods.

**Table 9.** Evaluation of the importance of factors that influenced the tasks and roles of management accountants in the surveyed entities in Poland

Factors	Average score in years (on a scale 1–5) <sup>a</sup>	
	2000–2005	2010–2015
1. Advances in information technology (internet, cell phones, computer networks in companies, accounting, software)	3.24	<b>2.86 ↓</b>
2. Stronger orientation to customers' needs	2.96	<b>2.83 ↓</b>
3. Implementation of a new IT software in accounting	2.91	<b>2.70 ↓</b>
4. New accounting legislation	2.91	<b>2.40 ↓</b>
5. A new management style	2.63	2.69
6. Restructuring of the enterprise (organization, production, finance)	2.22	<b>2.37 ↑</b>
7. Globalization of the economy	2.19	2.10
8. External consultants' advice	1.93	2.00
9. New production technologies	1.67	1.67
10. Ownership changes	1.63	<b>1.51 ↓</b>

<sup>a</sup> The respondents evaluated the influence of the particular factors by giving them the following ratings: 1 – no impact, 2 – little impact, 3 – considerable impact, 4 – strong impact, 5 – very strong impact.

Source: Author's own elaboration based on Szychta (2009) and the survey in 2016.

The next question in the questionnaire survey was intended to identify the attributes believed to be important for management accountants/controllers. The list of attributes and the ratings that they were given by the respondents at the beginning of the 21<sup>st</sup> century and 10 years later are presented in Table 10.

**Table 10.** Evaluation of the importance of management accountants' attributes

Attribute (knowledge, skills, attitude)	Average score in years (on a scale 1–5) <sup>a</sup>	
	2000–2005	2010–2015
1. Knowledge of internal and external conditions that determine the operation of the company in which they are employed	4.34	<b>4.45 ↑</b>
2. Knowledge of relevant legislation	4.17	4.14
3. Broad business knowledge	3.84	<b>4.11 ↑</b>
4. IT systems knowledge	3.52	<b>3.68 ↑</b>
<b>5. Skills:</b>		
• analytical and interpretive	4.60	4.61
• integrating financial and non-financial information	4.45	4.41
• strategic thinking	4.29	<b>4.11 ↓</b>
• identification and assessment of risk	4.25	<b>4.16 ↓</b>
• quick adjustment to organizational change	4.16	4.13
• oral communication	3.94	3.91
• decision-making	3.89	<b>3.72 ↓</b>
• teamwork	3.86	3.88
• ethical behaviour	3.69	<b>3.98 ↑</b>

<sup>a</sup> The respondents evaluated the importance of the attributes by giving them the following ratings: 1 – unimportant, 2 – little importance, 3 – considerable importance, 4 – important, 5 – very important.

Source: Author's own elaboration based on Szychta (2009) and the survey in 2016.

Knowledge of the internal and external conditions which determine the entity's operations was at the top of the list, followed by knowledge of legal regulations and financial accounting principles. Broad business knowledge and knowledge of IT systems were considered to be important as well.

In general, the respondents considered the listed skills and attitudes required of management accountants as important or very important in both periods indicated. As regards their relative importance, analytical and interpretive skills (4.60 and 4.61) and integrating financial and non-financial information were regarded as most important (4.45 and 4.41).

The average scores for each of the attributes shown in Table 10 indicate that four have increased their range by at least 0.1, while there has been a reduction in three attributes. Although ethical behavior was in last place, it is satisfying that the respondents increased the rating by almost 0.3 points.

## Concluding remarks

The transformation of the socio-political system in Poland in the early 1990s, which entailed the restoring of a market economy in Poland after about fifty years of a centrally-planned system, was the main economic factor driving change in the area of accounting, including the introduction of MA into business practice. A special feature of MA in Poland is that, since the beginning of the transformation process, it formed under the influence of two approaches: management accounting in the Anglo-American manner and *Controlling* according to the German approach.

The three surveys, conducted in 1999, 2005, and 2016, confirmed that the number of companies in Poland in which departments operate that carry out tasks in the area of MA/controllership has increased steadily. The significant number of specialists (over 10) performing these tasks in some large business entities proves that MA/controllership is an important management subsystem for these companies. The posts of these employees are given various titles, such as controller, analyst or financial analyst, management accountants, or expert in analysis and planning.

The research findings suggest that MA practices in companies in Poland are undergoing a slow evolution involving improvements to the currently used methods of operational MA and the implementation of innovative solutions. Business entities operating in Poland still mostly apply traditional cost accounting systems and methods belonging to operational MA. In no more than 10% of responding business entities are the method of strategic MA used alongside traditional methods, rather than displacing them.

The application of and change in MA practices are influenced by various economic and institutional factors. In the second and third decades following the transition of Poland to the market economy, different specific factors mainly influence the introduction of changes in MA practices compared to the 1990s. In the first period, a dominant role was played by such factors as revised financial accounting legislation in Poland in line with the requirements of EU Directives and IAS, changes in the form of business ownership, the development of the capital market, and the inflow of foreign capital to Poland. In the second period, i.e., from around 2004, the respondents of the empirical research indicated that key economic drivers of changes were the need to reduce costs, the need to improve the financial results of the company, increased competition, and the implementation of integrated management-oriented IT programs.

Polish business entities still attach the greatest importance to two tasks of management accountants: cost and expenditure control, and performance measurement. Management accountants' tasks in the future are likely to include, to a much greater extent than recently, the designing and implementing of information systems in enterprises, and activities related to business strategy implementation. The respondents regarded these tasks as having relatively little importance in their companies in 2000–2005 and in 2010–2015 (see Table 8).

The wider use of traditional MA practices in Polish business entities is in line with recent findings in other European countries, e.g., in Greece (Angelakis et al., 2010),

Turkey (Yalcin, 2012), Estonia (Lääts, Haldma, 2012), the Czech Republic (Šiška, 2016), and with the results of previous research carried out in the UK by Scapens at al. (2003). British authors stated that traditional tools and techniques (budgets, variance analysis) were the most popular with management accountants in the UK during the late 1990s (Scapens at al., 2003, pp. 25–26).

The impact of the intensifying globalization processes, including, among others, branches of international corporations operating in Poland, has resulted in a gradual convergence of cost accounting and MA methods and procedures, and in the internationalization of MA systems used in companies in Poland. Slow changes in MA practices in Poland are moving in the same direction as in developed Western countries. The introduction of new solutions, which belong to strategic MA, is delayed in Polish companies compared to those countries due to the fact that full freedom and the need to implement an MA system have only been in Poland since the early 1990s. Furthermore, management accountants and managers learn about the nature and usefulness of new MA methods later than their counterparts in those countries where these methods were first described and put into practice.

## References

- Albu C.N., Albu N., (2012), *Factors Associated with the Adoption and Use of Management Accounting Techniques in Developing Countries: The Case of Romania*, "Journal of International Financial Management & Accounting", 23 (3), pp. 50–69.
- Almasan A., Circa C., Zarzycka E., Dobroszek J. (2016), *Management accounting information from the perspective of managers: the case of Poland and Romania. Selected findings of a survey research*, "Zeszyty Teoretyczne Rachunkowości", 90 (146), pp. 41–64.
- Anderson S. W., Lanen W.N. (1999), Economic transition, strategy and the evolution of management accounting practices, "Accounting, Organizations and Society", 24 (5–6), pp. 379–412.
- Angelakis G. Theriou N., Floropoulos I. (2010), *Adoption and benefits of management accounting: Evidence from Greece and Finland*, "Advances in Accounting, Incorporating Advances in International Accounting", 26, pp. 87–96.
- Baran W. (2013), *Management accounting in the implementation of management control in healthcare organizations*, "Zeszyty Teoretyczne Rachunkowości", 72 (128), pp. 7–31.
- Burns J., Ezzamel M., Scapens R. W. (2003), *The Challenge of Management Accounting Change, Behavioral and Cultural Aspects of Change Management*, CIMA Publishing, Elsevier, Amsterdam–Boston–London.
- Burns J., Scapens R. W. (2000), *Conceptualizing management accounting change: an institutional framework*, "Management Accounting Research", 11 (1), pp. 3–25.
- Chanegrih T. (2008), *Applying a typology of management accounting change: A research note*, "Management Accounting Research", 19, pp. 278–285.
- Cobb I., Helliar C., Innes J. (1995), *Management accounting change in a bank*, "Management Accounting Research", 6, pp. 155–175.
- DiMaggio P.J., Powell W.W. (1983), *The iron cage revisited: institutional isomorphism and collective rationality in organisational fields*, "American Sociological Review", 48, pp. 147–160.
- Dobroszek J. (2016), *Rachunkowość zarządcza w zarządzaniu łańcuchem dostaw w świetle wyników badań literaturowych i ankietowych*, "Zeszyty Teoretyczne Rachunkowości", 89 (145), pp. 29–54.
- Dobroszek J., Szychta A. (2015), *Indicators as an Instrument of Measurement in Management Accounting in Logistics Enterprises in Poland*, "Management and Business Administration. Central Europe", 4, pp. 11–33.

- Firth M. (1996), *The diffusion of management accounting procedures in the People's Republic of China and the influence of foreign partnered joint ventures*, "Accounting, Organizations and Society", 21 (7–8), pp. 629–654.
- Gierusz J., Kujawski A., Kujawski L. (1996), *Stan obecny oraz kierunki ewolucji rachunku kosztów i rachunkowości zarządczej w przedsiębiorstwach Polski północnej*, "Zeszyty Teoretyczne Rady Naukowej", 35, pp. 41–47.
- Grandlund M., Lukka K. (1998), *It's a small world of management accounting practices*, "Journal of Management Accounting Research", 10, pp. 151–179.
- Grosu C., Almasan A. & Circa C. (2014), *The current status of management accounting in Romania: the accountants' perspective*, "Journal of Accounting and Management Information Systems", 13 (3), pp. 537–558.
- Haldma T. & Lääts K. (2002), *Influencing contingencies on management accounting practices in Estonian manufacturing companies*, "Management Accounting Research", 13 (4), pp. 379–400.
- Hopper T., Otley D., Scapens R. (2001), *British management accounting research: whence and whither: opinions and recollections*, "British Accounting Review", 33, pp. 263–291.
- Hopper T., Tsamenyi M., Uddin S., Wickramasinghe D., (2009), *Management accounting research in less developed countries: what is known and needs knowing*, "Accounting, Auditing & Accountability Journal", 22 (3), pp. 469–514.
- Innes J., Mitchell F. (1990), *The process of change in management accounting: some field study evidence*, "Management Accounting Research", 1 (1), pp. 3–19.
- Januszewski A., Gierusz J. (2004), *Ocena przydatności rachunku kosztów pełnych i rachunku kosztów zmiennych w zarządzaniu – wyniki badań empirycznych*, "Zeszyty Teoretyczne Rachunkowości", 19 (75), pp. 42–61.
- Jarugowa A., Skowroński J. (1994), *O wierny obraz rachunku kosztów*, "Rachunkowość", 4, pp. 166–172.
- Jinga G., Dumitru M. (2015), *The Change in Management Accounting from an Institutional and Contingency Perspective: A Case Study for a Romanian Company*, "World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering", 9, 6, pp. 1913–1920.
- Johnson H. T., Kaplan R. S. (1987), *Relevance Lost, The Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, rep. 1991.
- Kasurinen T. (2002), *Exploring management accounting change: the case of balanced scorecard implementation*, "Management Accounting Research", 13 (3), pp. 323–343.
- Lääts K., Haldma T., (2012), *Changes in the scope of management accounting systems in the dynamic economic context*, "Economics and Management", 17 (2), pp. 441–447.
- Luft J. Shields M. D. (2007), *Mapping Management Accounting: Graphics and Guidelines for Theory-Consistent Empirical Research*, [in:] Chapman Ch S, Hopwood AG & Shields MD (eds.), *Handbook of Management Accounting Research*, vol. 2, Elsevier, Amsterdam, pp. 27–95.
- Michalak J. (2007), *Stan rozwoju systemów pomiaru dokonań w przedsiębiorstwach w Polsce: wyniki badań empirycznych*, [in:] W. Gabrusewicz (red.), *Rachunkowość w teorii i praktyce, Rachunkowość zarządcza*, t. 2, Akademia Ekonomiczna w Poznaniu, Poznań.
- Michalak J. (2008), *Pomiar dokonań. Od wyniku finansowego do Balanced Scorecard*, Difin, Warszawa.
- Quattrone P., Hopper T. (2001), *What does organisational change mean? Speculations on a taken for granted category*, "Management Accounting Research", 12, pp. 403–435.
- Radek M., Schwarz R. (2000), *Zmiany w rachunkowości zarządczej w polskich przedsiębiorstwach w okresie transformacji systemu gospodarczego (na podstawie badań empirycznych)*, "Zeszyty Teoretyczne Rachunkowości", 1 (57), pp. 58–83.
- Raulinajtys-Grzybek M., Baran W., Macuda M. (2017), *Cost accounting in public hospitals in Poland*, "Journal of Health Management", 19, 2.
- Rozporządzenie Ministra Finansów z 15 stycznia 1991 r. w sprawie zasad prowadzenia rachunkowości*, Dziennik Ustaw 1991, nr 10 and 1992, nr 96.
- Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 27 kwietnia 2010 r. w sprawie klasyfikacji zawodów i specjalności na potrzeby rynku pracy oraz zakresu jej stosowania*, Dziennik Ustaw 2010, nr 82, poz. 537.

- Scapens R.W., Ezzamel M., Burns J., Baldvinsdottir G. (2003), *The Future Direction of UK Management Accounting Practice*, CIMA Publishing, Elsevier, Amsterdam–Boston–London.
- Scapens R. W., Roberts J. (1993), *Accounting and control: a case study of resistance to accounting change*, "Management Accounting Research", 4 (1), pp. 1–32.
- Shields M. D. (1998), *Management accounting practice in Europe: a perspective from the States*, "Management Accounting Research", 9, pp. 501–513.
- Sobańska I. (2002), *Jak się zmienia praktyka rachunkowości zarządczej na przełomie XX i XXI wieku? (część II – Polska)*, "Controlling i Rachunkowość Zarządcza", 1, pp. 6–11.
- Sobańska I. (2010), *Rachunkowość zarządcza*, [in:] I. Sobańska (ed.), *Rachunkowość zarządcza. Podejście operacyjne i strategiczne*, Wydawnictwo C.H. Beck, Warszawa.
- Sobańska I., Szychta A. (1995), *Management Accounting in Polish Companies in the Period of Structural Transformations*, paper for 18th Annual Congress of EAA, Birmingham, May 10–12.
- Sobańska I., Szychta A. (1996), *Projektowanie systemów rachunkowości zarządczej. Uwarunkowania i możliwości*, [in:] *Rachunkowość zarządcza w teorii i praktyce*, Akademia Ekonomiczna im. Karola Adamieckiego, Katowice, pp. 111–122.
- Sobańska I., Szychta A., Michalak J., Michalak M. (2009), *Empirical study of management accounting change in university: experiences from Poland*, [in:] I. Sobańska, W. Nowak (eds.), *Enterprise Accounting and Management under Globalization: recent Evidence from Poland and Lithuania*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź, pp. 33–53.
- Sobańska I., Wnuk T. (1999a), *The development of management accounting in enterprises operating in Poland in the 1990s*, Conference Accounting and Audit: Problems of Development, Riga, Latvian University Press, January, pp. 217–221.
- Sobańska I., Wnuk T. (1999b), *Causes and directions of changes in costing systems in Polish enterprises during 1991–1999*, [in:] *Accounting perspectives on the threshold of the 21<sup>st</sup> century*, Tartu University, School of Business Administration, Institute of Finance and Accounting, Tartu, pp. 217–221.
- Sobańska I., Wnuk T. (2001), *Management accounting practice in Poland*, [in:] *Economics and Management*, vol. 1, *Accounting Changes in European Organizations*, Kaunas University of Technology, Faculty of Economics and Management, Kaliningrad State Technical University, Kaunas, pp. 225–231.
- Sulaiman S., Mitchell F. (2005), *Utilising a typology of management accounting change: An empirical analysis*, "Management Accounting Research", 16, pp. 422–437.
- Szadziewska A. (2002), *Rachunek kosztów w przedsiębiorstwach produkcyjnych północnej Polski – stan i kierunki zmian*, "Zeszyty Teoretyczne Rachunkowości", 9 (65), pp. 90–112.
- Szychta A. (2001), *Zastosowanie metod rachunkowości zarządczej w przedsiębiorstwach w Polsce*, "Zeszyty Teoretyczne Rachunkowości", 5 (61), pp. 101–119.
- Szychta A. (2002), *The scope of application of management accounting methods in Polish enterprises*, "Management Accounting Research", December, 13, 4, pp. 401–418.
- Szychta A. (2005), *Rola współczesnych specjalistów do spraw rachunkowości zarządczej w świetle ewolucji jej zakresu i metod*, "Zeszyty Teoretyczne Rachunkowości", 25 (81), pp. 80–107.
- Szychta A. (2007), *Etapy ewolucji i kierunki integracji metod rachunkowości zarządczej*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Szychta A. (2009), *Changes in management accounting practice in Poland*, [in:] I. Sobańska, W.A. Nowak (eds.), *Enterprise Accounting and Management under Globalization: recent Evidence from Poland and Lithuania*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź, pp. 75–97.
- Szychta A. (2011), *Rachunkowość zarządcza jako działalność zawodowa w kontekście doświadczeń zagranicznych*, "Zeszyty Teoretyczne Rachunkowości", 62 (118), pp. 289–312.
- Szychta A., Kabalski P., *Implementation of IFRS in Poland: Main Effects and Problems*, [in:] D. Bensadon, N. Praquin (eds.), *IFRS in a Global World. International and Critical Perspectives on Accounting*, Springer International Publishing, Cham, pp. 373–391.
- Szychta A., Dobroszek J. (2017), *Academic aspects of management accounting and controlling in Poland since the 1990s*, "Zeszyty Teoretyczne Rachunkowości", 93 (149), pp. 175–209.
- Świdorska G. K., Raulinajtys-Grzybek (2012), *Cost-based pricing of healthcare services. Relevance of a resource-based costing system*, "Zeszyty Teoretyczne Rachunkowości", 72 (128), pp. 117–137.

- Šiška L. (2016), *The Contingency Factors Affecting Management Accounting In Czech Companies*, "Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis", 64 154 (4/20), <https://doi.org/10.11118/actaun201664041383>.
- Ustawa z 29.09.1994 r. o rachunkowości, Dz.U. nr 121 z 1994 r., poz. 591 z późn. zm.
- Vaivio J. (1999), *Exploring a non-financial management change*, "Management Accounting Research", 10, pp. 409–437.
- Vámosi T. S., (2000), *Continuity and change: Management accounting during processes of transition*, "Management Accounting Research", 11, pp. 27–63.
- Wickramasinghe D., Alawattage Ch. (2007), *Management Accounting Change. Approaches and Perspectives*, Routledge, Oxon.
- Williams, J. J., A. E. Seaman (2001), *Predicting change in management accounting systems: National culture and industry effects*, "Accounting, Organizations and Society", 26 (4–5), pp. 443–460.
- Wnuk-Pel T. (2009), *Analiza funkcjonowania systemów ABC w przedsiębiorstwach działających w Polsce*, "Zeszyty Teoretyczne Rachunkowości", 50 (106), pp. 127–160.
- Wnuk-Pel T. (2010a), *Application of activity-based costing in companies in Poland*, "Comparative Economic Research", 3, pp. 107–139.
- Wnuk-Pel T. (2010b), *Changes in company's management accounting systems. Case study on activity-based costing implementation and operation in medium-sized production company*, "Eurasian Journal of Business and Economics", 3(1), pp. 85–111.
- Wnuk-Pel T. (2010c), *Pomiar sukcesu wdrożenia rachunku kosztów działań w przedsiębiorstwach działających w Polsce*, "Zeszyty Teoretyczne Rachunkowości", 59 (115), pp. 175–204.
- Wnuk-Pel T. (2011), *Zastosowanie rachunku kosztów działań w przedsiębiorstwach w Polsce*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Wnuk-Pel T. (2013a), *Capital Budgeting Practices in Non-manufacturing Companies in Poland*, "Social Sciences/Socialiniai Mokslai", 4 (82), pp. 59–69.
- Wnuk-Pel T. (2013b), *Exploring management accounting change in Polish companies*, 36th European Accounting Association Congress, Paris, 06–08.05.2013.
- Yalcin S., (2012), *Adoption and benefits of management accounting practice: An intercountry comparison*, "Accounting in Europe", 9, 1, pp. 95–110.
- Yap K. H. A., Lee T. H., Said J. Yap S. T. (2016), *Adoption, benefits and challenges of strategic management accounting practice: evidence from emerging market*, "Asia Pacific Management Accounting Journal", 8 (2), pp. 27–45.
- Zarzycka E. (2012), *Management accountant's role and functions in the ERP environment – focus on internal reporting and performance measurement*, "Comparative Economic Research. Central and Eastern Europe", 15 (2), pp. 47–64.
- Zarzycka E. (2016), *Koncepcje i tendencje rozwoju zawodu specjalisty rachunkowości zarządczej. Wymiar krajowy i międzynarodowy*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.

#### Internet sources

- GPW Main Market (2017), <https://www.gpw.pl/statystyki-gpw>., retrieved: 30.11.2017.
- GUS (2012), *Działalność gospodarcza podmiotów z kapitałem zagranicznym w roku 2011*, GUS, Warszawa, [http://stat.gov.pl/cps/rde/xbcr/gus/pgwf\\_dzialal\\_gosp\\_pod\\_z\\_kap\\_zagr\\_2011.pdf](http://stat.gov.pl/cps/rde/xbcr/gus/pgwf_dzialal_gosp_pod_z_kap_zagr_2011.pdf) (access: 2.08.2017).
- GUS (2016), *Działalność gospodarcza podmiotów z kapitałem zagranicznym w roku 2015*, GUS, Warszawa, <http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarze-wyniki-finansowe/przedsiębiorstwa-nie-finansowe/dzialalnosc-gospodarza-podmiotow-z-kapitałem-zagranicznym-w-2015-r-4,11.html> (access: 2.08.2017).
- Rachunki narodowe i PKB, (2015), Eurostat Statistics Explained, [http://ec.europa.eu/eurostat/statistics-explained/index.php/National\\_accounts\\_and\\_GDP/pl](http://ec.europa.eu/eurostat/statistics-explained/index.php/National_accounts_and_GDP/pl) (access: 21.08.2017).
- Raport Banku Światowego „Wzrost PGB Polski w 2017 r. wyniesie 4 proc” (2017), polsatnews, 19.10.2017, <http://www.polsatnews.pl/wiadomosc/2017-10-19/raport-banku-swiatowego-wzrost-pkb-polski-w-2017-r-wyniesie-4-proc/> (access: 17.11.2017).