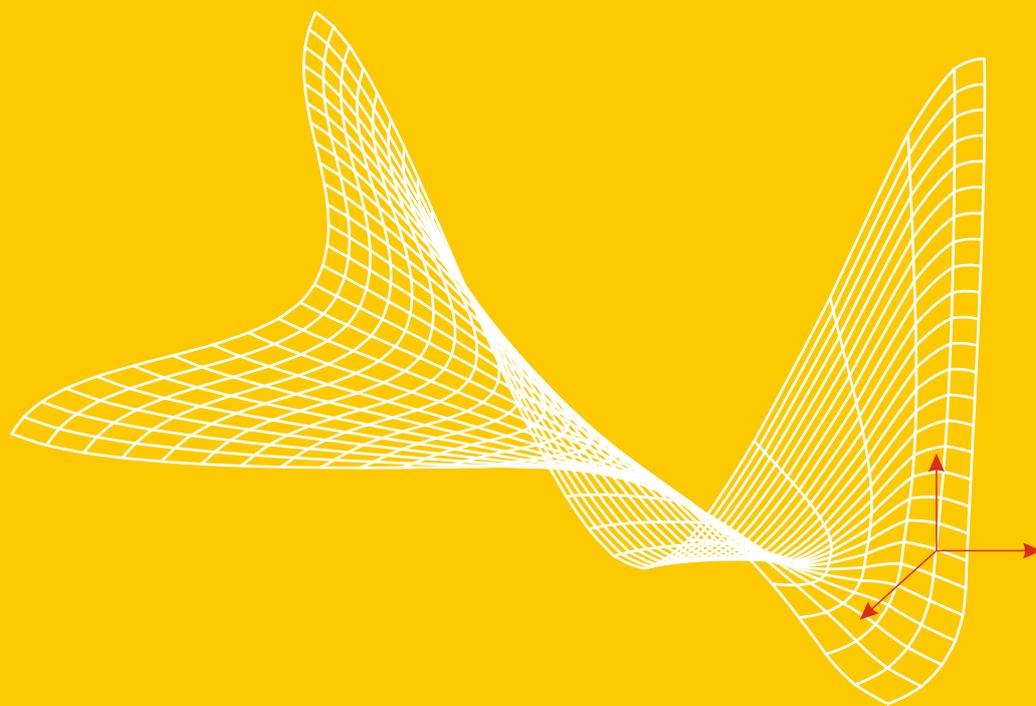


CEREM



CENTRAL EUROPEAN REVIEW
OF ECONOMICS AND MANAGEMENT



Vol. 1, No.3, September 2017

ISSN 2543-9472

e-ISSN 2544-0365

WSB University
in Wrocław



Wyższa Szkoła Bankowa
we Wrocławiu



CENTRAL EUROPEAN REVIEW OF ECONOMICS AND MANAGEMENT

Volume 1, Number 3
September 2017

Editors:

Joost Platje and Tomasz Rólczyński



Vol. 1, No. 3

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The journal is reviewed according to the principle of double blind peer review, as well as in compliance with the standards of the Polish Ministry of Science and Higher Education. CEREM is a continuation of the WSB University in Wrocław Research Journal (*Zeszyty Naukowe WSB we Wrocławiu* – ISSN 1643-7772; eISSN 2392-1153), which is included in B list of the Polish Ministry of Science and Higher Education from 23.12.2015 (8 points).

CEREM is registered in the IC Journal Master List, and indexed in CEJSH, Index Copernicus and BazEkon

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ISSN 2543-9472; eISSN 2544-0365

Cover and logo design: Sebprojekt.pl

Wydawnictwo: Wyższa Szkoła Bankowa we Wrocławiu, ul. Fabryczna 29-31, 53-609 Wrocław.

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The effectiveness of cross-functional sourcing teams - an embedded case study in a large public organization

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Abstract:

Aim: To investigate the relationships between team characteristics and their impact on cross-functional sourcing team effectiveness in a public procurement environment.

Design / Research methods: In an embedded single case study, three cross-functional sourcing teams of diverse divisions and departments of the Dutch Province of South Holland are analyzed by means of a comparative analysis.

Conclusions / findings: Teams with greater interpersonal cohesiveness showed more personal and open communication and greater informal frequency of within-team communication. Apparently, task work communication has a positive impact on task cohesion, and interpersonal cohesion has a positive impact on interpersonal communication. A stable team with no changes in roles and membership is likely to show strong task cohesion. Office space for regular meetings and dedicated time for team activities contribute to team effectiveness.

Originality / value of the article: Making sourcing decisions is a complex process, particularly in cross-functional sourcing teams with divergent views, objectives, and priorities of the various members of different disciplines. Few studies have examined sourcing teams in the public sector. The study is based on the Input-Mediation-Output-Input model which recognizes mediational factors (processes and emergent states) that transform inputs to outputs. The study contributes to current understanding of the nonlinear linkages between process and emergent states of cross-functional teams in the public sector. The results are useful for public organizations to create more effective cross-functional sourcing teams.

Keywords: cross-functional sourcing teams, team effectiveness, public procurement

JEL: M4

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Received: 31-08-2017, Revised: 17-09-2017, Accepted: 17-09-2017

<http://dx.doi.org/10.29015/cerem.536>

1. Introduction

Strategic sourcing involves selecting, developing, integrating and managing suppliers in an effective manner to achieve improvements in the long run in support of an organization's strategic objectives (Driedonks et al. 2014, Talluri, Narasimhan 2004). The focus with strategic sourcing is on long-term partnerships and total cost of ownership rather than short-term price reductions (e.g. Enz, Lambert 2012, Talluri, Narasimhan 2004). Sourcing is highly relevant as the process runs through the entire organization and therefore requires input from many employees with different functions. Increasingly, team structures are being used in a purchasing and supply chain context (Driedonks et al. 2014, Giunipero, Vogt 1997, Johnson et al. 2002, Zheng et al. 2007). The popularity of sourcing teams is in line with the increased awareness of the strategic role of purchasing in many organizations (e.g. Gelderman, Albronda 2017). The use of teams is particularly suitable when a team task directly influences an organization's goals; when organization-wide decisions can only be made with input from personnel of several functional backgrounds; when it is not possible for an individual, function or subunit to manage large and complicated projects effectively; or when the expected value of using a team is higher than the costs (Enz, Lambert 2012, Trent 2003). A sourcing team is often cross-functional or multidisciplinary, which means that it consists of members with different functional experiences and abilities, and who most likely come from different departments or sub-units within the organization (e.g. Kaufmann, Wagner 2017, Kaufmann et al. 2014, Driedonks et al. 2010, Moses, Åhlström 2008, Trent, Monczka 1998).

Cross-functional sourcing teams are established to develop sourcing strategies, identify potential suppliers, analyze supplier capabilities, select suppliers, determine price and conditions of a contract, and evaluate and manage the suppliers' performances for a specific category of products and services. Such teams can flexibly adapt and react to turbulent and dynamic environments and can combine skills, knowledge and abilities and simultaneously make sourcing decisions (Kaufmann, Wagner 2017, Johnson et al. 2002, Trent, Monczka 1994). Sourcing decisions not only affect the organization, but they can also change supply network

structures and processes (Moses, Åhlström 2008). Consequently, the role of sourcing crosses the boundaries between two distinct domains: internal interactions and external involvement (Driedonks et al. 2014, Luzzini et al. 2015).

Making sourcing decisions is a complex process, particularly in cross-functional sourcing teams with divergent views, objectives, and priorities of the various members of different disciplines (Driedonks et al. 2014, Gevers et al. 2015, Meschnig, Kaufmann 2015). Creating a successful cross-functional sourcing team requires much time and effort. The characteristics of cross-functional sourcing teams are many and varied, and critical to effectiveness (Meschnig, Kaufmann 2015, Trent 1994). Few studies have examined sourcing teams in the public sector (e.g. Glock, Hochrein 2011, Athanasaw 2003). Johnson et al. (2003), for example, analyzed sourcing teams in public institutions and compared their results with studies that focused on the private sector. A better understanding of the characteristics that influence the effectiveness of a cross-functional sourcing team in a public purchasing context could help organizations attain good purchasing performance. This study focuses on cross-functional sourcing teams within a public organization. We empirically investigated the relationships between team characteristics, and their impact on cross-functional sourcing team effectiveness in a public procurement environment. In an embedded single case study, three cross-functional sourcing teams of diverse divisions and departments of the Province of South Holland are analyzed by means of a comparative analysis. The results can be useful for public organizations to create more effective cross-functional sourcing teams.

From a theoretical perspective, the traditional IPO model (Input-Process-Output) has served as a starting point for much team research. Criticism on the IPO model, highlighting cyclical and nonlinear linkages between variables, has led to the development of the Input-Mediation-Output-Input model (Ilgen et al. 2005, Kozlowski, Ilgen 2006). This IMO model recognizes mediational factors (processes and emergent states) that transform inputs to outputs. Mathieu et al. (2008) pointed out that different processes and emergent states highly correlated with one another. Our study contributes to current understanding of the nonlinear linkages between process and emergent states. Little is known about the way public agencies utilizes sourcing teams for effective procurement initiatives. Public procurement is said to

be an extremely complicated function, considering its environment that influences and limits the possibilities to accomplish procurement policies/goals. The public procurement system includes many environments, such as the internal environment, the market environment, the legal environment, and the political environment (Thai 2001). Obviously, these issues complicate the functioning and effectiveness of cross functional sourcing teams in the public sector.

2. Literature Review

2.1 Public procurement

Public procurement professionals are working in an environment more complex than in former times. They must ensure cost efficiency, as it involves a great proportion of public expenditures, must deal with a constantly changing environment (rapidly emerging technologies, increasing product choice), make use of complicated procurement techniques, processes and methods (e-procurement, value for money, life-cycle costing, outsourcing, make or buy decisions). In addition, they are under further pressure as public procurement is used as a policy tool for sustainability, innovation, social return, involve small and medium enterprises (SME) and encourage local development (e.g. Gelderman et al. 2017). Due to its complexity, public procurement has been evolving into a function with a strategic approach which place greater emphasis on supplier management, innovation development, outsourcing of products and services and collaborative long term supplier relationships (Arlbjørn, Freytag 2012, McCue, Gianakis 2001, Thai 2001, Zheng et al. 2007).

Procurement in the public sector has some unique characteristics that differ from purchasing and supply in the private sector. Public procurement professionals are required to observe special rules and regulations, such as the European Union tendering directives, that do not apply to private sector purchasing and supply (Arlbjørn, Freytag 2012, Harland et al. 2013, Reed et al. 2005, Telgen et al. 2007). It is also different because of the frequent existence of a large number of goals, which are difficult to harmonize. Public procurement professionals must achieve value for

money, but they also need to play a role in broader political goals such as sustainability, innovation, employment, and helping minorities (Erridge 2007, Schapper et al. 2006, Thai 2001). Another difference is the presence of a greater variety of stakeholders such as interest groups, taxpayers and management (Harland et al. 2013, Telgen et al. 2007). The influence of politicians on public procurement is also substantial (Arlbjørn, Freytag 2012, Murray 2009). Furthermore, the requirements of the various stakeholders are likely to be conflicting and impede the possibility of an optimized solution (Harland et al. 2013, Schapper et al. 2006).

Establishing long-term partnerships with suppliers has not been easy for public organizations due to their rules, regulations and culture (Erridge, Greer 2002, Telgen et al. 2007). Public organizations have encouraged a public procurement policy of fair treatment of suppliers, open competition through competitive tendering, and transparency and proportionality of public procurement procedures as the best way to achieve efficient and effective purchasing. Also, there is still a strong emphasis on formal contracts, rigid terms and performance monitoring. Consequently, there is less freedom, flexibility and risk taking in public organizations. Procedures, culture, policies and rules limit the interaction between public procurement employees and suppliers, and restrict the opportunity to close long term relationships which are based on trust, commitment, equality and information-sharing (Erridge, Greer 2002, Erridge, McIlroy 2002).

2.2 Cross-functional teams in public organizations

Organizations have entered a new era characterized by rapid, dramatic and turbulent changes, advanced technologies, and globalization (Kaufmann et al. 2014, Leibold et al. 2007, Zheng et al. 2007). The accelerated pace of change has caused public organizations to work more flexibly and responsive to citizens. Public organizations must meet the increasing demands for greater financial accountability, efficiency and effectiveness. These demands require changes in processes, procedures and structures. Increasingly, public organizations are implementing new ways of working (e.g. Coun et al. 2015) that are flexible, efficient and responsive, and new public management principles, such as collaboration, citizen focus, change

orientation, continuous learning, partnerships and decentralization, are being employed (e.g. Athanasaw 2003, Leibold et al. 2007).

As a result, teams are being used more and more in public organizations in a variety of team-working forms (Parris, Vickers 2005). The study of team structures in organizations in academic literature has been rich and extensive and is rooted in the field of social psychology (Kozlowski, Bell 2003). The use of teams can have many benefits: knowledge, skills, abilities, resources and information can be shared, and productivity, quality, flexibility, innovation, co-ordination, communication and collaboration can be improved (Driedonks et al. 2014, Englyst et al. 2008, Leenders et al. 2005). Teams are particularly relevant for developing complex solutions that involve members of different backgrounds and various stakeholders. However, teams sometimes fail to be effective. The benefits of teamwork are weakened by conflicts or problematic cooperation.

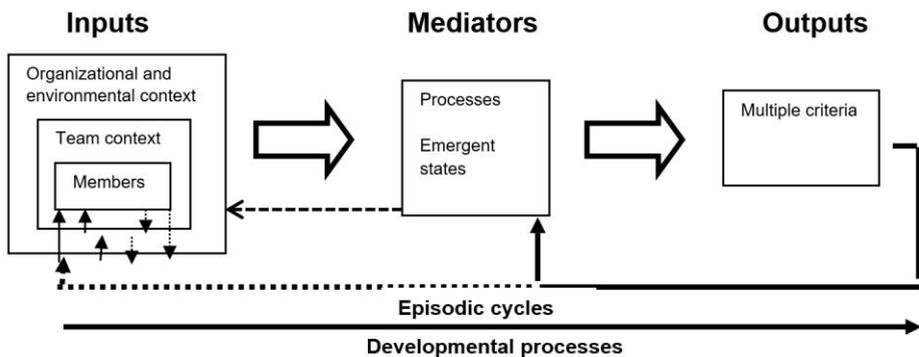
A cross-functional team has many benefits such as improved coordination, integration and communication across functional boundaries (Driedonks et al. 2010, Pinto, Pinto 1990), a general and complete viewpoint of considering a problem brought in by the different disciplines (Luzzini et al. 2015, Parker 2003, Trent, 1996), and higher availability of sources of information and resources (Trent, Monczka 1994). However, members from different functional backgrounds will implicitly have other points of view on many team task issues, which makes integration, coordination and communication difficult. Generally, members of a cross-functional sourcing team are temporarily assigned to the team. Specifically, the organization can have problems with part time members of these teams who are not fully involved and committed (Meschnig, Kaufmann 2015). Often, members report not only to the team leader, but also to their functional managers and have responsibilities not only within the team, but also in their own department. A risk for cross-functional sourcing teams is that their members only represent the interests of their own department, which can create tension and conflict in teams (Moses, Åhlström 2008, Trent, Monczka 1998).

Ilgen et al. (2005) proposed the Input-Mediation-Output-Input (IMOI) model as a superior alternative to the conventional IPO model. They state that many of the mediational factors that transform inputs to outputs are not processes, but are so

called emergent cognitive or affective states (e.g. team efficacy, team potency, team empowerment, cohesion and trust). The IMO model shows that the influence of feedback from output to mediators (solid line) is more than the influence of feedback from output to input (dashed line).

The state of a team is particularly influenced by the progression of the team over time. A team, therefore, adapts its processes as a function of the obtained results. The influence of the outputs and mediators on input characteristics, such as team structure, team composition and environmental factors, is less likely. The IMO model is considered a development model because developmental processes arise over time as teams mature (solid line at the bottom of Figure 1). Moreover, Ilgen et al. (2005) divided team development into three stages: forming (early stages of team development), functioning (teams that have been working together for some time) and finishing (teams that complete the task). Finally, in the IMO model the interactions between input factors have been depicted as well. The organizational context has, for instance, a substantial influence on team characteristics and members (solid line under input in Figure 1), but the reverse influence is less (dashed line). In this study, the principles of the IMO framework serve as the starting point for examining the sourcing teams.

Figure 1: Input-Mediator-Output-Input (IMO) model Team Effectiveness Framework



Source: Mathieu et al. (2008)

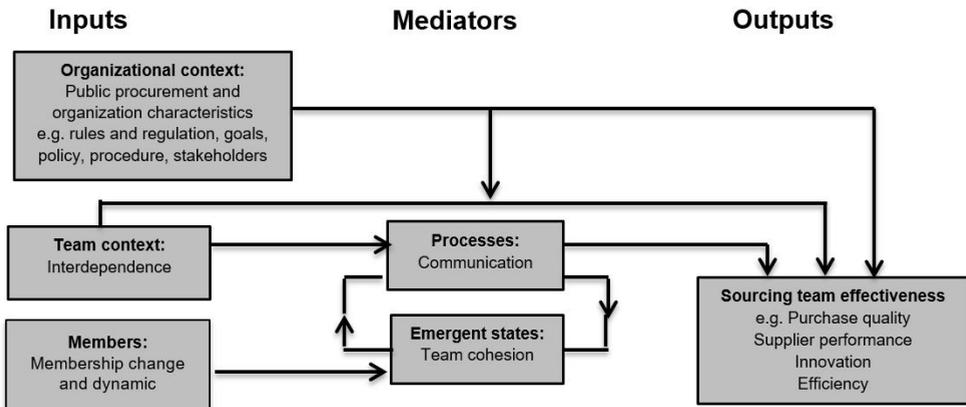
2.3 Research model

The factors, such as interdependence, membership change and dynamics, communication and team cohesion as input, process or emergent states, were derived from the literature and comprise the research framework together with public procurement and organization characteristics and sourcing team effectiveness. Figure 2 shows the dynamic and complex relationships between sourcing team characteristics, and between the sourcing team characteristics and team effectiveness. The arrows in the model reflect the cyclical nature of cross-functional sourcing.

The outputs of cross-functional teams is measured as sourcing team effectiveness. This study distinguishes general and specific indicators of sourcing team effectiveness. General sourcing team effectiveness consists of quantity and quality of work produced by the team, number of innovative ideas, efficiency, and ability to communicate, coordinate, and meet targets and performance expectations. Specific sourcing team effectiveness includes improving purchase quality, ameliorating supplier performance, achieving best-in-class supplier selection, and offering support for innovation (Driedonks et al. 2010, Monczka, Trent 1993).

The inputs in the model can be classified into three levels: organizational factors, team-level factors and individual team members characteristics. These inputs can create, facilitate or hinder the functioning of a team. The impact of team variables and member variables are mediated by communication (process) and team cohesion (emergent state). Driedonks et al. (2014) found that communication is a mediator between inputs and sourcing team effectiveness. In addition, team cohesion can be seen as an output of good internal communication as well as a mediator (Holland et al. 2000). Team cohesion was found to mediate the relationship between affective team diversity and team performance (Kaufmann, Wagner 2017).

Figure 2: Research model of cross-functional sourcing team effectiveness



Source: Authors' own elaboration based on Mathieu et al. (2008)

3. Methodology

3.1 Research design

A case study research design has been chosen for a number of reasons. First, sparse prior research exists relating sourcing team characteristics and sourcing team effectiveness in the public sector. A different context of teams leads to different results, which means that an accurate generalization is not attainable. The lack of attention in the context of public procurement justifies an explorative in-depth case study analysis of the subject. Gaining a rich and new understanding of a specific public procurement context takes precedence over data that can be generalized to other geographical areas or populations. Second, team processes are difficult to statistically observe and measure in organizations due to the dynamic nature of teams (Mathieu et al. 2008, Roe et al. 2012). A case study can provide a unique way of studying complex processes involving many variables (Yin 2014), which quantitative data alone cannot easily reveal. For answering the research question, it is important to offer insights into complex and dynamic team processes. A case study can make it possible to examine in depth values, opinions, behaviors and relationships of people in contemporary and dynamic contexts of a purposive population in different situations. Third, in team research, internal and external organizational context is also very important (Cohen, Bailey 1997, Mathieu et al.

2008). A real-life phenomenon cannot be separated from its context and the boundaries between the phenomenon and context are difficult to determine (Yin 2014). As such, the interaction between a phenomenon and its context is best understood through an in-depth case study.

The unit of analysis in this study was the entire cross-functional sourcing team and a single embedded case design was adopted. In an embedded case design, within unit analysis, between unit analysis and cross-unit analysis can be applied. The use of cross-functional sourcing teams is not a frequent phenomenon in public organizations (Johnson et al. 2003). The organizational context has been held fixed because a public procurement context is new in the field of sourcing team studies. In order to be able to explore the influences of public procurement and organization characteristics, sourcing teams had to be studied under the same conditions and in the same environment. Three cross-functional sourcing teams of diverse divisions and departments of the Province of South Holland form the subjects of this case study, in which the influence of the characteristics on the effectiveness of the team was analyzed by means of a comparative analysis. After an exploration of the teams in their specific contexts, a more general level than the studied cases could be investigated. Sourcing teams were thus carefully and purposively selected for comparison.

3.2 Operationalization

This study focuses on task interdependence, which means the extent to which team members count on each other and act together to complete tasks (Wildman et al. 2011). Moreover, membership change and dynamics refer to new members that replace existing team members and the period of time members have been assigned to the team (Mathieu et al. 2014). Furthermore, the concept communication connotes a two way communication process related to task work or teamwork. Task work communication means reciprocal transfer of information about the task and team solutions and teamwork communication involves the establishment of patterns of interaction (Kozlowski, Bell 2003). Team cohesion can then be classified into task cohesiveness and interpersonal cohesiveness. Task cohesiveness means the extent to which team members are committed or attracted to the team's tasks and goals, while

interpersonal cohesiveness refers to the extent to which team members like the team and are attracted to each other (Kozlowski, Ilgen 2006). At the same time, sourcing team effectiveness refers to the outputs of the team and can be divided into general sourcing team effectiveness which refers to outputs based on the functioning of the team, and specific sourcing team effectiveness, which address to outputs based on the accomplishment of the task (Driedonks et al. 2010, Monczka, Trent 1993). The operational definitions were used in the interviews. The research framework was translated into a preliminary set of questions to be covered in the interviews. In each interview, respondents were asked to answer questions about the concepts and the relationships among the characteristics, and between the characteristics and effectiveness.

3.3 Data collection

A number of criteria were used to select the sourcing teams. First, teams had to consist of members with different functional backgrounds that find, select and manage suppliers for a sourcing category or purchase item. Second, teams had to be different regarding sourcing category with various members from different business units or departments. Third, the team size had to be large enough (more than three members). Fourth, the sourcing process of the teams had to be in the functioning or finishing stage to be able to capture dynamics, experiences and changes in teams.

The head of purchasing of the Province of South Holland was contacted. The Dutch public organization Province of South Holland met all the criteria including large public organization with several organizational divisions (1,700 employees, 3 divisions and 14 departments), use of cross-functional sourcing teams in the organization and large sourcing projects. A list of potential sourcing teams was drafted and key informants (project leaders of sourcing teams) were contacted. As a result, three cross-functional sourcing teams in the same public procurement organization were chosen in order to gain an understanding of the similarities and differences (see Table 1).

T

Table 1: Overview of the sourcing teams

	Team 1 Printers and copiers	Team 2 Road construction	Team 3 Cycle paths
Organization	Province South Holland	Province South Holland	Province South Holland
Division	Organizational Matters	Space and Mobility	Space and Mobility
Department	IT	Projects and programs	Space, housing and land
Section	Architecture and support	Projects and programs	Development
Type of team	Cross-functional	Cross-functional	Cross-functional
Sourcing project	Printers and copiers	Road construction parallel structure A12	Cycle paths
Team size	Approx. 6 members	Approx. 10 members	Approx. 6 members
Functional areas in team	Procurement specialist Procurement lawyer ICT specialists Coordinators facility services Project leader	Procurement specialist Project leaders Engineers procurement lawyer	Procurement specialist Program Manager Engineers procurement lawyer
Stage in sourcing process	Functioning	Functioning	Finishing
Date	Since May 2014	Since November 2010	Since May 2008

Source: Authors' own elaboration.

Interviews were chosen as the main source of evidence for collecting data. The interviews were generally of the semi-structured type in which different themes were discussed by means of open-ended questions. Semi-structured questions allow for flexibility and provide the chance for more in-depth understandings of some topics. The key informants were also approached for choosing respondents for the interviews based on their own judgment of the most suitable individuals. The interviewees were professionals from various functional areas and participants of cross-functional sourcing teams. Among the interviewees were: procurement experts, consultants, lawyer, ICT specialists, project leaders and other project members. Ten interviews were conducted face-to-face between June and July 2015 and all interviews were audio recorded and transcribed. The interviews lasted approximately between 60 and 90 minutes and were executed by the same interviewer. Prior to each interview, information about the topic and indication of the kind of questions were sent by e-mail for preparation. Data collection involved not only interviews but also document data, thus enabling data triangulation (Yin

2014). In this way, interview data could be placed in context and an in depth understanding of the relationship between various characteristics and effectiveness could be obtained. Document analysis such as evaluation reports, e-mail correspondence, purchasing and organizational plans and records have been used to confirm information collected through interviews.

3.4 Data analysis

Documents were analyzed with the aim of discovering useful information for this study. Relevant documents were sought on the intranet and in the archival system of the Province South Holland. Many suitable documents were available. The public sector has an obligation to keep records in any form (Public Records Act) and to give public access to information (Open Government Act). For this reason, it was easy to find substantial documentation, such as reports, presentations, e-mails, minutes, letters and schedules. On the basis of the core concepts in the research model, the relevant passages were extracted from the documentation. The collected data was classified per criterion.

In the next step, the data of the interviews were analyzed. First, interview transcriptions were made and controlled by the respondents. Following the interview transcriptions, word data was coded and classified into categories according to a data matrix suggested by Miles and Huberman (2014). Key words, sentence fragments and respondents were used to fill the matrix. The data matrix made it possible to determine patterns in the data. Also, cross-case analyses were conducted to identify similarities and differences between sourcing teams. From this comparison, attempts were made to discover tentative relationships between constructs. A case study database was created in order to obtain a chain of evidence. To ensure all interviewees understood the concepts, information about the topic and concepts was also sent a week before interview. To enhance the construct validity in this study, interviews and document analysis were combined to reach triangulation. Several data types such as interview transcripts, documentation and tape recordings were combined. It was important to combine multiple sources and methods of evidence, as teams already existed for some time and at times respondents had difficulty to recall certain issues during interviews. All interviews were recorded and

soon after the written interview reports were sent to the interviewees for revision and control of misconceptions. Informants received a draft of the case study report for verification.

The case analysis commenced with the identification of meaningful text segments that related to the topic. All coding involves perception and interpretation of what is happening in the data, thus it is a selective and subjective process (Saldaña 2012). During descriptive coding (Miles, Huberman 2014), different data labels were generated from the raw data. The initial long list of data labels was reduced into a smaller number of relevant constructs and categories through pattern coding by clustering the different text segments and reducing overlap and redundancy between the categories. After coding, within case analysis was applied in order to analyze the results in a team. Checklist matrices were used to merge and reduce the data to the team level. A comparison across teams was also explored by means of a cross-case analysis. The within analysis for the teams were compared in a meta-matrix and complemented with relationships existing between the major categories.

4. Results

4.1 Background of the organization

The case organization is the Province of South Holland. It resides between the Dutch state and the municipalities: literally as “middle government”. Every four years the voters in South Holland elect the 55 members of the Provincial States (PS). The Provincial States are the people’s representatives and meet every month in the provincial government building in The Hague. They determine the broad outlines and monitor the Executive Council (EC). The EC makes up the daily government of the province. This council is appointed by the PS for a period of four years. The EC carries out the policies and is accountable to the PS. Almost 1,500 employees work on the implementation of provincial tasks. These tasks include spatial planning, managing the regional economy, and creating an attractive environment and functional traffic and transport systems.

The Province South Holland is governed by a board of three directors and one managing director. The organization introduced a new working mind-set aimed at integral working, customized approaches, modern flexible management, and establishing a learning organization, collaboration and creative thinking. In 2007, a central procurement unit was established with the task of advising and supporting purchasing activities and decisions of the line- and project management. The procurement unit consists of 25 employees (senior buyers, junior buyers, assistant buyers, contract administrators and policy advisors). The procurement manager reports to the head of the department for facility services. The specific departments and sections hold autonomous authority over purchasing decisions and when to include the implementation of contracts and the management of suppliers.

The Province of South Holland started to work with cross-functional teams in 2008 with the task of coordinating the sourcing of chosen commodity groups, mainly services and supplies, in framework agreements. The cross-functional teams for services and supplies are staffed with part time human resources while retaining the prior responsibilities in their respective departments. It is voluntary for the different functional areas to participate in the team's work, but the departments must in principle follow team decisions. A department with a high purchasing budget in a given commodity group or project or specific knowledge of the commodity area in question is responsible for properly performing teams and team based sourcing decisions. The cross-functional teams for construction projects are staffed with permanent resources for a specific period. The teams are authorized to decide on their commodity sourcing strategies, tender process, agreements with suppliers, and the implementation. Most commonly, the teams have five to ten members. It is the responsibility of the project leader to staff the team with sufficient members.

4.2 Within case analysis

Team 1 – printers and copiers

During the sourcing project of the printers and copiers team, important developments were taking place in the organization that the team had to take into account, such as relocation, downsizing of the organization, a new way of working (time and place independent work) and greater flexibility and digitization of the

workplace (such as working with tablets). These developments resulted in the need for less office space and fewer printers and copiers as well as ICT facilities, and an ICT arrangement that supports flexible working. In an open-office design, the use of printers that perform optimally in terms of, for example, factors such as environmental noise and emissions, is more important. One team member noted,

“The most important development was basically: we do not know what we are going to market at all, because there will be fewer printers and more tablets, and we are moving to a new office concept. Yes, it really means that we do not know exactly what we should ask the market either.”

In the printers and copiers team, a key element for the successful completion of the sourcing project was that team members were given enough time from their department heads. In addition to their work in the team, the team members had obligations in their own departments. Sometimes, this caused problems with planning of the team, as one team member suggested,

“Schedules are a very important point; people should have enough time and their managers should let them have enough time.”

Moreover, the internal stakeholders played a role in the printers and copiers team. Several stakeholders in the organization had to be involved in the sourcing process: the various functional department heads, colleagues in the various departments and other stakeholders in the organization. Frequently communicating with stakeholders and keeping them well informed of the sourcing process ensured that there was no resistance and no disagreements with stakeholders arose to adversely affect the team’s work:

“There are also communications outside the team: the communication to and from the stakeholders. This also has an impact on the result. With proper environment management, you keep your team free of disturbances. By designing your environment management well, the environment will not be surprised, allowing the team to continue. It has had no negative impact.”

Apparently, internal stakeholders constitute a moderating impact on the relationship between communication and team effectiveness. The effectiveness of taskwork communication was improved by informing and communicating with stakeholders.

The organization has formulated several goals in the outline agreement. Sustainability and the environment are a key objective of the organization. Contributing to the achievement of the organizational goals is one of the tasks of the teams. Sustainability is included in the selection of suppliers in the printers and copiers team. This has resulted in a sustainable product, as a team member remarked:

“We have sustainable printers that are made from recycled material and we have a certificate with which we contribute to sustainability initiatives in Africa.”

Regarding the sourcing processes of a public organization, the Public Procurement law plays a major role. Above a certain purchasing expenditure, a European tender is required. In addition, the procurement procedure has to comply with the procurement rules at all times. The printers and copiers team has followed a new procurement methodology for the European public procurement printers and copiers, which is defined as best value procurement (BVP). Best value procurement is a procurement method that has as few technical requirements as possible, and which requires a detailed description of the scope and budget. BVP allows the distinctive character of the suppliers to be addressed better, the expert to be recognized, a different approach to collaboration with the supplier to be taken and the risks to be reduced. As such, it has provided an extra motivation to have the sourcing project of printers and copiers succeed. This was evident from one team member’s comment,

“I think this was our first BVP tender and you want it to succeed, of course. You want it to have a good result and you want to go the occasional extra mile.”

It appears that the introduction of BVP as a new purchasing procedure had a positive moderating effect on the relationship between motivation and team effectiveness. The impact of motivation was improved by the adoption of BVP.

In the printers and copiers team, the entry of new-comers to the team or the leaving of a team member had a negative effect on task cohesion. Also, membership dynamics were negatively related to task cohesion. We found a positive relationship between intensive task and knowledge interdependence and internal task work communication. High interdependence caused more task related communication. Although, the task and knowledge interdependence had no direct effect on cross-

functional sourcing team effectiveness, task and knowledge interdependence have positively influenced the general outcomes of sourcing team effectiveness via communication by creating a better understanding in certain areas of knowledge. It also became clear that task work communication had a positive effect on task cohesion but the opposite effect of task cohesion on task work communication was not found. In contrast, a positive impact of interpersonal cohesion on interpersonal communication was discovered. Organizational and environmental characteristics directly support a number of positive or negative cross-functional sourcing outcomes. The organizational developments like relocation, downsizing of the organization, time and place independent work, and digitization had a direct effect on specific sourcing team effectiveness. It partially determined the quality and quantity of printers and copiers. A printing policy and organizational goals such as sustainability also directly impacted the effectiveness of sourcing teams, as the organization now has sustainable printers and a different quality of printers and copiers. A serious constraint limiting a cross-functional sourcing team's performance is a lack of time available for team assignments. Time availability had a negative effect on team time management, but it had not negatively influenced general sourcing team effectiveness, such as target and performance expectations, because the designated project leader has paid much attention to the coordination and the planning of team activities as well as team member engagement.

Team 2 – road construction

Generally, the road construction team has experienced considerable influence from the environment outside the organization. The spatial procedures for acquiring and expropriating land in the area where roads have had to be constructed have provided limitations. For approval of the acquisition and expropriation of land, a zoning plan had to be changed and a reference design had to be drawn up at an early stage. Consequently, the planning and land acquisition frameworks were already far advanced at the beginning of the sourcing process, which meant that there was not enough space for contractors to develop innovative solutions. In the words of one team member:

“The spatial planning and land acquisition has had an impact on what you could ask for. For such an expropriation, the need is also tested, which means you cannot say ‘we have actually taken 4 extra meters’, so the contractor is more likely to think of something nice”.

At the same time, the influence of internal stakeholders on the team performance of the road construction team was rather large. The project was complex and extensive as the entire organization had many interests. Especially departments with much technical knowledge had a significant impact on the team’s results, as one team member claimed:

“Stakeholders had a great influence. They were sometimes decisive, because, for example, this process also included a movable bridge. The DBI department is our specialist in this area and it had a fair amount of input, which was decisive for the tendering process.”

In addition, external stakeholders have had much influence on the team's performance as well. In the area where the construction project was to take place, there were many divergent interests. The various external stakeholders had to be involved in the project closely, as the road also crossed their territory. Rijkswaterstaat, for example, was an important stakeholder due to the connection of the road to the A12 and A20. ProRail was an important stakeholder as well, as there is a rail connection where the road is being constructed. The municipalities were an important stakeholder due to the land acquisition and land expropriation of their inhabitants.

Furthermore, unlike the printing and copiers team, the road construction team has incorporated sustainability into the sourcing process only to a limited extent. The sustainability criteria of the government to which the Province of South Holland has committed itself and the CO2 performance ladder are included as requirements in the tender. A team member explained:

“Sustainability did play a role, but it was limited. The policy was only following the principles of the sustainability criteria of PIANO”.

The road construction team has undergone a competitive dialogue within the European tender. A competitive dialogue starts with a question for which no (clear) solution is known. Based on solutions that the contractors bring, a dialogue is

conducted with the team that can lead to optimization of supply and demand. However, the competitive dialogue procedure has not resulted in open and free discussions with contractors to achieve the best solution possible. On the one hand, the accurately described reference design has given little freedom to contractors and, on the other hand, the strict conditions for conducting a competitive dialogue were a limiting factor. The reason for going through a competitive dialogue was a solution for avoiding traffic problems, the soil conditions and the integration of a movable bridge near an aquaduct. Unfortunately, the team and organization had no experience with conducting a competitive dialogue:

“I think we had too little experience with the competitive dialogue instrument. We found it very difficult to enter into the dialogue with the market. You could not talk freely. For example, you cannot say you like an idea. This made the conversations forced.”

In a similar road construction project in the Province of North Holland, a lawsuit with a contractor was pursued just before the start of the sourcing process for the parallel structure A12. Delays due to legal proceedings would have been disastrous for the project of the road construction team. The fear of legal objections influenced the choices made on behalf of the procurement process and one has strongly relied on the advice of external lawyers. Much time and energy was invested in protecting the project against legal proceedings. The law and regulation were able to exert influence in this way.

In the road construction team, the personnel policy has affected the team composition and indirectly the team result. The team was required to take in a reassignment candidate from the mobility center of the organization. This reassignment candidate was given the job of project assistant, but they lacked the necessary knowledge, skills, attitude and behavior. As a result, the team collaboration was jeopardized. As one team member observed:

“It makes the team wonder how to handle a person like that and have one function properly. That has a big impact. You want someone who fits seamlessly into the team and who can work on normal tasks.”

The membership change in the road construction team had a positive effect on task cohesion and interpersonal cohesion. Generally, high membership dynamics have a negative impact on task cohesion. Sequential and reciprocal task and knowledge interdependence appear to have no direct relationship with general sourcing team effectiveness, but there is an indirect effect through communication (positive or negative). A positive relationship exists between task work communication and task cohesion, but the effect might also be negative in case of improper communication. In this team, no effect was found of task cohesion on communication. However, we did find a positive impact of interpersonal cohesion on interpersonal communication. Moreover, there is no doubt that the organizational and environmental factors influence effective teamwork. Some factors had a direct influence on specific aspects of sourcing team effectiveness, such as spatial planning and land acquisition, as well as sustainability and stakeholders inside and outside the organization. In addition, team facilities, such as sharing the same office, were positively related to communication, which affects general sourcing team effectiveness. The purchase procedure appeared to be a (negative) moderator of the relationship between communication and specific sourcing team effectiveness. Also law and regulation had a negative moderating effect on the relationship between time management and general sourcing team effectiveness. Finally, staff policy had a direct influence on team composition, which was negative.

Team 3 – cycle paths

Due to the short period of four years of the Executive Council's term of the Province of South Holland, the cycle paths team became a temporary team, as during the next council's term, one could assume that no funding would be available for cycle paths. Because of the uncertainty of the continuity of the project, it was difficult to find team members for the entire project duration. Partly due to this reason, much use was made of external hiring. Moreover, the cycle paths mentioned team facilities as having a positive effect on communication. One team member stated that working together in close proximity has improved communications. Environmental factors played a strong role in the cycle paths team. These factors influenced the cycle paths' locations as well as the costs:

“One then further zooms in on the cycle path route. What cables and pipes are there? Are we dealing with culture? Are there any archaeological things? Are there bombs? Is it in nature?”

Moreover, according to the cycle paths team, the 2001 construction fraud affected the regulation. The internal regulations and mandating in the organization has been tightened enormously and a culture of fear is now present. As a result, the process of constructing a cycle path was formerly described in detail in the tender documents. There is thus no room for innovation or ideas from the side of the supplier. This team, however, wanted to approach it differently. But, it was a difficult process to convince those involved in the organization to agree with the new approach.

The cycle paths team has experienced a negative influence from the organization’s subsidy unit in particular. In case of collaboration with partners, subsidies had to be taken care of. This process was very rigid and slow. As one team member claimed,

“Previously, we did it in 1 to 3 weeks, but now it took more like 6 months”

Furthermore, many external stakeholders had an influence on the actions and results of the team. Support from water authorities and municipalities is required for the construction of cycle paths. A cycle path often runs through a municipality or on the dikes of the water authorities. Making the external stakeholders ready for a cycle path is not always easy.

Generally, the cycle paths team has not taken into account sustainability and environmental goals. At the start of the sourcing process of cycle paths, the organization had not set sustainability and environmental goals yet. The goal from the outline agreement of the organization that has played a role in the cycle paths team is the realization of 160km of cycle paths. At the same time, the cycle paths team experienced problems with the organization’s labor capacity. The organization had decided that many cycle paths were to be realized in South Holland in a short amount of time. This proved not to match with the current work capacity, making the team largely dependent on external hiring and outsourcing. The outsourcing of some activities made the team assignment less attractive to some employees. One team member claimed:

“At some point, there were many problems with regard to the fact that they conducted an administrative unit. We can do it no longer ourselves. Yes, and that image makes it difficult”.

In the cycle paths team, conflicting opinions existed about the influence of membership change on task cohesion. It appears to depend on the reason of membership change whether the effect on task cohesion is positive or negative. Membership dynamics had a negative effect on task cohesion.

Conversely, task and knowledge interdependence has positively influenced the general outcomes of sourcing team effectiveness via task work communication. It thus became obvious that task work communication had a positive effect on task cohesion. Also, a positive impact of interpersonal cohesion on interpersonal communication has been revealed. Certain organizational and environmental characteristics relate directly to specific sourcing team effectiveness. In the cycle paths team, environmental factors, such as land acquisition, land expropriation, nature, and cables and pipes, and external stakeholders, had the greatest impact. Furthermore, organizational resource availability, in this case working close to each other, plays an important role in positively affecting the relationship between communication and general sourcing team effectiveness. Organizational developments, including new executive council and budget cuts, have had a direct negative effect on team composition. Similarly, organizational goals related negatively to team composition and membership change. Internal stakeholder appeared to be a negative moderator of the effect between time management and general sourcing team effectiveness, while law and regulation had a negative moderating effect on the relationship between motivation and the output of team satisfaction.

4.3 Cross case analysis

This section discusses a comparative analysis of team factors and characteristics most critical for cross-functional sourcing team effectiveness. Table 2 provides insight into organizational and environmental, team and individual input and team processes characteristics. The linkage between cross-functional sourcing team effectiveness and organizational and environmental factors and characteristics is an

important finding. Organizational developments have a negative impact on specific sourcing team effectiveness. Members in the printers and copiers team explained that the tendering process was complicated by the relocation, downsizing of the organization, time and place of independent work, and digitization of the workplace. This resulted in the use of a new procurement methodology and a different approach to collaboration with the supplier. Organizational developments also had a negative impact on team composition. The cycle paths team, for one, was a temporary team, as a newly elected executive council could decide to cut budgets on cycle paths.

Furthermore, organizational resource availability has had no direct influence on the general team effectiveness, but a positive indirect effect through communication and a negative effect through time management. The amount of time available to commit to the team assignment was mentioned as an organizational resource in team printers and copiers. The members of the printers and copiers team also had responsibilities in their functional department besides their team assignments. As such, team members with a lack of time to pursue a team assignment caused planning and time problems. Also, in the road construction and cycle paths teams, sharing the same office was indicated as a way of improving communication frequency and type (more open and personal). Moreover, external environmental factors had a negative impact on specific cross-functional sourcing team effectiveness. The advanced spatial planning, land acquisition and land expropriation frameworks in team road construction and cycle paths prevented new ideas and innovation.

The internal stakeholders had a moderating effect on the relationship between communication and general sourcing team effectiveness and the relationship between time management and general sourcing team effectiveness. In the printers and copiers team, the internal stakeholders did not negatively influence teamwork, as this team spent much time on communicating with internal stakeholders. Arranging subsidies by the unit subsidy took very long, which jeopardized the project planning in the cycle paths team and negatively influenced their teamwork. Internal stakeholders can have a negative impact on specific sourcing team effectiveness under certain circumstances. The technical department of team road construction was decisive in designing a particular bridge, which made innovation of

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the bridge impossible. External stakeholders have similarly had a negative impact on specific sourcing team effectiveness. Municipalities, water authorities and Rijkswaterstaat prevented innovation due to their specific requirements.

Table 2: Meta-matrix - characteristics influencing sourcing team effectiveness

	Characteristics	Team printers and copiers	Team road construction	Team cycle paths	Impact
Organizational and environmental context	Organizational developments	<u>(-) Relocation, new open office concept, tablet use (D)</u>		<u>(-) New executive council, budget cuts (D → team composition)</u>	Medium (negative)
	Organizational resource availability	<u>(-) Availability of time (SI → time management)</u>	<u>(+) Working in the same space (SI → communication)</u>	<u>(+) Working close to each other (SI → communication)</u>	Mixed (mostly positive)
	Environmental factors		<u>(-) Spatial planning and land acquisition (D)</u>	<u>(-) Land acquisition, land expropriation, cables and pipes, nature (D)</u>	High (negative)
	Internal stakeholders	<u>(+) functional department managers and colleagues (SM → communication)</u>	<u>(-) Functional department DBI (D)</u>	<u>(-) Subsidy unit (SM → time management)</u>	Mixed (mostly negative)
	External stakeholders		<u>(-) Municipalities, Rijkswaterstaat, water authorities (D)</u>	<u>(-) Municipalities, water authorities (D)</u>	High (negative)
	Organization goals	<u>(+) Sustainability, environment (D)</u>	<u>(+) Sustainability, environment (D)</u>	<u>(-) 160 km cycle paths in short time (D → team composition, membership change)</u>	Mixed (mostly positive)
	Purchase procedure	<u>(+) New purchase method BVP (SM → motivation)</u>	<u>(-) Purchase method competitive dialogue (SM → communication)</u>		Medium (mostly positive)

	Law and regulation		<u>(-) Protect against appeal procedures (SM → time management)</u>	<u>(-) Legal rules (SM → motivation)</u>	Medium (mostly negative)
	Policy	<u>(+) Printing policy (D)</u>	(-) Staff policy (D → team composition)		Medium (mixed)
Team and individual involvement context	Interdependence	<u>(+) Intensive task and knowledge interdependence (SI → taskwork communication)</u>	<u>(+) Sequential and reciprocal task and knowledge interdependence (SI → taskwork communication)</u>	(+) Intensive, pooled and reciprocal task and knowledge interdependence (SI → taskwork communication)	High (positive)
	Membership change	<u>(-) Retirement, holiday (D → task cohesion)</u>	<u>(+) Other skills and knowledge, malfunctioning (D → task and interpersonal cohesion)</u>	<u>(x) Holiday, poor chemistry, joining other projects</u>	Medium (mixed)
	Membership dynamics	<u>(-) Dynamic use and roles of team members, (D → task cohesion)</u>	(-) Dynamic use and roles of team members, (D → task cohesion)	<u>(-) Dynamic use and roles of team members, (D → task cohesion)</u>	High (negative)
Team processes and emergent states	Communication	(+) taskwork communication frequency, (D → task cohesion)	(+) taskwork communication frequency, (D → task cohesion)	<u>(+) good taskwork communication, (D → task cohesion)</u>	High (positive_)
	Cohesion	<u>(+) Interpersonal cohesion, (D → communication type/frequency)</u>	(+) Interpersonal cohesion, (D → communication type/frequency)	(+) Interpersonal cohesion, (D → communication type)	High (positive)

(+) = positive effect, (-) = negative effect, underlined text refer to claim made strongly by one person, or by more than one respondent, (x) presence of dissenting or conflicting opinions, (D) = Direct effect, (S) = Side effect, (SM) = Side effect Moderating, (SI) = Side effects Intervening. High impact = claimed by several teams and respondents. Moderate impact = claimed by several respondents in a team. Low impact = claimed by one respondent
 Source: Authors' own elaboration.

The goals of the organization positively influenced specific sourcing team effectiveness. All teams had to take into account sustainability and environment. These goals had a positive impact on the quality of the products. Team cycle paths, for instance, had to reach the goal of 160km cycle paths in a short period. This organizational goal directly influenced team composition and membership change. The purchase procedure positively influenced the relationship between motivation and general cross-functional sourcing team effectiveness and negatively influenced the relationship between communication and general sourcing team effectiveness. The new purchase method BVP in the printers and copiers team had a positive influence on motivation and team effectiveness, while “competitive dialogue” in the road construction team had a negative influence on communication and sourcing team effectiveness due to the strict conditions for conducting a competitive dialogue.

Law and regulation had a negative moderating effect on the relationship between time management and general sourcing team effectiveness and a negative moderator effect on the relationship between motivation and team satisfaction outcome. Internal regulations limited the opportunities for new ideas and innovation. Team members lacked motivation due to rules and regulations. Similarly, team road construction communicated to suppliers more than necessary because of the fear of legal objections. Policy had a positive impact on specific sourcing team effectiveness and a direct negative impact on team composition. Team printers and copiers have a different quality of printers and copiers due to the printing policy, while the cycle paths team was obliged to take in a reassignment candidate from the mobility center. No moderating effect of organizational and environmental factors was found between interdependence and sourcing team effectiveness. In all teams, task and knowledge interdependence has positively influenced the general outputs of sourcing team effectiveness via task work communication. More communication was needed due to the task and knowledge interdependence. In all teams, membership dynamics demonstrated less committed team members. Membership dynamics appears to have a negative impact on task cohesion.

We found a relationship between task work communication and task cohesion in all teams. The more communication about tasks and goals, the more task cohesion arose about a shared and clear understanding of a team’s purpose and tasks.

Interpersonal cohesion appeared to be related to communication type in all teams, and also to communication frequency in team printers and copiers and team road construction. Teams with greater interpersonal cohesiveness indicated more personal and open communication and greater informal frequency of within team communication. Task work communication has had a positive impact on task cohesion, and interpersonal cohesion had a positive impact on interpersonal communication, while task cohesion had no impact on team communication.

5. Conclusions, discussion and recommendations

5.1 Conclusions

We investigated the impact of team characteristics on the effectiveness of cross-functional sourcing teams. The results indicate that factors in the organizational and environmental context are important characteristics with an impact on sourcing team effectiveness. One important conclusion can be drawn: there is not one effect of the characteristics in the context that is beneficial or detrimental for all teams' effectiveness. The findings indicate that organizational developments, environmental factors, internal and external stakeholders, goals and policy are all important with a direct impact on sourcing team effectiveness (in a negative or positive way). Some contextual factors also directly influenced input factors like team composition or membership change.

Organizational and environmental factors had a negative or positive effect on the interaction between a mediating process and general sourcing team effectiveness. It can be concluded that the environment of the teams is complex and that the teams have a unique nature. Although situated in the same environment, teams had some clear differences with regard to environmental and organizational characteristics because of their varying sourcing team assignments and types of sourcing products. The analysis revealed that membership change can have a negative or positive impact on team effectiveness. Another conclusion is that replacing a malfunctioning team member increases task and interpersonal cohesion. The temporary absence or permanent leave of a team member with good skills and

knowledge is seen as a shortcoming to a team. Also, a replacement can lower task cohesion. Furthermore, a strong negative relationship between membership dynamics and task cohesion exists in all teams. Thus it can be concluded that a stable team with no changes in roles and membership during the entire sourcing project will benefit from enhanced task cohesion.

Interestingly, though communication and team cohesion were very important, no mutual effect between two constructs were found. Teams with a stronger attractive force and enthusiastic team members communicated more openly and more often, while teams with much task related communication created a strong common interest and commitment to achieve joint goals.

5.2 Discussion

Teams have a multilevel nature in which members are part of a team, teams are part of an organization and an organization exists within a wider environment. Contextual characteristics of a team can inhibit or facilitate a good team performance (Kozlowski, Bell 2003, Mathieu et al. 2008, Meschnig, Kaufmann 2015). The empirical findings confirm that contextual and environmental factors are important determinants of team effectiveness. Many previous studies addressed the importance of context on team effectiveness. However, evidence of organizational and environmental factors in the context of a team is often neglected (Kozlowski, Bell 2003, Mathieu et al. 2008). Most research concerning context has been based on organizational factors (factors that are external to team but internal to the organization), including rewards, supervision, training and resources, have been studied the most. Characteristics of the external environment in which the organization is embedded have hardly been studied (Denison et al. 1996, Mathieu et al. 2008).

A positive indirect relationship was found between office space as organizational resource availability and team effectiveness through communication. A negative indirect relationship exists between time availability as organizational resource availability and team effectiveness through time management. Trent and Monczka (1994) found a strong relationship between organizational resource availability and cross-functional sourcing team effectiveness. Similarly, teams with

access to a work environment achieved high levels of team effectiveness. One of the least correlated resources was time availability. This is in accordance with the findings in this study, as time availability was not indicated as highly significant. Moreover, Holland et al. (2000) state that a larger distance between offices decreases communication between people. Similarly, the results in this study also confirmed the influence of office space on communication.

According to Kozlowski and Ilgen (2006) organizational or environmental characteristics have an influence on the development of team mood and emotions. The empirical results demonstrated that purchase procedure and law and regulation moderate the relation between motivation and general sourcing team effectiveness. Purchase procedure also had a negative moderating effect on the relationship between communication and sourcing team effectiveness. Kaufmann et al. (2014) suggested that too much focus on rational procedures in sourcing team decision-making can limit effectiveness. Team processes impact team effectiveness and this relationship can be influenced by contextual circumstances. Several contextual factors had an impact on the relation between task work communication as team process and sourcing team effectiveness. The findings of this study are in line with Ancona (1990). Although several relationships were found between the context and team inputs, team processes and team effectiveness in this study, no relationship was found between context and task interdependence, as suggested by Kozlowski and Bell (2003).

Our framework was based on the IMO model (Ilgen et al. 2005), which indicates the cyclical and nonlinear linkages between variables. Our study showed mixed results on the relationship between membership change and task cohesion, due to the knowledge, skills and ability of the new or replaced team member. Summers et al. (2012) suggest that the impact of membership change depended on the competencies of leavers and new-comers. Mathieu et al. (2008) posit that empirical research on membership dynamics are rare. Membership dynamics in this study appeared to have a negative relationship with task cohesion. The most significant contribution of this study comes from the investigation of complex and various relationships among the team effectiveness indicators and characteristics about the context in or outside the organization, which gives support to the view of

the importance of the context of teams. Moreover, in-depth insights have been provided for the nonlinear relationships between variables and the direction of relationships between processes and emergent states, whereas previous studies have not investigated these relationships.

5.3 Recommendations

The specific environmental and organizational team context are important. Therefore, it is advisable to start with an analysis of the environment to gain valuable insights into environmental factors, risks, strengths, weaknesses, opportunities and threats to the team. This approach could contribute to a better understanding of the environment and a better preparation to deal with environmental factors and risks. A stakeholder analysis can be useful in order to prevent a negative impact of stakeholders on a team's assignment. Consequently, it is pivotal to make all stakeholders understand the importance of the team and its purpose and priorities. Similarly, teams should spend time communicating with stakeholders to understand their needs and what outcomes they expect from the team (Driedonks et al. 2014). Communication steps with stakeholders should be planned as carefully as any other part of the sourcing project (Kaufmann, Gaeckler 2015). Furthermore, teams should also determine if there are procedural, organizational, environmental or juridical limits that have to be taken into account. For example, are there time or office space limitations that have to be considered? Are there some procedural or juridical constraints that have been deemed undesirable by the team?

Putting team members together during sourcing project on a regular basis strengthens communication and breaks down barriers. A lack of time available to team activities is a serious obstacle to team effectiveness. Team managers and supervisors in the functional department should create additional time for team activities and reduce time spent on other job activities. Another important point is to identify key interdependencies in the team. In a cross-functional sourcing team, team members have heterogeneous skills, knowledge, backgrounds and experiences. A team should know the sequential or reciprocal task steps and should make agreements on how and when to communicate about the tasks before the sourcing project starts.

Future research could apply a wider variety of indicators and use more objective measures. In this study, the findings were based on available data and events in the past. In one team, respondents had difficulty reflecting on situations because they occurred a while ago. In addition, this study relied on a sample of one public organization. Hence, to increase external validity, future research could take multiple public organizations and multiple sources of data into account. Longitudinal research could further test causality. Similarly, another interesting avenue for future research is the comparison of public and private organizations, in particular with regard to the external environment. In this study, the internal and external context of a team played a crucial role. Future research could focus on potential contextual factors, such as economy or market characteristics (Meschnig, Kaufmann 2015). This study confirms the dynamic nature of participation of team members. Studying team characteristics like membership dynamics and cohesion over time in teams may be a prospect for future research. Finally, it might be interesting to pay attention to the differences in team assignments.

References

- Ancona D.G. (1990), Outward bound: Strategies for team survival in an organization, "Academy of Management Journal", vol. 33 no. 2, pp. 334-365.
- Arlbjørn J.S., Freytag P.V. (2012), Public procurement vs private purchasing: Is there any foundation for comparing and learning across the sectors?, "International Journal of Public Sector Management", vol. 25 no. 3, pp. 203-220.
- Athanasaw Y.A. (2003), Team characteristics and team member knowledge, skills, and ability relationships to the effectiveness of cross-functional teams in the public sector, "International Journal of Public Administration", vol. 26 nos. 10/11, pp. 1165-1203.
- Cohen S.G., Bailey, D.E. (1997), What makes teams work: group effectiveness research from the shop floor to the executive suite, "Journal of management", vol. 23 no. 3, pp. 239-290.
- Coun M.J.H., Gelderman C.J., Pérez Arendsen J. (2015), Gedeeld leiderschap en proactiviteit in Het Nieuwe Werken (Shared leadership and proactivity in the New Ways of Working), *Gedrag en Organisatie*, vol. 28 no 4, pp. 356-379.
- Denison D.R., Hart S.L., Kahn J. A. (1996), From chimneys to cross-functional teams: Developing and validating a diagnostic model, "Academy of Management Journal", vol. 39 no. 4, pp. 1005-1023.
- Driedonks B.A., Gevers J.M., Van Weele A.J. (2010), Managing sourcing team effectiveness: The need for a team perspective in purchasing organizations, "Journal of Purchasing and Supply Management", vol. 16 no. 2, pp. 109-117.
- Driedonks B.A., Gevers J.M., Van Weele A.J. (2014), Success factors for sourcing teams: How to foster sourcing team effectiveness, "European Management Journal", vol. 32 no. 2, pp. 288-304.
- Englyst L., Jørgensen F., Johansen J., Mikkelsen O.S. (2008), Commodity team motivation and performance, "Journal of Purchasing and Supply Management", vol. 14 no. 1, pp. 15-27.
- Enz M.G., Lambert D.M. (2012), Using cross-functional, cross-firm teams to co-create value: The role of financial measures, "Industrial Marketing Management", vol. 41 no. 3, pp. 495-507.
- Erridge A., Greer J. (2002), Partnerships and public procurement: building social capital through supply relations, "Public Administration", vol. 80 no. 3, pp. 503-522.
- Erridge A., McIlroy J. (2002), Public procurement and supply management strategies, "Public Policy and Administration", vol. 17 no. 1, pp. 52-71.
- Erridge A. (2007), Public procurement, public value and the Northern Ireland unemployment pilot project, "Public Administration", vol. 85 no. 4, pp. 1023-1043.
- Gelderman C.J., Semeijn J., Vluggen R. (2017), Development of sustainability in public sector procurement, "Public Money & Management", vol. 37 no. 4, pp. 435-442.
- Gelderman C.J., Albronda B.J. (2017), *Professioneel inkopen (Professional purchasing)*, 5th edition, Noordhoff Uitgevers, Groningen, The Netherlands.

Gevers J.M., Driedonks B.A., Jelinek M., Van Weele A.J. (2015), Functional diversity appropriateness: Members' and managers' differential perceptions, "Journal of Managerial Psychology", vol. 30 no. 6, pp. 709-725.

Giunipero L.C., Vogt J.F. (1997), Empowering the purchasing function: moving to team decisions, "International Journal of Purchasing and Materials Management", vol. 33 no. 4, pp. 8-15.

Glock C.H., Hochrein, S. (2011), Purchasing Organization and Design: a literature review, "BuR-Business Research", vol. 4 no. 2, pp. 149-191.

Harland C., Telgen J., Callender G. (2013), International Research Study of Public Procurement, in: The Sage Handbook of Strategic Supply Management, ed. Harland C., Nassimbeni G., Schneller E., Sage Publications Inc. , Thousand Oaks, CA, pp. 374-401.

Holland S., Gaston K., Gomes J. (2000), Critical success factors for cross-functional teamwork in new product development, "International Journal of Management Reviews", vol. 2 no. 3, pp. 231-259.

Ilgen D.R., Hollenbeck J.R., Johnson M., Jundt D. (2005), Teams in organizations: From input-process-output models to IMOI models, "Annual Review of Psychology", vol. 56, pp. 517-543.

Johnson P.F., Klassen R.D., Leenders M.R., Fearon H.E. (2002), Determinants of purchasing team usage in the supply chain, "Journal of Operations Management", vol. 20 no. 1, pp. 77-89.

Johnson P.F., Leenders M.R., McCue C. (2003), A comparison of purchasing's organizational roles and responsibilities in the public and private sector, "Journal of Public Procurement", vol. 3 no. 1, pp. 57-74.

Kaufmann L., Gaeckler J. (2015), On the relationship between purchasing integration and purchasing decision-making speed, "International Journal of Physical Distribution & Logistics Management", vol. 45 no. 3, pp. 214-236.

Kaufmann L., Meschnig G., Reimann F. (2014), Rational and intuitive decision-making in sourcing teams: Effects on decision outcomes, "Journal of Purchasing and Supply Management", vol. 20 No. 2, pp. 104-112.

Kaufmann L. Wagners C.M. (2017), Affective diversity and emotional intelligence in cross-functional sourcing teams, "Journal of Purchasing & Supply Management", vol. 23 no. 1, pp. 5-16.

Kozlowski S.W.J, Bell B. S. (2003), Work groups and teams in organizations. In: Handbook of psychology (vol. 12): Industrial and Organizational Psychology , ed. Borman W.C., Ilgen D.R., Klimoski R.J. Wiley, New York, pp. 333-375.

Kozlowski S.W.J., Ilgen D.R. (2006), Enhancing the effectiveness of work groups and teams, "Psychological science in the public interest", vol. 7 no. 3, pp. 77-124.

Leenders M., Johnson P.F., Flynn A., Fearon, H.E. (2005), Purchasing and Supply Management, 13th edition, McGraw-Hill, Chicago.

Leibold M., Probst G.J., Gibbert M. (2007), Strategic management in the knowledge economy: New approaches and business applications, John Wiley, New York.

THE EFFECTIVENESS OF CROSS-FUNCTIONAL SOURCING TEAMS ...

Luzzini D., Brandon-Jones E., Brandon-Jones A., Spina G. (2015), From sustainability commitment to performance: The role of intra-and inter-firm collaborative capabilities in the upstream supply chain, "International Journal of Production Economics", vol. 165, pp. 51-63.

Mathieu J., Maynard M.T., Rapp T., Gilson L. (2008), Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future, "Journal of Management", vol. 34 no. 3, pp. 410-476.

McCue C., Gianakis G. (2001), Public purchasing: Who's minding the store?, "Journal of Public Procurement", vol. 1 no. 1, pp. 71-95.

Meschnig G., Kaufmann L. (2015), Consensus on supplier selection objectives in cross-functional sourcing teams. Antecedents and outcomes, "International Journal of Physical Distribution & Logistics Management", vol. 45 no. 8, pp. 774-793.

Miles M.B., Huberman A.M. (2014). Qualitative data analysis: An expanded sourcebook, 3rd edition, Sage publications, Thousand Oaks, CA.

Monczka R.M., Trent R.J. (1993), Cross-functional sourcing team effectiveness, Center for Advanced Purchasing Studies, Tempe, AZ.

Moses A., Åhlström P. (2008), Problems in cross-functional sourcing decision processes, "Journal of Purchasing and Supply Management", vol. 14 no. 2, pp. 87-99.

Murray J.G. (2009), Improving the validity of public procurement research, "International Journal of Public Sector Management", vol. 22 no. 2, pp. 91-103.

Parker G.M. (2003), Cross-functional teams: working with allies, enemies, and other strangers, 2nd edition, Jossey-Bass, San Francisco.

Parris M.A., Vickers M.H. (2005), Working in teams: the influence of rhetoric - from densemaking to dadness, "Administrative Theory & Praxis", vol. 27 no. 2, pp. 277-300.

Pinto M.B., Pinto J.K. (1990), Project team communication and cross-functional cooperation in new program development, "Journal of Product Innovation Management", vol. 7 no. 3, pp. 200-212.

Reed T.S., Bowman D.E., Knipper M.E. (2005), The challenge of bringing industry best practices to public procurement: Strategic sourcing and commodity councils, in International public procurement conference; challenges in public procurement: an international perspective, PrAcademics Press, Boca Raton, pp. 271-289.

Roe R.A., Gockel C. Meyer B. (2012), Time and change in teams: Where we are and where we are moving, "European Journal of Work and Organizational Psychology", vol. 21 no. 5, pp. 629-656.

Saldaña J. (2012). The coding manual for qualitative researchers, 2nd edition, Sage Publications, London.

Schapper P.R., Malta J.V., Gilbert D.L. (2006), An analytical framework for the management and reform of public procurement, "Journal of public procurement", vol. 6 no. 1/2, pp. 1-26.

Summers J.K., Humphrey S.E., Ferris G.R. (2012), Team member change, flux in coordination, and performance: Effects of strategic core roles, information transfer, and cognitive ability, "Academy of Management Journal", vol. 55 no. 2, pp. 314-338.

Talluri S., Narasimhan R. (2004), A methodology for strategic sourcing, "European journal of Operational Research", vol. 154 no. 1, pp. 236-250.

Telgen J., Harland C., Knight L. (2007), "Public procurement in perspective" in Public procurement: international cases and commentary, ed. Knight L., Harland C., Telgen J., Thai K.V., Callener, G., McKen K., Routledge, Abingdon, United Kingdom, pp. 16-24.

Thai K.V. (2001), Public procurement re-examined, "Journal of Public Procurement", vol. 1 no. 1, pp. 9-50.

Trent R.J. (2003), Planning to use work teams effectively, "Team Performance Management", vol. 9 nos. 3/4, pp. 50-58.

Trent R.J., Monczka R.M. (1994), Effective cross-functional sourcing teams: Critical success factors, "International Journal of Purchasing and Materials Management", vol. 30 no. 3, pp. 2-11.

Trent R.J., Monczka R.M. (1998), Purchasing and supply management: trends and changes throughout the 1990s, "International Journal of Purchasing and Materials Management", vol. 34 no. 3, pp. 2-11.

Yin R.K. (2014), Case study research: design and methods, 5th edition, Sage publications, Thousand Oaks, CA.

Zheng J., Knight L., Harland C., Humby S., James K. (2007), An analysis of research into the future of purchasing and supply management, "Journal of Purchasing and Supply Management", vol. 13 no. 1, pp. 69-83.

Efektywność interfunkcyjnych zespołów sourcingowych – studium przypadku osadzone w wielkiej organizacji publicznej

Streszczenie

Cel: Zbadanie zależności pomiędzy cechami zespołów a ich oddziaływaniem na efektywność interfunkcyjnych zespołów sourcingowych w zielonych zamówieniach publicznych.

Metodyka badań: W pojedynczym studium przypadku przeanalizowano za pomocą analizy porównawczej trzy interfunkcyjne zespoły sourcingowe z różnych wydziałów i departamentów niderlandzkiej Prowincji Południowej Holandii.

Wnioski: W zespołach cechujących się większą spójnością interpersonalną miała miejsce bardziej osobista i otwarta komunikacja oraz lepsza nieformalna częstotliwość wewnątrzzespolowej komunikacji. Najwidoczniej, komunikacja związana z pracą zadaniową ma pozytywny wpływ na spójność zadania, zaś spójność interpersonalna ma pozytywny wpływ na komunikację interpersonalną. Stabilny zespół, w którym podział ról i członkostwo nie podlegają zmianom, zwykle wykazuje się silną spójnością zadaniową. Do zespołowej efektywności przyczyniają się przestrzeń biurowa służąca do regularnych spotkań oraz czas wyznaczony na aktywność zespołu.

Wartość artykułu: Podejmowanie decyzji o pozyskiwaniu kandydatów stanowi złożony proces, zwłaszcza w przypadku interfunkcyjnych zespołów sourcingowych złożonych z różnych przedstawicieli odmiennych dyscyplin, z rozbieżnymi poglądami, celami oraz priorytetami. Kilka badań poświęcono zespołom sourcingowym w sektorze publicznym. Niniejsze badanie zostało oparte na modelu Input-Mediation-Output-Input (IMOI), pozwalającym rozpoznać czynniki mediacyjne (procesy i nagłe stany), transformujące nakłady w wyniki (wejście na wyjście). Badanie przyczyniło się do obecnego rozumienia nieliniowych związków pomiędzy procesami i nagłymi stanami interfunkcyjnych zespołów w sektorze publicznym. Wyniki są użyteczne dla organizacji publicznych w odniesieniu do budowania bardziej efektywnych interfunkcyjnych zespołów sourcingowych.

Słowa kluczowe: interfunkcyjne zespoły sourcingowe, efektywność zespołu, zamówienia publiczne

JEL: M4

Risk assessment of unsecured loans – example of entering a new market

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Abstract:

Aim: The aim of the paper is to show the risk assessment of unsecured loans in theory and practice.

Design / Research methods: In the first part, the paper does literature review concerning the theory of unsecured loans and their risk assessment. In the second part, a case study discusses the risk assessment process as a practical application in the hypothetical case if a Swedish bank enters the German market.

Conclusions / findings: The risk assessment of unsecured loans is a standardized process where scoring models make a crucial contribution. The case study shows how difficult that process is in the event of cross-border activities, for example, a bank enters a new market in a new country.

Originality / value of the article: The paper contributes to existing literature on risk assessment by applying scoring models to the case of cross-border activities.

Keywords: unsecured loans, scoring models, risk assessment

JEL: G21

1. Introduction

Consumer credit granting banks are faced with a different kind of risk in their daily business. The most important one is the credit risk. Banks are obliged to assess each customer whether to grant the loan or not. Finlay (2008) gives a broader

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Received: 04-04-2017, Revised: 30-05-2017, Accepted: 15-06-2017

<http://dx.doi.org/10.29015/cerem.449>

overview of this field. Appraising the risk is possible by using credit scoring models. During the years, a plenty of approaches and classifications have been developed. Credit scoring can be classified according to the used algorithms, such as k-Nearest-neighbor classifiers, Bayesian network classifiers and linear programming (Baesens et al. 2003). The investigation of Baesens et al. (2003) has been updated by (Lessmann et al. 2015). They supplement the individual classifiers from the first research with homogeneous and heterogeneous ensembles. Appraising the credit risk by scoring models seems to be difficult in general as well as in the local area. A challenge is, apart from this, looking at cross-border activities. Schröder and Taeger (2014) contributed to this topic by comparing the credit reporting systems in Australia, Germany, France, UK and the US focused on credit scores. Concerning the European Union, for European credit institutions, it is important knowing the different credit reporting systems for transnational business because according to Ferretti (2015) new market entrants are faced with asymmetric information and adverse selection. Previous studies considered various aspects in that area. For example, Schröder and Taeger (2014) have shown an overview of different existing credit reporting systems in Europe and worldwide. Another study by Giannetti, Jentzsch, Spagnolo (2010) has demonstrated the effect of the existence of public and private credit registers on cross-border activities of banks. A method, which offers a scoring model for cross-border activities for foreign lenders is still missing in the literature.

In the light of cross-border activities, this article will shed new light on the case when a bank enters a new country. For simplicity reasons, the article shows the case of a Swedish bank, which embarks on Germany, which is the strongest commercial country of the EU. The questions, the bank is faced with is the available data quality to build a precise model and the establishment of a credit risk assessment process for their new customers.

The article is divided into four sections. The first section examines the definition of unsecured loans. It classifies credits in general and presents the main types of consumer loans distinguished by their collateralization. The section finishes with the definition of consumer loans in the context of this article. The second section begins by laying out the theoretical dimension of risk and shows the assessment of risk o

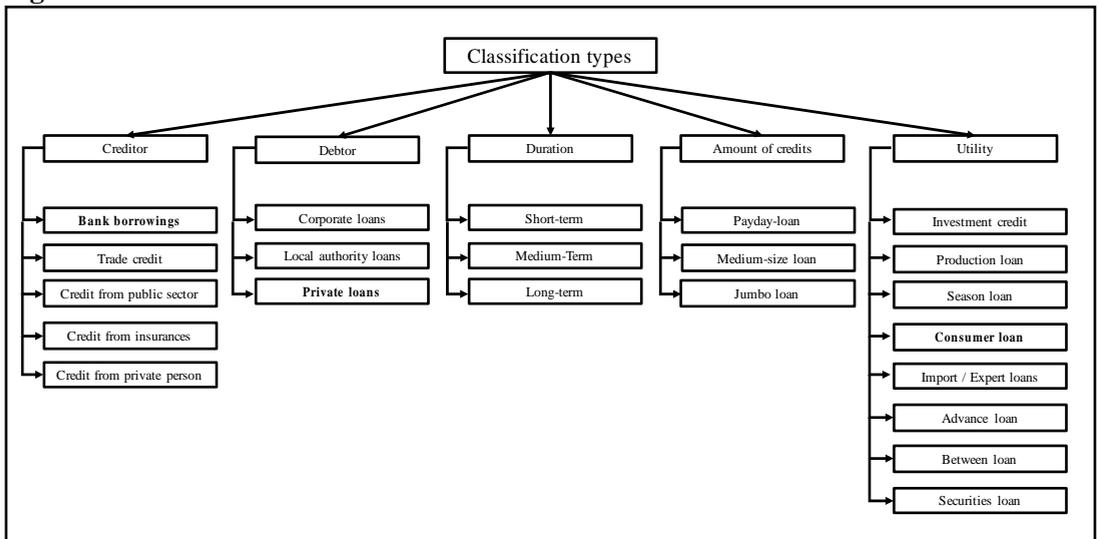
RISK ASSESSMENT OF UNSECURED LOANS

unsecured loans furthermore. Then, the third section is concerned with the scoring models of unsecured loans in general and analyses the differences in selected countries. The fourth part describes the case study. Finally, the conclusion summarizes the article and critiques the findings.

2. Unsecured loans

The selection of solution offered to private customers borrowing money from Banks is broad. Therefore, it is important to make a precise definition of unsecured loans and define them from other similar meanings. The overall standing designation for bank lending to private or corporate customers is credit. The meaning is borrowed from the Latin word *credere* and/or *creditum*, which express in general the trust of the lender in repayment of the credit by the debtor. This applies to both corporates and private customers. Credits, in general, can be classified as in Figure 1.

Figure 1. Credit classification



Source: Beyer et al. (1993: 9-10).

This overview does not explain the classification due to asset backing, secured or unsecured loans. There exist only vague explanations of the term consumer credit. One such definition was given by Kumar et al. (2009). They describe consumer credit as “Credit granted to consumers (...)”. Beyer et al. (1993) were more precise with their description. They describe consumer loans or consumer credits as loans to private persons for buying consumer goods. There exist further expressions, like consumer lending, consumer loan, etc.

Table. 1 Types of consumer credit

Type of collateralization	Type of credit	Type of repayment	More features
Unsecured	Unsecured (personal) loan	Amortizing	Restricted; fixed sum
	Retail credit	Amortizing	Restricted; fixed sum;
	Credit card	Amortizing or balloon	Restricted (purchase) and unrestricted (cash withdrawal); running account;
	Charge card	Balloon	Running account; restricted and unrestricted;
	Overdraft	Balloon	Running account; unrestricted
Secured	Repayment mortgage	Amortizing	Restricted; fixed sum; home as security
	Interest only mortgage; bullet loan	Balloon	Fixed sum, restricted secured on home
	Secured (personal) loan	Amortizing	Fixed sum, secured on home, car, etc.; unrestricted

Source: Finlay (2008)

The above-noted table classifies consumer credits regarding its collateralization. A loan or credit is unsecured if both parties do not arrange specific assets in the credit agreement, which the lender can take in the case of borrowers insolvency (Finlay 2008). In addition to Finlay (2008), Beyer et al. (1993) mention the wage assignment and the mid-term duration as other features of unsecured credits.

RISK ASSESSMENT OF UNSECURED LOANS

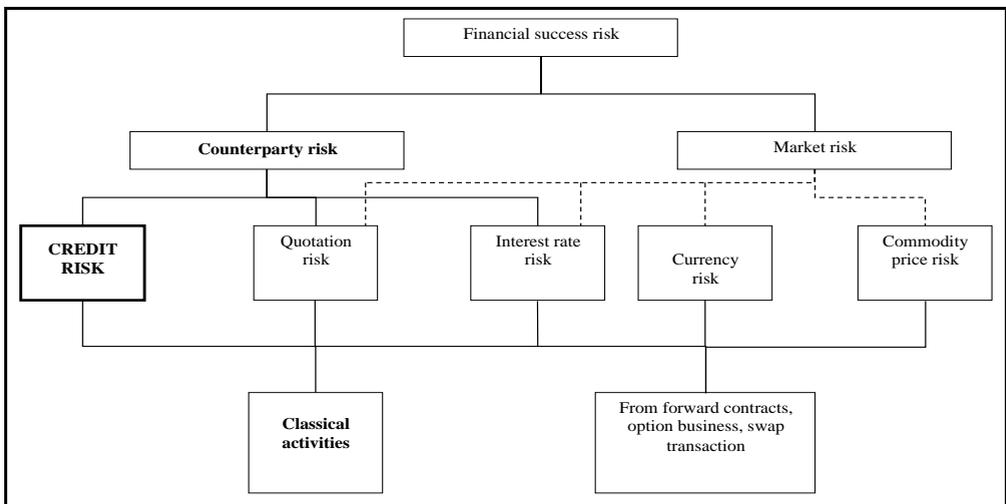
In the context of this article, an unsecured loan is an unrestricted mid-term credit to private customers as a fixed sum, an amortized repay and without securities agreements but with wage assignments.

3. Risk assessment of unsecured loans

The meaning of risk and uncertainty are close to each other, but they are slightly different. The first distinction was made by Knight (1964). He defines uncertainty as something immeasurable or uncountable. That means, the occurrence of a future event can not be predicted. Compared with this, by calculation of an expected value risk or a probability of occurrence, risk can be estimated (Horsch, Schulte 2010).

Banks are faced with different kinds of risks. Schierenbeck et al. (2008) distinguish and define six dichotomy conceptual pairs: 1. Financial risk vs. operational risk, 2. Transaction risk vs. position risk, 3. Performance risk vs. liquidity risk, 4. Counterparty risk vs. market risk, 5. Single business related vs. business structure related, 6. Unsystematic risk vs. systematic risk.

Figure 2. Credit classification



Source: Schierenbeck et al. (2008)

Figure 2 shows that the counterparty risk is a subclass of the financial success risk. Therefore, the counterparty risk plays an essential role in the field of unsecured loans in general and especially for those financial institutions which have only unsecured loans. As J. Holst (2001) points out, the counterparty risk occurs if one of the contract parties gets in trouble and as a consequence losses on the counterparty side will arise. Mäntysaari (2010) is more precise. He describes it as a risk that the debtor will not accomplish the payment commitments. Counterparty risks are usually credit risks (Schierenbeck et al. 2008). The credit risk expresses "...the volatility of the average expected credit loss and (...) the need for risk capital to be held..." (Lewis et al. 2000). The credit risk consists of the creditworthiness risk and the default risk. The latter describes the risk that one business partner becomes insolvent. The creditworthiness risk shows the hazard of credit deterioration during the duration of an unsecured loan (Schierenbeck et al. 2008), which concerns existing customers and has some influences in the behavioral scoring.

Before approving a new loan, credit institutions are obliged to judge customer's creditworthiness and their creditability. Creditability refers to the ability of the customer to conclude valid contracts (Horsch, Schulte 2010). Creditability expresses customer's legal capacity. Countries, which ratified the "Convention on the Rights of the Child," it is the age of eighteen (United Nations Human Rights Office of the high Commissioner 1990). Creditworthiness describes customer's ability, based on his income and his personal circumstances to pay back loans. A positive creditworthiness also expresses a positive donation of the customer to bank's profit whereas a negative creditworthiness means the bank would generate losses if they lend money to a customer (Finlay 2008). Sinclair (1994) could not complete the definition of Finlay as he wrote 14 years earlier "...Creditworthiness is a dynamic condition and the quality of the rating output immediately starts to deteriorate as new events occur which impact on the liquidity and solvency of the debtor."

The aim of the assessment of creditworthiness or creditworthiness analysis is to judge the credit risk of each single customer. Depending on the level of objectivity, Horsch and Schulte (2010) distinguish three kinds of assessing methods. The first method, the verbal-qualitative method, is characterized by a high degree of subjectivity. Each customer is evaluated by his or her customer advisor employing

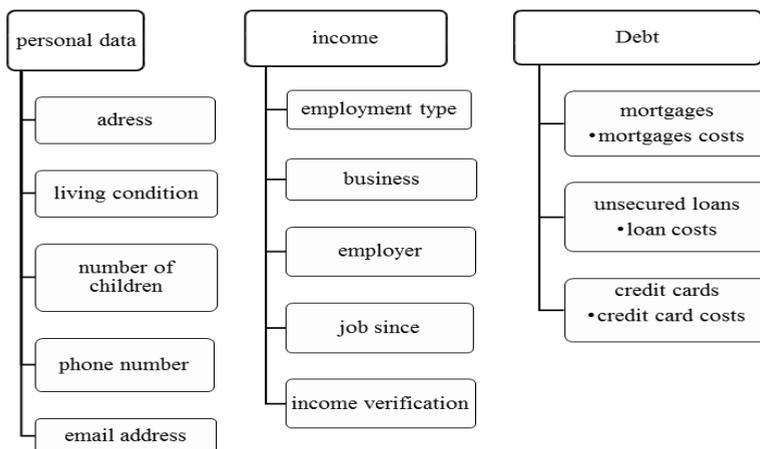
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credit reports. This kind of assessing has been used in the past. The subjectivity and consequently the low standardization make this method impractical for national credit institutions with high application frequency per day. In contrast to the first method, the mathematical-statistical method works on a high level of objectivity. The third method, the quantitative method includes subjective parts as well as objective parts. Scoring models are a commonly used represent of this method.

Assessing the creditability of a customer is challenging. Thereby, it is not to be meant as only birth date check. It is more the judgment if the customer can or is able to make an own declaration of intent. Credit institutions with own branches are in face-to-face contact with the customer. Hence, the creditability is an essential prerequisite granting consumer loans and as a result, the assessment of creditworthiness assumes the creditability as a “given”.

Also, illustrating the creditworthiness poses a challenge. Only the positive statement that a customer is trustworthy is not meaningful for the risk management. The probability of default (PD) is a parameter which predicts the default of the customer during a given period, for example, twelve months in the future (Malik, Thomas 2010). It is a widely held view that the considered period is twelve months. Figure 3 shows relevant criteria assessing the creditworthiness of customers, which were evaluated within the assessment process.

Figure 3. Criteria assessing customers’ creditworthiness



Source: author’s own elaboration

Risk assessment can be supported by external information from credit bureaus. Those pool data about customers' credit performance by using information from credit grantors and official authorities (Thomas et al. 2005).

Table 2. Overview of European Public and Private credit register

Country	Credit Bureau (CB)	Positive Information (CB)	Negative Information (CB)	Public Credit Register
Austria	yes	yes	yes	yes
Belgium	yes	n/a	n/a	yes
Bulgaria	yes	-	-	yes
Cyprus	yes	yes	yes	no
Czech Republic	yes	yes	yes	yes
Denmark	yes	no	yes	no
Estonia	yes	yes	yes	no
Finland	yes	no	yes	no
France	yes	n/a	n/a	yes
Germany	yes	yes	yes	yes
Greece	yes	yes	yes	no
Hungary	yes	no	yes	no
Ireland	yes	yes	yes	no
Italy	yes	yes	yes	yes
Latvia	yes	yes	yes	yes
Lithuania	yes	no	yes	yes
Luxembourg	yes	-	-	no
Malta	yes	no	yes	no
Netherlands	yes	yes	yes	no
Portugal	yes	yes	yes	yes
Poland	yes	yes	yes	no
Romania	yes	yes	yes	yes
Slovakia	yes	yes	yes	yes
Slovenia	yes	-	-	yes
Spain	yes	yes	yes	yes
Sweden	yes	yes	ye	no
United Kingdom	yes	yes	yes	no

“-“ means no information available; “n/a” means not applicable

Source: adopted and adjusted from Giannetti et al. (2010).

Table 2 provides an overview of public credit registers (PCR) and private credit bureaus (CB) in Europe. According to Giannetti et al. (2010) PCR serve for statistical or supervision purposes and exists in approximately 14 countries whereas CB exist in all European countries and supply information to assess customers' creditworthiness and to monitor borrower continuously. In consequence of different data protection policies, the report from each bureau looks different. In regimes like Denmark, Finland, France, Latvia and Spain only negative information are stored in CB about individuals. That leads to adverse selection because positive information is

not taken into consideration. All other countries offer positive information just as negative information. The most common credit bureau in Germany is SCHUFA whereas it is UC AB (UC) in Sweden. While SCHUFA stores only static credit information from private people, UC pools the current balances of each loan, which present a more detailed picture of the individual applying for the loan.

4. Scoring models

In general, scoring describes a process by using information about a single person expressed by an individual number, called score, that the person will do something or act in a specific way (Finlay 2008). Scoring is applied in multiple fields, for example in marketing (Malthouse 1999: 2001) and banking, or more precisely in assessing customers' creditworthiness.

Credit scoring has commonly been described as an application to judge the credit risk of an individual or an organization (Crook et al. 2007) by the inclusion of different statistical methods (Baesens et al. 2003). Credit scoring is a process. As a result, a credit score is determined which shows the probability of default (PD). The PD expresses the likely share of expected loss per scoring class (Behr, Güttler 2004: 10). Depending on if an applicant or a(n) (existing) customer shall be observed, credit scoring can be classified as application scoring or behavioral scoring (Malik, Thomas 2010). The application scoring quantifies the credit risk of new customers whereas the behavioral assess the credit risk of existing customers (Martens et al. 2010). Therefore, the calculated score is referred to as either a credit score or a behavior score (Thomas et al. 2001). Beside the PD, applicants respective existing customers can be ranked according to their default risk (Malik, Thomas 2010).

Within the scoring process, the calculation of the score is crucial. Scoring models were used in the score calculation. It can be distinguished between binary models and predictive models. The former is based on binary classification whereby the result is either the applicant is approved or rejected (Verbraken et al. 2014). Applicants are grouped as good and bad customers respectively as low-risk and high-risk customers. According to Malik and Thomas (2010), binary models are

usually applied at credit scoring. At this stage, no information are available concerning applicant's behavior. Assessing applicants is possible by the use of information from the application form and information from a credit bureau. Defining the level at which an applicant is perceived to be good or bad is crucial. Therefore, lending institutions establish cut-off scores. Applications below the cut-off score are rejected whereas applicants with a score above the cut-off point are accepted. The cut-off point might be fixed in the credit policy and can be either a separately determined score or a score from a credit bureau. Like Banasik and Crook (2007) describe, the appropriate cut-off score is essential for the performance of binary models. Predictive models also use binary classification (good/bad). But like Crone and Finlay (2012) describe, predictive models are applied to assess customer's payment behavior. Hence, behavior scoring is based on predictive models. This kind of scoring is only possible for customers with an existing payment history. In general, set in place a scoring model, a sufficiently large population of customers and characteristics is required. Crone and Finlay (2012) suggest a sample of 1.500 – 2.000 cases of each class.

For binary models as well as predictive models, different mathematical techniques are used. As described by Crook et al. (2007), the most used approach is the logistic regression. Other important used techniques are discriminant analysis, neural networks and decision trees (Crone, Finlay 2012). Many scientists have investigated the performance of these methods. Especially the predictive power has been in focus. For example, Desai, Crook and Overstreet (1996) compare neural networks with logistic regression (LR) and linear discriminant analysis (LDA). They have shown that the performance of LDA and LR in comparison to neural networks is corresponding. Only under a particular condition, neural networks have been presented a better output. In the field of consumer credits, scoring models are described as scorecards (Hand 2005). As shown in Table 3, in the literature there exist different classifications of scoring models.

Table 3. A review of scoring models

Author	Classification	Explanation
(Abdou, Pointon 2011)	<ol style="list-style-type: none"> 1. Linear regression 2. Discriminant Analysis 3. Probit analysis 4. Logistic regression 5. Decision trees 6. Expert Systems 7. Neural Networks 8. Genetic Programming 	<p>They observed 214 studies in credit scoring. They conclude, "...there is no overall best statistical technique/method used for building credit scoring models and the best technique for all data sets does not exist yet."</p>
(Baesens et al. 2003)	<ol style="list-style-type: none"> 1. Logistic regression, linear and quadratic discriminant Analysis 2. Linear Programming (LP) 3. Support Vector Machines 4. Neural Networks 5. Bayesian Network Classifiers 6. Decision trees and Rules 7. K-nearest neighbor classifiers 	<p>They provide a study due to the performance of various classification techniques through assessing by the percentage correctly classified cases and the area under the receiver operating characteristic curve. The majority of the considered techniques deliver competitive results.</p>
(Hand, Henley 1997)	<ol style="list-style-type: none"> 1. Discriminant Analysis 2. Regression 3. Logistic regression 4. Mathematical Programming Methods 5. Recursive Partitioning 6. Expert Systems 7. Neural Networks 8. Smoothing non-parametric methods 9. Time-varying Models 	<p>The performance of the method depends on the different details. In cases of low classification accuracy, adaptable methods like neural networks are fragile. Especially the nearest neighborhood method requires analytical capacity.</p>

Source: author's own elaboration

5. Example of entering a new credit market

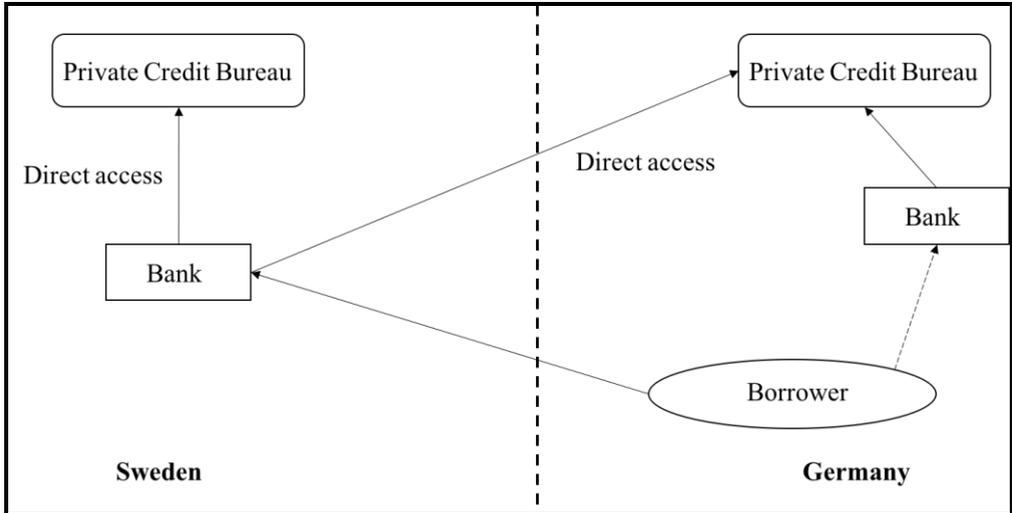
Entering a new market is interesting from different perspectives, for example from the point of view of the market environment, the management perspective, the various aspects of the market and in general of the strategy of the bank. From the

strategic point of view, the aim of entering a new market is a wider diversification of the asset portfolio as well as the credit risk and the earnings. Beyond this, to enter a new market is also full of pitfalls. Like Brown and Zehnder (2006) stated, in credit markets lenders are faced with asymmetric information. Usually, borrowers have an advantage of information due to their indebtedness, income situation and payment behavior. Asymmetric information occurs either before or after a transaction. In the first case it is called *adverse selection* and in the second case, it is known as *moral hazard*. Moral hazard in credit markets is described by Bisin (2002) as hidden action by the borrower with the purpose to avoid insolvency. Adverse selection on credit markets arises if a bank increases its interest rates for loans to cover its credit risk. But this will attract more likely bad customers because good customers are more price-sensitive. Information sharing might reduce adverse selection in the credit market (Stiglitz, Weiss 1981; Pagano, Jappelli 1993; Brown, Zehnder 2006). Adverse selection becomes even more important for banks by doing cross-border activities. Therefore the significance of information sharing increases. A significant contribution in that field serves credit bureaus. According to some authors, the existence of credit bureaus eases the market entry through reducing the risk of asymmetric information in cross-border activities of banks (Giannetti et al. 2010). The study of Giannetti, Jentzsch and Spagnolo (2010) deals with the entry modes branching and merger and acquisition. The following example presents the risk assessment process in the light of cross-border activities when a Swedish bank enters the German credit market for unsecured loans.

Germany is proved to be a stable country in the middle of Europe. It is a net exporter with a high prospering economy and it has ten times larger population than Sweden. Another factor is the attitude to unsecured loans. The research report of Dick et al. (2012) gives a good overview of that field. The study is based on expert interviews, the SAVE-Study and interviews with the banks. The purpose of the survey is to provide a summary of consumer's attitude using overdrafts and unsecured loans. The study shows that 80% of the German households have an overdraft and 52% make use of it at least once a year. The usage frequency is at highest at household between the age of twenty-five and thirty-four.

Figure 4 explains the linkage between the credit bureaus and the bank on the one hand and between the bank and the borrower on the other hand graphically.

Figure 4. Cross-border activities



Source: author’s own elaboration based on Jentzsch (2007)

Concerning unsecured loans, Dick et al. (2012) show that 17% of the households in the sample use unsecured loans. Furthermore, they show a positive relation between income and usage of unsecured loans. The higher the income, the more take people out unsecured loans. Independent of households’ income, age, type of household, employment type and education at most 30% of the population make use of unsecured loans. To conclude, the study of Dick et al. (2012) emphasizes the potential in the market for unsecured loans in Germany.

The consideration proceeds under the condition that new customers were exclusively acquired by direct mailings. The assessment process is divided into five parts.

Part 1: After the bank has obtained the application form and before the data is transferred to the credit bureau the date of birth and the address must be complete. That is necessary because the German credit bureau SCHUFA authorizes customer by address and date of birth. If one of these features or both features is missing the

customer cannot be identified. Consequently, the bank does not receive a credit report and the application cannot be processed.

Part 2: In the second part, the application data and the data from the credit report is transferred into the decision machine, which "... is a piece of software that can be thought as the 'brain' of the application processing system, which makes a decision about how each application should be dealt with" (Finlay 2008: 78). At the decision machine, both data sets are analyzed for completeness and reasonableness. At this stage, the income and debt information are analyzed. The income is evaluated on completeness and income level. If the income level is missing, the customer has to be contacted and data has to be re-entered. Furthermore, a comparison between the stated profession and the income level must be taken because both must be in a particular relationship. Equally important is the indebtedness of the customer. For this reason, a comparison between customers' stated debt and the debt registered on the credit report is needed. If the deviation between stated debt and registered debt is seen, further information is needed to process the application. Due to the business policy of SCHUFA, the debt costs were not shown in the German credit report. Therefore, it is important that the costs are either stated on the application form or are asked at the applicant. When the income information and the debt information are complete, the bank calculates different parameters. This calculation is necessary for the scoring process and the decision process. The parameters are the left-to-live-on, debt-income-ratio for unsecured loans ($\frac{\text{amount of unsecured loans}}{\text{net income}}$) and the debt-income-ratio of all stated loans ($\frac{\text{amount of all s loans}}{\text{net income}}$). Figure 5 shows the left-to-live-on computation exemplarily.

This calculation is necessary to estimate customers' redemption ability. The resulting overhang is calculated without consideration of the new loan costs. The remaining positive excess shows the capability of the customer paying back the loan. The remaining negative excess implies the likelihood that the customer cannot repay the loan. The debt-income-ratio is needed to show if the customer is overindebted. An applicant is assessed as over-indebted by a debt-income-ratio of twenty-five (unsecured) or seventy-five (in total).

Figure 5. Left-to-live-on



Source: adopted, adjusted and translated from Finansinspektionen (2010)

Part 3: When customer’s data is completed, the applicant needs to be judged by an appropriate scoring model, for example, LR. The basic formula for logistic regression is calculated by:

$$\ln \left[\frac{p}{1 - p} \right] = \alpha + \beta * X + e$$

$$p = \frac{1}{1 + e^{-(\alpha + \beta * X)}}$$

$$p = \frac{1}{1 + e^{-z_i}}$$

a=coefficient of the constant term of the regression,

β=vector of the coefficient of the independent variable,

e=so called failure term

z_i=score value at point i

To build the scoring model, internal and external data are necessary, which the bank gets in the first case from its database and in the second case from an external credit bureau. Since SCHUFA stores only negative data about German customers,

the bank cannot use the identical external data as for its Swedish customers. Rather, it has to make use of a different credit bureau.

The most difficult challenge is the necessity of internal data, which are not available for Germany or every new market in the beginning. The bank faces the problem with the development of an appropriate credit scorecard for German customers. Therefore, the bank has to make assumptions about the probability of default. For this reason, it uses all the granted and paid out applications of existing Swedish customers in a specific period. Furthermore, it defines good and bad customers. For example, all those customers who are in arrears on their loans for at least 90 days after 12 months on the book are defined as bad (Thomas 2010). Based on this evaluation, it is possible to express the share of bad customers per 100 good customers. Finally, the developed scorecard shows the probability of default of German customers based on the information from SCHUFA and on the payment behavior of granted and paid out Swedish customers. For every scorecard, it is important to define a cut-off score, where every customer below the cut-off score will be rejected and every customer higher than the cutoff score will be accepted (Verbraken et al. 2014). Because the bank uses two scorecards, it is necessary to define the cutoff score for both, the SCHUFA scorecard and the bank's scorecard.

If the critical population of at least 1,500 good and bad customers is reached, the scorecard can be recalibrated.

Depending on the observations within the population, certain criteria can influence the score by overweighting or underweighting. For example, having an own property will have a more positive impact on the score as renting an apartment.

Part 4: At this stage, all applications are investigated against the policy rule. In general, applications with negative information in the credit report will not be accepted. Furthermore, all requests, which do not fulfill the policy rule, will be automatically rejected. The criteria can be a certain minimum income, probation time and cut-off score.

Part 5: In the last step, all remaining applications will be automatically categorized in different decision levels with the same characteristic.

6. Conclusion

Scoring models are crucial in assessing the risk of unsecured loans. The big advantage of scoring models is their high level of automation. There is no need for an individual creditworthiness check by a customer advisor. That is why it is applicable in the retail banking market. But there exists also disadvantages. One is the lack of objectivity in the risk assessment based on inadequate empirical data (Schierenbeck 2003).

Furthermore, scoring models do not assess fraud risks. Another disfavor is the prediction of the possibility of default based on an existing portfolio that means based on data from the past. Finally, scoring models do not take data or information beyond the existing database into consideration. For example, demographical or macroeconomic data do not influence the credit score. These weaknesses are uncertainty factors and include the following:

- Demographic influences
- Economic impacts, e.g. unemployment rate
- Fraud risk
- Sectors risk

The presented scenario shows exemplarily the risk assessment process of unsecured loans in the event of entering a new market in another country as a cross-border activity. The challenge the bank is faced with is that there are no reliable data available to assess the new customers. The developed scorecard composed of the information of the German credit report and the experiences with their existing customers would enable a Swedish bank to score the German customers until the critical mass of 1,500 good and bad customers is reached. Then a calibration of the scorecard is mandatory considering the payment behavior of the German customers.

The presented practice has different benefits and drawbacks. On the one hand, this kind of scoring consists hazardous elements. If the demographic factors and/or the population are less similar, the scorecard is not favorable. On the other hand, this kind of practice simplifies the scoring process. The existence of a similar population enables the bank to draw on existing experiences and payment behavior of Swedish customers. Furthermore, the cost for judging German customers can be held to a

manageable level. The usage of only one credit bureau is less expensive than purchase of all possible information from different sources. Also, for the management is the presented approach more reliable because they know the existing scoring process and the payment behavior of existing customers. The presented scenario has several limitations. It is only focused on two countries in one direction. Furthermore, the study does not take into account the different lending attitudes in the various countries of the EU. Therefore, data sharing in the European credit market requires further research.

References

- Abdou H.A., Pointon J. (2011), Credit scoring, statistical techniques and evaluation criteria. A review of the literature, "Intelligent Systems in Accounting, Finance and Management", vol. 18 no. 2-3, pp. 59-88.
- Baesens B., Van Gestel T., Viaene S., Stepanova M., Suykens J., Vanthienen J. (2003), Benchmarking state-of-the-art classification algorithms for credit scoring, "Journal of the Operational Research Society", vol. 54 no. 6, pp. 627-635.
- Banasik J., Crook J. (2007), Reject inference, augmentation, and sample selection, "European Journal of Operational Research", vol. 183 no. 3, pp. 1582-1594.
- Behr P., Güttler A. (2004), Interne und externe Ratings. Bedeutung, Entwicklung, Testverfahren (Internal and external rating. Importance, development, test procedure), Bankakademie-Verlag, Frankfurt am Main.
- Beyer H., Heinz L., Krabbe G., Lehnhoff J. (1993), Begriff und Arten des Kredits (Concept and types of credit), in: Das Kreditgeschäft, Gabler Verlag, Wiesbaden, pp. 9-40.
- Bisin A., Guaitoli D. (2004), Moral hazard and non-exclusive contracts, "RAND Journal of Economics", vol. 35 no. 2, pp. 306-328.
- Brown M., Zehnder C. (2006), Credit Reporting, Relationship Banking, and Loan Repayment, "Swiss National Bank Working Papers" 3.
- Crone S.F., Finlay S. (2012), Instance sampling in credit scoring. An empirical study of sample size and balancing, "International Journal of Forecasting", vol. 28 no. 1, pp. 224-238.
- Crook J.N., Edelman D.B., Thomas L.C. (2007), Recent developments in consumer credit risk assessment, "European Journal of Operational Research", vol. 183 no. 3, pp. 1447-1465.
- Desai V.S., Crook J.N., Overstreet G. A. (1996), A comparison of neural networks and linear scoring models in the credit union environment, "European Journal of Operational Research", vol. 95 no. 1, pp. 24-37.

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Dick C.D., Knobloch M., Al-Umaray K.S., Jaroszek L., Schröder M., Tiffe A. (2012), Studie zu Dispozinsen/Ratenkrediten - Forschungsvorhaben zur Bereitstellung wissenschaftlicher Entscheidungshilfe für das Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (BMELV) (Study on Overdraft Rates/Unsecured Loans - Research), "EconStor Research Reports".

Ferretti F. (2015), Credit bureaus between risk-management, creditworthiness assessment and prudential supervision, "EUI Department of Law Research Paper", no.20. EUI, San Domenico di Fiesole.

Finansinspektionen (2010), Den svenska bolånemarknaden och bankernas kreditgivning, http://www.fi.se/upload/43_Utredningar/20_Rapporter/2010/bolanerapport_16feb102ny.pdf [02.08.2016].

Finlay S. (2008), The management of consumer credit, Palgrave Macmillan, London.

Giannetti C., Jentsch N., Spagnolo G. (2010), Information sharing and cross-border entry in European banking, "DIW Discussion Papers", no. 980, Berlin.

Hand D.J. (2005), Good practice in retail credit scorecard assessment, "Journal of the Operational Research Society", vol. 56 no. 9, pp. 1109-1117.

Hand D.J., Henley W.E. (1997), Statistical classification methods in consumer credit scoring. A review, "Journal of the Royal Statistical Society: Series A (Statistics in Society)", vol. 160 no. 3, pp. 523-541.

Holst J. (2001), Management finanzieller Risiken - Risikomanagement im Finanzbereich (Management of financial risks - Risk management in the financial sector), in: Risikomanagement, ed. Götze U., Henselmann K., Mikus B., Springer-Verlag, Heidelberg, pp. 129-157.

Horsch A., Schulte M. (2010), Wertorientierte Banksteuerung II: Risikomanagement (The value-oriented management of banks II: risk management), 4th edition, revised, Frankfurt School Verlag, Frankfurt am Main.

Jentsch N. (2007), Do we need a European directive for credit reporting, CESifo DICE Report, pp. 48-54.

Knight F.H. (1964), Risk, uncertainty and profit, Reprints of Economic Classics, New York.

Kumar A., Jones D.D., Hanna M.A., Soediono B., Bartocci A.C. (2009), Consumer credit, in: ed. Intergovernmental Panel on Climate Change, Encyclopedia of finance, Springer US, Boston, MA, pp. 66-76.

Lessmann S., Baesens B., Seow H.V., Thomas L.C. (2015), Benchmarking state-of-the-art classification algorithms for credit scoring. An update of research, "European Journal of Operational Research", vol. 247 no. 1, pp. 124-136.

Lewis M.K., Lundberg P., Silver M.S.L., Kling K.S., Kresge D.T., Summers B., Wilson N., Ekelid M., Lind H., Lundström S., Persson E., Marano W.A. (2000), Risk assessment and credit management, in: Risk behaviour and risk management in business life, ed. Green B., Cressy R., Delmar F., Eisenberg T., Howcroft B., Lewis M., Schoenmaker D., Shanteau J., Vivian R., Springer Netherlands, Dordrecht, pp. 37-121.

Malik M., Thomas L.C. (2010), Modelling credit risk of portfolio of consumer loans, "Journal of the Operational Research Society", vol. 61 no. 3, pp. 411-420.

Malthouse E.C. (1999), Ridge regression and direct marketing scoring models, "Journal of Interactive Marketing", vol. 13 no. 4, pp. 10-23.

Malthouse E.C. (2001), Assessing the performance of direct marketing scoring models, "Journal of Interactive Marketing", vol. 15 no. 1, pp. 49-62.

Mäntysaari P. (2010), Management of counterparty risk, in: The law of corporate finance. General principles and EU law, Springer, Berlin - Heidelberg, pp. 187-238.

Martens D., Van Gestel T., De Backer M., Haesen R., Vanthienen J., Baesens B. (2010), Credit rating prediction using ant colony optimization, "Journal of the Operational Research Society", vol. 61 no. 4, pp. 561-573.

Pagano M., Jappelli T. (1993), Information sharing in credit markets, "The Journal of Finance", vol. 48 no. 5, pp. 1693-1718.

Schierenbeck H., Lister M., Kirmße S. (2008), Ertragsorientiertes Bankmanagement, Band 2: Risiko-Controlling und integrierte Rendite-/Risikosteuerung (Profit-oriented management of banks. Vol. 2: Risk-controlling and integrated return/risk control), Dr. Th. Gabler/GWV Fachverlage, Wiesbaden.

Schröder M., Taeger J. (ed.) (2014), Scoring im Fokus. Ökonomische Bedeutung und rechtliche Rahmenbedingungen im internationalen Vergleich (Scoring focus. Economic importance and regulatory framework in an international comparison), BIS-Verlag der Carl von Ossietzky Universität Oldenburg, Oldenburg.

Sinclair T.J. (1994), Passing judgement. Credit rating processes as regulatory mechanisms of governance in the emerging world order, "Review of International Political Economy", vol. 1 no. 1, pp. 133-159.

Stiglitz J.E., Weiss A. (1981), Credit rationing in markets with imperfect information, "The American Economic Review", vol. 71 no. 3, pp. 393-410.

Thomas L.C. (2010), Consumer finance. Challenges for operational research, "Journal of the Operational Research Society", vol. 61 no. 1, pp. 41-52.

Thomas L.C., Banasik J., Crook J.N. (2001), Recalibrating scorecards, "Journal of Operational Research Society", vol. 52 no. 9, pp. 981-988.

Thomas L.C., Oliver R.W., Hand D.J. (2005), A survey of the issues in consumer credit modelling research, "The Journal of the Operational Research Society", vol. 56 no. 9, pp. 1006-1015.

United Nations Human Rights Office of the High Commissioner (1990), Convention on the Rights of the Child, <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx> [23.05.2017].

Verbraken T., Bravo C., Weber R., Baesens B. (2014), Development and application of consumer credit scoring models using profit-based classification measures, "European Journal of Operational Research", vol. 238 no. 2, pp. 505-513.

Ocena ryzyka niezabezpieczonych pożyczek – przykład wchodzenia na nowy rynek

Streszczenie

Cel: Celem artykułu jest przedstawienie oceny ryzyka niezabezpieczonych pożyczek w teorii i praktyce.

Metodyka badań: W pierwszej części artykułu zawarto przegląd literatury dotyczącej teorii niezabezpieczonych pożyczek oraz oceny ich ryzyka. W drugiej części, omówiony został proces oceny ryzyka w studium przypadku dotyczącym praktycznej aplikacji hipotetycznego wejścia przez szwajcarski bank na rynek niemiecki.

Wnioski: Ocena ryzyka niezabezpieczonych pożyczek to zestandaryzowany proces, w którym główną rolę odgrywają modele scoringowe. Studium przypadku ukazuje, jak trudny jest ten proces w odniesieniu do działalności transgranicznych, na przykład, gdy bank wchodzi na nowy rynek w nowym kraju.

Wartość artykułu: Artykuł wzbogaca dotychczasowy dorobek literaturowy dotyczący oceny ryzyka poprzez zastosowanie modeli scoringowych w działalności transgranicznej.

Słowa kluczowe: niezabezpieczone pożyczki, modele scoringowe, ocena ryzyka.

JEL: G21

Operation assessment of Polish property funds terminated within set deadlines

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Abstract:

Aim: The paper seeks to assess the managers' efficiency with respect to the property fund management and profitability of funds.

Design / Research methods: The study employs the elements of financial analysis and case studies.

Conclusions / findings: The findings show low profitability of the property funds under study (only one fund brought profit to investors while the other five brought losses), low efficiency of their managers, with the funds' operations being high cost-intensive. The study reveals that the investment strategies and business models applied are little effective and therefore require changes and the application of other solutions.

Originality / value of the article: The study is concerned with the property funds which were terminated or whose termination started at the date set by their managers, which allows the managers' efficiency to be assessed at each stage of the fund's lifetime. The study follows up and builds on the author's previous research. To the author's knowledge, there have so far been no similar studies.

Keywords: property funds, profitability of property funds, investment fund management efficiency, financial analysis

JEL: G17, G23

1. Introduction

The beginning of the property fund market in Poland dates back to 2004, when the first two investment funds were established investing assets in the property market. Over the next eleven years the market saw a dynamic development, evolving from funds focusing on investments in the housing and office segment to funds dedicated to specific entities implementing risky investment strategies. Over the period of 2004-2015 a total of 63 investment funds were established directly or indirectly on the property market.

At the end of 2015, 39 property funds were operating in Poland, of which only two targeted a wide range of investors. The other funds were private funds (focusing on a small group of investors; 24 funds) and specialized funds (established for economic operators and financial institutions; 13 funds). One of the reasons behind this structure of the property fund market was the initiation of liquidation of as many as five public property funds in 2014 and 2015:

- Arka BZ WBK Fundusz Rynku Nieruchomości,
- Arka BZ WBK Fundusz Rynku Nieruchomości 2,
- BPH FIZ Sektora Nieruchomości,
- BPH FIZ Sektora Nieruchomości 2,
- Skarbiec Fundusz Rynku Nieruchomości FIZ,
- Ipopema Rynku Mieszkaniowego FIZAN.

The liquidation of those funds started in accordance with the deadlines adopted in their statutes and they went through all the operation stages as one of the first ones on the Polish property market. Over the years 2004-2015 only one fund (Skarbiec Rynku Mieszkaniowego FIZ) was liquidated within the set deadline, with 18 funds being liquidated before the deadlines (low rates of return were the most likely cause of their liquidation).

The aim of the article is to examine the management efficiency with respect to the property funds over the entire period of their activity and over the individual stages of their operations. This is possible through the liquidation of the three property funds and the advanced stage of the liquidation process of the other three funds. Additionally, the paper seeks to determine the profitability of the property funds terminated within the deadlines set by their managers.

To my best knowledge, the study which was carried out is the first of this kind in the domestic and foreign literature. The previous research on the management efficiency of the Polish property funds (Trzebiński 2013; 2015) covered only some part of the funds' lifetime (without the liquidation stage). Moreover, the foreign studies have been largely concerned with the effectiveness of property funds and the impact of the investment strategy on their rates of return (e.g. Byrne, Lee 2003; Galo et al. 2006; Imazeki, Gallimore 2009).

The further part of the paper demonstrates the operating rules of the domestic property funds and shows the funds' operating stages. As next, the research sample is characterized with a particular attention being given to the length of the individual stages of the funds' activity. This is followed by the discussion of the research method applied. Next, the assessment is carried out of the profitability of the property funds and management efficiency, as well as the analysis of cost management. The paper ends with a summary in which the study's findings are included.

2. Operating rules

The legal provisions in force (Act of 27 May 2004 on Investment Funds) allow assets to be directly invested in the property market exclusively by closed-end investment funds and closed-end investment funds of non-public assets. These funds are only allowed to purchase ownership rights or joint ownership of property whose legal state is clarified, as well as perpetual usufruct. The funds are also required to allocate income and rewards from the property owned to maintain it in a condition that is not worse than before or to increase its value. Within 24 months from the registration date, the funds are required to purchase all items of property, in accordance with the rules of investment policy set forth in the statute.

In the past, only one fund on the property fund market- Arka Fundusz Rynku Nieruchomości FIZ – chose direct investments. This fund's other investments, as well as those of other property funds are semi-direct in nature. This way of investment consists in the fund's establishing special purpose vehicles which are appointed for specific property developer investments or the purchase and

management of specific facilities (Jurek-Maciak 2007: 94-96). The choice of semi-direct investments was dictated by tax benefits and an easier way of selling facilities owned.

Another characteristic feature of Polish property funds is establishing funds for a specific length of time, which on average spans 10 years (plus the time for a fund's termination). Three stages can be distinguished within the fund's temporary operations:

1. Building an investment portfolio – managers invest assets in target investments, surplus of assets is invested in liquid financial instruments; over the period of two up to three years.
2. Investment management – items of property owned gain in value over time and generate current income; managers can make changes within investment portfolios; over the period of up to eight years.
3. Investment termination – the fund has already ceased operation; the investments are realized for cash and the fund terminates its activity; up to two years.

The main factor determining the composition of investment portfolios is the stage at which the fund is at the time concerned. There are also other factors influencing the composition such as legal circumstances, investment objectives and the business cycle currently on the property market (Leszczuk 2011: 34). The components of the investment portfolios can be classified into two groups of assets – liquid and fixed¹. The proportion of individual assets changes along with the fund's lifetime. The liquid part of the investment portfolio is the largest especially during the fund's first stage with this proportion decreasing over time during the fund's lifetime. The proportion of the liquid assets increases once more at the liquidation stage.

¹ Liquid – short-term financial instruments which are not linked to the property market (predominantly bank deposits and government securities). The fixed assets – financial instruments linked to the property market (e.g. mortgage bonds, facilities of diverse use, stock and the share of companies linked to the property market).

3. Characteristics of the property funds under study

Arka BZ WBK Fundusz Rynku Nieruchomości FIZ was incorporated into the court register on 9 July 2004 and the date of the fund's liquidation was originally set for the end of 2012. Accounting for the liquidation period, the fund was intended to operate for 10.5 year, possibly extending or reducing this period by two years. The individual stages (building a portfolio, investment management and portfolio liquidation) were intended to last three, five and a half, and two years. The unfavorable situation on the property market forced the managers to change this schedule. The fund's lifetime was extended three times (each time by six months) and the liquidation of the investment portfolio was extended more than four times (from the planned one and half year to six and half). On 29 June 2014 the fund's liquidation commenced and was to last until 31 December 2016. Eventually, the fund was liquidated on 15 December 2015, which implies that the actual period of activity of Arka BZ WBK Fundusz Rynku Nieruchomości was 11.5 years.

The fund's underlying investment strategy was to invest resources in office property (minimum 50% NAV) and residential, retail and warehouse property (up to 25% NAV)

Skarbiec Fundusz Rynku Nieruchomości FIZ started its activity on 3 November 2004 and was established for the duration of 10 years (plus two years for the fund's termination). The managers adopted a three-year period to build an investment portfolio and a seven-year period to manage investments, with two years envisaged for the fund's liquidation. All the stages followed the original schedule. The sale of the investments was carried out in stages and began just after the portfolio had been built. The liquidation of the fund started on 4 December 2014 and, according to the schedule, it was intended to take until 10 January 2017. In December 2016 the liquidation period was extended until 10 September 2017 because the extension of the sales process.

The fund's investment strategy was based on investing in shares, stocks and debts (minimum 60% of NAV) of the property market companies, especially in the housing sector.

BPH FIZ Sektora Nieruchomości is the third property fund to be launched (incorporated in the court register on 4 August 2005). The fund's planned duration

was to span eight years and five months, with the possibility of having this time either extended or reduced by two additional years. Similar to Arka BZ WBK Fundusz Rynku Nieruchomości, the fund's managers decided in April 2013 to extend the fund's activity by two years (the investment management stage was extended). Unlike the two other property funds, BPH FIZ Sektora Nieruchomości started to liquidate the portfolio only at the stage of the fund's termination, which began on 29 December 2015 and, according to the plan, was intended to take until the end of 2016. In December 2016 the termination period was extended until 30 June 2017, which was due to the problems encountered in terms of the sale of the investments owned.

The fund's assets were invested in commercial property (up to 80% of NAV in office facilities and up to 60% of NAV in sale and service facilities).

Arka BZ WBK Fundusz Rynku Nieruchomości 2 FIZ was launched on 14 July 2008 and was supposed to function for seven and a half year (plus six months allocated to the fund's liquidation). Like the other property funds, it was to operate according to the "3+5" model (three years to build the portfolio and four and a half to manage investments), which was distorted by having the investment portfolio built within the first year of the fund's operation. It is worth drawing attention to the exceptionally short period allocated to the sale of investments and the fund's liquidation. Within less than one and a half year the fund sold the investments (in two tranches). At the end of 2016 the liquidator informed about the value of the assets to be paid out to the fund participants.

The main component of the fund's investment portfolio comprised office and retail property (up to 80% of NAV), with the possibility to invest in residential, hotel and warehouse property, as well as housing development and commercial projects.

BPH FIZ Sektora Nieruchomości 2 is the second property fund to be managed by the same TFI (incorporated into the court register on 21 July 2008) and the only fund established for an indefinite term. In May 2014 it was decided to change the length of the fund's lifetime and the termination date was set to commence on 28 December 2015. At the same time the liquidation of the investment portfolio began. At the end of 2015, the fund entered the liquidation stage, which was intended for

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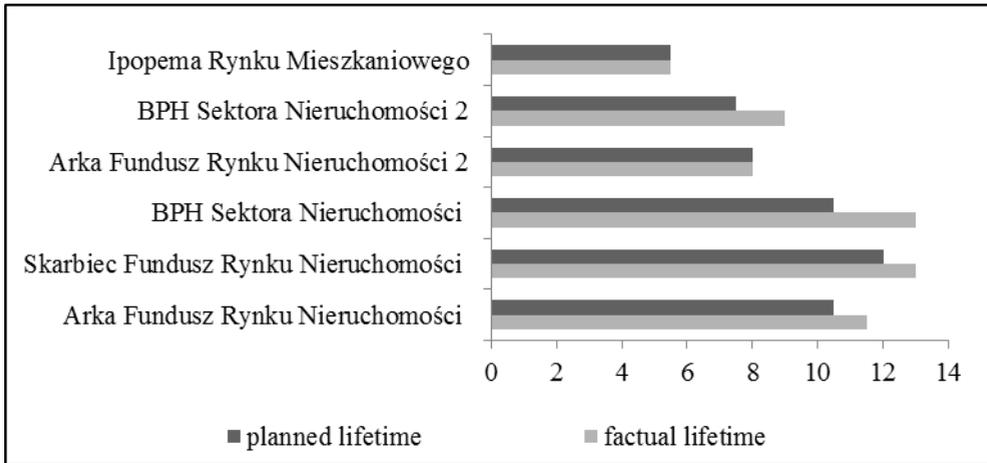
one year. Also for this fund, the liquidation period was extended until 30 June 2017 owing to the problems relating to the assets sale.

The fund investment strategy is similar to that of BPH FIZ Sektora Nieruchomości, which means locating up to 80% of NAV in offices and up to 60% of NAV in retail facilities.

Ipopema Rynku Mieszkaniowego FIZAN was registered on 14 December 2010 and was to operate for four years. At the end of 2011 the fund had its investment portfolio created, thus focusing on managing its investments. In April 2014, two months before the scheduled termination, the term was extended by additional 18 months. The planned liquidation was to take place on 30 September 2016; however, the fund was liquidated on 23 September 2016. The main reasons behind the extended termination encompassed: the fall in transaction prices on the Warsaw housing market and the possibility of early redemption of investment certificates. Unlike the majority of the funds, Ipopema invested assets through special purpose vehicles, mainly in flats which were purchased in blocks from developers.

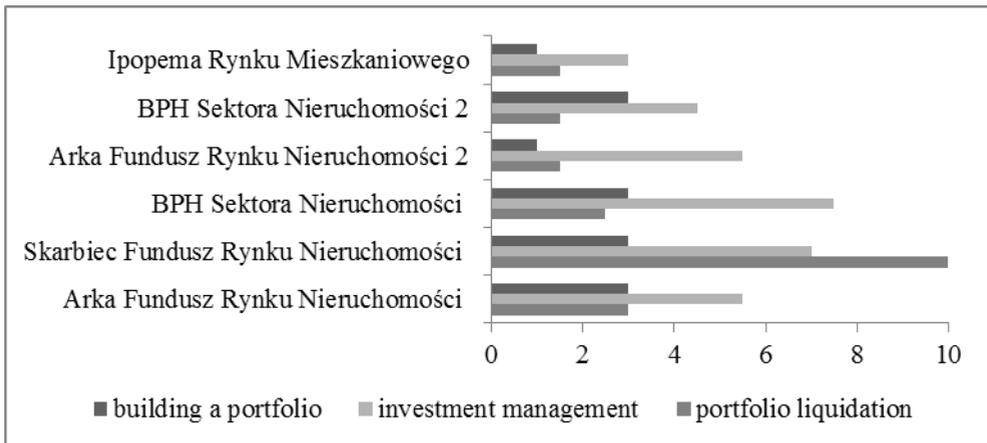
Charts 1 and 2 show a synthetic comparison of the property funds' operating period and duration of the individual stages. As can be gleaned from the data presented in Chart 1, only two property funds ended their activity within the set deadline. The other four extended their lifetime. Four funds (Arka Fundusz Rynku Nieruchomości, BPH Sektora Nieruchomości, Arka Fundusz Rynku Nieruchomości 2 and Ipopema Rynku Mieszkaniowego) used the opportunity to extend the fund's lifetime (Chart 2). The extension was carried out through the extension of the period set for the investment portfolio liquidation. Arka Fundusz Rynku Nieruchomości 2 was the only fund to reduce the stage of building its investment portfolio (from the three years originally set to one year) and to extend the period of the investment management (from four and a half to five and a half). In Table 1, additional information is presented on the funds in question (the information on NAV was omitted purposefully, for the individual funds carried out redemption at different times and the data had little information strength).

Chart 1. The property funds' lifetime (in years)



Source: self-reported data

Chart 2. The individual stage duration of the property funds' life (in years)



Source: self-reported data

Half of the funds (BPH Sektora Nieruchomości, BPH Sektora Nieruchomości 2 and Skarbiec Fundusz Rynku Nieruchomości) reduced the liquidation costs up to a set limit (PLN 40 000, 100 000 and 50 000, respectively). In the case of Ipopema Rynku Mieszkaniowego the liquidation costs were taken over by the liquidator so as to increase the assets to be paid to investors (about PLN 0.15 per investment

certificate). The highest liquidation costs were recorded for Arka Arka Fundusz Rynku Nieruchomości with their value exceeding PLN 1 million.

Table 1. Additional information on the liquidated property funds

Fund	Liquidator	Liquidation costs
Arka Fundusz Rynku Nieruchomości	ING Bank Śląski	PLN 1 099 686 (as on 31-12-2015)
Arka Fundusz Rynku Nieruchomości 2	BZ WBK TFI	Lack of data
BPH Sektora Nieruchomości	BPH TFI	up to PLN 40 000
BPH Sektora Nieruchomości 2	BPH TFI	up to PLN 100 000
Ipopema Rynku Mieszkaniowego	Ipopema TFI	Covered by liquidator
Skarbiec Fundusz Rynku Nieruchomości	Skarbiec TFI	up to PLN 50 000 (PLN 0; as on 4-12-2016)

Source: self-reported data based on the current reports and financial statements of the funds

4. Research method

The study focusing on profitability and management efficiency of the property funds was carried out in two stages. In the first stage the profitability measurement was done based on the rates of return for the entire lifetime of the funds, which was calculated according to the following formula:

$$R = \frac{CI_t}{CI_0},$$

where: R – the fund's rate of return, CI_t – the last given value or the value of the investment certificate redemption, CI_0 – the value of the investment certificate on the day of subscription

The analysis of profitability for the individual life stages of the funds was abandoned owing to the lack of statistically significant differences between the rates of return. Nor was the assessment of the efficiency of the property funds conducted with the use of the measures of risk-weighted rates of return because of the lack of the market portfolio².

² For the Polish property market there is no index available that would encompass the changes in the prices of commercial facilities. Only data on residential property is collected. On the other hand, the

In the second stage, the assessment of the efficiency in managing the funds by their managers was conducted. This part of the study was based on the financial analysis which was tailored to the specificity of the property funds. The analysis covered the time span from launching the fund to launching its termination. At first, the use of assets and allocation was measured, which was calculated according the following formulas:

- asset use (turnover) = $\frac{\text{income from investment}}{\text{average assets}}$,
- investment profitability = $\frac{\text{result on operation}}{\text{average investment portfolio}}$,

where: result on operation – net investment returns plus the realized risk (loss) on investment and unrealized profit (loss) from the investment valuation.

Next, the cost management was analyzed using the cost-intensive ratios:

- cost ratio = $\frac{\text{net operating costs}}{\text{income from investment}}$,
- remuneration cost ratio = $\frac{\text{remuneration costs}}{\text{income from investments}}$.

For the calculations, the funds' annual and quarterly financial statements were used. The study used the latest available comprehensive financial statements since condensed financial statements are prepared as on the day on which the liquidation begins and the information published later refers only to the volume and types of the assets sold.

5. Profitability assessment

Four property funds issued investment certificates at PLN 97. The other two offered certificates to investors at the issue price of PLN 100 and PLN 1 000. We

studies conducted by Trzebiński (2015) found that WIG-BUDOW and WIG-DEWEL stock exchange indices could not be used as market portfolios for those property funds whose investment strategies were based on investing funds in the property market through special purpose vehicles (the requirement of the benchmark responsibility is not fulfilled)

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can glean from the data presented in Table 2 that only one fund (BPH Sektora Nieruchomości 2) was capable of having a positive rate of return for the entire period of its activity (23.3% at the end of 2016). The value of the investment certificates of the other funds was lower at the end of 2016 than the issuance price. BPH Sektora Nieruchomości and Ipopema Rynku Mieszkaniowego certificates brought investors the highest losses as they lost over 1/3 of their value. The certificates of Skarbiec Fundusz Rynku Nieruchomości recorded the lowest losses (-2.4%).

Table 2. Changes in the investment certificate value and the rates of return

Fund	IC issuance price (PLN)	The IC last given value (PLN)	Rate of return for the entire term (%)	Average annual rate of return (%)	The IC maximum value (PLN)
Arka Fundusz Rynku Nieruchomości	97.00	64.68 ¹	-21.6 ²	-1.8	180.15 (31-12-2008)
Arka Fundusz Rynku Nieruchomości 2	97.00	75.75 ¹	-17.1 ³	-2.4	120.58 (30-04-2012)
BPH Sektora Nieruchomości	97.00	60.92	-37.2	-3.7	142.16 (31-03-2009)
BPH Sektora Nieruchomości 2	97.00	119.60	23.3	3.0	141.69 (28-03-2013)
Ipopema Rynku Mieszkaniowego	100.00	76.21 ¹	-23.8	-4.8	114.37 (24-12-2012)
Skarbiec Fundusz Rynku Nieruchomości	1 000.00	976.12	-2.4	-0.2	1 613.23 (30-01-2009)

Explanatory notes: ¹ the final value of the certificate (the amount paid out to the certificate owners), ² taking into account the payment of profit of PLN 11,37 per IC, ³ While taking into account the profit payment of PLN 4,66 per IC.

Source: self-reported data based on the fund current financial reports and statements

Table 2 also demonstrates the maximum investment certificate values (IC) which depart significantly from the issuance prices and values at the end of 2016. For almost every fund (the exception being Arka Fundusz Rynku Nieruchomości 2) the maximum net value of assets per an investment certificate was recorded at the beginning of the investment management phase – from one up to two years from

completing the investment portfolio. For Arka Fundusz Rynku Nieruchomości 2 the certificate was valued the highest after three years following the portfolio building.

6. Profitability and management efficiency assessment

As the earlier calculations show, the majority of the property funds brought losses to the investors despite the very high increase in the asset net value at the stage of investment management. It seems reasonable to explore how the managers' actions influenced the asset net value, and thus the changes in the rates of return. The specificity of investment funds limits the possibilities in terms of the application of the financial analysis with a view to examine the asset yields and the method of cost management.

The basic indicator allowing for the assessment with respect to the method in which the resources are used is asset turnover ratio. For investment funds, this is the ratio of the income from investments to the average total amount of assets. This ratio should reach high values and it should be higher in the course of investment management than during the portfolio building stage.

As Marcinkowska (2007: 459-460) points out, the asset turnover ratio does not cover all the fund's revenues. Additional revenue (realized gain (loss) from the investment sale and increase (fall) of unrealized gain (loss) from the valuation of assets) are taken into account by the investment ratio which is the ratio of the result on operation to the average investment portfolio.

For the funds under study, the average annual values of the asset turnover ratio range between 3.3% and 6,0% (for the entire term), growing during the investment management stage compared to the building portfolio stage. Only for the funds Arka Fundusz Rynku Nieruchomości and Arka Fundusz Rynku Nieruchomości 2 the average turnover level got smaller.

Table 3. The average asset turnover and investment profitability

Fund	Average value of the asset turnover (%)			Average return on investment (%)		
	Building a portfolio	Investment management	Entire term	Building a portfolio	Investment management	Entire term
Arka Fundusz Rynku Nieruchomości	4.5	3.2	3.6	18.7	-2.8	1.5
Arka Fundusz Rynku Nieruchomości 2	3.5	2.2	2.3	11.2	-8.4	-3.1
BPH Sektora Nieruchomości	1.6	5.1	3.8	8.9	1.1	3.4
BPH Sektora Nieruchomości 2	3.8	5.6	4.0	24.7	-0.1	10.0
Ipopema Rynku Mieszkaniowego	0.6	5.2	3.3	3.0	-10.5	-5.1
Skarbiec Fundusz Rynku Nieruchomości	2.6	6.7	5.2	13.1	-5.9	-0.2

Source: self-reported data

Moreover, the return on investment have both negative as well as positive values. The lowest value was recorded for Ipopema Rynku Mieszkaniowego (-5.1%) while the highest for BPH Sektora Nieruchomości 2 (10.0%). For all the funds in question the fall in the value of the return on investment was observed between the stages, which is mainly due to the bigger impact of the unrealized gain (loss) from the investment valuation than the impact of the realized gain (loss) from selling the investment. To put it more precisely, it was due to taking into account, in the financial statements, the unrealized losses at the stage of investment management.

7. Cost management analysis

Property funds, like any other entity conducting business activity generate income incurring costs. Considering the fact that the net assets of funds are investors' capital, the costs should be kept at the lowest level possible. The basic

component of costs are fees for the fund management. Apart from them, the funds bear, among other things, the depositary fees and costs, the costs of registrations and permits, and the rate of interest costs.

In order to assess how cost-intensive the funds are the cost ratio was used, which is the ratio of the net operation costs to investment income. Considering the significance of the management fees, the remuneration cost ratio was, additionally, taken into account (the ratio of management fees to the investment income).

Table 4. The average cost and remuneration cost ratio

Fund	Average costs (%)			Average remuneration costs (%)		
	Building a portfolio	Investment management	Entire term	Building a portfolio	Investment management	Entire term
Arka Fundusz Rynku Nieruchomości	49.4	197.1	156.8	43.9	118.2	97.9
Arka Fundusz Rynku Nieruchomości 2	30.4	158.6	121.4	26.0	95.4	75.3
BPH Sektora Nieruchomości	223.8	246.6	238.3	136.5	167.8	156.4
BPH Sektora Nieruchomości 2	58.2	87.4	96.1	40.8	70.1	73.1
Ipopema Rynku Mieszkaniowego	346.8	120.4	177.1	303.2	44.8	123.5
Skarbiec Fundusz Rynku Nieruchomości	122.1	59.3	82.2	107.5	47.5	69.3

Source: self-reported data

The highest value of the cost ratio was for BPH Sektora Nieruchomości (238.3%). This was the only fund whose costs were higher than the income from investments (thrice as high) for over six subsequent years (2006-2011). Furthermore, the fund started to benefit from the investments owned only in the seventh year of its being in operation and it maintained high costs over its entire lifetime.

The smallest increase in costs between the stages of portfolio building and investment management is recorded for BPH and BPH 2 (23 and 29 percentage points), with the costs during the portfolio building stage of the BPH fund standing at 220% and BPH 2 – 58%. Moreover, Skarbiec and Ipopema funds reduced the

values of this ratio. Skarbiec, gradually year by year, increased the income from investments while reducing the costs. Ipopema TFI, on the other hand, transferred the fund's functioning costs for 2015 onto itself and returned some of the costs for 2014. Skarbiec Fundusz Rynku Nieruchomości was the only fund to keep the costs at a low and stable level.

8. Concluding remarks

The investment results, which turned out to be low and disappointing to the investors, were influenced by several factors which the managers could not have foreseen. Clearly, the key factor was the economic downturn following the 2007 financial crisis and a deteriorating situation on the property market, which is particularly visible during the investment management stage. The average profitability of investment is negative for almost each fund. This is the result of the fall in the value of the facilities owned by the special purpose vehicles and declining income from the rental of the facilities. Also, the changes in the taxation of special purpose vehicles should be mentioned, as they forced the managers to create provisions for future tax obligations. Another key factor were the costs of functioning of the property funds which for the majority of cases were high, regardless of the operation stage and changes occurring within the funds' surrounding environment. Only Skarbiec Fundusz Rynku Nieruchomości conducted cost optimization, which allowed the costs to be reduced during the economic downturn and thus reduce losses in terms of the value of the investment certificates. In summing up, the conclusion is that the managers of the domestic property funds showed low management skills which led to the loss in value of the investment certificate way below the issuance price. Only in the case of one fund the management efficiency as exercised by the managers can be assessed as good (BPH Sektora nieruchomości 2). This fund's managers were successful in generating profit for investors, which allowed for maintaining the real value of the assets invested. As the financial results from the individual years show, the property funds can yield high profits (even 20% annually, as was the case for Arka Fundusz Rynku Nieruchomości and the maximum value of the investment certificate at the end of

2008). This, however, requires a more flexible approach to the provisions of law in force, and, in particular, to the provisions referring to allocating income and profits with a view to increase the value of the facilities owned. Furthermore, it is about reducing the operation costs and cost optimization, as well as paying out some of the profit generated to investors on an ongoing basis.

References

Byrne P., Lee S. (2003), An exploration of the relationship between size, diversification and risk in UK real estate portfolios: 1989-1999, „Journal of Property Research”, vol. 20 no. 2, pp. 191-206.

Gallo J.G., Lockwood L.J., Rodriguez M. (2006), Differentiating CREF performance, „Real Estate Economics”, vol. 34 no. 2, pp. 173-209.

Imazeki T., Gallimore P. (2009), Domestic and foreign bias in real estate mutual funds, „Journal of Property Research”, vol. 26 no. 4, pp. 367-389.

Jurek-Maciak M. (2007), Bezpośrednie i pośrednie sposoby inwestowania na rynku nieruchomości (Direct and indirect ways of investing in the real estate market), „Studia i Materiały Towarzystwa Naukowego Nieruchomości”, vol. 15 no. 3-4, pp. 93-102.

Leszczuk A. (2011), Fundusze nieruchomości (Real estate funds), in: Inwestycje finansowe, ed. Perez K., Ziarko-Siwiek U., CeDeWu, Warszawa, pp. 33-45.

Marcinkowska M. (2007), Ocena działalności instytucji finansowych (Evaluation of the activities of financial institutions), Wydawnictwo Difin, Warszawa.

Trzebiński A.A. (2013), Ocena sprawności zarządzania publicznymi funduszami nieruchomości w okresie 2006-2012 (Evaluation of the efficiency of managing public real estate funds in the period 2006-2012), in: Gospodarka, technologia, społeczeństwo. Metody poszukiwań naukowych młodych ekonomistów (Economy, technology, society. Methods of scientific research for young economists), ed. Wanat T., Polskie Towarzystwo Ekonomiczne Oddział w Poznaniu, Poznań, pp. 13-24.

Trzebiński A.A. (2015), Publiczne fundusze nieruchomości w Polsce (Public real estate funds in Poland), CeDeWu, Warszawa.

Ustawa z dnia 27 maja 2004 roku o funduszach inwestycyjnych (Act of 27 May 2004 on Investment Funds), Official Journal 2004, no. 146, item 1546 as amended.

Ocena działalności polskich funduszy nieruchomości likwidowanych w planowanych terminach

Streszczenie

Cel: Celem artykułu jest ocena sprawności zarządzania funduszami nieruchomości przez zarządzających i dochodowość funduszy.

Metodyka badań: W badaniu wykorzystano elementy analizy finansowej i studia wybranych przypadków.

Wnioski: Rezultaty badania wskazują na niską dochodowość badanych funduszy nieruchomości (tylko 1 fundusz przyniósł inwestorom zysk, natomiast pozostałe 5 stratę) oraz niską sprawność zarządzających i wysoką kosztochłonność prowadzonej działalności przez fundusze nieruchomości. Przeprowadzone badania wskazują na niską skuteczność stosowanych strategii inwestycyjnych i modeli biznesowych, które wymagają zmian i zastosowania innych rozwiązań.

Wartość artykułu: Badaniem objęto fundusze nieruchomości, które zostały zlikwidowane lub likwidację rozpoczęto w przyjętym przez zarządzających terminie, co pozwala na ocenę sprawności zarządzających na każdym etapie życia funduszy. Badania stanowią kontynuację wcześniejszych badań autora. Według wiedzy autora nie opublikowano do tej pory zbliżonych badań.

Słowa kluczowe: fundusze nieruchomości, dochodowość funduszy nieruchomości, sprawność zarządzania funduszami inwestycyjnymi, analiza finansowa

JEL: G17, G23

Accounting rules for revenues arising from insurance products offered in banks

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Abstract:

Aim: The paper follows up and builds on the author's considerations pertaining to the market of bancassurance products and the accounting treatment for remuneration banks receive for offering this kind of products. The article aims at presenting the new rules of accounting for and recognition of insurance commission in the bank accounting books, as they have been recommended by the Polish Supervision Authority (PSA) since 2013, and the assessment of impact of those new rules on the bank financial results.

Design / Research methods: This paper seeks to verify the hypothesis stating that the bank's financial performance may deteriorate significantly after the implementation of the new accounting rules for commission received for selling insurance products, recommended by the Polish Supervision Authority in 2013. The study was conducted on the basis of the reports of the Polish Chamber of Insurance, using the comparative analysis method. Moreover, the paper employs a critical analysis of academic literature and the PSA recommendation (guidelines) for bancassurance.

Conclusions / findings: The studies have confirmed the assumption made as to the financial performance of the banks in Poland offering bancassurance-type products over the early years of the PSA's new recommendation being in force.

Originality / value of the article: The set of issues this paper is dedicated to is very much up-to-date in Poland. In 2013, the new "U" recommendation of the PSA was implemented in banks, specifying, among other things, the rules for the recognition of revenue from offering insurance products.

Key words: bancassurance, insurance commission, effective interest rate

JEL: G21, G22, M41, M48

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Received: 21-06-2016, Revised: 21-04-2017, Accepted: 05-06-2017

<http://dx.doi.org/10.29015/cerem.299>

1. Introduction

The paper follows up and builds on my considerations pertaining to the market of bancassurance products and the rules of accounting for the banks' remuneration received for offering this kind of products (Pielichaty 2014: 208-216; Pielichaty 2015: 191-202). This paper also focuses on the set of issues relating to accounting treatment of the revenue arising from the banks' operations involved in the sales of insurance policies. The paper seeks to present the new rules of accounting for and recognition of insurance commission in the bank accounting books, as they have been recommended by the Polish Supervision Authority [*Komisja Nadzoru Finansowego*, PSA] since 2013, and the assessment of impact of those new rules on the banks' financial results.

In the Polish banking industry practice, it appears that the insurance commission revenue was recognized in the accounting books in a very diversified manner with respect, for example, to the extent to which those commissions were considered for the calculation of the effective interest rate which affects the carrying amount of credit receivables and the bank current financial result. The study carried out by the Polish Supervision Authority (PSA) over the period of 2012-2013, focusing on the banks' compliance with the high standards within the insurance distribution, as advocated by the PSA, revealed major irregularities (PSA 2012, 2013a, 2013b). According to the PSA, the irregularities related mainly to: banks acting both as the insurer and insurance intermediary, no possibility of taking direct action against the insurer by the insured or their heirs, hampered access to the content of the insurance contract by the customer, constraints on the customer's freedom of choice with respect to the insurance company, disproportionate commission amount,¹ unreliable information policy on possible claims of redress against customers.

The analyses conducted by the PSA show that in 2013 and before the banks significantly breached the accounting rules for the recognition of revenues from

¹ According to the analyses conducted by the PSA, in the past, the banks' remuneration for servicing insurance contract sometimes amounted to up to 95% of the premium paid by the customer (Kwaśniak 2013)

insurance mediation activities, failing to comply with the PSA's guidelines.² A large part of insurance commission was recognized only as a one-time revenue, despite the fact of it being closely linked to the sales of credit products. In 2013, the Polish Supervision Authority recommended a shift from one-time recognition of revenue from insurance commission to deferred accounting, in particular, with respect to group insurance contracts for credits taken by the bank customers. Nevertheless, the studies conducted in 2013 confirmed that the majority of systemically relevant banks did not follow the PSA's recommendations. As a result, with a view to making the bancassurance market more orderly in Poland, at the end of 2013, the Office of the Polish Supervision Authority developed a draft of the new market standard which was officially adopted in June 2014 as the new "U" recommendation on good practices within the scope of bancassurance.³

This recommendation is yet another step made to sort out the relations in the Polish bancassurance market.⁴ Identifying good market practices in the field of bancassurance is supposed to contribute to a wider and better protection of the participants and a stable growth of this market. The regulations established by the PSA also seek to sort out the rules on how the revenue from the insurance commission is accounted for and recognized, which should lead to more uniform rules on credit receivables measurement and determination of the bank's financial results. It is, however, to be expected that over the first years following the implementation of the new accounting rules for the insurance product sales commission the banks' financial results may deteriorate significantly. This paper seeks to verify this hypothesis. The studies were conducted based on the reports of the Polish Chamber of Insurance (PCI) [*Polska Izba Ubezpieczeń*], using the comparative analysis method. Moreover, the paper employs a critical analysis of academic literature and the recommendation (guidelines) of the PSA and the Polish

² According to the PSA, the revenue from the sale of insurance products should be recognized in the bank financial statement in accordance with the International Accounting Standard (IAS) Revenue (PSA 2013a).

³This recommendation was implemented by the banks before the end of March 2015.

⁴ The Polish Bank Association (Związek Banków Polskich/ZBP) was the first to take action addressing this issue (ZBP 2009)

Bank Association [*Związek Banków Polskich*, PBA] within the scope of bancassurance.

2. The essence and aims of bancassurance

Broadly speaking, bancassurance can be described as an activity which involves using the bank's facilities, services and customers for the purpose of selling insurance. One of the definitions used in the literature states that bancassurance involves operations performed by bank - insurance groups which are permanently linked institutionally aimed at offering both bank and insurance products (Urbaniak 2001; Śliperski 2002: 22). The links between banks and insurance companies, within the bancassurance strategy, can be as follows (Swacha-Lech 2008: 12):

1. subjective, where banks are the dominant party,
2. objective, where the bank engages its distribution channels in the insurance product sales.

According to the PSA, the bancassurance market involves the bank's offering insurance (intermediation activity to conclude an insurance contract or an offer of the accession to an insurance contract on behalf of a third party) under contracts concluded between the bank and insurance company, directly linked to the bank product, and those which are not directly linked to this product, as well as insurance products of investment or saving nature (the "U" Recommendation from June 2014: 6). Moreover, the PBA for the purpose of its own recommendation, defines bancassurance as a service rendered to banks' customers in which insurance coverage is offered under contracts concluded between banks and insurers of group insurance on behalf of banks' customers (PBA 2009: § 3(1)).

Bancassurance is the consequence of adjusting the structure of financial institutions to services and products that are being offered to customers, as well as the pursuit on the part of these institutions to render all those services by just one institution. It should be noted that both banks and insurance companies operate on the same market, i.e. a financial services market. This is precisely this aspect that makes their products similar or even complementary, with their target customer groups

overlapping considerably. Thus, they can act as competitive partners or cooperating partners, both benefiting from the so called synergy effect. Besides striving to obtain synergy, the main objectives behind the development of the bancassurance products market include: diversification of revenue sources, offering bundled services and shortening the time needed to develop new products, winning new customers and strengthening competitive position, increasing the capital profitability

One should, however, bear in mind that the bancassurance process, i.e. distributing and offering integrated financial services has a number of limitations of which the paramount are the legal constraints pertaining to the extent banking activity can be combined with insurance activity within one organization. Furthermore, the combined structures of the bank and insurer may prove to be excessively vulnerable to economic fluctuation.

Within the banking-insurance cooperation, the role of the bank is important for the bank's customers' insurance contracts which are concluded by the insurance companies. It is usually the bank that is the entity directly selling or offering the insurance service and it can act as:

- a person providing information, who indicates the possibility to conclude an insurance contract with a particular insurer,
- an insurance intermediary, who concludes a contract being authorized by one of the parties to the insurance contract,
- an insurer, who concludes an individual or group insurance contract on behalf of its customers who, under this structure, are the insured with the bank being required to pay insurance premiums (Cichy, Szewieczek 2012: 21).

Group insurance contracts make up a significant part of the Polish bancassurance market within which individual insurance contracts are also concluded. The individual insurance contracts do not need to be linked to a bank product (neutral insurance) and in the majority of cases those contracts are offered by the banks acting then in the capacity of an insurance intermediary.

In light of the most recent regulations, proper identification of the bank's role in the bancassurance procedure is crucial for a correct accounting for and recognition

of revenues arising from insurance commission. The next segment of this paper is concerned with this issue.

3. New rules for accounting for and recognizing revenue from insurance commission in banks

Before the implementation of the PSA's recommendations (guidelines) with respect to accounting for insurance commissions, the banks, as a rule, recognized those revenues on a one-time basis in their profit and loss account. For banks which were relevant from the point of view of the banking system (43% of the banking sector assets), acting as an insurance intermediary, over 96% of insurance commissions was recognized on a one-time basis as revenues, and in the group of other banks (32% of the banking sector assets) the figure stood at over 80%. Moreover, for banks acting as an insurer nearly 40% of insurance commission was recognized on a one-time basis as revenue, within the group of the systemically relevant banks, and 60% for other banks (Kwaśniak 2013). In this way the banks' current financial results were greatly improved; however, this kind of solution clearly breached the overriding financial accounting rules, including the matching principle of revenues and expenses, and the principle of substance over form. In order to eliminate those irregularities, now the PSA's "U" recommendation orders banks to account for the commissions received from the insurance products sales:

1. as revenues from the current period,
2. during the period when the banking product is being accounted for, or
3. partially over time, and partially as current revenues.

The method of accounting for the insurance commissions depends on the type of the service rendered by the bank, i.e. intermediation activity within insurance policies (the bank acts as an insurance intermediary) or the service providing insurance cover (the bank acts as an insurer).

4. Insurance intermediation activity

If a bank acts as an insurance intermediary, then the commission received or receivable should be recognized as revenue on the day of inception of insurance policies or their renewal. However, attention should be drawn to the fact that, according to the PSA's recommendations, if it is reasonably likely to occur that the bank will be required to render further services within the term of the insurance contract (other than the conclusion of the insurance contract), then the commission (or its part) should be accounted for during the duration of the contract. In this case the commission should be accounted for by:

1. reference to the stage of completion of the transaction at the close of the reporting period if the outcome of the transaction can be estimated reliably,
2. a straight-line method, if it is not possible to determine the number of acts undertaken during the term of the insurance policy.

One should also mention that if the outcome of the transaction involving the rendering of additional services cannot be estimated reliably, the recognition of revenues from the transaction should be recognized only to the extent of the expenses incurred by the bank which it expects to recover.

5. Insurance coverage

If the banks conclude a banking product contract and an insurance contract simultaneously, thereby rendering a hybrid financial service, then, according to the PSA, they are required to recognize the revenue received for this type of service depending on the titles of commissions and the accounting rules adopted for the recognition of financial instruments linked to them. In order to specify the manner in which the remuneration for distributing insurance products is recognized, it is necessary to determine the extent to which the insurance product is linked to the financial instrument, while taking into account the economic substance of the transaction. A direct link between the insurance product and financial instrument occurs in particular when at least one of the two conditions is met:

- a. the bank offers a financial instrument always together with an insurance product,
- b. an insurance product is offered by the bank exclusively with a financial instrument, i.e. it is not possible to buy at the bank an insurance product that is identical in terms of legal form, terms and conditions, and economic substance without buying the product bundled with a financial instrument.

The remuneration for offering insurance products which are directly linked with financial instruments, measured at amortized cost is accounted for according to the method of effective interest rate and recognized in income interest, except for the situation when the analysis of the direct link between the insurance product and financial instrument brings about the breaking down of the combined product, i.e. the separation of the fair value of the financial instrument offered and the fair value of the insurance product sold together with this instrument. In this case the remuneration for the insurance product sales should be split between the portion representing the amortized cost of the financial instrument and the portion representing the remuneration for performing intermediation actions.

The remuneration for rendering the intermediation service is recognized as the revenue arising from commission at the time of the insurance product sales or when it is renewed. If the bank renders additional services, the entire remuneration or its portion is accounted for during the contract's term, while taking into consideration the matching principle of revenues and expenses, and the stage of completion of the transaction. The break-down of the remuneration should be done proportionally: the financial instrument fair value and the intermediation service fair value respectively in relation to the sum of both of those values, i.e. according to the so called "relative fair value method". The fair value of the intermediation service should be measured based on the market approach, which involves using prices and other relevant information generated by identical and comparable market transactions. The financial instrument fair value, on the other hand, should be measured based on the income capitalization approach, which involves the calculation of what is the present value of future amounts.

The established proportion, i.e. the proportion of the fair value of intermediation service in the sum made up of the intermediation service fair value and financial

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instrument fair value, is used to divide the remuneration received for insurance into three components, which are identified differently in the profit and loss account, i.e.:

- intermediation component – a one-time recognition,
- component which is integrated with the financial instrument – amortized using the effective interest rate method,
- component representing the remuneration for after-sales acts – accounted for based on a straight-line method.

In addition, there should be estimation carried out of the remuneration amount that will be returned (e.g. the customer cancels insurance, advance payments or other reasons) during the times following the insurance product sales. Within the portion pertaining to the intermediation service, provision is created for this kind of returns, while the effective interest rate is adjusted by the portion attributed to the revenue accounted for at amortized cost.

The above rules for accounting for insurance commission in banks are demonstrated in practical terms based on the numerical example presented below.

Example 1

Assumptions:

The credit nominal value: PLN 25 000

Intermediation service fair value: PLN 1 800

Financial instrument fair value: PLN 20 000

Remuneration for bancassurance: PLN 2 000

Remuneration for interest on credit: PLN 4 000

The remuneration return – 30% of the remuneration received

Accounting for the remuneration for bancassurance according to the „U” Recommendation:

Step 1:

The proportion of the fair values of the intermediation service and financial instrument:

intermediation service: $(1800 / (1800 + 20000)) \cdot 100 = 8.3\%$

financial instrument: 91.7%

Step 2:

Breaking- down the total remuneration into individual components:

intermediation service component: $8.3\% \cdot (2000 + 4000) = 500 \text{ zł}$

component directly linked to the credit : $91.7\% \cdot (2000 + 4000) = 5500 \text{ zł}$

Step 3:

Provision amount allocated for the remuneration return: $30\% \cdot 2000 = 600 \text{ zł}$

Step 4:

Accounting for the revenues from the insurance product sales in the bank:

the amount of insurance commission recognized on a one-time basis and the remuneration for after-sale acts accounted for on a straight-line basis:

$500 - (8.3\% \cdot 600) = 458.50 \text{ zł}$, which represents 22.9% of the total remuneration,

insurance commission amount integrated with the financial instrument deferred using the ESP:

$1500 - 558.50 - 941.50 \text{ zł}$, which represents 47.1% of the total remuneration.

The above example clearly demonstrates that the change of the rules for accounting treatment of insurance commission has the effect that a much larger proportion of the remuneration for bancassurance is deferred using the effective interest rate than it has been the case so far.

6. The financial implications of the change of the accounting method for insurance commission in the bank accounting books

The lack of the uniform solutions in terms of the break-down of bank revenues for insurance intermediation into the portion that is deferred using the effective interest rate and the portion accounted for on a one-time basis (or interim) through the bank financial result leads, in the banking industry practice, to the value of the credit

portfolio and the bank financial performance to develop freely. Depending on the proportions by which the insurance commission is broken down, the value of credit portfolios at the adjusted purchase price and the bank current financial results can vary significantly. Obviously, the scale of those differences is closely dependent on the sales volume of insurance products and the insurance commissions thus obtained.

On the basis of the analysis of the financial statements of selected commercial banks, such as Getin Noble Bank S.A., Alior Bank S.A. and PeKaO S.A the conclusion is that over the period of 2008-2012 those banks, in principle, made no assessments in terms of the linking of the insurance product with credit products while accounting for insurance commissions. A large portion of the insurance commissions was accounted for in those banks on a one-time basis through profit and loss. Only Alior Bank, over the period of 2008-2012, broke down the remuneration received for selling insurance products bundled with credit products into the one-time portion (recognition of the revenue for rendering insurance distribution services) and the portion with a deferred accounting (recognition in the credit measurement using the effective interest rate); however, based on the unit proportions of the sale price of those products. As the result of employing this method, the bank accounted on accrual basis for only 12.5% of the commissions received for the sales of insurance products for cash loans; 3.3% for mortgages and 4.8% for car loans.

In the first half of the year 2013, Getin Noble Bank also implemented changes within the accounting policy in terms of accounting for commissions received thanks to bancassurance. At that time, the bank began to break down those commissions into the portion recognized on a one-time basis in the financial result and the portion with deferred accounting, however, on a straight line basis during the term of the insurance contract.

In line with the PSA's guidelines and recommendations of 2013 addressed to banks, already discussed before, the examined banks changed their accounting policies on 1 January 2013, which made it necessary to restate the data retrospectively in accordance with the International Accounting Standards (International Financial Reporting Standards 2011, IAS 8: Accounting Policies, Changes in Accounting Estimates and Errors). The banks decided to modify the model so far applied for the break-down of the remuneration received for the intermediation services rendered

within the sales of insurance linked with credit products – into the portion of remuneration to be recognized on a one-time basis in the profit and loss account and the portion using deferred accounting – following the IAS rules and the guidelines indicated by the PSA. The remuneration received for the distribution of insurance products offered together with the credit products, in accordance with the economic substance of the transaction, currently represents:

1. an integral portion of the remuneration for the financial instrument offered,
2. remuneration for rendering intermediation service or
3. remuneration for rendering additional acts performed during the insurance contract duration (accounted for by the banks during the period in which those services are being rendered).

As on 31 December 2013, the method, which was based on the relative fair value model, was implemented for deferred accounting for the remuneration received for insurance offered together with mortgage and cash loans. The banks' accounting policy within the scope of accounting for the fees charged for selling insurance products was based on the requirements of IAS 18: Revenue and Attachment no 1 to this standard, while taking into consideration the overriding accounting principle of substance over form.

The above cited banks adjusted the comparative data at the end of 2012 making adjustments to:

- the profit and loss account in terms of revenue from interest, commissions and fees,
- statement of financial position for: credit and loans granted to customers, retained earnings from previous years and deferred income

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Table 1. Selected items of the profit and loss account as on 31 December 2012 – before and after the change of the accounting method for income generated by insurance products sales (value in thous. PLN)

Items	original data as on 31.12.2012	adjustment for the change of rules for accounting for insurance commission	as on 31.12.2012 after adjustment
Alior Bank			
Interest income	1,282,843	116,791	1,399,634
Net interest income	709,744	116,791	826,535
Fees and commission income	667,306	-301,154	366,152
Fees and commission expenses	-197,937	27,767	-170,170
Net commission and fee income	469,369	-273,387	195,982
Gross profit/loss	227,635	-139,424	88,211
Net profit/loss	172,393	-112,933	59,460
Getin Bank			
Interest income	4,255,213	100,989	4,356,202
Net interest income	1,195,781	100,989	1,296,770
Fees and commission income	934,113	-148,105	786,008
Fees and commission expenses	-226,420		-226,420
Net commission and fee income	707,693	-148,105	559,588
Gross profit/loss	369,519	-46,807	322,712
Net profit/loss	310,957	-37,914	273,043
PeKaO			
Interest income	7,917,577	121,755	8,039,332
Net interest income	4,529,578	121,755	4,651,333
Fees and commission income	2,549,630	-135,008	2,414,622
Fees and commission expenses	-524,145	-	-524,145
Net commission and fee income	2,025,485	-135,008	1,890,477
Gross profit/loss	3,608,853	-15,927	3,592,926
Net profit/loss	2,938,155	-12,901	2,925,254

Source: self-reported data based on the annual reports of the analyzed banks.

The financial consequences of the adjustments made because of changing the method by which revenues arising from the insurance product sales are accounted for are demonstrated in Table 1, for the relevant items in the profit and loss account. The figures included in the table show that the change in the accounting method for insurance commission had a significant impact on the banks' financial position. The change of rules with respect to how the revenue from the insurance commission is recognized in the profit and loss account at Alior Bank, Getin Noble Bank and PekaO led to the fall in the commission and fee income by PLN 273,387 thousand; PLN 148,105 thousand and PLN 135,008 thousand, respectively. The varying impact of the change of this accounting policy on the bank situation in terms of income and capital arises from the scale of the insurance products sales, as well as a different methodology applied so far in this area by the examined banks.

As a result of the changes implemented in the accounting policy within the bancassurance area, over the years 2013-2014, the banks in question began to defer most of the remuneration (70-90%) for rendering the insurance services using the effective interest rate. At the moment of selling the insurance policy, they recognized it as a one-time revenue of the following amount:

- Getin Noble Bank from 0% to 14% for retail credit; between 0% and 35% for mortgages and car loans, and 10% for corporate sector loans;
- Alior Bank 13% and 20% respectively for cash loans and mortgages;
- PeKaO 12 % and 30% respectively for cash loans and mortgages.

7. The impact of the „U” Recommendation on the insurance products sales through bank channels

The 2015 report of the Polish Insurance Chamber (PIC) dedicated to bancassurance finds that the “U” Recommendation, effective already for over a year, brought significant changes in terms of the sales of insurance products using the bank distribution channels. Besides the ever stronger position of the individual insurance policies, another valid outcome of this recommendation being in force has been a significant fall in the sales of insurance policies through banks. In particular,

this decline is clear within the sale of life insurance policies. The PIC’s report shows that at the end of 2015 the income from this insurance department within the bancassurance channel framework was at PLN 10.6 billion, which represented 39.2% of the total revenues generated by this sector within this area of insurance policies. This means that in the last year the share of life bancassurance in the performance of the entire sector fell by 1.6 percentage point. Still, the situation is even worse when compared with the years 2012 and 2013, when the premiums from this segment collected through banks as an intermediary were at 53% and 46.7% respectively of the revenues from life insurance premiums in total. The impact of the “U” Recommendation on the amount of premiums obtained through bank channels in the life insurance department over the period of 2012-2015 demonstrates Table 2.

Table 2. The premium amount collected through the bancassurance channel against the total premium of life insurance companies (in PLN Bln)⁵

Items	2012	% of total	2013	% of total	2014	% of total	2015	% of total
The premium collected through the bank channel	19.2	53.48	15.2	46.63	12.3	40.86	10.6	39.26
Other premium	16.7	46.52	17.4	53.37	17.8	59.14	16.4	60.74

Source: PIC (2016: 6-7)

Moreover, in 2015, within the non-life bancassurance, PLN 2.22 billion worth premiums were collected which corresponded to 9.7% of the total result of this insurance department. Over the earlier period of 2012-2015 the premiums collected for non-life insurance through the bank channels were at 7.2%, 9.2% and 10.4% respectively. Looking at Table 3, it is easy to notice that the impact of the “U” Recommendation on the collection of non-life insurance premiums under the

⁵ The study was conducted on a sample of 23 insurance companies whose total share in the life insurance market over the period of 2012-2015 represented 97-98,5% (PIC 2016: 5).

contracts concluded through the banks acting as intermediaries is indeed smaller, and the fall in revenues began only last year, in 2015 (fall by 0.74 percentage point).

Table 3. The premium amount collected through the bancassurance channel against the total premium of non-life life insurance companies (in PLN Bln)⁶

Items	2012	% of total	2013	% of total	2014	% of total	2015	% of total
The premium collected through the bank channel	1.44	7.94	2.04	9.24	2.34	10.40	2.22	9.66
Other premium	16.7	92.06	20.04	90.76	20.17	89.60	20.75	90.34

Source: PIC (2016: 21-22)

As already mentioned before, one of the consequences of the PSA recommendation being in force on the bancassurance market is increased relevance of individual insurance contracts. The findings of the PIC Report show that over the last years the value of the premiums collected from individual life insurance policies rose significantly, which were sold using the banking distribution channels. This is particularly noticeable in the group of investment products and protection products linked with the banking product. With respect to the first ones, in 2015 the share of the individual policy premiums was at 80.6% (in 2014 it was 54.7%), and for the second group of products it was 65.4% (in 2014 there was only group insurance). As for the non-life insurance, this department is still dominated by group insurance policies, whose share in the total number of policies, as at the end of September 2015, was at 93%, i.e. the individual contracts represented only 6.9%. However, year on year, the relation between the group insurance contracts and individual contract changes; just to compare, last year it was at 97.7% and 2.3%.

⁶ The study was conducted on a sample of 20 insurance companies whose total share in the non-life insurance market over the period of 2012-2015 represented 76-90% (PIC 2016: 20)

8. Concluding remarks

The PIC reports on bancassurance demonstrate that the “U” Recommendation, in force for over a year, has led to a fairly considerable decrease in the amount of insurance premiums collected through bank distribution channels, both for Department I, i.e. life insurance and Department II – non-life insurance. This means that the banks’ income for offering insurance products declined significantly, which is confirmed by the results in 2010-2014 of the banks covered by the study for the purpose of this paper (see Table 4). It is difficult to predict rationally how the future trend in terms of the revenues from the sales of the bancassurance-type products will develop, and it is, therefore, not easy to assess what the further impact of the recommendation on the banks’ results will look like. However, it is clear that the PSA recommendation indeed sorted out the bancassurance product market, leading to better protection of the interests of the insured. In particular, crucial is here greater importance of the individual insurance contracts under which the policy holder has a full access to the content of insurance contract and may take actions directly against the insurer. This has the effect that banks cease to play a double role on the bancassurance market – that of the insurer and that of insurance intermediary.

Yet another outcome of the recommendation is that the bank’s customer’s insurance burden has diminished significantly. For rendering the service whose objective is the conclusion of an insurance contract, the bank may only demand the return of the expenses incurred in relation to the insurance contract conclusion. As already mentioned in the paper’s introduction, the share of the banks in the insurance premium before the implementation of the PSA recommendation was considerable and often amounted to 70-90%. Consequently, insurance commissions paid by the bank’s customers, who were offered a bank product together with insurance product, were relatively high and the customer’s pursuit of claims under the policy significantly hampered given that the bank also acted as the insurer.

The implemented recommendation also sorted out and harmonized the bank accounting policy rules in terms of the recognition of revenues for insurance commission in the current profit and loss account and its impact on the measurement of credit receivables. Deferring insurance commission using effective interest rate is

a solution, for bancassurance products, which fully respects the conceptual assumptions of the IAS.

Table 4. The banks' financial results and their dynamics over the period of 2012-2014

Items	as on 31.12.2012 in PLN thous.	as on 31.12.2013 in PLN thous.	dynamics 2013/2012 (%)	as on 31.12.2014 in PLN thous.	dynamics 2014/2013 (%)
Alior Bank					
Gross profit/loss	88211	277119	314,15	413258	149,13
Net profit/loss	59460	219752	369,58	337030	153,37
Interest income	826535	989835	119,76	1200640	121,30
Fees and commission income	195982	258193	131,74	348014	134,79
Getin Bank					
Gross profit/loss	322712	376851	116,78	413258	109,66
Net profit/loss	273043	310755	113,81	337030	108,46
Interest income	1296770	1254116	96,71	1200640	95,74
Fees and commission income	559588	341411	61,01	348014	101,93
PeKaO					
Gross profit/loss	3592926	3436400	95,64	413258	12,03
Net profit/loss	2925254	2800000	95,72	337030	12,04
Interest income	4651333	4310524	92,67	1200640	27,85
Fees and commission income	1890477	1911297	101,10	348014	18,21

Source: self-reported data based on the banks' reports

Finally, it must be concluded that the hypothesis formulated in the paper's introduction, stating that the recommendation implemented by the PSA will reduce the revenue from the sales of insurance products through banks has been verified positively. The statistical data resulting from the PIC reports, which was presented and analyzed here, demonstrate that over the last two years the banks' revenues from the sales of bancassurance products have clearly declined, especially as regards the Department I insurance. The same effect has the conversion of group insurance into individual contracts, in light of the "U" Recommendation, which are now generating a much lower revenue. Moreover, the change in the accounting rules for insurance

commission to be applied in the bank accounting books has also influenced the fall in the revenue arising from insurance commission.

References

Cichy J., Siewieczek D. (2012), *Bancassurance w Polsce (Bancassurance in Poland)*, Wydawnictwo UE w Katowicach, Katowice.

Kwaśniak W. (2013), Założenia merytoryczne dla spodziewanej rekomendacji bancassurance KNF, V Kongres Bancassurance, 24-25 października 2013.

Międzynarodowe Standardy Sprawozdawczości Finansowej (2011), vol. 1-2, IASB-SKwP, Londyn-Warszawa.

PBA [Związek Banków Polskich] (2009), Rekomendacja ZBP z dnia 3 kwietnia 2009 r. w sprawie dobrych praktyk na polskim rynku bancassurance w zakresie ubezpieczeń ochronnych powiązanych z produktami bankowymi, <https://piu.org.pl/public/upload/ibrowser/Rekomendacje/I%20Rekomendacja%20Bancassurance.pdf> [23.09.2017].

Pielichaty E. (2006), Wycena należności kredytowych w świetle regulacji krajowych i Międzynarodowych Standardów Rachunkowości, in: *Standardy rachunkowości wobec wyzwań współczesnej gospodarki, t. 2: Analiza standardów rachunkowości*, ed. Messner Z., Katowice, pp. 357-368.

Pielichaty E. (2007), Koszty transakcyjne a wycena należności kredytowych, in: *Rachunkowość w teorii i praktyce, t. 1: Rachunkowość finansowa*, ed. Gabrusewicz W., Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań, pp. 257-263.

Pielichaty E. (2014), *Zasady rachunkowości banku w świetle rekomendacji U*, „Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu”, no. 373, pp. 208-216.

Pielichaty E. (2015), Rozpoznawanie przychodów ze sprzedaży produktów ubezpieczeniowych w księgach rachunkowych banków, „Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu”, no. 390, pp. 208-216.

PIC [Polska Izba Ubezpieczeń] (2016), *Polski rynek bancassurance*, <https://piu.org.pl/wp-content/uploads/2017/03/Polski-rynek-bancassurance-2016Q.pdf> [23.09.2017].

PSA [Komisja Nadzoru Finansowego] (2012), Stanowisko Urzędu KNF z dnia 21 lutego 2012 r. w sprawie bancassurance, DLU 606/33/1/2012.

PSA [Komisja Nadzoru Finansowego] (2013a), Stanowisko Urzędu KNF z 7 marca 2013 r. w sprawie sposobu ujmowania przez banki w przychodach prowizji ubezpieczeniowych

PSA [Komisja Nadzoru Finansowego] (2013b), Stanowisko Urzędu KNF z 23 grudnia 2013 r. w sprawie sprawozdań finansowych banków.

PSA [Komisja Nadzoru Finansowego] (2014) Rekomendacja U z czerwca 2014 r. dotycząca dobrych praktyk w zakresie bancassurance, Komisja Nadzoru Finansowego, Warszawa.

Rozporządzenie MF z dnia 1 października 2010 r. w sprawie szczególnych zasad rachunkowości banków, Official Journal 2010, no. 191, item 1279.

Swacha-Lech M. (2008), Bancassurance. Sprzedaż produktów bankowo-ubezpieczeniowych, Cedewu, Warszawa.

Śliperski M. (2002), Bancassurance – związki bankowo-ubezpieczeniowe, Wydawnictwo Difin, Warszawa.

Urbaniak M. (2001), Bancassurance, „Bank”, no. 4.

Ustawa z dnia 29 września 1994 r. o rachunkowości, Official Journal 1994, no. 121, item 591.

Zasady rozliczania przychodów z tytułu oferowania produktów ubezpieczeniowych w bankach

Streszczenie

Cel: Artykuł jest kontynuacją rozważań autora na temat rynku produktów bancassurance i zasad rozliczania wynagrodzeń otrzymywanych przez banki z tytułu oferowania tego rodzaju produktów. Celem artykułu jest przedstawienie nowych zasad rozliczania i ujmowania prowizji ubezpieczeniowych w księgach banków, które są rekomendowane od 2013 r. przez Komisję Nadzoru Finansowego (KNF), oraz ocena ich wpływu na wyniki finansowe banków

Metodyka badań: W niniejszym artykule podjęta została próba weryfikacji hipotezy, że wyniki finansowe banków mogą ulec istotnemu obniżeniu, po wdrożeniu nowych zasad rozliczania prowizji z tytułu sprzedaży produktów ubezpieczeniowych, rekomendowanych od 2013 r. przez Komisję Nadzoru Finansowego (KNF). Badania przeprowadzono na podstawie raportów Polskiej Izby Ubezpieczeń z zastosowaniem metody analizy porównawczej. W artykule wykorzystano także metodę analizy krytycznej piśmiennictwa oraz rekomendacji (zaleceń) KNF w zakresie bancassurance.

Wnioski: Przeprowadzone badania potwierdziły przypuszczenia co do kształtowania się wyników finansowych banków w Polsce, oferujących produkty typu bancassurance, w początkowych latach obowiązywania nowej rekomendacji KNF w tym zakresie.

Wartość artykułu: Problematyka, której poświęcono niniejszy artykuł, jest w Polsce bardzo aktualna. W 2013 r. została bowiem wdrożona w bankach nowa Rekomendacja "U" KNF, określająca m. in. zasady ujmowania przychodów z tytułu oferowania produktów ubezpieczeniowych.

Implikacje: Artykuł ukazuje praktyczne skutki wdrożenia nowych zasad rozliczania prowizji ubezpieczeniowych dla wyceny portfeli kredytowych w bankach, powiązanych z produktami ubezpieczeniowymi. Stanowi cenny materiał źródłowy dla bankowców, zajmujących się problematyką rozliczania prowizji ubezpieczeniowych w księgach rachunkowych banków.

Ograniczenia: Artykuł może inspirować do prowadzenia dalszych badań nad metodami wyceny produktów typu bancassurance.

Słowa kluczowe: bancassurance, prowizja ubezpieczeniowa, efektywna stopa procentowa

JEL: G21, G22, M41, M48

Taxation of agricultural holdings in Poland with personal income tax

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Abstract:

Aim: The paper deals with the subject of the shift in Poland's form of agricultural taxation from agricultural tax to personal income tax. The author decided to explore this topic since the taxation of agriculture is an important issue from the standpoint of economic practice. In addition, a similar solution exists virtually in all the European Union countries. The research objective of this paper is an attempt to assess the fiscal consequences for the state arising from the change of the agricultural taxation form.

Design / Research methods: The paper employs literature research and examines legal acts, as well as conducts empirical simulation. The literature research and that concerned with legislation were aimed at presenting the forms of agricultural taxation in the EU countries and the approaches to taxing agricultural incomes. The empirical simulation of fiscal effects of agricultural taxation in Poland has been carried out in three scenarios: general (using different sample rates), comparing with agricultural tax, and revenues distribution across the state budget and territorial self-government units.

Conclusions / findings: The empirical studies conducted for the years 2010-2014 have shown that replacing agricultural tax with income tax would be a good solution for farmers, provided that low tax rates were to be applied. At higher rates, this solution would be unfavorable. At the same time, the replacement of agricultural tax with income tax would benefit the state and regional governments and counties, as their budgets would gain additional tax revenues. On the other hand, the municipal government would benefit with the application of tax rates higher than 10%.

Originality / value of the article: In the context of the existing research, the scientific value of the paper consists in the comparison of the amount of agricultural tax receipts with those from the farm income taxation.

Keywords: agricultural tax, personal income tax, income from agriculture, farming, special branches of agricultural production.

JEL: G38, H24, H25, H71, K34, Q14

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Received: 07-11-2016, Revised: 18-05-2017, Accepted: 01-06-2017

<http://dx.doi.org/10.29015/cerem.325>

1. Introduction

Over the period of 2010-2014, the income of agricultural holdings in Poland grew from PLN 27 billion to PLN 29.6 billion (GUS [Central Statistical Office] 2011-2015; Nurzyńska, Poczta 2014: 108). The same years saw also an increase in the revenues from the agricultural tax in force, from PLN 969 million in 2010 to PLN 1 654 million in 2014 (BDL [Local Data Bank] 2016). The paper's primary objective is to assess the fiscal implications for the state arising from the agricultural tax reform in Poland.

The change in the tax system in the context of agricultural holdings in Poland is a major issue from the perspective of economic practice. Levying income tax on agriculture could be beneficial for the stakeholders themselves, that is, farmers, as well as the state. Taxation of agricultural income with income tax exists in many EU countries, which the domestic literature finds to be of particular interest. The issue was first touched upon in 1995 by Marian Podstawka. Today, the distinguished authors in this field include: Ryta Iwona Dziemianowicz (2007 and 2013), Roman Kisiel and Katarzyna Idźkowska (2014), and Joanna Pawłowska-Tyszko (2013). Outlining the taxation methods applied to income from farming across different EU countries may prove useful for the implementation of the relevant changes in the Polish legislation.

The paper consists of five parts and a concluding section. The first part presents a general outline of the forms of agricultural taxation across the EU countries applying income tax. In the second part, the agricultural taxation with income tax is presented, as it is exercised in different countries. The third part describes agricultural holdings in Poland. In the fourth part, the agricultural taxation in Poland is characterized, with a particular emphasis being put on agricultural tax and tax on special branches of agricultural production. The fifth part contains the simulation of the fiscal effects arising from replacing the agricultural tax with the tax on farm income. The final part of the paper evaluates the fiscal implications of the new project.

2. Forms of agricultural taxation in the EU countries

Tax issues are of major importance for domestic economies across all countries, for taxes represent the main source of raising government revenues. The development of the taxation systems of the EU Member States has been influenced by historical, economic and social factors. Although each of the EU countries has its unique and one of a kind tax system, it is still possible to spot similarities, in particular, between the neighboring EU countries (Krajewska 2012: 202).

In the EU Member States, agriculture is included in the general tax system. In most of those countries, the agriculture sector enjoys specific tax benefits, and not infrequently even a special tax treatment which, for example, results from the specificity of agricultural production. However, those are detailed arrangements which are likely to function within uniform schemes, encompassing also the taxation of the non-agricultural sector. In addition, we need to consider the fact that within the EU, there are countries where farming enjoys a preferential tax treatment (e.g. France). Still, there are also countries where this preferential taxation is limited (e.g. the Czech Republic), or there are no preferences at all with respect to taxing agriculture (Denmark) (Pawłowska-Tyszko 2013: 118).

In the EU countries, agricultural holdings are most commonly liable for tax on agricultural income, property and turnover. The tax burden can, therefore, be split into three groups (Dziemianowicz 2007: 185-186): income taxes (personal and corporate income tax and tax on capital gains), property taxes (on immovable property, income from the property, inheritance and gifts) and consumption taxes (VAT).

Table 1 illustrates the individual taxpayer groups subject to tax on agriculture across the EU countries. Within the EU agriculture, family farms are the dominant group, with the number of legal persons conducting agricultural activity being rather insignificant. This is mainly due to the fact that the tax system in place, which, through particular measures, prefers the agricultural business to be run in the form of a family farm. That is why one of the most important taxes imposed on agriculture is the personal income tax. In the majority of the EU countries, especially those from the old Fifteen, the principle is not to exclude from taxing the agricultural

production income (Dziemianowicz 2007: 186). The agricultural income generated by individuals is, thus, treated equally to that generated by non-agricultural activity, being also subject to progressive taxation. For agricultural incomes, the same progressive scale is applicable as for incomes obtained from non-agricultural activities.

Table 1. Taxation of agriculture in the EU countries (legal state as on 5.05.2017)

Country	Income tax			Wealth tax			Consumption tax
	personal income tax	corporate income tax	on capital gains	on inheritance and gifts	on transfer of ownership	other	VAT and excise duty
Austria	+	+	– *	–	+	+	+
Belgium	+	+	+	+	+	+	+
Czech Republic	+	+	+	+	+	+	+
Denmark	+	+	+	+/- ***	+	+	+
Finland	+	+	– *	+	–	+	+
France	+	+	+	+	+	+	+
Greece	+	+	– *	+	+	+	+
Spain	+	+	+	+	+	+	+
The Netherlands	+	+	+	+	+	–	+
Ireland	+	+	+	+	+	+	+
Luxembourg	+	+	– *	+	+	+	+
Germany	+	+	+	+	+	+	+
Poland	+	+	+	+	–	+	+
Sweden	+	+	+/- **	–	+	+	+
Hungary	+	+	+	+	+	+	+
The UK	+	+	– *	+	+	+	+
Italy	+	+	+	–	+	+	+

* included in CIT, ** in corporate income tax, capital gains are included in the income, while individuals pay a separate tax on capital gains, *** transfer tax

Source: self-reported data based on (European Commission 2017; European Commission 2016; Pałowska-Tyszko 2013; Dziemianowicz 2007; Podstawka 1995).

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For taxes on wealth, the countries where there is no tax on inheritance and gifts include: Austria, Sweden and Italy. In Denmark, the tax on inheritance and gifts has the form of a transfer tax, while in Ireland it is in the form of a local fee for capital acquisition. In most of the countries examined, there is a tax burden relating to the transfer of property ownership (with the exception of Finland and Poland). However, in Austria, the Netherlands, Ireland and Sweden it is in the form of a stamp duty, while in Italy of a registration charge. Moreover, in most of the countries in question (the Netherlands being an exception), there are also other fiscal liabilities in agriculture linked to wealth. They usually involve taxes relating to property ownership (buildings and land). In Luxembourg, Germany and Sweden, the tax has been maintained on the property cadastral value, with the first country mentioned using it as a local tax. In several other countries, we can encounter interesting solutions in terms of property taxes. In Austria the object of taxation is the estimated value of property, while in Finland it is the tax value of property. In Ireland, on the other hand, it is a local lump-sum fee for using property that is taxed, whereas in Spain it is determined based on the net wealth value. In other countries, the wealth tax on items of property is based on the property value. In the Czech Republic it is a quasi-cadastral tax, and in the United Kingdom it is exclusively local tax. A fiscal burden which is similar to land tax exists in the Czech Republic, Denmark, Spain and Hungary. In Italy, the tax on financial assets invested abroad is classified as other wealth tax. Polish farmers, apart from property tax, also pay the following taxes: agricultural, forest, means of transport and civil law transactions (Pawłowska-Tyszko 2013: 119).

In all the EU member states examined the consumption taxes (VAT and excise duty) constitute a burden within farming. The tax which is most relevant fiscally is the value added tax (VAT). Its structure is similar across all the EU countries. However, taking a closer look at its details reveals certain differences in terms of: the level and number of tax rates, the list of products covered by individual rates, the list of this tax exemptions and fiscal technique used for registration and accounting for the tax charges.

3. Taxation of agriculture with income tax in the selected EU countries

In the EU countries, in terms of the taxation of agriculture, the prevalent type of income tax is personal income tax. This approach to taxing agriculture arises from the dominant role played by family farms in the agrarian structure of the EU countries and, to a lesser degree, by companies of natural persons or partnerships. The Czech Republic somewhat differs in this respect, since there cooperatives and limited liability companies (legal persons) play a substantial role. In Poland, the most crucial role in the taxation of agriculture is played by the agricultural tax, which is not related to tax charges of the income nature – this will be further expounded in point 5. Moreover, in most of the EU member states there is a separate tax on capital gains, to which farmers are also subject. Only in Austria, Greece, Finland, Luxembourg, Portugal, Sweden and the UK capital gains are included in the income tax levied on legal persons. In France, on the other hand, capital gain tax is in the form of a lump-sum capital fee (Pawłowska-Tyszko 2013: 119).

Table 2 shows personal income tax rates in the taxation of agriculture in 2016. The presentation and description of the methods employed for taxing farm income in different EU countries displays a broad spectrum of solutions that could also be applied in Poland.

In the case of income tax levied on farms the key is the method to determine the taxable amount. There are two methods used to this end: estimation method and real method. The estimation method (estimated income) consists in estimating income from the farm. In using this method farmers are not required to keep accounting books, or they keep simplified accounts. This system exists, for example, in France, Austria and Germany. The real method (income-based), meanwhile, involves the determination of taxable amount on the basis of the actual income generated by a farm and resulting from the accounting book records. In using this method, farmers are required to keep complete account records (just like enterprises). This situation is especially common in the Netherlands (Podstawka 1995: 27-29).

The Austrian personal income tax refers to income obtained by persons running a farm. The income generated by farming is subject to a progressive tax scale. The progressive rate level is dependent on the amount of income and the tax bracket it is

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classified in (European Commission 2017). In 2016, the tax rates levied in Austria ranged between 0% and 55%.

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Table 2. Income tax rates in agriculture in the EU countries in 2016 (legal state as on 5.05.2017)

Country	Tax rates
Austria	25-50%
Belgium	25-50%
Bulgaria	lump-sum at 10%
The Czech Republic	flat rate at 19% (CIT) and 15% (PIT)
Denmark	25.6%
Finland	6.5-31.75%
France	14-45%
Greece	22-42%
Spain	19-45%
The Netherlands	36.55-52%
Ireland	20 and 40%
Luxembourg	0-40%
Germany	14-45%
Poland*	18% and 32%
Sweden	20% and 25%
Hungary	15%
The UK	20-45%
Italy	23-43%

*In Poland, only special branches of agricultural production are covered by personal income tax.

Other farm income is covered by agricultural tax.

Source: self-reported data based on (European Commission 2016; European Commission 2017).

In Belgium, the income generated by farms is determined using the real method (keeping complete accounting records) or the estimation method (no accounting records – so called – unit appraisal method of valuation). The method employed to determine income is dependent on the taxpayer's choice. The income is made up of

the revenue arising from the farm less the farm's expenses. It is subject to taxation according to general arrangements while applying the progressive scale with rates ranging between 25-50% (in 2016). In addition, Belgian farmers can apply for a variety of tax credits, such as, e.g. child tax relief, investment tax relief, yet they are not allowed to transfer losses onto subsequent fiscal years (Dziemianowicz 2013: 51-52).

For many years, the tax system applied in Bulgaria to income from agricultural activity was the most attractive from the taxpayers' point of view, compared to all the tax systems existing across the EU countries. In the first place, income (including that from farming – if it is subject to taxation) is taxed according to a 10%-lump sum rate. This is the lowest tax on income in the whole European Union. In addition, until 2009, the income from farming was almost entirely exempted from income tax. The only exception being the cultivation of ornamental plants. As a result of the amendment of the personal income tax legislation incomes from farming have largely been included within the taxation scope in Bulgaria (Bieluk 2014).

In the Czech Republic, corporate income tax is of crucial relevance to the taxation of agricultural holdings with income tax. This arises from the fact that 75% of the utilized agricultural land is owned by cooperatives of legal persons. The income generated by farming is determined on the basis of accounting books, it being the difference between revenue and tax deductible costs – taxable at a 19%-tax rate. However, natural persons running a farm can tax their income using a 15%-PIT rate. The income generated by a family farm can be determined using the estimation method, but only provided that the payer of the personal income tax is neither a member of a cooperative nor a VAT payer, and he/she runs exclusively a family farm (Pawłowska-Tyszko 2013: 101-104).

In Denmark, there are no preferences with respect to the taxation of farming. Natural persons' income from agricultural activity is taxed according to identical tax rules as those applied to income coming from other sources. The only convenience granted to farmers is no requirement to keep accounting records by persons whose farms are either smaller than 15 hectares or their income does not exceed EUR 23 522 (Pawłowska-Tyszko 2013: 115).

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The Finnish taxation system applied to private income provides for two taxable categories, income from labor and from capital. For farming, 80% of income burdened with the progressive tax scale (the top rate was at 31,5% in 2016) is subject to personal income tax. The other 20% is treated as income on capital, being taxed at a 30%-tax rate in 2016 (up to EUR 30 000) or 34% (in excess of EUR 30 000). However, a taxable person can apply to have the tax bracket lowered from 20% to 10% (European Commission 2016: 90).

In France, natural persons can account for their income from farming in three ways. First, estimate income based on a lump-sum tax. Second and third, real income based on a simplified tax or according to general arrangements, respectively. The vast majority of farmers uses the lump-sum taxation. The lump-sum tax can be applied by farmers whose average annual revenue over the last two years has not exceeded EUR 76 300. Moreover, the simplified tax form is used by those farmers whose income over the last two years has been more than EUR 76 300, yet has not exceeded EUR 350 000. Farmers are required to keep simplified accounting records. The revenue from an agricultural business exceeding on average EUR 350 000 over the last two years is subject to taxation under general arrangements and in this case complete accounting records must be kept (European Commission 2017; Pawłowska-Tyszko 2013: 49-60).

The tax system applied to farmers in Greece does not depart from the solutions in place in other EU countries; owners of agricultural holdings are required to pay income tax. The amount and type of the tax is dependent on the amount of income generated in a given fiscal year and on the income source, too. The Greek legislation cites six categories (A-G) of income which are taken into account while determining the taxable amount: on property (A,B), on moveable property investment (C), on economic activity (D), on agricultural and forestry activity (E), on employment (F), on liberal professions and other (G). Taxpayers generating revenue from farming are taxed based on progressive tax rates, ranging between 22% and 42%. Farmers are also entitled to tax deductions, such as the first and second child tax relief (Kisiel, Idźkowska 2014: 68).

Spanish farmers can determine their taxable income in three ways. The first way involves taxing real income resulting from the accounting books (revenue less the

documented evidence of expenses). This way is applied by agricultural holdings whose annual turnover exceeds EUR 600 000, with other farms also having the possibility of using this alternative. According to the second approach, farms whose turnover does not exceed EUR 600 000 apply the estimation method. According to the third way, the taxable income is determined using coefficients. This form of taxation may be used by farmers whose annual turnover generated by their economic activity does not exceed EUR 450 000, including that from farming at EUR 300 000, or the value of materials and goods sold by them does not exceed EUR 300 000. The application of the simplified method must be continuous for the period of at least three years (Pawłowska-Tyszko 2013: 63-65).

In the Netherlands, farm income represents revenue less tax deductible costs. Farmers determine their income according to the real method on the basis of their accounting books. This income is taxed using tiered progression, which means that only revenue surplus is taxed above the upper limit of the previous range. In the Dutch tax system, tax reliefs pertaining to amortization and investments play an important role for agricultural activity. In addition, selling an agricultural holding is tax exempted. Moreover, farmers can deduct losses from future revenues within the term of three years (Pawłowska-Tyszko 2013: 96-98; Dziemianowicz 2013: 52).

In Ireland, in order to determine income tax from farming it is necessary to keep simplified accounts, and thus the income is determined using the real method. The income from agricultural activity is subject to simplified progression with two rates at 20% (up to EUR 33 800 – a single person or 42 800 for a couple) and a 41%-rate (above EUR 33 800 – a single person or 42 800 – a couple). There exists a number of tax reliefs which farmers may use. They can lower their taxable income by the amount of expenditures incurred to purchase farm buildings (but not residential buildings). In addition, owners of agricultural holdings can enjoy tax relief for telecommunication services, or a credit and loan tax relief (European Commission 2016: 115).

In Luxembourg, natural persons generating income from an agricultural holding are subject to personal income tax. Income is subject to a progressive tax scale (the highest rate was at 40% in 2016). The farm owners are allowed to make deductions from their income (European Commission 2017).

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In Germany, income from farming is determined using either a real or estimation approach. This is dependent on the form in which an agricultural business is run and the amount of profit thus generated. The income is taxed according to a progressive tax scale ranging between 14% and 45%. Farmers may use many tax privileges such as, for example, a lower rate while selling or liquidating the farm (15% instead of 56%), as well as the possibility to apply accelerated depreciation of machinery (European Commission 2017; Pawłowska-Tyszko 2013: 31-49).

In the Swedish tax system, income obtained from running a farm is subject to personal income tax. Income generated by agriculture is taxable at a progressive scale (the highest rate in 2016 was at 25%). Besides the state income tax, natural persons also pay income tax to municipalities (municipal tax). The amount of the municipal tax is determined by local authorities, but it is agreed that the richer the municipality the lower the local tax rate on income (European Commission 2016: 184-185).

In Hungary, special tax privileges are enjoyed by farmers running a traditional farm on a small scale. If their annual income does not exceed EUR 2 000, then they do not have to keep detailed accounts. Their income may be taxed according to one of the three forms (depending on the income amount):

- annual income in excess of EUR 2 000 but below EUR 13 300 less at least 20% of tax deductible costs – farmers who do not earn income from other sources can make declaration specifying annual tax income, with particular emphasis put on the fact that they did not generate any income by agricultural activity during the tax year, which means that they do not pay the tax;
- income within the range between EUR 13 300 -26 600 in a given tax year – then the income is calculated on the basis of the lump-sum determination of expenses at 40% of revenue, yet this amount may not exceed EUR 4 000;
- income exceeding EUR 26 600 is taxable at 6% (livestock production) or 15% (crop production) – lump-sum taxation is not available (European Commission 2017; Pawłowska-Tyszko 2013: 110).

In the United Kingdom, income from agricultural activity is determined using the real method. Farmers are not required to keep complete accounting books, yet for

tax purposes, they provide a simplified account of profit and loss. In the UK system of taxation, agriculture is not allowed to be classified as tax deductible costs of depreciation write-offs. On the other hand, much importance is given to investment tax reliefs, e.g. to purchase some machinery and equipment, and construction of farm facilities of special purpose. Moreover, there are income tax exemptions for agriculture. For example, such exemption applies to selling agricultural land (Pawłowska-Tyszko 2013: 79-85).

With respect to personal income tax, the Italian legislator provides for six categories of taxable income (with each category having its own rules for the determination of the tax base). Income from agriculture has been defined as income from owning agricultural real estate, with the basis for tax calculation being the so called cadastral value of land and income which encompasses: agricultural income (i.e. income generated by agricultural production), land income (i.e. income generated by the land ownership, specified on the basis of the soil quality). The agricultural production includes cultivation of land, mushrooms, cultivation and production of wood if they represent at least 25% of the production, and at least 50% of the farm revenue. The owner of an agricultural holding generates both agricultural income and land income. If in a given tax year the land is not cultivated, with the income to be taxed at the end of the year being less than 30% of the estimate income, this income equals zero for tax purposes (Goraj, Neneman, Zagórski 2014: 58-61).

4. The situation of Polish agricultural holdings over the period of 2010-2014

The analysis of Polish agricultural holdings over the period of 2010-2014 was based on the size of utilized agricultural land, number of farms, farm income and population, as well as the average buying-in price of rye. Table 3 presents the area of the utilized agricultural land and the number of farms over the years 2010-2014.

Table 3. Total area of utilized agricultural land and the number of agricultural holdings in Poland over 201-2014

Description		Agricultural holding size in ha			
Category	Year	up to 1	from 1 up to 10	from 10 up to 50	above 50
Land utilization in ha	2010	540 943	5 689 051	6 711 131	5 128 648
	2011	527 458	5 780 884	6 685 625	4 751 553
	2012	76 530	5 484 453	6 674 000	4 868 833
	2013	51 176	4 983 170	6 590 949	4 862 190
	2014	47 746	4 876 441	6 556 812	4 826 318
Number of agricultural holdings	2010	24 876	1 136 683	320 565	27 024
	2011	38 163	1 261 496	330 513	26 529
	2012	21 450	1 108 291	318 940	29 170
	2013	34 375	1 048 067	314 744	31 820
	2014	31 383	1 028 621	319 966	33 058

Source: self-reported data based on (GUS [Central Statistical Office] 2011-2015)

Over the years under study, there was a decrease in the area of agricultural holdings in each size category. The largest area of the utilized agricultural land was recorded in total for farms covering from 10 and up to 50 hectares, which totalled 6.5 million ha. Moreover, the smallest area of land in total was covered by farms up to 1 ha size, where in 2010 it totalled over 0.5 million ha, but since 2012 – less than 0.1 million ha. Such a huge decline in the utilized land area was due to the fact that owning a farm of less than 1 ha in size proved to be unprofitable for some farms. Meanwhile, some of the agricultural holdings are likely to have swapped their utilized land from agricultural to construction land. For all agricultural holdings, regardless of their size, the largest proportion of the utilized land was made up of utilized agricultural land (for farms bigger than 1 ha, it represented 80%), while the size of forests and woodland, and other land stayed at a similar level.

At that time the highest number of agricultural holdings covered an area between 1 and 10 ha (over 1 million). The second were farms whose area was between 10 and 50 ha, with the number of agricultural holdings bigger than 1 ha and those above

50 ha being similar and ranging between 20 and 40 thousand. Such a huge number of farms whose area ranged from 1 up to 10 ha arose from the fact that in Polish agriculture family farms of a small area are prevalent. However, over the examined period, a fall in the number of farms can be observed whose area ranges between 1 and 10 ha, and an increase in those with an area of up to 1 ha and above 50 ha. The decreasing number of agricultural holdings covering an area of 1 up to 10 ha was likely to be due to the fact that the young left for big cities or went abroad in search of work. As a result, there were no successors to the land farmed by their parents. Moreover, the increase in the number of farms whose area was over 50 ha arose from the fact that an ever greater number of Polish farmers started modernizing their farms so as to be able to compete on the Polish market, as well as against European farmers from the EU countries. For all the size categories of agricultural holdings, individual farms represent the vast majority, accounting for over 99% of the total within the first three categories. With respect to agricultural holdings of over 50 ha, individual holdings also dominate, for they account for 89% of the total, with the other 10% being made up of farms which are run as an agricultural enterprise or cooperative. Table 4 presents data on population and farm income.

The population living in the countryside accounts for approximately 40% of Poland's total population, but only little more than 15% works in agriculture. The vast majority is employed in individual agricultural holdings (over 97%), with less than 3% being members of agricultural production cooperatives. Over the years in question, both the countryside population and those employed in agriculture slightly increased. The agricultural income grew from PLN 27 billion in 2010 to PLN 29.6 billion in 2014. However, since 2012 the income generated by farming fell year by year. In general, this fall was caused by a decrease in the number of agricultural holdings. The income generated by agriculture accounts for less than 0.1% of the total income.

Over the analyzed years, the amount of average income per farm increased from over PLN 17 thousand in 2010 up to nearly PLN 21 thousand in 2014. This growth was caused by increased agricultural income while there was only a slight change in the number of agricultural holdings. Moreover, with respect to the average income per 1 person employed in agriculture, an increase was recorded from PLN 11

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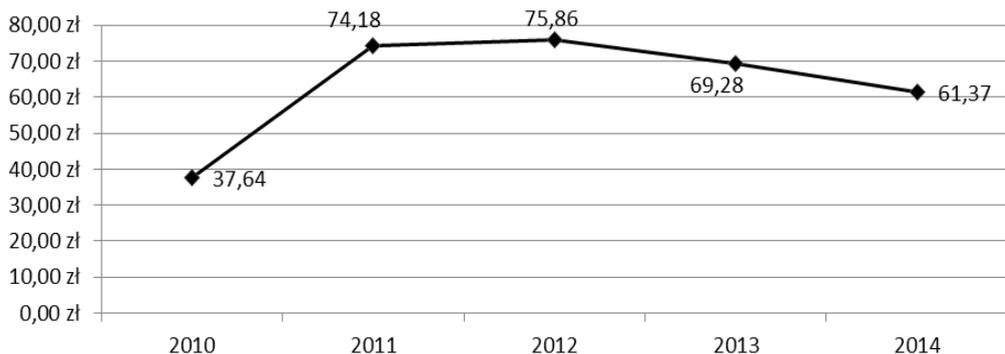
thousand in 2010 up to over PLN 12 thousand in 2014. In 2011, the average income per 1 person employed in agriculture exceeded PLN 14 thousand and this value kept falling until 2014. The reason for this fall was mainly a declining value of income from farming, while there was a very slight change in the number of people employed in agriculture. Chart 1 presents the average buying-in price of rye in Poland over 2010-2014

Table 4. Data on population and incomes over the period of 2010-2014

Description		Years				
Category		2010	2011	2012	2013	2014
Population in million	total	38 530.00	38 538.00	38 533.00	38 496.00	38 479.00
	in the countryside	15 101.00	15 153.00	15 197.00	15 238.00	15 262.00
	employed in farming	2 326.20	2 325.10	2 325.70	2 326.70	2 331.40
Income in million of PLN	total	897 905.00	941 769.00	991 872.00	1 007 431.00	1 033 800.00
	from farming	27 000.00	32 900.00	30 300.00	30 100.00	29 600.00
Average income in PLN	per farm	17 890.89	19 858.74	20 502.74	21 063.59	20 947.82
	per 1 person employed in farming	11 606.91	14 149.93	13 028.34	12 936.78	12 696.23

Source: self-reported data based on (GUS 2011-2015; Nurzyńska, Poczta 2014: 108).

Chart 1. The average buying-in price of rye over the period of 2010-2014



Source: self-reported data based on (GUS 2010–2014).

Over the course of the years under study, the average buying-in price for rye grew from PLN 37.64 for 1 dt¹ in 2010 to PLN 61.37 in 2014. Moreover, between 2011-2012, the average buying-in price of rye was PLN 74 for 1 dt, and in 2013 it was still over PLN 69 for 1 dt. It needs to be pointed out that for the years between 2010 and 2012 the average buying-in rye price used to be announced by the President of Central Statistical Office for the first three quarters of a given year. Since 2013, however, the average buying-in price of rye was given for 11 quarters before the quarter preceding a given tax year. The average buying-in price of rye is an important factor having impact on the economic situation of agricultural holdings, for it is the basis for determining the amount of agricultural tax that will have to be paid.

5. Taxation of agriculture in Poland

In Poland, agricultural activity is taxed mainly by agricultural tax. The tax on income from agriculture, on the other hand, confines itself only to so called special branches of agricultural production². These branches make up a marginal percentage of agricultural activity. That is why the tax on those incomes is of very minor fiscal relevance, both in terms of the tax burden levied on individuals as well as government revenues (Janczukowicz 2015: 345). Thus, we can say that farmers are

¹ 1 dt (deco-tonne) = 0,1 tonne = 1 quintal = 100kg

² The special branches of agricultural production, according to the provisions of law are (Act of 16 July 1991: Attachment 2, Act of 15 February 1992: Attachment 2): crops grown in heated and unheated glasshouses of an area of over 25m², crops grown in heated plastic tunnels of an area of over 50m², mushroom growing and mycelium – above 25m² of the cultivated area, slaughter poultry – exceeding 100 animals (chickens, geese, ducks, turkeys), poultry for laying of more than 80 (table use and laying hens, geese, ducks, turkeys in reproductive stocks and hens for production of eggs for consumption), poultry incubators (chickens, geese, ducks, turkeys), fur animals (foxes and raccoon dogs, minks, polecats, chinchillas, coypu and rabbits of over 50 females in the livestock), laboratory animals (white rats and mice), silkworms (cocoon production), apiaries of over 80 families, in vitro cultivation of plants, growing entomophagy, earth-warm-farming, running nurseries and other stock farming outside the farm (more than 5 cows, more than 10 calves, bovine for slaughter of more than 10, with the exception of fattened animals, more than 50 pigs for fattening, more than 50 piglets; running nurseries and sheep farming of more than 10, more than 15 sheep for fattening, horses for slaughter or breeding, aquarium fish cultivation in an aquarium larger than 700dm³, rearing of pedigree dogs or cats)

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the only socio-professional group whose income, regardless of the amount, is not subject to the income tax.

The agricultural tax applies to agricultural land which is classified in the land and building register as utilized agricultural land, with the exception of land used for other than agricultural activity. The tax is paid by landowners, independent possessors of land, perpetual usufructuaries of land and possessors of land which is owned by the State Treasury or by a local government unit (Act of 15 November 1984, Articles 1 and 3). The tax base for farm land is made up of the number of comparative fiscal hectares determined based on the area size, type and class of the utilized agricultural land and what fiscal region the holding belongs to or the number of hectares of other land. For other hectares, the taxable amount is the real number of hectares recorded in the register. The number of fiscal comparative hectares is determined after converting the hectares using the conversion rates shown in Table 5.

Table 5. Conversion rates of real hectares into fiscal comparative hectares

Types of utilized agricultural land	Arable land				Grassland and pasture			
	I	II	III	IV	I	II	III	IV
Fiscal districts								
Classes of utilized agricultural land	Conversion rates							
I	1.95	1.80	1.65	1.45	1.75	1.60	1.45	1.35
II	1.80	1.65	1.50	1.35	1.45	1.35	1.25	1.10
IIIa	1.65	1.50	1.40	1.25	-	-	-	-
III	-	-	-	-	1.25	1.15	1.05	0.95
IIIb	1.35	1.25	1.15	1.00	-	-	-	-
IVa	1.10	1.00	0.90	0.80	-	-	-	-
IV	-	-	-	-	0.75	0.70	0.60	0.55
IVb	0.80	0.75	0.65	0.60	-	-	-	-
V	0.35	0.30	0.25	0.20	0.20	0.20	0.15	0.15
VI	0.20	0.15	0.10	0.05	0.15	0.15	0.10	0.05

Source: self-reported data based on the Act of 15 November 1984; Article 4

The tax on utilized agricultural land is, on an annual basis, at the equivalent of 2.5 quintal³, while on other land it is 5 quintals of rye, calculated according to the average buying-in price of rye for the first three quarters of the year preceding the tax year (Act of 15 November 1984; Article 6). This tax is to be paid in installments proportionate to the duration of tax liability within the deadlines of 15 March, 15 May, 15 September and 15 November of the fiscal year.

Within the agricultural tax, the legislator provided for a number of exemptions with the most important being the following: utilized agricultural land of class V, VI and VIz, and woodland and scrubland established on utilized agricultural land, land allocated for a new agricultural holding or the enlargement of the already existing one whose area does not exceed 100 ha, land created by wasteland development within 5 years since the year following the development, utilized agricultural land subject to drainage whose crops got destroyed as a result of the drainage work.

The legislator also provided for investment tax relief within the agricultural tax for expenditures incurred owing to: building and modernization of livestock buildings, purchase of irrigation systems, drainage equipment and devices for producing energy from renewable resources. This tax relief is granted after the investment has been completed and it involves subtracting the amount equal to 25% of the documented investment from the agricultural tax levied on the land located within the municipality where the investment has been made. This kind of relief can be applicable up to maximum of 15 years. Other tax reliefs provided for under the Act on Agricultural Tax include e.g. tax reduction by 30% on land located in foothills towns for the I-IIIb classes, and by 60% for IVa-IVb classes (Act of 15 November 1984, Articles 13 and 13b).

In Poland, the majority of agricultural enterprises is in the form of individual agricultural holdings, which means that their activity is similar in nature to that conducted by natural persons. Personal income tax is regulated by the Act on Personal Income Tax of 26 July 1991. However, Article 2 of this act specifies that its provisions do not apply to income generated by agricultural activity, the only exception being the special branches of agricultural production. No tax is, therefore, levied on the income from an agricultural holding (with the exception of income

³ Quintal (q) = decitonne = 100 kilograms

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generated by the special branches of agricultural production), whatever its amount. Larger agricultural holdings which are in the form of enterprises with special agricultural production are subject to corporate income tax (Act of 15 February 1992, Article 2). With respect to legal persons running special branches of agricultural production, their income is taxed according to general arrangements set forth in the provisions on corporate income tax. Thus, the taxation of their income is no different from that of the income generated by a non-agricultural activity (Janczukowicz 2015: 346). This is the reason why the description of the special branches of agricultural production focuses on natural persons.

The Act imposes tax obligation on those holdings and so there must be a way to determine the tax base. An agricultural holding can keep accounting records (accounting books, revenue and expenditure ledger) and then the tax income is the difference between revenue and tax deductible costs. For raising livestock, the income is increased by the value of livestock growth at the close of the tax year compared to its beginning and is reduced by the value of livestock losses over the year. If no accounting records are kept, the taxable income is determined based on the estimates for the activity type concerned, as set forth in the Attachment No 2 to the Act (Act of 16 July 1991, Article 24). The income thus calculated is taxable according to the tax scale applicable in the year concerned (18% or 32%), or to a 19%-flat-rate (Act of 16 July 1991, Articles 27 and 30c).

With Poland's accession to the European Union, there also emerged a production quota system, e.g. milk quotas. The provisions of personal income tax (Act of 16 July 1991, Article 10) specify that the sales of quotas does not constitute revenue from agricultural activity, but from the sales of property right in exchange for payment. A separate issue is the income generated by leasing a farm, special branches of agricultural production or their individual components, for the same article specifies that the revenue from the lease of those elements is a taxable revenue source only when they are used by the leaseholder for non-agricultural purposes or special branches of agricultural production. If the leaseholder, on the other hand, uses them agriculturally, they do not represent the source of revenue from letting or leasing, and as such are not liable to taxation. The same counts for

production quotas; if they are used within the agricultural activity, they do not constitute the leaseholder's revenue to be taxed.

The legislator provided for a variety of tax reliefs with respect to personal income tax (Act of 16 July 1991, Article 21), of which the most important for agriculture is the exemption from tax on: revenue obtained from sales of the entire or a portion of an agricultural holding (this exemption, however, does not apply to sales of land which thus loses its agricultural nature), income generated by renting rooms and providing meals to guests within agritourism business (if the number of rooms to be let does not exceed five), grants, subsidies, additional payments, free or partially free benefits received from the state budget, governmental agencies, local self-government units or international organizations for the purposes relating to the agricultural activity, and income from selling plant or livestock products from the taxpayer's own cultivation and stock farming (which are not part of the special branches of agricultural production), processed industrially if the processing involves plant products pickling, milk processing or slaughter and carcass processing of animals intended for slaughter (within this cutting, break-down and classification)

6. Poland's taxation of farm income with personal income tax

What appears to be in favor of retaining the agricultural tax is its easy structure in terms of the tax charge calculation, tax collection or the number of tax reliefs or exemptions. On the other hand, replacing it with the personal income tax is supported by the fact that farmers could make the same tax deductions as natural and legal persons (e.g. deducting losses of the previous years), reducing income by tax deductible costs. Moreover, a variety of tax reliefs and exemptions in the context of the agricultural tax could be moved to the provisions pertaining to the income tax. Replacing agricultural tax with the tax on income from agricultural holdings would bring about far reaching fiscal effects. The simulations of these effects was carried out using three scenarios:

- 1) general, applying different illustrative tax rates;

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- 2) comparison with agricultural tax;
- 3) tax revenue break-down by self-government budgets and state budget in 2014

Table 6. The amount of tax on farm income over the period of 2010-2014

Tax rate	Income tax	The amount over the years				
		2010	2011	2012	2013	2014
5%	Total in PLN million	1 350.00	1 645.00	1 515.00	1 505.00	1 480.00
	Average per agricultural holding	894.54	992.94	1 025.14	1 053.18	1 047.40
10%	Total in PLN million	2 700.00	3 290.00	3 030.00	3 010.00	2 960.00
	Average per agricultural holding	1 789.09	1 985.87	2 050.27	2 106.36	2 094.79
18%	Total in PLN million	4 860.00	5 922.00	5 454.00	5 418.00	5 328.00
	Average per agricultural holding	3 220.36	3 574.57	3 690.49	3 791.45	3 770.63
19%	Total in PLN million	5 130.00	6 251.00	5 757.00	5 719.00	5 624.00
	Average per agricultural holding	3 399.27	3 773.16	3 895.52	4 002.08	3 980.11
32%	Total in PLN million	8 640.00	10 528.00	9 696.00	9 632.00	9 472.00
	Average per agricultural holding	5 725.08	6 354.80	6 560.88	6 740.35	6 703.33

Source: self-reported data based on GUS 2011–2015; Nurzyńska, Poczta 2014: 108

The simulation was based on the following assumptions:

- 1) in calculations, the average income per one agricultural holding was used on the basis of the farm income amount in Poland over the period of 2010-2014;
- 2) the amount of receipts from the agricultural tax is based on the data pertaining to incomes obtained from the agricultural tax by municipalities and cities with powiat rights, as cited by the Local Data Base over 2010-2014;
- 3) the distribution of revenues obtained from agricultural tax and from levying tax on incomes generated by agriculture was done by the percentage break-down included in the Act of 2003 on Income of Territorial Self-Government Units.

Table 6 demonstrates the simulation of the amount of the tax on farm income in Poland over the period of 2010-2014.

Total revenues from levying tax on farm income over the years under study recorded an upward trend. The highest amount of the tax revenues was with a 32%-tax rate (which is the rate for personal income tax) and ranged between PLN 8,5 billion and PLN 10.5 billion, The lowest total farm income tax, meanwhile, would be at a 5%-tax rate, ranging from over PLN 1.35 billion to over PLN 1.6 billion. According to the calculations, 2011 would see the highest amount of tax revenues obtained from agriculture, with the subsequent years seeing declined revenues. This substantial increase in the income tax in 2011 is caused by a major increase in agricultural holdings, as well as agricultural production compared to the previous year. Moreover, the decline recorded over the subsequent years is mainly due to a fall in the number of farms in Poland. Table 7 compares the amount of revenues from the agricultural income tax at different tax rates.

Table 7. Comparison of revenues from agricultural tax with agricultural income tax over the period of 2010-2014

Type of tax		Amount in PLN million				
		2010	2011	2012	2013	2014
Agricultural tax		989.00	1 062.00	1 546.00	1 665.00	1 654.00
Income tax	5%	1 350.00	1 645.00	1 515.00	1 505.00	1 480.00
	10%	2 700.00	3 290.00	3 030.00	3 010.00	2 960.00
	18%	4 860.00	5 922.00	5 454.00	5 418.00	5 328.00
	19%	5 130.00	6 251.00	5 757.00	5 719.00	5 624.00
	32%	8 640.00	10 528.00	9 696.00	9 632.00	9 472.00

Source: self-reported data based on BDL 2016; GUS 2011–2015; Nurzyńska, Poczta 2014: 108

It appears based on the calculations that replacing the agricultural tax with income tax would yield substantially higher tax revenues. Over the years in question, the total agricultural tax grew from PLN 989 million in 2010 to PLN 1 654 million in 2014. The revenues from levying tax on farm income, on the other hand, would increase at a 5%-tax rate, from PLN 1 350 million (2010) to PLN 1 480 million (2014). At the same time, the application of any other higher tax rate would yield much higher revenues from the tax on farm income than from the agricultural

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tax. Further to that, it is useful to note that for farmers themselves replacing the agricultural tax with the income tax would be favorable, if the 5%-tax rate was to be applied. The average amount of the agricultural tax over the years under study stood at, respectively: PLN 655.63 (2010), PLN 641.21 (2011), PLN 1 046.04 (2012), PLN 1 165.31 (2013) and PLN 1 170.21 (2014). Meanwhile, the average 5 percent-income tax would stand at: PLN 641.21 (2011), PLN 1 046.04 zł (2012), 1 165.31 zł (2013) and 1 170.21 zł (2014). The application of the higher tax rates would be disadvantageous for farmers themselves.

Table 8. Distribution of funds obtained from agricultural tax and agricultural income tax in 2014

Type of tax	The amount of budget income in PLN				
	Municipality	Powiat	Voivodship	State	
Agricultural tax	1 653 534 863.37	0.00	0.00	0.00	
Income tax	5%	681 540 000.00	172 420 000.00	241 980 000.00	384 060 000.00
	10%	1 363 080 000.00	344 840 000.00	483 960 000.00	768 120 000.00
	18%	2 453 544 000.00	620 712 000.00	871 128 000.00	1 382 616 000.00
	19%	2 589 852 000.00	655 196 000.00	919 524 000.00	1 459 428 000.00
	32%	4 361 856 000.00	1 103 488 000.00	1 548 672 000.00	2 457 984 000.00

Source: self-reported data based on BDL 2016; GUS 2011–2015; Nurzyńska, Poczta 2014: 108; Act of 13 November 2003: Articles. 4-6).

Table 8 shows the distribution of funds from the agricultural tax and tax on agricultural income in 2014 across different self-government levels and the state. Based on the analysis, the conclusion is that the implementation of the agricultural income taxation instead of the agricultural tax would be much more advantageous for individual territorial self-governments, as well as for the entire country. This results from the fact that the entire income from the agricultural tax goes to the municipality budget. The introduction of agricultural income taxation, on the other hand, will have the effect that these revenues will be split between the central budget and budgets of individual self-governments in the same way as it is done with respect to personal and corporate income tax. If this new solution was to adopt the 5% and 10%-tax rate, the local self-governments would be on the losing side, since the tax income would be significantly smaller than that from the agricultural tax. Having said that, the application of the 18%-tax rate would bring the municipality

much higher tax income. Regardless of the amount of the tax rate to be applied to the farm income tax, replacing the agricultural tax would be more advantageous for the state, as well as for poviats and voivodship self-governments.

7. Conclusion

The analysis conducted shows that replacing the agricultural tax with the tax on income generated by agricultural holdings is a more advantageous solution. The new solution ensures higher tax revenues than those obtained from the agricultural tax currently in place. For the state, levying tax on the farm income would imply budget revenues from this tax. Moreover, this solution would be to the advantage of poviats and voivodship self-governments, for they would be the recipients of some of those revenues. The new solution would bring benefits to municipality self-governments, provided that only 5% and 10%-tax rates were to be applied. The revenues from the agricultural income tax at these two tax rates turned out to be lower than the revenues from the agricultural tax (which in its entirety fuels the budget of municipality self-governments).

The application of a 5%-tax rate for the income tax levied on agricultural holdings would be fairly favorable for the farmers themselves because their average income tax would be most likely smaller than the average agricultural tax. However, adopting in this context higher tax rates proves to be an unfavorable solution, for then the average tax to be paid would be considerably higher than the average agricultural tax.

What supports the idea of maintaining the agricultural tax in its present form is, in the first place, its structure. An easy way of calculating the tax due, a number of tax exemptions and reliefs, a convenient term to pay the tax (4 equal installments). The agricultural tax is a typical tax on revenues and therefore, when it is determined, the tax deductible costs are not taken into consideration. Moreover, a minor inconvenience involves establishing the taxable amount to be paid, for the amount of the tax is dependent on the average buying-in price of rye for the three first quarters of the year preceding the tax year. This has the overall effect that the agricultural

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production of a particular holding is not entirely taken into account, and neither is its economic situation.

The implementation of the income tax on agricultural holdings is likely to be supported mainly in that farmers would be put on equal footing within the tax system with natural and legal persons. This would mean that income would be taxable, that is, the difference between revenue and tax deductible costs. Furthermore, the tax rate would still be the same for all, yet conditional on the agricultural production and economic situation of a particular farm. Moreover, so as not to burden excessively farmers, the low tax rate at 5% should be applied. Naturally, the new solution ought to continue using the tax exemptions and reliefs present in the agricultural tax; however, it is worth drawing attention to the fact that having their income taxed, farmers could use deductions for losses incurred over the past years.

Replacing the agricultural tax with the tax on agricultural income would provide an advantageous solution in Poland, not only for the state but also for self-governments and farmers themselves. The implementation of such solution in the tax system for agricultural holdings should involve the introduction of new measures, as well as retaining the current provisions, mainly those relating to the tax exemptions and reliefs.

References

BDL [Bank Danych Lokalnych/Local Data Bank] (2016), Dochody budżetowe gmin i miast na prawach powiatu, <https://bdl.stat.gov.pl/BDL/dane/wymiary> [15.04.2016].

Bieluk J. (2014), Obciążenia podatkowe gospodarstw rodzinnych w Polsce i w Europie. Propozycje rozwiązań na przykładzie jednostek prowadzących działalność w zakresie działów specjalnych produkcji rolnej, Konferencja „Ekonomiczne i prawne mechanizmy wspierania i ochrony rolnictwa rodzinnego w Polsce i innych państwach Unii Europejskiej”, 23-24 października 2014 roku, Warszawa.

Dziemianowicz R.I. (2007), Ocena polskich rozwiązań w zakresie opodatkowania rolnictwa na tle systemów obowiązujących w wybranych krajach Unii Europejskiej, „Zeszyty Naukowe SGGW w Warszawie – Problemy Rolnictwa Światowego”, vol. 2(17), pp. 184-194.

Dziemianowicz R.I. (2013), Zmiany w opodatkowaniu dochodów z produkcji rolnej i ich wpływ na wysokość obciążeń gospodarstw rolnych w Polsce, w: Konsekwencje zmiany obciążeń podatkowych w Polsce, red. Głuchowski J., Piotrowska-Marczak K., Fila J., Wydawnictwo Difin, Warszawa, pp. 43-67.

European Commission (2016), Taxation trends in the European Union. Data for the EU Member States, Iceland and Norway. 2016 edition, Publications Office of the European Union, Luxemburg.

European Commission (2017), Taxes in Europe Database, http://ec.europa.eu/taxation_customs/tedb/taxSearch.html [5.05.2017].

GUS [Główny Urząd Statystyczny/ Central Statistical Office] (2011), Rocznik statystyczny rolnictwa, Zakład Wydawnictw Statystycznych, Warszawa.

GUS (2012), Rocznik statystyczny rolnictwa, Zakład Wydawnictw Statystycznych, Warszawa.

GUS (2013), Rocznik statystyczny rolnictwa, Zakład Wydawnictw Statystycznych, Warszawa.

GUS (2014), Rocznik statystyczny rolnictwa, Zakład Wydawnictw Statystycznych, Warszawa.

GUS (2015), Rocznik statystyczny rolnictwa, Zakład Wydawnictw Statystycznych, Warszawa.

Go raj L., Neneman J., Zagórski M. (2014), Uwarunkowania i konsekwencje opodatkowania rolnictwa w Polsce, Forum Inicjatyw Rozwojowych, Warszawa.

Grzelak M.M., Wiktorowicz J. (2006), Podatek od wartości dodanej w rolnictwie, w: Polityka rolna Unii Europejskiej, red. Dudek M., Wyższa Szkoła Menedżerska w Legnicy, Legnica, pp. 65-87.

Janczukowicz K. (2015), Podatki dochodowe w praktyce, 2nd edition, ODDK, Gdańsk.

Kisiel R., Idźkowska K. (2014), System opodatkowania rolnictwa w Polsce oraz w wybranych krajach Unii Europejskiej (The system of agriculture taxation in Poland and chosen countries of the European Union), „Zeszyty Naukowe SGGW w Warszawie – Polityki Europejskie, Finanse i Marketing”, vol. 12 no. 61, pp. 64-78.

Krajewska A. (2012), Podatki w Unii Europejskiej (Taxes in European Union), 2nd edition, revised, Polskie Wydawnictwo Ekonomiczne, Warszawa.

TAXATION OF AGRICULTURAL HOLDINGS IN POLAND

Nurzyńska I., Poczta W. (ed.) (2014), Polska wieś 2014. Raport o stanie wsi, Fundacja na rzecz Rozwoju Polskiego Rolnictwa, Wydawnictwo Naukowe SCHOLAR, Warszawa.

Pawłowska-Tyszko J. (ed.) (2013), Systemy podatkowe w krajach Unii Europejskiej, Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej – Państwowy Instytut Badawczy, Warszawa.

Podstawka M. (1995), Opodatkowanie rolnictwa i perspektywy jego zmian w Polsce, Wydawnictwo SGGW, Warszawa.

Ustawa z dnia 15 listopada 1984 r. o podatku rolnym (Act on agricultural tax), Official Journal 1984, no. 52, item 268.

Ustawa z dnia 26 lipca 1991 r. o podatku dochodowym od osób fizycznych, Official Journal 1991, no. 80, item 350.

Ustawa z 15 lutego 1992 r. o podatku dochodowym od osób prawnych, Official Journal 1992, no. 21, item 86.

Ustawa z 13 listopada 2003 r. o dochodach jednostek samorządu terytorialnego, Official Journal 2003, no. 203, item 1966.

Opodatkowanie gospodarstw rolnych w Polsce podatkiem dochodowym od osób fizycznych.

Streszczenie

Cel: W artykule podjęto tematykę zmiany w Polsce formy opodatkowania rolnictwa z podatku rolnego na podatek dochodowy od osób fizycznych. Autor podjął się badanego tematu ponieważ opodatkowanie rolnictwa jest istotnym zagadnieniem z punktu widzenia praktyki gospodarczej. Ponadto podobne rozwiązanie występuje praktycznie we wszystkich państwach Unii Europejskiej. Celem artykułu jest próba oceny skutków fiskalnych dla państwa ze zmiany formy opodatkowania rolnictwa.

Metodyka badań: W artykule wykorzystano badania literaturowe i aktów prawnych oraz przeprowadzono symulację empiryczną. Badania literaturowe i aktów prawnych miały na celu przedstawienie formy opodatkowania rolnictwa w państwach UE oraz sposoby opodatkowania dochodów z rolnictwa. Symulacja empiryczna dotycząca skutków fiskalnych z opodatkowania rolnictwa w Polsce podatkiem dochodowym została przeprowadzona w trzech ujęciach: ogólnym (z zastosowaniem różnych przykładowych stawek), porównaniu z podatkiem rolnym i podziałem wpływów na budżet państwa i jednostek samorządu terytorialnego.

Wnioski: Przeprowadzone badania empiryczne dotyczące lat 2010–2014 wykazały, że zastąpienie podatku rolnego podatkiem dochodowym byłoby korzystnym rozwiązaniem dla rolników, ale przy zastosowaniu niskich stawek podatkowych. Przy wyższych stawkach rozwiązanie to byłoby niekorzystne. Jednocześnie na zastąpieniu podatku rolnego podatkiem dochodowym skorzystałoby państwo oraz samorządy województw i powiatów, gdyż uzyskałyby dodatkowe wpływy podatkowe do swych budżetów. Natomiast samorząd gminny na rozwiązaniu tym skorzystałby przy zastosowaniu stawek wyższych niż 10%.

Wartość artykułu: W kontekście istniejących już badań wartością naukową artykułu jest porównanie wielkości wpływów z podatku rolnego z wpływami podatkowymi z opodatkowania dochodów gospodarstw rolnych.

Słowa kluczowe: podatek rolny, podatek dochodowy od osób fizycznych, dochody z rolnictwa, działalność rolnicza, działy specjalne produkcji rolnej

JEL: G38, H24, H25, H71, K34, Q14

Agile effort estimation in software development projects – case study

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Abstract:

Aim: The purpose of this paper is to identify common mistakes and pitfalls as well as best practices in estimating labor intensity in software projects. The quality of estimations in less experienced teams is often unsatisfactory, as a result of which estimation as part of the software development process is abandoned. The decision is usually justified by misunderstanding "agility". This article is part of the discussion on current trends in estimation, especially in the context of the new "no estimates" approach.

Design / Research methods: The publication is a case study based on the experience of a mature development team. The author, on the basis of literature-based estimation techniques, shows good and bad practices, as well as common mistakes in thinking and behavior.

Conclusions / findings: The key to correct estimation is: understanding the difference between labor intensity and time, ability to monitor performance, as well as how to analyze staff requirements for the team.

Originality / value of the article: The publication helps to master confidence-boosting techniques for any estimation (duration, and indirectly, the cost of software development) where requirements are known, but mainly at the stage of project implementation (design and implementation).

Limitations of the research: The work does not address the problems of initial estimation of projects, i.e. the estimation made in the early stages of planning.

Key words: software development, estimation, effort, measurement, requirements engineering, story points, Scrum

JEL: L86

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Received: 24-11-2017, Revised: 28-04-2017, Accepted: 05-06-2017

<http://dx.doi.org/10.29015/cerem.359>

1. Introduction

Estimating effort is an important issue in terms of ensuring a high quality of a software development project. The central motivation to create estimations is the need to answer the question, “How long does it take and with what resources to execute a particular functionality?”. A developer team can occasionally see the need to create estimations, while at other times it will be a practice adopted at the organizational level. Depending on the circumstances and the team itself, not only what will be estimated but also the estimation method will vary. Still, the usefulness of the results obtained will be conditional on the correctness of the assumptions adopted and on choosing the right approach.

According to the scholarly literature, the problem involving the cost estimation of software dates back to 1960’s (Nelson, Edward 1967; Farr, Zagorski 1964). The sheer number of available scientific publications attests to both the prevalence and far-reaching dimension of this issue (Jørgensen, Shepperd 2006: 33-53). For over 50 years, numerous estimation methods have been proposed. Amongst them, we can encounter complex as well as fairly simple calculation methods. Experimental implementations of tools automating such calculations have been created, e.g. using machine learning (Srinivasan, Fisher 1995: 126-137), or Bayesian network (Pendharkar et al. 2005: 615-624). The paper does not seek to analyze all of them, and even less so – to identify the best among them (Mahnič 2011: 123-128; Bjarnason et al. 2016: 61-79; Torrecilla-Salinas et al. 2015: 124-144). However, it presents examples of a successful and unsuccessful application of specific practices, their effectiveness and easiness of implementation.

The paper shows the experience of a group of programmers with a 10-year long experience of working with the Java programming language. In their vast majority, the projects the group implemented comprise “bespoke” systems. They tend to be built from the scratch, they solve unusual problems and fulfill individual requirements of the client. The team executes small and medium scale-projects, deploying an agile approach, Scrum (Schwaber, Beedle 2002; Schwaber, Sutherland 2013), and the experiences described in the paper refer to just such cases.

2. Analyzed projects

The case study presented in the paper draws on three reference projects (the names of the two have been changed). In each of the projects agile techniques were used, with the differences essentially referring to the way the requirements were defined and delivered.

OSW System – a project designed to rebuild and develop the already existing education system. It took a group working in two separate locations one year to implement the project. The average number of programmers engaged in it was 10. The main technology was the Java language. Detailed requirements were known in advance. The team estimated all user stories quite thoroughly, since they were similar to one another functionally. Still, for technical reasons, it was not possible to reduce them to one general user story by way of generalization. As a result of changing the requirements – which happened on numerous occasions in the course of the project – the user story received new estimation. The team was able to plan its work precisely for the next sprint. Moreover, it was capable of specifying the completion date, and, along with the changing requirements – to propose a new estimation.

TOPO System – building an information repository with computer network topology as a core service for external systems. A six-person team conducted work for six years. This was a project with user stories known in advance and defined at a very general level. The developer team basically broke down the general user stories into the smaller ones, within which the team identified subtasks. Next, it made estimations for the user stories thus defined. The more accurately the user story was estimated, the less time was left before beginning the implementation work.

FOODIE System – a platform for sharing knowledge and electronic resources for the agricultural industry¹. Its development took a three-person team 16 months. There was a pretty general definition of the goal of the product's prototype. The functional requirements were identified on a day-to-day basis, often as a result of the verification of the realized increments. In the first phase of the project, there were no

¹ <https://www.foodie-cloud.org/>

clearly defined user stories— the user stories with estimations allowed the next two iterations to be planned.

3. Basic issues

Estimating the amount of work is a very common practice, and yet not that absolute as to be spread everywhere. Performing tasks without estimations can take place everywhere where the team does not have to report on the progress of its work and there is no firm deadline within which a particular undertaking has to be completed. From the team's perspective, the decision on conducting estimations belongs to the project manager; however, in general, it is necessitated by having to control costs and deadlines. In commercial projects, specific dates and sums are very likely to be an element of the contract, for enterprises allocate necessary funds in advance. For research projects, a scientific institution or a firm appoints a team, frequently the recipients group of the system is limited, with the effects being expected in a longer term perspective.

Whatever the actual goal behind making estimations, these values are always marred by an error. They are, after all, driven by the workings of the team's more or less precise intuition, and not by the calculation of hard input data. That is why plans and forecasts drawing on such data, by definition, are imprecise.

3.1 Work organization in Scrum

A very popular methodology applied in the work of software development teams is Scrum. As an agile methodology, Scrum forces one to work in iterations and regular functional increments. Although Scrum itself stems from the IT industry, where it is also most frequently deployed, it represents a method of organizing work on any complex product, as its creators tend to emphasize (Schwaber, Sutherland 2013).

Scrum introduces its own terminology, clearly defining its new concepts. One of such is Product Backlog. It is a list of tasks to be performed by the team working on a product. The lists contains all the tasks, whatever their nature, whose execution

will lead to meeting the set objectives. Product Backlog is created and maintained by a person responsible for setting the directions of work within the project. Such a person usually understands the best the needs of the project, and he/she is referred to as Product Owner in the Scrum terminology. This person's responsibilities comprise, among others: defining tasks at a substantial level (not the technical one), prioritizing and ensuring that the tasks are clearly understood by all persons involved in the project. In its structure, Product Backlog can be likened to a stack on whose top there are tasks to be completed first. Their priority arises from having a considerable business value, they are understandable, defined at a sufficiently detailed level, they are well identified by the team and, and further to that, there are no doubts as to why they have to be executed. Product Owner can redefine task priorities (moving them up or down within the stack) according to the changing business determinants. He/she also can delete tasks, creating new ones at any stage of the project work. This tool allows the Product Owner to optimize on a daily basis the value the project has for an organization.

Scrum does not impose the form within which tasks are to be defined, and it only requires that Product Backlog be measurable in terms of work effort. However, not infrequently scrum teams use a user story format to describe the Product Backlog items. User story is a well known approach to define functional and nonfunctional requirements. Since user stories are very informal in nature, they are understood by non-technical persons and can therefore be formulated by them.

A user story is a one-sentence description of a feature one expects from the product that is being built. An example of a user story looks as follows: The user must authenticate before starting to use the application. A particularized specification can be additionally associated with the user story (e.g. acceptance criteria, exceptions). Moreover, there is also a very formal form of the user story, providing a standard set of information in accordance with the template, "*As a (role) I want (something) so that (benefit)*". For example, "As an administrator, I want to delete the users' accounts in order to block access to people who fail to comply with the rules".

User story is provided by Product Owner, yet he/she need not be its author. User stories can be collected through discussion with stakeholders – persons who take

interest in the project's success (e.g. potential users, sponsors, analysts). In Scrum, however, it is Product Owner who is responsible for identifying and incorporating user stories in the Product Backlog.

The first requirements tend to be formulated at a very general level of abstraction. Among other things, this is due to the fact that at the beginning the vision of the product is rather vague. A more detailed image emerges over the course of time. This is the reason why the Product Backlog items are simultaneously very general and very large functionally. That is why the effort related to them is substantial and difficult to estimate, with the team being unable to execute a single task during an iteration. Such tasks are known as epics. Epics are not estimated. They need to be analyzed and broken down into smaller elements – the very user stories.

Besides, user stories can be grouped in so called themes. A single theme groups user stories which are linked with one another logically. For example, the theme “administration tools” aggregates functionalities intended for the administrator's daily work.

Scrum defines prescribed events in the scrum process. These are: planning sprint (iteration), daily scrum, sprint review and retrospective. While planning sprint, the team chooses the user story it is going to realize by way of coming to a consensus (negotiation) with the Product Owner. Next, the team plans technical tasks, at least for those user stories which it intends to perform in the first place. Thus, single user stories defined in a general way are attributed with specific subtasks which clearly identify how they will be implemented.

Definition of Done is a concept linked to Scrum. Definition of Done is a mutual agreement between the scrum team's members which specifies precisely when the work on a Product Backlog item will be completed. For example, the user story is realized if there are automated unit tests and integration tests, continuous integration server raises no objection, there are comments in the code and the code review has been conducted. The team usually starts the project with a minimum Definition of Done which it expands systematically during next iterations, thereby raising the quality standards the product is to meet. It is worth pointing out that estimating

effort required for a single user story should also take into account the tasks resulting from Definition of Done.

3.2 The distinction between effort, time-consumption and cost

The section below presents the definitions of the underlying concepts used further on in the paper, i.e. effort, time-consumption and cost. These concepts, although having different meanings, are quite frequently used interchangeably in the practice of software development teams.

Time consumption implies the amount of time required to execute a user story. Naturally it is expressed in time units. Time consumption, however, does not specify the amount of work itself, but the time needed to perform a task.

Effort means the volume of work required to execute a user story. In practice, it is expressed in various units, depending of the nature of the actions involved in the execution of a particular work. For example, these can be code lines, screens displayed to users or the forms they fill out. Still, it can also be a more abstract unit, such as, for example, the well-known story points (Coelho, Basu 2012). However, whatever the unit applied, the effort always answers the question as to how much work a person executing a user story must perform. The information on effort and the productivity of people engaged allow time-consumption to be determined.

Cost is to be understood as the resources an organization must allocate for the execution of user stories. Depending on the nature of the organization itself and practices adopted, cost can be expressed in, e.g. person-months, cash amount or any other convenient form.

3.3 Choosing the right metric

The choice of the measure used to express effort, and thus – of the unit, can be of relevance to the quality of the data collected and forecasts made. An ideal metric is such for which there is only one possible interpretation as to the values expressed with it. In order to have a better picture of it, it may suffice to compare the measurement unit, “meter” with the approach used in the past when the distance used to be expressed in days and weeks. Applying the time unit was reasonable at a time a journey was only possible on a horseback or foot, and its speed was always

predictable. Nowadays this kind of measure might be misleading, given the diverse means of transport of today.

The decision to express the effort required to execute user stories and technical tasks in days and weeks (Jørgensen 2016) might seem a natural choice, when the overriding goal is establishing work timetable and making plans with respect to the official editions of the product, already tested and free of errors (as was the case for the TOPO project). However, when the team is made up of persons whose experience varies substantially, we encounter differences in work productivity, and as a result – the time required for the execution of the same user stories and technical tasks tends to be different, depending on who in the team was appointed to perform them.

Further to that, the values thus estimated continuously become outdated, as the productivity of the entire team grows, which arises directly from autonomous expansion of the team's knowledge of the issue in question, and ever better familiarization with the technologies used. The effect is that these values become useless and need to be re-estimated.

The problems above can be avoided if, instead of time units, we use a more abstract measure – story points,

3.4 Estimating in story points

The name of this metric refers to the concept of the user story (Patton, Economy 2014). It specifies, albeit not directly, the amount of work needed to execute a single functionality of the product that is being built. This measure, on the other hand, is not directly linked to the execution time of the user story. The value expressed in story points establishes the complexity (difficulty) of the work necessary to complete the execution of a particular functionality. Story points metric can also be used in the estimation of the total cost of maintaining software (Choudhari, Suman 2012: 761-765).

Story points are an abstract measure and for this reason they may cause some difficulties when an inexperienced team decides to use them. This is confirmed by the experiences while working on the TOPO project, following the decision to

implement an agile approach. It is not quite clear what estimation value the first user story should get. In its case there is no point of reference.

The problem can be solved by launching an in-depth discussion on how some selected user stories are to be executed. The discussion should dispel any doubts as to the technical execution of the user stories. This knowledge provides the basis for assigning estimations to user stories while applying story points. At this stage, those values are used which the team considers to be appropriate. In this way a set of reference user stores is created.

It is crucial for the complexities of the user stories from the reference set to be defined as precisely as possible. The next user stories are estimated by comparing them with this set, with the quality of further estimations being largely dependent on this precision. A reference user story should, therefore, be chosen knowingly.

In addition, the practice consisting in estimating the reference set according to days and hours may prove to be helpful. The numbers thus determined are then assigned to user stories. From that moment on, these values are treated as story points. This makes things easier for people who are strongly attached to time units. Nevertheless, one should be aware that those values no longer refer to time-consumption but to effort. This arises from the already mentioned phenomenon of the increasing work productivity and team's experience.

The range of the numbers themselves also carries certain importance. The numbers which work well in practice are those ranging between 0 and 13. This is connected with the particularities of human perception, and to be more precise, with the easiness with which we make comparisons when numbers are not that much different from one another. Some also recommend using numbers from the Fibonacci sequence. The experience gained while working for the OSW, TOPO and FOODIE projects shows that bigger numbers are inconvenient. The analysis of large user stories is difficult and such user stories tend to be broken down into smaller ones or subtasks are identified

3.5 Planning poker, that is, team estimation

Planning Poker (Mahnič, Hovelja 2012: 2086-2095; Moløkken-Østvold et al. 2008: 2106-2117) is a technique allowing for estimation to be made within a group

of developers. Estimation is made using cards (hence the name planning poker). This technique brings about discussions which lead to the improvement in terms of the teams' awareness as to the amount of work involved in the execution of the user stories.

As the experience of working with this technique shows, individual estimations made by the team members for a single user story can vary substantially. This becomes very clear in the FOODIE project. In extreme cases, one user story could get estimations of 5 and 13 points simultaneously. Planning poker solves the problem of disparities while demonstrating how risky it is to appoint just one person to do the estimations.

This practice involves yet another trap. There are actual cases where the discussion did not even take place. The value that is then chosen is the one proposed by the majority or a person enjoying a considerable respect. Such a person can put unintentional pressure on the rest of the team – this was the case in the TOPO project. Yet another reason for falling into this trap is the team lacking sufficient engagement in the estimation process.

4. Effort estimation

4.1 Estimation by comparison

According to this technique, the effort value (e.g. a story points number) for US_X is defined by having it compared to a similar US_Y which was executed in the past. In optimistic cases, the similarity between the user stories becomes apparent at the level of the description included in the requirement specification provided by the client. For example, in the OSW project, the complexity of the user stories depended on the number of operations in the implemented web service interface, on the structure of the input data and the number of the conditions for those data validation. All this information was included in the functional requirements documentation. In practice, the specification having that degree of detail is very rare; however, the client ordering the product was very informed, also

technically informed, as to the final solution. The thorough analysis of the requirements documentation allowed for a very precise effort estimation.

Dealing with such a comfortable situation is, however, seldom the case. The functional requirements themselves are very often clear, with the team having the competences to execute them. However, it is still not easy to compare user stories when there are no similarities in the requirement definition. Then, a more in-depth analysis is needed focusing on the identification of specific subtasks within the user stories and afterwards, do the comparing at this level. What most frequently transpires is that an analogy can be spotted, for example, in the number of new modules, classes, methods or configuration elements.

4.2 Estimating tasks difficult to estimate

In practice we come across user stories to which it is difficult to assign a specific effort value using the comparison method. The problem may occur when the goal is not defined clearly. If this is the case, we should identify the reasons behind it and then select a suitable solution.

One of the reasons why a user story may be too difficult to estimate is its being too broadly defined. What appears to be a solution in such a situation is to re-examine the requirement and/or split the user story into the smaller ones, or to identify subtasks whose estimation is easier.

There are also user stories for which the developer team does not have complete knowledge with respect to the technical aspects of their execution. If there is at least one team member who is capable of saying how complex the user story is, he/she can take the other developers through its technical aspects. The developer team must then devote more time to discuss in more detail the complexity of that user story and estimate it.

However, if the difficulty arises from having no idea how to solve a user story, then it is worthwhile introducing an auxiliary task aimed at the examination/identification of the problem. The task is not given an estimation. From this perspective, it is treated similarly to an error (see “Error estimation”). And just like an error, it reduces the productivity, since it is necessary to work on it, with this work, however, being impossible to foresee.

Scrum methodology provides definition of the concept of Backlog Refinement. This is a practice according to which there should be regular meetings of the team with a view to identify and solve all doubts and problems linked to the definition of requirements. This is when, for example, the effort required for the Product Backlog items is being estimated. The auxiliary task already mentioned, being an element of the backlog improvement, allows for a better insight into the requirement and the method of its execution, consequently – the effort required.

This strategy worked well in the FOODIE project, which was based on a ready-made framework, which from the very start provided a ready-made implementation for a large portion of the project's general requirements. How effective the estimations of the next user stories were was largely dependent on the knowledge of the framework and on its flexibility. It very often happened that the user stories which seemed easy to execute ultimately required much more work than one would believe based on the estimations. Employing auxiliary tasks before assigning estimations contributed to having more accurate estimations.

4.3 Error estimation

The approach to error (bug) estimation may vary and it is closely dependent on the nature of the cooperation between the contractor and the client.

In the OSW, TOPO and FOODIE projects, it was taken for granted that neither bugs nor tasks which did not contribute to functional increment were to be estimated. The assumption was that the projects were accounted for only on the basis of the functionalities ordered, while all other tasks were necessary to ensure the product's high quality. Examples of those tasks include: bug fixing, preparing technical documentation, comparison or reconfiguration of the infrastructure (e.g. continuous integration server). Moreover, the tasks involving bug fixing are usually difficult to estimate, for most of the work is devoted to looking for the cause of an error with the fixing itself being relatively quick.

As a result, the effort required to realize the tasks which are not given estimations becomes visible in the velocity of work. Every new functionality carries the risk of bugs and requires to prepare, e.g. a part of technical documentation.

Every now and then, it is necessary to reconfigure the environment. The actual velocity is then the result of the work on functionalities and non-estimated tasks.

Sprints whose productivity substantially departs from the average may be the consequence of this kind of approach. These sprints are iterations in which one deals, for example, with bugs.

If, for some reason, one needs to know the actual effort required to fix bugs, it is useful to write down how much time was spent on all the tasks. Such tools as JIRA offer the relevant functionality. This kind of knowledge, for example, makes it possible to determine the ratio of the effort required to fix bugs to the rest of the work.

5. Planning and forecasting

5.1 Sprint size estimation

Once the initial estimation of user stories has been completed (e.g. using the story points metric), these user stories go to the first sprint chosen by the developers by way of discussion, drawing on their own subjective beliefs as to their capabilities. A completed sprint provides information about the team's capacities. The sum of estimations of the executed user stories is the first reasonable estimation of the size of the next sprint. The user stories which were not completed will be transferred to the next iteration, with the effort required for their realization being credited to the sprint in which they will be completed (e.g. they will be consistent with the Definition of Done that was adopted).

Further sprints can be planned drawing on the observation of the average work velocity expressed in points per sprint. The velocity refers to the team's ability to deliver complete functionalities. The experience obtained from the OSW, TOPO and FOODIE projects shows that this value may change over time. During the project's initial phase, work productivity increases with every iteration. This allows for increasing the size of the next sprints. To this end, one can use a velocity chart. A practice which might prove useful involves calculating the size on the basis of the weighted average of the last few iterations – earlier sprints receive smaller weights.

After a few, or a dozen or so iterations, the actual velocity can become stable. This happens when the team has already become acquainted with the technology and the user stories have been well defined, and they are similar to one another (as in the OSW and TOPO projects).

5.2 Changes in work velocity

Fluctuations or single rapid changes of velocity are possible due to random factors. The fluctuations can arise from imprecisely planned iterations, when the user stories which were not completed go from one sprint to the next, being classified as the results of the other sprint.

A rapid change in velocity reflects the changes in the method of work execution. Leaps upward can be observed when the framework-like solution is being implemented with the implementation of certain parts of the system becoming considerably facilitated. This could be interpreted in two ways. The team may recognize that its productivity has grown because it performs the same work faster (the similarity of tasks at the level of functional requirement). However, at the technical level, this is no longer the same work. User stories have become more simplified and less work is needed to deliver the same functionality, and by inference – the same business value for the product. It is then possible to consider estimating again the tasks that are still to be realized - the simplest way to do so is to multiply all the outstanding user stories of the similar type by a relevant coefficient. This approach ensures a better quality of the estimation and forecast. Yet, it requires more effort, for the team must keep comparing the user stories each time at the technical level.

Leaps downward may also signal a change in the way the work is being performed. This could be seen in the OSW project, which was executed using a modular approach. First, the user stories from module X were realized. As second, the similar work in the Y part was executed. However, in order to build the foundations of the Y module, the software developers applied different technical solutions which affected adversely the velocity in terms of the execution of very similar functionalities.

5.3 Changes in the team's composition

The risk that must be taken into consideration while starting software development projects is that the composition of a team may change. The situations where the team's composition changes or a completely different team is appointed to work on the project is a common practice. In those cases, the advantages of an abstract metric (such as, e.g. story points) are fully revealed. Once this kind of change has taken place, estimations are still up-to-date. Only velocity of work is adjusted, and ultimately all the forecasts.

5.4 Varying engagement of the team's members

There are instances when an organization allocates dynamically human resources in a project. There might be incidences when the aggregated engagement of staff, calculated, for example, in man days, changes from one sprint to another. This problem can be dealt with by controlling the total participation. At the planning meeting, the team declares its participation and on this basis the size of iterations is determined. Any indicators and forecasts should then be determined in reference to the average team engagement that was adopted.

However, there are some difficulties when it comes to determining the actual participation. One could assume that the team will be engaged at the level it has declared. Yet, in extreme cases one does not manage to follow the declaration. If this is the case, it is worth adjusting the values already recorded during the discussion. Another approach to measuring engagement is to keep the information on the time devoted to work on all the user stories (e.g. the log work function in JIRA system).

6. Conclusion

In the paper, we presented a set of techniques within the scope of effort estimation and the practical aspects of their application in the projects created in agile methodologies. The considerations were based on projects of diverse characteristics – taking into account, among other things, the industry, clients, the size of the developer team – and the approaches to estimations.

The conclusion to be made is that the approach adopted by a particular team to the issue of estimation is dependent on the very nature of the project. Planning poker is a technique which yields good results in any undertaking, increasing the estimation precision and raising the level of understanding user stories which await their realization. When functional requirements are clear and the method of their execution is well known, estimation may be based on brief descriptions of user stories. This is not the case for complex technologies or an inexperienced team, for then substantial attention must be paid to the planning of technical solutions. However, whatever the selected plane for considerations, estimation by making comparisons with the work already done delivers good results. In comparing, it is important to strive for building a good quality reference set of user stories. Moreover, using an abstract metric, such as, for example, story points, in contrast to time units, allows one to avoid the trap of the changing work productivity.

The considerations and recommendations presented in the publication could be a starting point for newly formed teams of developers and provide the basis for further modifications, tailored to individual needs and working conditions.

Acknowledgement

FOODIE is a project co-funded within the CIP (Competitiveness and Innovation Framework Programme) of the EU Seventh Framework Program (FP 7).

References

- Bjarnason E. et al. (2016), A multi-case study of agile requirements engineering and the use of test cases as requirements, „Information and Software Technology”, no. 77, pp. 61-79.
- Choudhari J., Suman U. (2012), Story points based effort estimation model for software maintenance, „Procedia Technology”, vol. 4, pp. 761-765.
- Coelho E., Basu A. (2012), Effort estimation in agile software development using story points, „International Journal of Applied Information Systems (IJ AIS)”, vol. 3 no. 7, pp. 7-10.
- Farr L., Zagorski H.J. (1964), Factors that affect the cost of computer programming. Vol. II. A quantitative analysis, System Development Corp, Santa Monica Ca, <http://www.dtic.mil/dtic/tr/fulltext/u2/607546.pdf> [23.09.2017].
- Jørgensen M., Shepperd M. (2006), A systematic review of software development cost estimation studies, „IEEE Transactions on Software Engineering”, vol. 33 no. 1, pp. 33-53.
- Jørgensen M., Grimstad S. (2011), The impact of irrelevant and misleading information on software development effort estimates. A randomized controlled field experiment, „IEEE Transactions on Software Engineering”, vol. 37 no. 5, pp. 695-707.
- Jørgensen M. (2016), Unit effects in software project effort estimation. Work-hours gives lower effort estimates than workdays, „Journal of Systems and Software”, no. 117, pp. 274-281.
- Mahnič V. (2011), A case study on agile estimating and planning using scrum, „Elektronika ir Elektrotehnika”, vol. 111 no. 5, pp. 123-128.
- Mahnič V., Hovelja T. (2012), On using planning poker for estimating user stories, „Journal of Systems and Software”, vol. 85 no. 9, pp. 2086-2095.
- Moløkken-Østvold K., Haugen N.Ch., Benestad H.Ch. (2008), Using planning poker for combining expert estimates in software projects, „Journal of Systems and Software”, vol. 81 no. 12, pp. 2106-2117.
- Nelson E.A. (1967), Management handbook for the estimation of computer programming costs, System Development Corp, Santa Monica Ca.
- Patton J., Economy P. (2014), User story mapping. Discover the whole story, build the right product, O'Reilly Media, Inc., Beijing, Sewastopol.
- Pendharkar P.C., Subramanian G.H., Rodger J.A. (2005), A probabilistic model for predicting software development effort, „IEEE Transactions on Software Engineering”, vol. 31 no. 7, pp. 615-624.
- Schwaber K., Beedle M. (2002), Agile Software Development with Scrum, Prentice Hall, Upper Saddle River, NJ.
- Schwaber K., Sutherland J. (2013), The Scrum Guide. The definitive guide to Scrum: the rules of the game, <https://www.scrumguides.org/docs/scrumguide/v1/scrum-guide-us.pdf> [23.09.2017].

Srinivasan K., Fisher D. (1995), Machine learning approaches to estimating software development effort, „IEEE Transactions on Software Engineering”, vol. 29 no. 2, pp. 126-137.

Torrecilla-Salinas C.J. et al. (2015), Estimating, planning and managing Agile Web development projects under a value-based perspective, „Information and Software Technology”, vol. 61, pp. 124-144.

Zwinne szacowanie pracochłonności w projektach programistycznych – studium przypadków

Streszczenie

Cel: Celem niniejszej pracy jest wskazanie powszechnych błędów i pułapek, a także sprawdzonych praktyk w zakresie estymacji pracochłonności w projektach programistycznych. Jakość oszacowań w mniej doświadczonych zespołach jest często niezadowalająca, wskutek czego estymacja jako element procesu wytwarzania oprogramowania jest porzucana. Decyzja zwykle uzasadniana jest błędnie rozumianą „zwinnością”. Artykuł wpisuje się w dyskusję nad bieżącymi trendami w zakresie szacowania, w szczególności w kontekście nowego podejścia „no estimates”.

Metodyka badań: Publikacja ma formę studium przypadków opartego o doświadczenia dojrzałego zespołu programistycznego. Autor, na podstawie znanych z literatury technik estymacji, wskazuje dobre i złe praktyki oraz często popełniane błędy w myśleniu i postępowaniu.

Wnioski: Kluczowe dla poprawnej estymacji okazują się: zrozumienie różnicy pomiędzy pracochłonnością i czasochłonnością, umiejętność monitorowania wydajności, a także sposób analizowania wymagań i sytuacja kadrowa zespołu.

Wartość artykułu: Publikacja pomaga opanować techniki podnoszące poziom zaufania do wszelkich oszacowań (czasu trwania, a pośrednio – kosztu wytwarzania oprogramowania) tam, gdzie znane są wymagania, jednak głównie na etapie realizacji projektu (projekt i implementacja).

Ograniczenia: Praca nie porusza problemów wstępnej estymacji przedsięwzięć, tj. estymacji dokonywanej na wczesnych etapach planowania.

Słowa kluczowe: wytwarzanie oprogramowania, szacowanie, pracochłonność, miary, inżynieria wymagań, story points, Scrum

JEL: L86

Identification of trends and determinants related to the level of earnings in Poland on the basis of average real wages paid over the period 2004-2014

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Abstract:

Aim: The aim of this article is to identify trends and determinants related to the development of the level of wages in Poland. The issue is important as the level of payment received by employees in return for their work reflects the state of economic development.

Design / Research methods: In the article data of average wages in Poland available in the Social Insurance Institution as well as the Central Statistical Office are presented and analyzed.

Conclusions / findings: During the researched period (2004-2014), average real wage has systematically increased. This is a positive phenomenon, both from the point of view of an individual worker as well as the whole economy, as it indicates continued economic development of in Poland.

Keywords: wage level and structure, Poland, real wages

JEL: J31

1. Introduction

In the theory, wages are described as a form of remuneration for the work done. In exchange for performing a specific task for his/her employer, an employee receives a certain amount of money, set out in advance, in exchange for the time and effort spent doing this work (Kostera 2006: 93). J. Meller argues that the pay is

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Received: 05-12-2016, Revised: 30-05-2017, Accepted: 05-06-2017

<http://dx.doi.org/10.29015/cerem.384>

essentially the price of work. His view on this matter arises mainly from the role payment plays objectively in the relationship with wage labor known from the market economy system (Kopertyńska 2000: 13). A defined equivalent of work capability is given to an operator. This is the requirement which must be met so that somebody else could use those capabilities and results by purchasing them. An important element used to specify the relevant amount of payment is a metric which puts value on work. It evaluates work performed at a particular job. This is done from the point of view of an entire organization as well as specific objectives set by it. The effort put into work, energy, skills required and qualifications necessary to attain the set objective are all subject to assessment. Evaluating work at a particular entity is usually conducted by the job evaluation committee. The committee is made up of experts, managers and possibly representatives of employees or external advisors (Kostera 2006: 93).

One of the underlying elements in the proper development of the system of wages is to have suitable forms of remuneration incorporated and that is such which take into account both the content and manner of the job performed. L. Martan argues that the form of remuneration is the way of making the payment and structure of remuneration dependent on the employee's workload and effect of his/her work (Martan 1997: 11).

Appropriately chosen remuneration forms which are properly related to the content and effect of the job allow for a correct calculation of the wage rate to be paid to the employee. Correctly defined workload which employees need in order to perform the task they have been appointed to is necessary for the motivational function of work to be fully exploited. The workload units include (Listwan 2010: 193):

- duration of work (the number of hours, time units spent on work),
- number of products produced by an employee, services he/she provided, actions performed (natural, contractual units, number of customers, etc.), required result of a particular job,
- monetary value (such as: turnover, sales, the commission level achieved).

A properly designed and implemented form of remuneration should be based on the norms (workload metrics) which are verifiable and match the company's needs,

and which will take into consideration such factors as technology level and work organization. In order for the remuneration form to fulfill the assumed function, employees should do their job without having to encounter unnecessary impediments or having to make additional effort. Employees should perform the tasks appointed applying normal qualifications at a particular level. Every task should be given in a manner that is understandable to the person doing it. By complying with these criteria, a company has a greater chance of attaining the goals intended for a particular job. By linking the amount of payment to the employee's workload, we can receive a variety of forms of payment applied in practice (Jacukowicz 1998: 47).

The paper seeks to identify the trends and determinants related to the level of wages in Poland. In order to perform this identification, an analysis was conducted regarding the changes in the level of earnings paid in some sectors, comparing the data illustrating the year 2004 and 2014. However, it is impossible to ignore, while starting the analysis, the change of the level of average nominal wages paid within the whole economy.

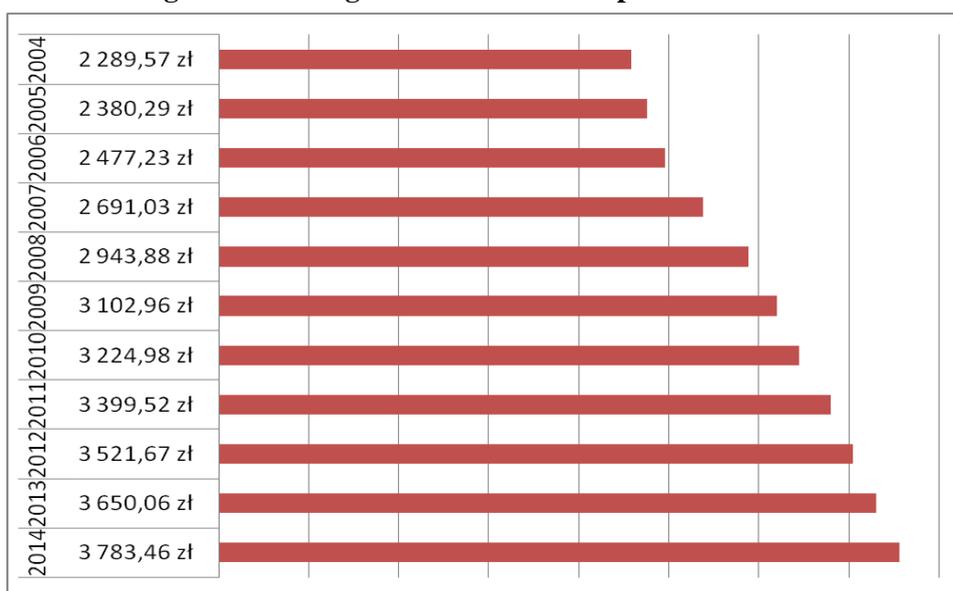
2. Development of wages in the period 2004-2014

The average monthly wage in the national economy is defined as the ratio of the sum of gross personnel remunerations, fees paid to some groups of employees for doing work specified by them which arises from the contract of employment, payments of the share in the profit distributed or the balance surplus in cooperatives and additional annual pay for state employees to the average number of the employed during the period concerned, after eliminating from this group persons doing home-based work and those employed abroad (www.stat.gov.pl).

The nominal wage, on the other hand, in line with its definition, is the money an employee receives for his/her work. However, employees' actual income is expressed in what they can buy for their earnings at the market. This depends not only on the amount of earnings but also on the prices of consumption goods. If the wages of employees are stationary, while the market prices are growing, then

employees can purchase fewer goods for their wages than before. The actual wages, that is the real wages get automatically reduced. The real wage defines the number of goods and services employees can purchase for the job they have completed. The real wage is dependent on two figures: the nominal wage and the level of the market current prices. The real wage may be stationary if the prices of consumption goods do not change in the economy, or it may increase if the nominal wage grows faster than the prices of the consumption goods.

Chart 1 – Average nominal wage in Poland over the period of 2004-2014



Source: www.stat.gov.pl

Chart 1 presents average nominal wages in the national economy over the period of 10 years – from 2004 to 2014. Even a cursory observation allows for the conclusion that the average earnings of Poles grew steadily over the last years. In 2004, the average nominal wage was at PLN 2 289.57. A year later, this value grew by PLN 90.72, thus making the employee's average earnings in 2005 at the level of PLN 2 380.29. In 2006, it was the level of PLN 2 477.23 marking the average wage. Thus, it increased by PLN 96.94, compared to the previous year. Moreover, the year 2007 saw the average nominal wage at PLN 2 691.03. This implies that the increase, compared to the year before, was by PLN 213.80. So far, the knock-on growth of the

average nominal wage was slightly bigger in the years 2005 and 2006, being at the level, respectively of PLN 90.72, and PLN 96.94. In 2007, on the other hand, this amount doubled, which brought about an average nominal wage bigger by as many as PLN 213.80. The year 2008 saw the employee's nominal wage at PLN 2 943.88, thus making it higher by PLN 253.85, compared to 2007. In 2009, the average wage, for the first time in the course of the 10 years analyzed, exceeded PLN 3 000, being exactly at PLN 3 102.96, thus having increased by PLN 159.08, against the previous year. At the same time, this increase was for the first time lower than the year before. So far, from the year 2004 until the year 2008, average nominal wage grew each year, with this increase being steadily higher each year in question. In the year 2010, the average nominal wage in the economy is equal to PLN 3 224.98. It is higher by PLN 122.02, compared to the previous year. In the next year examined, 2011, earnings were at PLN 3 399.52. That year they were higher by PLN 174.54 against the same period of the preceding year. This implies that in 2009 and 2010 the increase in average earnings fell. In those two years they were respectively at PLN 159.08 and PLN 122.02. In 2012, the average wage level in the economy was equal to PLN 3 521.67. In relation to the previous year 2011, it grew by PLN 122.15. This increase is similar to that from 2010. In 2013, the amount of PLN 3 650.06 represented the average nominal wage. This makes it higher by PLN 128.39, compared to 2012. The last year analyzed was 2014, when the average 12th wage in the economy was at PLN 3 783.46. In that year, it grew by PLN 133.40. While exploring those data, one can see that average monthly wages, starting with the year 2012, grew each year by the amount bigger than the amount from the preceding year. Over the whole period in question, from 2004 to 2014, average nominal wages grew by PLN 1 493.89.

Table 1 presents the inflation level in the Polish economy over the period of 2004-2014. In 2005, the Consumer Price Index with corresponding period of the preceding year =100% was at 102.1. The following year this index equaled 101.0%, and was lower by 1.1%, compared to the previous year. In 2007 inflation was at 102.5%. This shows that the inflation rate increased by 1.5% compared to the preceding year. 104.2% represents inflation from 2008. It follows that the inflation rate was higher that year by 1.7% than in the previous year. In 2009, inflation was at

103.5%, that is, it was lower by 0.7% than the year before. Between 2008 and 2010, the Consumer Price Index with corresponding period of the preceding year = 100% continued to fall steadily. In 2010 it was at 102.6%. Comparing this index level with the same period of the preceding year, we can see that it fell by 0.9%. In 2011, the inflation in our economy was at 104.3%. That was the highest level recorded over the years between 2004 and 2014, which is why its level was higher by 1.7%, compared to corresponding period of the preceding year. Since 2011 the inflation rate decreased gradually over the next three years included in the study. The level of 103.7% of the Consumer Price Index of corresponding period of the previous year = 100 was the same as in the year 2012. Based on this, we know that its value fell by 0.6% compared to the same period of the preceding year. In 2013, Poland's inflation was one of the lowest in the period under study. It was at 100.9%. This makes it lower by as many as 2.8% compared to the year before. The lowest level of inflation in Poland, lower by 0.9% than in the previous year was recorded for the last year analyzed, that is 2014. Then the Consumer Index Price with corresponding period of the previous year = 100 % was at 100.0%.

Table 2 also shows an increase in the inflation rate in our economy over the period of 10 years, between 2004 and 2014, comparing its increase at that period using the Consumer Price Index 2004 = 100%. In 2005, the inflation rate was at 102.1%. It grew by 2.1% compared to the first year examined, that is 2004. At the same time, this year constitutes the base year. Over the successive years, this rate kept growing steadily; since 2006 it was at, respectively: 103.12 %, 105.70 %, 110.14 %, 113.99 %, 116.96 %, 121.99 %, 126.50 % and in 2013 it was at 127.64 %. In the last year examined, the inflation rate was at the same level as the year before, which is 127.64%.

Table 2 illustrates the changes in the real wage level in the Polish economy over the period of 10 years, between 2005 and 2014, as covered by the study. While calculating the real wage rate, nominal wages were divided by the inflation rate relevant to the year in question.

Table 1 – Annual Consumer Price Index – inflation level in 2004-2014

Year	Consumer Price Index previous year = 100 (%)	Consumer Price Index 2004 = 100 (%)
2004	-----	100
2005	102.1	102.10
2006	101.0	103.12
2007	102.5	105.70
2008	104.2	110.14
2009	103.5	113.99
2010	102.6	116.96
2011	104.3	121.99
2012	103.7	126.50
2013	100.9	127.64
2014	100.0	127.64

Source: www.stat.gov.pl

Table 2 – Real wages in the national economy over the period of 2004-2014

Year	Average nominal wage	Real wage	Real wage analysis			
			against the previous year		against the base year	
				PLN		PLN
2004	2 289.57	2 289.57	-----	-----	-----	-----
2005	2 380.29	2 331.33	101.82%	41.76	101.82%	41.76
2006	2 477.23	2 402.28	103.04%	70.95	104.92%	112.71
2007	2 691.03	2 545.91	105.98%	143.63	111.20%	256.34
2008	2 943.88	2 672.85	104.99%	126.94	116.74%	383.28
2009	3 102.96	2 722.13	101.84%	49.28	118.89%	432.56
2010	3 224.98	2 757.34	101.29%	35.20	120.43%	467.77
2011	3 399.52	2 786.72	101.07%	29.38	121.71%	497.15
2012	3 521.67	2 783.93	99.90%	-2.79	121.59%	494.36
2013	3 650.06	2 859.65	102.72%	75.72	124.90%	570.08
2014	3 783.46	2 964.16	103.65%	104.51	129.46%	674.59

Source: www.zus.pl

In 2005, real earnings in the domestic economy were equal to PLN 2 331.33. The following year, they grew by 103.04% - PLN 70.95 against the preceding year,

so in 2006 the real wage that was paid in Poland was equal to PLN 2 402.28. In 2007, it was at PLN 2 545.91, which means that it grew by 105.98%, compared to the same period of the year before. In 2008, this increase was slightly smaller, as it was by 104.99%, against the preceding year. This resulted in employees receiving a salary which was higher by PLN 126.94 than in the same period of the previous year. A substantially smaller increase in earnings was recorded in 2009. That year, wages grew only by PLN 49.28, that is 101.84%, compared to the year 2008. The increase was smaller by 3.15% against the previous year. The downward trend with respect to the amount by which real earnings grew continued over the next three years. In 2010, real wage was at PLN 2 757.34, with the increase being at the level of 101.29% in relation to the preceding year, thus making it higher by PLN 35.20. The following year, real earnings increased by marginally lower percentage compared to the previous year; percentagewise it was by 101.07%, which was directly reflected in the increase in real earnings by PLN 29.38. Thus, Poland's real wage paid in 2011 was at PLN 2 786.72. In 2012 it was at PLN 2 783.93 and was smaller by 99.90%, PLN 2.79, compared to the previous year. That was the first and last time that over the period under study real wages grew by a negative value, successively compared to the preceding year. Moreover, in 2013 real wages grew by PLN 75.72, that is 102.72% compared to the same period of the year before, and were at PLN 2 859.65. The last year analyzed was 2014. At that time the real earnings in the domestic economy grew merely by 103.65% compared to the same period of the preceding year. Thus, the increase in wages was at PLN 104.51 with the real wage being at PLN 2 964.16.

It can also be gleaned from Table 2 how the real wages changed in Poland over the course of the years against the first year that was analyzed, that is, 2004. As mentioned before, in 2005, real earnings increased by 101.82% compared to the preceding year, that is by PLN 41.76. In 2006 they grew by 104.92% compared to 2004, that is by PLN 112.71. While analyzing the data contained in Table 2, it becomes clear that each year the percentage increase in the real wage in the Polish economy compared to the base year kept on growing. In 2007 real wages were at PLN 2 545.91 and were higher by 111.20% compared to the same period of the year 2004, which makes them higher than three years before by PLN 256.34. In 2008

they increased by PLN 383.28 compared to the base year, making the real wage paid in that year equal to PLN 2 672.85. The year 2009 saw an increase in real wages by 118.89%, that is by PLN 432.56 compared to the first period, and so that year the average real wage was at PLN 2 722.13. The percentage increase by 120.43%, that is an increase in real wages by PLN 467.77 compared to 2004, made the average real wage equal to PLN 2 757.34 in 2010. The following year, the average wage in our economy was at PLN 2 786.72, which was an increase by 121.71%, that is by PLN 497.15 compared to the base year. In 2012 the average wage level was equal to PLN 2 783.93. Compared to the base year 2004, it grew by 121.59%. Real earnings were thus higher by PLN 494.36 than in 2004. In 2013 real wages were higher by PLN 570.08 than nine years before. This increase equaled 124.90%, which made the average wage grow to PLN 2 859.65. In the last years analyzed 2014, real wages were at PLN 2 964.16. They increased by 129.46% compared to the base year, which means that the real wage received by employees was higher by as many as PLN 674.59, compared to that from the base year 2004.

Table 3 – Analysis of real wages in 2004 and 2014 in the selected sectors

Analyzed sector	Real wage		Real wages increase over the years in question	
	2004	2014	PLN	PLN
Heavy industry	2 400.00	3 600.75	1 200.75	150.03 %
Construction	2 224.51	3 045.69	821.18	136.92 %
Agriculture, hunting and forestry	2 263.61	3 574.49	1 310.88	157.91 %
Transport, storage and communication	2 752.74	2 944.37	191.63	106.96 %
Trade and repairs	2 317.98	2 791.58	473.60	120.43 %
Health care and welfare services	1 888.23	2 764.35	876.12	146.40 %
Education	2 376.94	3 167.83	790.89	133.27 %
Public administration and defence	2 930.21	3 652.28	722.07	124.64 %

Source: www.stat.gov.pl

National economy creates a structure where economic activity of enterprises operating in our country is summed up. It encompasses all individual and group units existing in the realm of production, services, distribution, turnover and

consumption across the entire country. The essential characteristic of a national economy is that the economic activity is carried out within the territory of a particular country. This concept is often referred to as: national economy. In some publications, economy is also referred to as a minor social system. In using this term, one emphasizes that national economy is a certain whole which is made up of individual elements mutually supportive, working towards a common purpose. This is above all to meet the needs of people living in one specific community through the production of necessary goods and services and their distribution among members of that community (Okoń-Horodyńska 2000: 83-95).

Table 3 shows the changes in average real wages paid in 2004 and 2014 in the selected sectors of the Polish economy. The smallest pay rise was received by persons whose occupation was involved in transport, storage and communication. In 2004 the average real wage for employees working in these sectors was at PLN 2 752.74. 10 years later, in 2014, their average earnings were at PLN 2 944.37. Thus, they grew only by 106.96%. 120.43% is the precise figure by which the average real wage grew for people working in the trade and services sectors. In 2004, those employees' average real earnings were at the level of PLN 2 317.98, while in 2014, they increased by PLN 473.60. In 2014 an average employee working in the trade or service sector received PLN 2 791.58. Employees working in the public administration and defense recorded only slightly bigger rise over the course of the period in question. The average employee's earnings working in those sectors were at PLN 2 930.21 in 2004. Moreover, in 2014 this value increased by 124.64%, bringing it to the level of PLN 3 652.28. Between the years 2004 and 2014, a similar growth was recorded for the average real wage paid in education and construction sector. The percentage increase was respectively at 133.27% and 136.92%. The person employed in the education sector received PLN 2 376.94 in 2004, while 10 years later his/her wage grew by PLN 790.89. The average employer working in the construction sector, on the other hand, received PLN 2 224.51 in 2004. The earnings grew exactly by PLN 821.18. Over the examined period, average real wages of persons involved in health care and welfare services increased by 146.40%. The average real wage in these sectors in 2004 was at PLN 1 888.23. 10 years later it was higher by PLN 876.12, which made it equal to PLN 2 764.35 in 2014. With

respect to people employed in the heavy industry, the precise figure by which their real wage grew was PLN 1 200.75, that is, it grew by 150.03%. Their average real earnings were at PLN 2 400.00 in 2004, while in 2014 their level was at PLN 3 600.75. The period under study encompasses the years between 2004 and 2014. In the course of that time, the highest growth of the average real wage was recorded for agriculture, hunting and forestry, its exact figure being at 157.91%. The average employee working in those sectors received PLN 2 263.61 for his/her work in 2004. 10 years on, those wages were at PLN 3 574.49.

3. Conclusion

The issue of wages paid in Poland is paramount. It refers to all the working population. The level of earnings illustrates, among other things, the changes in our country's economic situation. Drawing on the analysis conducted in this paper, we find that over the course of 10 years, between 2004 and 2014, the average wages changed in our country. Clearly, those changes were influenced by Poland's economic situation, as well as that of the European Union, and also other regions outside Europe.

In this paper, Poland's average real wages were demonstrated and analyzed over the period of 2004-2014. This period saw the growth of the average real wage in the entire economy by PLN 674.59. At the beginning of 2004, it was at PLN 2 289.57. In 2014 the average real wage meanwhile was at PLN 2 964.16. The inflation at the period in question also changed. What makes it interesting is that in 2004 and 2014 inflation was the same – 100%. It reached its highest level in 2011. That year saw it reflected, obviously, in the entire economy. The analysis of the real wages paid in the main sectors shows that in almost all sectors the real wage paid was higher each year. The highest growth recorded between 2004 and 2014 was in agriculture, hunting and forestry. There is no question that this was hugely influenced by Poland's accession to the EU in 2004. One may thus conclude that the financial situation of our country's employees was improving every year.

Poland is a country which is still growing. The study conducted in the paper shows that our economic development, as reflected in the level of wages paid, is improving every year.

References

Jacukowicz Z. (1998), Skuteczny system wynagradzania w firmie (Efficient system of remuneration within the company), Ośrodek Doradztwa i Doskonalenia Kadr, Gdańsk.

Kopertyńska M.W. (2000), System płac przedsiębiorstw (Remuneration system in enterprises), Wyd. Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław.

Kostera M. (2006), Zarządzanie personelem (Human resource management), Polskie Wydawnictwo Ekonomiczne, Warszawa.

Listwan T. (2010), Zarządzanie kadrami (Human resource management), 4th edition, revised, Wydawnictwo C.H. Beck, Warszawa.

Martan L. (1997), Praca i wynagrodzenie w przedsiębiorstwie. Zagadnienia podstawowe (Work and remuneration in the enterprise. Basic considerations), Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław.

Okoń-Horodyńska E. (2000), Państwo narodowe a proces globalizacji (The nation-state and the process of globalization), Wydawnictwo Akademii Ekonomicznej w Katowicach, Katowice.

Identyfikacja tendencji i uwarunkowań związanych z poziomem płac w Polsce, na podstawie przeciętnych wynagrodzeń realnych wypłacanych w latach 2004-2014

Streszczenie

Cel: Celem niniejszego artykułu jest identyfikacja tendencji oraz uwarunkowań związanych z poziomem kształtowania się płac w Polsce. Temat ten jest ważny, gdyż wysokość otrzymywanej płacy przez pracowników w zamian za wykonanie przez nich określonych prac odzwierciedla stan rozwoju gospodarczego.

Metodyka badań: W artykule zostały zaprezentowane oraz poddane analizie dane odzwierciedlające przeciętne wysokości płac w Polsce dostępne w bazie Zakładu Ubezpieczeń Społecznych jak również Głównego Urzędu Statystycznego.

Wnioski: Na przestrzeni przedstawionego w artykule okresu (2004-2014) wysokość przeciętnych wynagrodzeń realnym systematycznie wzrastała. Jest to pozytywne zjawisko zarówno z punktu widzenia indywidualnego pracownika, jak również w odniesieniu do całej gospodarki. Świadczy to o ciągłym rozwoju gospodarczym naszego kraju.

Słowa kluczowe: poziom i struktura płac, Polska, realne dochody

JEL: J31

“Anti-competition agreements” and legal options to pursue claims for damages before common courts¹

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Abstract:

Aim: In the article the situation is discussed where the refusal by an energy supplier to connect other companies to join the network, will be treated (in Poland and the EU) as a prohibited abuse of a dominant position by this company. The identification of such practices is important because EU sectoral legislation does not contain specific provisions requiring companies managing and operating oil pipelines to conclude agreements with other companies to join their networks or to deliver oil.

Design / Research methods: The aim of the article was achieved through doctrinal analysis of the relevant Polish and EU law and by analyzing guidelines issued by EU bodies. In the study, also functional analysis is applied, allowing to examine the functioning of the law.

Conclusions / findings: Access to oil pipelines and the sale of their transmission capacity are determined by the network owners themselves. These owners are private oil companies, not being regulated by European Union law. The obligation to connect other entities to its own network by power transmission companies in Poland results only from the general provisions of Polish competition law. It is shown that refusal to access the network is a manifestation of prohibited abuse of dominant position, which is prohibited whenever the dominant activity is detrimental to allocation efficiency. In particular this concerns the case when the supply of goods or services objectively necessary for effective competition on the market in general is denied, and leads to the elimination of effective competition in the market and/or harm to consumers.

Originality / value of the article: The article discusses the reasons for the legal obligation for energy companies involved in the transmission of crude oil to connect other companies into their own network. This obligation significantly influences the business conducted by the transmission companies.

Implications of the research: The presented research results are useful for assessing decisions issued by the President of UOKiK (the Polish Office of Competition and Consumer Protection) and in the judgments of Polish common courts and EU courts.

Key words: public competition law, anti-competition agreements, relevant market, the abuse of dominant position

JEL: K23

¹ This paper was written under the research project financed by the National Science Centre No.DEC-2013/08/A/HSS/00642.

1. Introduction. The concept of relevant market

To apply the Polish or EU competition law² to any business sector in order to eliminate anti-competition practices, it is necessary to outline relevant markets for each of the sectors in question. Pursuant to competition law, restrictions that the law aims to eliminate always occur and must be identified in a “relevant market” that sets out a platform for competition between undertakings (cf. Article 6(1) in principio and Article 9(1) in principio of the Competition and Consumer Protection Act of February 16, 2007, consolidated text: Official Journal 2017, item 229; cf. item I.2 of the Commission Notice on the definition of relevant market for the purposes of Community competition law EU OJ 1997, C372/5). Moreover, the notion of relevant market is a point of reference for the determination of market share, and hence, market strength, of particular undertakings.

A relevant market must be identified at least with respect to goods and location. In terms of goods, the market of products (goods) is the market of goods which, due to their purpose, price and properties, including quality, are considered substitutive by their buyers (Article 4(9) of the Competition and Consumer Protection Act, items II.7 and II.15–19 of the Commission Notice on the definition of relevant market for the purposes of Community competition law). In particular sectors, relevant markets are defined as specific types of activity (or phases of the economic chain) that involve specific products (goods), their production, sales and servicing. Nonetheless, it is always necessary to take account of the fact that products within one category vary by type, technical specification, purpose, function, price or technical properties, meaning that product-specific sales or servicing market can be further subdivided into product submarkets specific to certain types of products characterised by different technical properties, fit for different purposes and sold at a significantly different price than other types of products. As a result, the buyers of specific

² In this discussion the term “competition law” is used as construed in public competition law or anti-monopoly law, inclusive of bans on practices restricting competition, namely agreements that restrict competition or involve abuse of one’s dominant position. Competition law construed in this way does not cover unfair competition law.

products or related services do not treat various types of products as interchangeable substitutes³.

At the same time, it must be assumed that the production and sales markets for specific products are inclusive of activity involving the production and sales of spare parts for those products. It means that the production and sales of spare parts do not constitute a separate relevant product market that would be independent from production and sales markets of specific goods (cf. European Commission Notice – Guidelines on vertical restraints, EU OJ 2010, C 130/1, item 91).

From the geographic perspective, a relevant market is the area where, due to the type and properties of goods (products) being produced or sold, the existence of access barriers to the market, consumer preferences, significant differences in price and transport costs, competition conditions are similar (Article 4(9) of the Competition and Consumer Protection Act; items II.8 and III.28–32 of the Commission Notice on the definition of relevant market). Given this definition of the geographic criterion of a relevant market, the production market for specific goods can be either global, European or national. When it comes to the manufacturing of specific product types, it is quite likely that competitive environment may be relatively homogenous in the entire Europe or even globally. However, it is also quite common to come across a situation where the main (dominant) global producer organises sales and servicing of goods and space parts they produce in specific states, creating separate trade areas (separate distribution regions), by way of appointing separate (dedicated to particular states specifically) the distributors and dealers authorised to sell and service their products on those national territories, but not elsewhere. In such a situation, new businesses willing to engage in the sales or servicing of those products face significant, practically insurmountable access barriers. These barriers set out territorial borders for specific relevant markets from geographical perspective, rendering any tenders, international or pan-European purchases impossible.

³ It seems that the differentiation of product markets for specific products is also reasonable given the lack of substitution of supply: the lack of substitutivity of certain types of products from the perspective of producers or, at least partially, due to the lack of substitutivity from the perspective of sellers and service providers.

2. Anti-competition contractual clauses

Typically, producers distribute their products by developing distribution chains or dealer networks based on civil law contracts made between producers and such distributors or dealers. In the competition law terminology, such contracts are referred to as vertical agreements or distribution agreements. Obviously, vertical agreements are necessary to run regular business activity in the field of sales and servicing of goods. However, in practice, some of those agreements contain a number of contractual clauses that are in direct conflict with the Polish and EU competition law, violate the ban on agreements restricting competition under Article 6(1) of the Competition and Consumer Protection Act⁴ and under Article 101(1) of the Treaty on the Functioning of the European Union (TFEU)⁵ which makes them patently invalid based on the effective laws themselves (cf. Article 6(2) of the Competition and Consumer Protection Act and Article 101(2) TFEU). Even if some of the contractual clauses included in vertical agreements are not directly incorporated into the relevant contracts but simply follow from the so-called agreed practices, this is without prejudice to their anti-competition nature and does not impact their classification as illegal and invalid from the perspective of competition

⁴ Article 6(1) of the Competition and Consumer Protection Act reads: “Any agreements which have as their object or effect the prevention, restriction or other distortion of competition within the relevant market shall be prohibited, in particular those which: 1) directly or indirectly fix purchase or selling prices or any other trading conditions; 2) limit or control production, market sale, as well as technical development or investments; 3) share markets for the sale of goods or sources of supply; 4) apply dissimilar or onerous contract terms to similar transactions with third parties, thereby placing them at a competitive disadvantage; 5) make the conclusion of contracts subject to the acceptance or fulfilment by the other party of other obligations that by their nature or according to the customary usage have no connection with the subject of such contracts; 6) restrict access to the market to undertakings not covered by the agreement, or eliminate them from the market; 7) fix the terms and conditions of bids proposed by undertakings entering a tender, or by those undertakings and the undertaking that organises a tender, including, in particular, the scope of works or price (bid rigging)”.

⁵ Art. 101(1) TFEU provides: “The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”.

law (see the definition of “agreement” laid down in Article 4(5) of the Competition and Consumer Protection Act and Article 101(1) in principio TFEU).

One of the most important restrictions to competition that originate from vertical agreements is a rule preventing distributors or dealers from selling products to certain clients, defined either as the designation of a specific territory (such as a portion of state’s territory) where such distributors or dealers can operate or as the designation of the category of clients to whom distributors or dealers are authorised to sell specific products. It is one of the most far-reaching competition restrictions that negatively affect consumers, as it practically involves the division of the (relevant) market by territories or client groups. Such restrictions can be a consequence of direct obligations, such as the requirement to give up sales to certain clients or to clients from certain territories or the requirement to forward orders from such clients to other distributors or dealers. Yet another type of restrictions result from indirect measures aimed at preventing a distributor or dealer from selling goods to certain clients. Such measures include: refusal to pay or a decrease of bonuses or rebates, discontinuation of deliveries, decrease of delivered volumes or restricting supply to match the demand on the assigned area or among target group only, threats of termination, requesting higher prices for goods to be exported, restricting the volume of goods that could be exported or the obligation to transfer profits to the supplier of devices (European Commission Notice – Guidelines on vertical restraints, item 50). These restrictions result in relevant market sharing and as such are prohibited under Article 6(1)(3) of the Competition and Consumer Protection Act and Article 101(1)(c) TFEU.

This type of competition restriction includes also the practice of exclusive allocation of customers. When applied, the suppliers – producer of goods marketed under a specific brand – agrees to sell its products to one distributor only, on condition that the products will be resold to one specific group of customers, defined in terms of geographic criterion (registered seat or the place of business activity or the place where a request for servicing was lodged). At the same time, it is typical to impose on distributors or dealers certain restrictions concerning active sales to other groups of clients allocated on exclusive terms to other distributors or dealers. Threats to competition that are inherent in restrictions of this type include reduced

internal competition between brands and market sharing, which may facilitate pricing discrimination. What is more, the exclusive allocation of clients inherently leads to preventing other distributors from accessing the market and reduces competition at that level (European Commission Notice – Guidelines on vertical restraints, item 168). This category of competition restrictions violate Article 6(1)(2), 6(1)(3) and 6(1)(6) of the Competition and Consumer Protection Act and Article 101(1)(b) and 101(1)(c) TFEU.

Yet another competition restriction typical of vertical agreements involves restrictions to active and passive sales to end users. In fact, distributors or dealers belong to a selective distribution network organised by producers. Simultaneously, competition law requires that dealers in a selective distribution system be not restricted with respect to the selection of users to whom products or services will be sold (no restrictions on the selection of purchasing agents acting on such behalf of users are allowed).⁶ In a selective distribution system, dealers should be free to engage in active and passive sales to all end users, including the sales via the Internet (European Commission Notice – Guidelines on vertical restraints, item 56). Restrictions to this freedom violate Article 6(1)(2) of the Competition and Consumer Protection Act and Article 101(1)(b) TFEU. Another group of serious restrictions to competition arising from distribution agreements involve restrictions that prevent parallel imports of products and spare parts to the territory of a specific state. Such clauses typically provide that dealers or distributors have no other import channels apart from direct imports from the producer. They are unable to import such goods using other foreign distributors or dealers located in other states. As a result, such clauses included in distribution agreements prevent parties from engaging in a so-called parallel import of goods and spare parts to a specific state. Those provisions constitute a flagrant breach of EU competition law and are classified as single market sharing. As such, they violate Article 101(1)(c) TFEU.

Importantly, one of the key objectives of EU competition law is to establish single internal market, namely to integrate the national markets of member states. To attain this objective it is necessary to ensure that the abolished national barriers to transborder trade created by member states (such as bans on restrictions on imports)

⁶ Unless the restriction aims to protect the exclusive distribution system applied elsewhere.

are not replaced by barriers created by undertakings themselves (cf. e.g.: Odudu 2006: 13-14; Szydło 2006: 180 ff). These barriers include distribution agreements that involve prohibitions or restrictions affecting parallel imports.

Yet another major competition restriction arising from vertical distribution agreements involves preventing independent service or repair facilities from acquiring spare parts directly from manufacturers of such components. These restrictions can be direct or indirect in nature. Indirect restrictions typically consist in limited provision of technical information and specialist equipment necessary for the independent repair or service providers to use such spare parts (European Commission Notice – Guidelines on vertical restraints, item 59). Restrictions belonging to this category violate Article 6(1)(2) and 6(1)(6) of the Competition and Consumer Protection Act and Article 101(1)(b) TFEU.

A different type of prohibited restrictions to competition occurring in vertical (distribution) agreements is the non-competition clause imposed on the Polish distributors or dealers. As a result, the distributors or dealers cannot acquire or service products sold under competitive brands or can do so only within a law limit corresponding to the volume of their total purchases of such devices (European Commission Notice – Guidelines on vertical restrictions, item 66). Such clauses often involve a restriction directly or indirectly preventing the Polish distributors or dealers (belonging to a selective distribution network) from buying goods for the purpose of resale from specific competitive suppliers. Such restrictions, which tantamount to preventing competitive suppliers from accessing the market, are classified as a form of a collective boycott (European Commission Notice – Guidelines on vertical restrictions, item 69). The foregoing restrictions violate Article 6(1)(2) and 6(1)(6) of the Competition and Consumer Protection Act and Article 101(1)(b) TFEU.

The latter kind of restrictions to competition found in vertical agreements is particularly common, which obviously does not mean that other restrictions are less relevant or less damaging to competition. It involves restrictions that result from the violation of basic rules of organisation by suppliers within a selective distribution network. As already mentioned above, distribution network operating in Poland are often intended (at least in theory) as selective distribution network (or, in any case,

they do not operate as exclusive distribution networks)⁷. In this context it is necessary to explain that selective distribution can adversely affect competition in a number of ways: by decreasing internal inter-brand competition and, in case of cumulative effect, by causing the foreclosure of certain types of distributors, softening of competition and facilitation of collusion between suppliers and buyers. To assess possible anti-competition effects of selective distribution, a distinction needs to be made between purely qualitative selective distribution and quantitative selective distribution. In the case of purely qualitative selective distribution, dealers are selected on the basis of strictly objective criteria required by the nature of the product, such as training of sales personnel, the service provided at the point of sale, a certain range of products being sold, etc. The application of such criteria does not put a direct limit on the number of dealers. As a rule, purely qualitative selective distribution is not considered a violation of Article 6(1) of the Competition and Consumer Protection Act or Article 101(1) TFEU for the lack of anti-competition effects, provided that the following three conditions are satisfied. First of all, the nature of the product in question must necessitate a selective distribution system, in the sense that such a system must constitute a legitimate requirement, having regard to the nature of the product concerned, to preserve its quality and ensure its proper use. Secondly, resellers must be chosen on the basis of objective criteria of a qualitative nature which are laid down uniformly for all and made available to all potential resellers and are not applied in a discriminatory manner. Thirdly, the criteria laid down must not go beyond what is necessary (European Commission Notice – Guidelines on vertical restraints, item 175).

In the case of selective distribution networks operating in Poland, the foregoing conditions are not always met. As an example one could refer to the condition that requires distributors and dealers to be selected on the basis of objective criteria that

⁷ “Selective distribution agreements, like exclusive distribution agreements, restrict on the one hand the number of authorised distributors and on the other the possibilities of resale. The difference with exclusive distribution is that the restriction of the number of dealers does not depend on the number of territories but on selection criteria linked in the first place to the nature of the product. Another difference with exclusive distribution is that the restriction on resale is not a restriction on active selling to a territory but a restriction on any sales to non-authorised distributors, leaving only appointed dealers and final customers as possible buyers. Selective distribution is almost always used to distribute branded final products” (European Commission Notice – Guidelines on vertical restraints, item 174).

must be qualitative, homogenous, available to all possible distributors and dealers and applied in a non-discriminatory manner. However, often the selection criteria are highly subjective and arbitrary, diversified depending on the category of potential parties and not openly available to all (not publicly known). Moreover, they are applied in a discriminatory, or sometimes even flagrantly discriminatory manner. Such a discrimination is manifested, among other things, by refusing to admit undertakings with extensive sales and service networks, having good reputation and strong background in selling and servicing specified products to the distribution network.

What is more, competition law prohibits the organisation of selective distribution networks that are not purely qualitative and are based on qualitative-mixed criteria. Such additional selection criteria that directly limit the potential number of distributors or dealers include, for instance, requiring the minimum or maximum sales, or are manifested by the fixing of the number of dealers (European Commission Notice – Guidelines on vertical restraints, item 175). Those restrictions are unreasonable and constitute disproportionate restraints for the mechanism of competition on the market of specified goods in Poland. Furthermore, they violate Article 6(1)(2) and 6(1)(6) of the Competition and Consumer Protection Act and Article 101(1)(b) and 101(1)(c) TFEU.

At this point it needs to be emphasized that the anti-competition nature of the contractual clauses discussed above and included in distribution agreements is not remedied by the fact that some of the Polish distributors or dealers are owned by foreign producers or make part of producer’s group. Although the Polish and EU competition laws contain a rule that agreements between members of the same group (for instance between the parent company and its subsidiary) are not subject to provisions on anti-competition agreements, this rule is applicable only if such intra-group agreements are made to internally allocate tasks between group members. The abovementioned exemption from anti-competition agreements applicable to agreements between members of the same group does not apply whenever such agreements have impact on economic relations and competition outside the group, that is when their impact is not limited to the internal intra-group relations (the Supreme Court judgement of January 19, 2001, file ref. no I CKN

1036/98; Jurkowska 2009: 375-376; Kohutek 2008: 259-262; Modzelewska-Wąchal: 68). In consequence, this exemption cannot be applied to distribution agreements if such agreements go beyond the allocation of economic tasks within the capital group and organize the entire Polish market of sales and servicing of a specific product or otherwise significantly affects competition on that market and situation of other market participants. In consequence, distribution agreements discussed in this paper fall within the scope of prohibitions introduced in Article 6(1) of the Competition and Consumer Protection Act and Article 101(1) TFEU.

Nevertheless, it must be emphasized that anti-competition clauses included in vertical agreements may be exempted from the ban on anti-competition clauses based on the Article 8 of the Competition and Consumer Protection Act and Article 101(3) TFEU. Article 8 of the Competition and Consumer Protection Act and Article 101(3) TFEU allow for exempting certain agreements or clauses from the ban on anti-competition agreements introduced in Article 6(1) of the Competition and Consumer Protection Act and Article 101(1) TFEU respectively, insofar as such agreements or clauses, even if they can be classified as anti-competition to a certain extent, bring about specific proconsumer and general economic benefits and do not introduce disproportionate or significant restraints on competition.⁸ Those exemptions from prohibitions laid down in the Article 8 of the Competition and Consumer Protection Act and Article 101(3) TFEU can be either block exemptions, meaning that they can be introduced by relevant regulations issued in Poland by the Council of Ministers (according to the Article 8(3) of the Competition and Consumer Protection Act⁹) or in the European Union by the European Commission

⁸ Article 8(1) of the Competition and Consumer Protection Act reads: “The prohibition referred to in Article 6.1 does not apply to any agreements which, at the same time: 1) contribute to improving the production or distribution of goods, or to promoting technical or economic progress; 2) allow consumers or users a fair share of the resulting benefit; 3) do not impose any restrictions on the undertakings concerned that are not indispensable to achieving these objectives; 4) do not afford such undertakings the possibility of eliminating competition within the relevant market in respect of a substantial part of the goods in question”. Meanwhile, Article 101(3) TFEU provides that provisions of Article 101(1) TFEU may be declared inapplicable in the case of any agreements “which contribute to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which do not: a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives; b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question”.

(based on the relevant authorisation included in the Council regulation issued pursuant to Article 103(1) and Article 103(2)(b) TFEU), or individual exemptions based on the individual assessment of specific agreements or clauses. However, a vertical (distribution) agreement cannot be granted a block or individual exemption based on Article 8 of the Competition and Consumer Protection Act and Article 101(3) TFEU if, for instance, suppliers or buyers of a specific product in Poland account for more than 30% of sales of that product countrywise, as this threshold, pursuant to relevant regulations on block exemptions cannot be exceeded (paragraph 8 of Regulation of the Council of Ministers of March 30, 2011 exempting certain types of vertical agreements from the ban on agreements limiting competition, consolidated text: Official Journal 2014, item 1012; Article 3 of the Regulation of the Council (EU) No. 330/2010 of April 20, 2010 on bankruptcy proceedings, Official Journal on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, EU OJ 2010, L 102/1). Moreover, no exemption will apply if the clauses included in the agreements (e.g. market division clauses, clauses discriminating against independent sellers, clauses foreclosing access to the market) are labelled as the so-called black clauses and classified as the most serious and the most consequential restrictions to competition law, which are banned and cannot be granted any individual (cf. European Commission Notice – Guidelines on vertical restraints, items 96, 168-188) or block exemption (paragraph 11(2), 11(3), 11(4) and 11(5) of the Regulation of the Council of Ministers of 30 March 2011 on the exemption of certain types of vertical agreements from the ban on anti-competition agreements; Article 4(b), (c), (d) and (e) and Article 5(1) of the Regulation of the Council (EU) No. 330/2010 of April 20, 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices).

Nevertheless, even if one assumed that at least some of the contractual clauses discussed above would not be classified as black clauses which are prohibited as such, to prove that such clauses are eligible to be exempted from the ban introduced in Article 8(1) of the Competition and Consumer Protection Act or Article 101(3) TFEU is very difficult and troublesome. The undertakings concerned bear the

burden of proving that such exceptional conditions have been satisfied (Article 8(2) of the Competition and Consumer Protection Act; European Commission Notice – Guidelines on vertical restraints, item 96), which means that they would be required to prove beyond any doubt that the significant (and indisputable) restrictions to competition caused by them on the Polish market of sales and servicing of a specific product are highly beneficial to users (end buyers) of such products and do not go beyond what is necessary for the users to obtain such benefits. Meanwhile, one can hardly speak of any perceptible and undisputable benefits for users (final buyers) if, taking account of the abovementioned clauses used in vertical agreements, users cannot freely choose their sellers or the entity from which to procure servicing and maintenance services, and are *de facto* deprived of the possibility to benefit from increased competition on relevant markets that would provide them with a wider choice, better quality of service and lower prices.

3. Practices involving the abuse of dominant position on relevant markets

The Polish competition law defines dominant position as the position of an undertaking that enables it to prevent effective competition being maintained in a relevant market by giving it the power to act to an appreciable extent independently of its competitors, customers and consumers; it is assumed that an undertaking has dominant position where its market share in a relevant market exceeds 40 per cent (Article 4(10) of Competition and Consumer Protection Act). This definition is based on an analogous definition in the EU competition law, which assumes that the dominant position means such a position of an undertaking which enables it to prevent effective competition in the relevant market by acting in a manner appreciably independent from other competitors, customers and, finally, also consumers. This notion of independence is related to the degree of competitive constraint exerted on the undertaking in question. Dominance entails that these competitive constraints are not sufficiently effective and hence that the undertaking in question enjoys substantial market power over a period of time. This means that the undertaking's decisions are largely insensitive to the actions and reactions of

competitors, customers and, ultimately, consumers (Communication from the Commission — Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, EU OJ, C 45/7; hereinafter: “Communication from the Commission on exclusionary conduct by dominant undertakings”).

One special instance of dominant position is collective dominant position. In the Polish and EU competition law, collective dominant position is defined as the market strength of specified undertakings belonging to oligopoly which enables them to act to an appreciable extent independently from other competitors, business partners and consumers and to prevent effective competition on the relevant market (in other words, such undertakings are not subject to any significant competitive pressure, including the pressure exerted by potential competitors and balancing demand power). Furthermore, another defining feature of collective dominant position is the fact that the undertakings concerned (oligopoly members), thanks to their mutual connections, pursue a common market policy (behave in the same way in the market). These mutual connections between undertakings can take form of formal contracts, interest in equity, informal agreements or intentional, anti-competition parallelism (tacit coordination). Such connections should be permanent and fossilized by the existence of certain revenge measures discouraging oligopoly members from abandoning common policy (Szydło 2010: 95-104).

Collective dominant position is enjoyed by undertakings that take up almost the entire market by engaging in actions that are inter-dependent and involve the anticipation of other undertaking’s conduct, ensuring mutual response to possible market moves. Typically, such undertakings give up on intensive mutual competition, but rather adjust (assimilate) their market conduct anticipating analogous conduct on the part of other undertakings. Such a mutual tacit collusion or a covert agreement can be significantly facilitated and made probable if a selective distribution network is organized in Poland in a manner allocating clients to specific distributors or dealers on exclusive basis, restricting or preventing them from engaging in active sales of such goods to other groups of clients. This organisational model in a selective distribution network, based on the exclusive assignment of clients by all suppliers, is an important factor facilitating collusion, not only between

suppliers, but also between distributors or dealers (European Commission Notice – Guidelines on vertical restraints, item 168). What is more, other aspects of organization and functioning of selective distribution networks of both producers suggest far-reaching understanding of mutual interests and the awareness of the fact that tacit agreement and intentional parallelism of their market conduct would give them a better chance of obtaining higher profits than fierce competition.

Undertakings that enjoy a dominant position, including collective dominant position, cannot abuse it. Article 9(1) of the Competition and Consumer Protection Act provides that the abuse by one or more undertakings of a dominant position within a relevant market is prohibited. Simultaneously, Article 102(1) TFEU specifies that any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between member states. Article 9(2) of the Competition and Consumer Protection Act and the second sentence of Article 102(2) list instances of dominant position abuse practices that affect competition and consumers to the greatest extent. These include: imposing unfair transaction terms and conditions, limiting market sale to the prejudice of customers or consumers, preventing the development of the conditions necessary for the competition to emerge or develop or the sharing of markets according to the criteria of territory or entity. In fact, these practices violate the Article 9 of Competition and Consumer Protection and Article 102 TFEU and insofar as they represent legal transactions, they are invalid (cf. Article 9(3) of the Competition and Consumer Protection Act).

Other practices that can be classified as the abuse of dominant position involve blocking access to the market of sales and servicing of specific goods in Poland. These practices can take various forms, but their most flagrant and effective manifestations include: 1) consistent refusal to admit independent sellers and service providers to one's own distribution network in Poland, even if those independent applicants enjoy established reputation, extensive infrastructure and strong background; 2) preventing members of one's own distribution networks (distributors or dealers who are members of distribution networks of both dominant producers), not only located in Poland but also domiciled in other European states, from selling

specific goods and spare parts to independent sellers and service providers in Poland, thereby blocking their options to further develop business activity in the sales and servicing market. It must be emphasized that the effects of such exclusive practices by dominant producers are not limited to typical anti-competition effects, manifested by the weakening position or disappearance of independent sellers and service providers, but are detrimental to consumers wellbeing, limiting their options to chose between distributors or dealers offering better quality of services and forcing them to accept higher prices, as a result of the weakness or lack of competitive pressure that requires the participation of a higher number of sellers and service providers. Such practices violate Article 9(2)(2) and 9(2)(5) of the Competition and Consumer Protection Act and Article 102 TFEU (including Article102(b) TFEU).

Other manifestations of abuse dominant positions include the discrimination against independent sellers or service providers. From the perspective of Article 9 of Competition and Consumer Protection Act and Article 102 TFEU, both dominant suppliers should treat their existing and potential business partners equally and in a non-discriminatory manner, also when accepting them to their distribution networks. However, it is not the case when, without any reasonable cause, dominant undertakings refuse access to their distribution networks in Poland to certain independent sellers or service providers, even if such sellers or service providers meet all relevant criteria with regard to professional qualifications, experience, financial standing, qualified personnel and required infrastructure. Such practices violate Article 9(2)(3) and 5(2)(5) of the Competition and Consumer Protection Act and Article 101(1)(c) TFEU.

Yet another type of conduct that can be classified as a manifestation of dominant position involves the sharing of markets according to the criteria of territory or entity. In fact, these practices are very common – each of local Polish distributors or dealers is assigned a specific territory together with potential customers residing or domiciled in that area. A distributor or dealer sells or provides services to such customers, but cannot extend their activity to other regions of the country (it cannot execute orders made from other regions of Poland). This market sparing strategy creates a situation where a client from a specific region of Poland is directed, based

on their domicile, to a specified regional dealer and typically cannot buy the product or spare parts in another place on the territory or cannot hold a tender soliciting bids from various distributors or dealers. Moreover, also when using maintenance services the client must use services of their regional distributor or dealer, based on the client's domicile. This method of domestic and single EU market sharing is considered to be one of the most severe cases of dominant position abuse, as its impact is not limited to the effectiveness of competition (by decreasing client's arbitration options and depriving them from the benefits stemming from a wider choice, namely better quality of services or lower prices), but also undermines the very objective of the competition law, that is integration, especially in the case of the EU competition law. Such practices violate Article 9(2)(7) of the Competition and Consumer Protection Act and Article 102 TFEU.

Yet another category of conduct classified as dominant position abuse involves certain exploitation practices with respect to end users. These practices consist in certain repressive actions taken against users should they attempt to procure a specific product or spare parts from independent sellers or attempt to use services of independent service providers. Such repressive activities can be manifested by the refusal to provide warranty services or the refusal to register a warranty service in the system, if not purchased from a distributor or dealer appointed by the producer, but from an independent seller. Those practices discourage end users from making purchases or servicing goods using independent undertakings. Not only do they exploit end users (by decreasing their freedom of choice and arbitration and depriving them of the option to benefit from a wider range of alternative offers), but are explicitly anti-competition, because they significantly hinder independent sellers or service providers from entering the sales or servicing market for a specified product in Poland, to the detriment of consumers. Such practices violate Article 9(2)(1) of the Competition and Consumer Protection Act and Article 102(a) TFEU.

4. The possibility to notify the President of UOKiK

Whenever producers and their Polish distributors or dealers engage in practices explicitly restricting competition, either by way of vertical agreements restricting competition or abuse of collective dominant position, the President of the Polish Office of Competition and Consumer Protection (hereinafter: President of UOKiK) must institute *ex officio* anti-monopoly procedure once they after obtaining information about such practices (Article 49(1) of the Competition and Consumer Protection Act). Before the anti-monopoly procedure is instituted, the President of UOKiK has also the option to institute an investigation procedure to make a preliminary determination whether any infringement of law justifying the institution of anti-monopoly procedure has taken place. At this stage the President of UOKiK determines whether the case has anti-monopoly relevance and examines the market, including its structure and the extent of its concentration (Article 48 of the Competition and Consumer Protection Act).

Although anti-monopoly procedure in matters concerning policies restricting competition is instituted by the President of UOKiK *ex officio*, everyone may report, by written notification, any suspected use of restrictive practices to the President of the Office, giving the grounds for such a notification (Article 86(1) of the Competition and Consumer Protection Act). This notification may include and specify, in particular: 1) the undertaking that is suspected of using a restrictive practice; 2) description of the findings of fact that constitute the grounds for the notification; 3) the provision of the Act or of the TFEU, the infringement of which is alleged by the notifying person; 4) demonstration of the infringement of the provisions of the Act or of the TFEU with sufficient *indicia* of reliability; 5) identification data of the notifying person (Article 86(2) of the Competition and Consumer Protection Act). Any documents that may constitute evidence of the infringement should be attached to the notification (Article 86(3) of the Competition and Consumer Protection Act). Within the time limit referred to in Articles 35-37 of the Act of June 14, 1960 – the Code of Administrative Procedure, the President of the Office informs the notifying person (entity) of the way in which the notification

is considered, including the statement of reasons (Article 86(4) of the Competition and Consumer Protection Act).

If the abovementioned notification is placed and followed by anti-monopoly procedure, the parties to that procedure will be only the undertakings against whom the procedure has been instituted (that is the undertakings that have engaged in or are suspected to have engaged in practices restricting competition), not the notifying person referred to above.

The anti-monopoly procedure carried out by the President of UOKiK can be discontinued if the suspicion that practices restricting competition turns out to be unfounded, or ends with issuing one of the decisions referred to in Article 10 or Article 12 of the Competition and Consumer Protection Act, namely the decision declaring a specific practice to be a practice restricting competition if the President of UOKiK finds that the prohibitions laid down in Article 6 or Article 9 of the Competition and Consumer Protection Act or in Article 101 or Article 102 TFEU have been infringed (Article 10(1) of the Competition and Consumer Protection Act). In consequence, the President of UOKiK can issue decisions directly based on Article 101 and 102 TFEU if prohibitions laid down in those provisions have been infringed. In their decision referred to above, the President of UOKiK orders a practice infringing the prohibitions referred to in Article 6 or Article 9 of the Competition and Consumer Protection Act or in Article 101 or 102 TFEU to be discontinued if by the date of issuing the decision the undertaking has not discontinued the practice already (Article 10(2) of the Competition and Consumer Protection Act).

In a decision declaring a specific practice a practice restricting competition, the President of UOKiK may impose on the undertaking a financial penalty amounting to no more than 10% of the turnover generated in the financial year preceding the year in which the penalty is imposed (Article 106(1) of the Competition and Consumer Protection Act).

Pursuant to Article 93(1) of the Competition and Consumer Protection Act, procedures on practices restricting competition are not instituted if 5 years have elapsed as of the end of the year in which the practices were discontinued (cf. also

Article 76 of the Competition and Consumer Protection Act). Prescription does not apply if such practices continue to be used.

5. The right to pursue claims for damages before common courts

Every person who has suffered damage as a result of practice restricting competition, performed by producers or dealers, can claim damages under general laws. The option to claim damages pursuant to foregoing rules is open to any undertaking that has suffered as a result of practices restricting competition, in particular by losing a market share, clients, orders, contacts, or by the need to terminate previously made contracts, as well as the requirement to pay damages to any third parties. If such damage to undertaking's property was caused by intentional or unintentional practices restricting competition and if adequate cause-effect relationship can be found between such practices and the damage, undertakings engaging in such practices are liable for the damage under civil law rules and obliged to pay relevant compensation to the injured party. If no compensation is paid voluntarily, the injured party can claim damages before common courts.

A person injured by practices restricting competition may lodge a relevant claim for damages even before the President of UOKiK institutes anti-monopoly procedure concerning such practices and before they issue a decision which authoritatively confirms that the undertakings in question engaged in practices restricting competition. This option has been confirmed by the case law of the Polish Supreme Court (SC), which found that “whenever the President of UOKiK has not instituted a procedure or a procedure has been instituted, but has not ended with a decision referred to in Article 9 and 10 UOKiK 2000 [the decision declaring a specific practice a practice restricting competition and ordering its discontinuation and a decision declaring a specific practice a practice restricting competition and finding that it has been discontinued; note by W.Sz.], the court is competent to make its own findings with respect to the use of practices restricting competition when making an agreement, as a premise to declare the agreement invalid” (the Supreme

Court judgement of March 2, 2006, file ref. no. I CSK 83/05).⁹ Based on the Court's thesis referred to above, one can a contrario deduce that once a relevant decision – declaring specific practice a practice restricting competition (previously issued on the grounds of Article 9 and 10 of the Competition and Consumer Protection Act of 2000, and currently on the grounds of Article 10 of the Competition and Consumer Protection Act in its current wording) – has already been issued by the President of UOKiK and if it has not been subsequently challenged by the Competition and Consumer Protection Court or the Supreme Court, the common court examining a specific civil case (in which a contract being a manifestation of a practice restricting competition was declared invalid either as a premise to establish liability for damage or as the main object of the proceedings) is bound by that decision and cannot make any individual findings as to whether some specific practice is a practice restricting competition, and, in consequence, whether legal transactions, manifesting such a practice, are absolutely invalid. In such cases this issue is explicitly (and positively) decided by the President of UOKiK and, potentially, by the Competition and Consumer Protection Court and the Supreme Court. Moreover, if the anti-monopoly procedure before the President of UOKiK has not been initiated or, despite being initiated, has not ended with any decision, or, potentially, it ended with a different decision than a decision declaring a practice a practice restricting competition, a common court is fully competent to independently classify the practice of the dominant undertaking as a practice restricting competition (that is violating Article 6 or Article 9 of the Competition and Consumer Protection Act), which, if such a classification is made, would be a premise to declare legal transactions by which such a practice manifested itself invalid (alternatively, if administrative procedure before the UOKiK President has not been instituted yet or is pending, a common court could suspend the proceedings under Article 177(1)(3) of the Polish Code of Civil Procedure and wait for the decision of the President of UOKiK. The foregoing stance presented in the Supreme Court's case law has one unquestionable advantage – it enables common courts to apply the Competition and Consumer Protection Act directly (and broadly) and does not prevent them from declaring certain practices as

⁹ S. Gronowski presented a similar opinion in legal literature, though during the effective period of the previous Anti-monopoly Law of 1990 (Gronowski 1998: 172).

practices restricting competition, and in consequence declaring invalidity of legal transactions by which such practices are manifested, even if it is no longer legally admissible for the President of UOKiK to issue a decision, for instance as a result of prescription (Szydło 2010: 254-255).

A claim for damages caused by undertakings engaging in practices restricting competition will be a claim for compensation (that is a claim to remedy all losses and lost benefits and restoring, as far as possible, the condition existing before the damage occurred) and its substantive basis will not be limited to Article 6(1) and Article 9 of the Competition and Consumer Protection Act and Article 101 and 102 TFEU, but also provisions of Polish Civil Code on liability for tort and contractual liability (Stefanicki 2014: 177 ff).

We should expect that the legal situation of people willing to pursue claims for damages against undertakings engaging in practices restricting competition will become even stronger. Granting additional and stronger options to injured parties are being currently contemplated by the Ministry of Justice in the new draft Act on compensation for damage caused by competition law infringement (cf. <https://legislacja.rcl.gov.pl/projekt/12283303>). The act is to implement the Directive of the European Parliament and the Council 2014/104/EU of November 26, 2014 *on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union* (EU OJ of 2014, C 349/1). Pursuant to the Directive, member states must ensure that any natural or legal person who has suffered harm caused by an infringement of competition law is able to claim and to obtain full compensation for that harm. Full compensation is to place a person who has suffered harm in the position in which that person would have been had the infringement of competition law not been committed. In consequence, it must cover the right to compensation for actual loss and for loss of profit, plus the payment of interest (Article 3(1) and 3(2) of the Directive 2014/104/EU).

When pursuing their claim for damages caused by practices restricting competition, every injured party will have to prove before a common court that they have suffered damage, their scope and size, cause-effect relationship between such damage and practices restricting competition followed by specific undertakings and

will have to prove that such undertakings did indeed engage in such practices (such as the practices described in his paper) and prove their anti-competition nature.

References

Gronowski S. (1998), *Polskie prawo antymonopolowe. Zarys wykładu*, Wydawnictwo Zrzeszenia Prawników Polskich, Warszawa.

Jurkowska A. (2009), in: *Ustawa o ochronie konkurencji i konsumentów. Komentarz*, ed. Skoczny T., C.H. Beck, Warszawa.

Kohutek K. (2008), in: *Kohutek K., Sieradzka M., Ustawa o ochronie konkurencji i konsumentów. Komentarz*, Wolters Kluwer Polska, Warszawa.

Modzelewska-Wąchal E. (2002), *Ustawa o ochronie konkurencji i konsumentów. Komentarz*, TWIGGER, Warszawa.

Odudu O. (2006), *The boundaries of EC Competition Law. The scope of Article 81*, Oxford University Press, Oxford/ New York.

Stefanicki R. (2014), *Prywatnoprawne środki dochodzenia roszczeń z tytułu naruszenia reguł konkurencji*, C.H. Beck, Warszawa.

Szydło M. (2006), *Swobody rynku wewnętrznego a reguły konkurencji. Między konwergencją a dywergencją*, Towarzystwo Naukowe Organizacji i Kierownictwa – Dom Organizatora, Toruń.

Szydło M. (2010), *Nadużywanie pozycji dominującej w prawie konkurencji*, Wolters Kluwer, Warszawa.

<https://legislacja.rcl.gov.pl/projekt/12283303>.

Ustawa z dnia 14 czerwca 1960 r. – Kodeks postępowania administracyjnego (Act of June 14, 1960 – the Code of Administrative Procedure, consolidated text), Official Journal 2016, item 23 as amended.

Ustawa z dnia 17 listopada 1964 r. – Kodeks postępowania cywilnego (Act of November 17, 1964 – the Code of Civil Procedure, consolidated text), Official Journal 2016, item 1822 as amended.

Ustawa z dnia 16 lutego 2007 r. o ochronie konkurencji i konsumentów (Competition and Consumer Protection Act of February 16, 2007, consolidated text), Official Journal 2017, item 229.

Directive of the European Parliament and the Council 2014/104/EU of November 26, 2014 on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union, EU OJ of 2014, C 349/1.

Regulation of the Council (EU) No. 330/2010 of April 20, 2010 on bankruptcy proceedings, Official Journal on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, EU OJ 2010, L 102/1.

“ANTI-COMPETITION AGREEMENTS” AND LEGAL OPTIONS TO PURSUE CLAIMS ...

Rozporządzenie Rady Ministrów z dnia 30 marca 2011 r. w sprawie wyłączenia niektórych rodzajów porozumień wertykalnych spod zakazu porozumień ograniczających konkurencję (Regulation of the Council of Ministers of March 30, 2011 exempting certain types of vertical agreements from the ban on agreements limiting competition, consolidated text), Official Journal 2014, item 1012.

Treaty on the Functioning of the European Union, EU OJ 2012, C326/47 [4.04.2017].

Commission Notice on the definition of relevant market for the purposes of Community competition law, EU OJ 1997, C372/5.

Communication from the Commission — Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, EU OJ, C 45/7

European Commission Notice – Guidelines on vertical restraints, EU OJ 2010, C 130/1.

Supreme Court judgement of January 19, 2001, file ref. no. I CKN 1036/98.

Supreme Court judgement of March 2, 2006, file ref. no. I CSK 83/05.

**“Porozumienia o zwalczaniu konkurencji” i prawne możliwości wnoszenia roszczeń o
odszkodowanie przed sądami powszechnymi**

Streszczenie

Cel: Artykuł omawia sytuacje, w których odmowa przyłączenia przez przedsiębiorstwo energetyczne innych przedsiębiorstw do sieci, będzie potraktowana, w Polsce i UE, jako zakazane nadużycie pozycji dominującej przez to przedsiębiorstwo. Wskazanie tych sytuacji jest istotne, bowiem unijnym prawie regulacji sektorowej nie istnieją przepisy zobowiązujące przedsiębiorstwa zarządzające i eksploatujące rurociągi ropy naftowej do zawierania z innymi przedsiębiorstwami umów o przyłączenie do ich sieci lub też umów o świadczenie usług przesyłu ropy naftowej.

Metodyka badań: Design / Research methods: Cel artykułu został osiągnięty poprzez analizę doktrynalną odpowiednich przepisów prawa polskiego i unijnego oraz poprzez analizę wytycznych wydawanych przez organy Unii Europejskiej. W badaniach uwzględniona została także funkcjonalna metoda analizy, pozwalająca badać prawo w działaniu.

Wnioski: Warunki dostępu do rurociągów ropy naftowej oraz sprzedaży ich zdolności przesyłowych ustalane są przez samych właścicieli sieci, prywatne spółki naftowe w państwach, przez które te rurociągi przebiegają, nie będąc regulowanymi przez prawo Unii Europejskiej. Sam zaś obowiązek przyłączania innych podmiotów do własnej sieci przez przedsiębiorstwa energetyczne zajmujące się przesyłaniem ropy naftowej w Polsce wynikać będzie jedynie z ogólnych przepisów polskiego prawa konkurencji. Rozważania pokazują, że odmowa dostępu do sieci będzie stanowiła przejaw zakazanego nadużycia pozycji dominującej i będzie działaniem zakazanym zawsze wówczas, gdy działanie dominanta będzie szkodliwym w zakresie efektywności alokacyjnej. W szczególności zaś, gdy dojdzie do odmowy dostawy towarów lub usług obiektywnie niezbędnych do skutecznego konkurowania na rynku niższego szczebla, odmowy o charakterze dyskryminacyjnym i doprowadzającej do wyeliminowania skutecznej konkurencji na rynku następującym, odmowy doprowadzającej do pokrzywdzenia konsumentów oraz odmowy nieusprawiedliwionej.

Wartość artykułu: Artykuł omawia przesłanki, których zaistnienie powoduje powstanie obowiązku przyłączania przez przedsiębiorstwa energetyczne zajmujące się przesyłaniem ropy naftowej innych podmiotów do własnej sieci. Obowiązek ten w sposób istotny wpływa na kształt prowadzonej działalności przez przedsiębiorstwa przesyłowe, zwłaszcza te, będące dominantami na rynku.

Implikacje: Zaprezentowane wyniki badań mogą zostać wykorzystane w decyzjach wydawanych przez Prezesa UOKiK oraz w wyrokach polskich sądów powszechnych i sądów unijnych.

Słowa kluczowe: publiczne prawo konkurencji, porozumienia o zwalczaniu konkurencji, rynek właściwy, nadużywanie pozycji dominującej.

JEL: K23