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Department of International Trade
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The role of export consortia in the internationalization of small and medium enterprises: A review

Rosa Forte, Tiago Oliveira

ABSTRACT

Objective: Exports are a crucial strategy for the growth and survival of firms, particularly small and medium enterprises (SMEs). However, SMEs generally lack the ability to overcome internal and external export barriers and a consortium can help in their internationalization process. So the main goals of this work are to identify the main effects of a consortium on the member firms as well as gaps in existing literature.

Research Design & Methods: We resort to a review of existing empirical studies, which mainly focus on case studies of export consortia.

Findings: An export consortium can have effects in several firms' areas, such as financial, market and reputational, helping them to overcome some export barriers.

Contribution & Value Added: Through the identification of literature weaknesses we suggest that future research should aim to be based on larger samples and take into account other factors that may affect exports in order to carry out a more rigorous empirical analysis of the effects of the consortium on firms' exports.

Article type: research paper

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INTRODUCTION

In an increasingly globalized economy, internationalization is presented as a key strategy to ensure growth and even the survival of firms. However, the internationalization of firms faces many obstacles, and barriers to enter foreign markets may be too large for small and medium enterprises (SMEs), forcing them to give up the internationalization (UNIDO, 2009). Most of the SMEs are confronted with a shortage of financial, production and administrative resources, and lack of knowledge and information on the potential

export market (Leonidou, 2004). In this sense, the export consortium is presented as an alternative for SMEs to overcome the obstacles to internationalization, because its goal is “to meet the strategic intentions of the individual firms by providing business opportunities in international markets (at both regional and global levels) by overcoming the constraints that SMEs may have because of their limited size” (UNIDO, 2009, p.67). Through the promotion of networks or collaborative strategies, of which export consortia are a typical example, small and medium enterprises (SMEs) can increase their export potential (Antoldi, Cerrato, & Depperu, 2013).

An export consortium can be defined as “a voluntary alliance of firms with the objective of promoting the goods and services of its members abroad and facilitating the export of these products through joint actions.” (UNIDO, 2003, p.3). This alliance is usually a non-profit organization that differs from other strategies of alliances because it maintains financial, legal and administrative autonomy of its members (UNIDO, 2003). Thus, as Renart (1999) report, an export consortium can be regarded as a particular type of strategic alliance. This type of organization directed to supply contrasts with the export grouping scheme that is directed to the demand. D. Welch, L. Welch, Wilkinson and Young (1996) argue that this strategic alliance is created only when a specific opportunity is identified in a foreign market, while the export consortium usually focuses on finding appropriate firms, persuading them to join the group, establishing the group before making concrete international marketing research (that is, find specific market opportunities).

The objective of this study is to conduct literature review on export consortia and subsequently assessing the impact of this type of strategic alliances on its members. Literature on export consortia is relatively scarce¹ and concentrated in global institutions such as UNIDO, which seek to evaluate the performance of particular cases of export consortia. In addition, part of the literature is not in English (there are several works in Spanish), making it difficult to be disseminated by the scientific community. In this way, the present work intends to explore the existing literature in order to identify weaknesses and ways of analysis for future investigations.

The structure of this paper is as follows: In Section 2 it is presented an overview of export consortia, their classification, benefits and advantages, but also its risks and disadvantages. Then, in Section 3 some case studies of international export consortia are analysed, focusing on the effects of the export consortia. Finally, we present the main conclusions and limitations, and propose lines for future research.

LITERATURE REVIEW

SMEs exports barriers

Firms, particularly small and medium enterprises (SMEs), face a number of barriers when expanding into foreign markets and an export consortium can help them to overcome some of these barriers. Leonidou (2004) classifies the barriers into internal and external barriers. As the name suggests, the internal barriers relate to internal problems of the firm, such as the lack of information on international markets and the scarcity of resources,

¹ In a survey carried out on the SCOPUS bibliographic database on August 3, 2017, with the keywords “export consortia” or “export consortium” or “export group”, limited to the article title, only six published articles were found.

while external barriers (broken down into economic barriers, and governmental / institutional barriers) derived from the macroeconomic environment, and therefore are beyond its control (Leonidou, 2004; UNIDO, 2009).

Internal barriers related to the lack of knowledge / information include lack of knowledge of foreign markets that may be associated with factors such as culture, and difficulties in identifying opportunities in foreign markets (Bilkey & Tesar, 1977). The lack of knowledge about export assistance programs and public incentives is also considered a large internal barrier to export, particularly for SMEs (UNIDO, 2009).

Still with regard to internal barriers, another point to consider is the lack of marketing skills, causing major difficulties, such as the adoption of foreign markets requirements in terms of consumer preferences and usage conditions (UNIDO, 2003). Regarding the scarcity of resources, the main obstacles are the lack of financial resources, lack of productive capacity to commit to large orders, and lack of administrative skills / international experience of managers (Leonidou, 2004; UNIDO, 2009).

In turn, the external barriers “are those arising from uncertainties in international markets that cannot be controlled by firms since they are the result of the actions of other market players, such as governments and competitors” (UNIDO, 2009, p.8). For example, if an economy has a low degree of openness to foreign markets, firms may have to deal with protectionist policies such as tariffs on imports, which reduces the firms’ competitiveness seeking to enter these foreign markets. Other examples to consider: regulatory authorities of the destination country, but also of origin, restricting the export; unfavourable economic situation; lack of assistance and government incentives for export (Leonidou, 2004; UNIDO, 2009).

Types of cooperation between firms

Before focusing our analysis on the types of consortia and their respective advantages and disadvantages, it is important to clarify the concept and address the various designations that have been adopted in the literature. Several terms have been used to refer to models of export grouped, such as strategic alliances or agreements, export consortia, export groups or “joint ventures” for export (Espejo, Fuentes, & Núñez, 2015). Table 1 synthesizes these concepts.

Table 1. Types of cooperation between firms – definition and objectives

Types of cooperation	Definition/objectives
Strategic alliances	“voluntary cooperative inter-firm agreements aimed at achieving competitive advantage for the partners.” (Das & Teng, 2000, p.33)
Export groups	“involve a pooling of resources to support joint international research, marketing and promotion activities, thereby gaining greater impact from a given expenditure per company, or enabling cost reductions.” (Wilkinson, Young, D. Welch, & L. Welch, 1998, p.492)
Joint ventures	“occurs when two or more firms pool a portion of their resources within a common legal organization.” (Kogut, 1988, p.319)
Export consortia	“A voluntary cooperation agreement between two or more companies, in order to jointly develop their external markets.” (Renart, 1999, p.III)

Source: own elaboration based on the literature reviewed.

Strategic alliances are agreements between firms which work together to achieve a common goal. Export consortia are a particular type of strategic alliances in which its goal involves the internationalization of its members or increasing their presence on foreign markets if they have already started their internationalization (Renart, 1999). An export consortium therefore consists of a group of firms that come together to take advantage of synergies, making them more competitive, and thus reduce the costs and risks of internationalization (The Latin American and Caribbean Economic System [SELA], 2015).

As highlighted by Antoldi *et al.* (2013), an export consortium can be classified as an “horizontal” network. This type of network is defined by Ghauri, Lutz and Tesfom (2003) as cooperative relationship between firms seeking to solve a common problem of marketing, increase production efficiency, or take advantage of a market opportunity by mobilizing and sharing resources. The establishment of horizontal links with other domestic partners can help firms to solve various kinds of problems they face to start the export process, including those related to the quality of the value proposition, organizational and financial issues, and the lack of information in relation to foreign markets (Antoldi *et al.*, 2013).

Types of export consortia

The export consortia classification is vast, ranging from author to author. An export consortia can be classified taking into account several factors, but, according to UNIDO (2009), objectives and scope are probably the most common. Based on the objectives and scope, the main types of export consortium are the promotional and sales consortia (Renart, 1999; UNIDO, 2003).

A promotional consortium is an alliance created to explore international markets, helping members to enter these markets and promoting their products (e.g. in international fairs), sharing the costs of these actions (UNIDO, 2009). The structure of this type of consortium is “lighter” than the sales consortium, in which the goal is to sell the products of the members in foreign markets and promote business activities, unlike the promotional consortium where sales are made directly by the member firms. As highlighted by UNIDO (2009) “Promotional consortia invest their financial and human resources in marketing, whereas sales consortia act as a distribution channel and have to invest more in order to set up a sales organisation” (p.19).

According to UNIDO (2003), Antoldi, Cerrato and Depperu (2011), and Espejo *et al.* (2015), an export consortia can also be classified by the following factors (among others): sector to which they belong (if member firms are part of the same sector or not – mono sectoral and multisector, respectively); type of relationship between firms (vertical or horizontal); members location (regional or multi-regional). Furthermore, it may also be taken into account if the goods produced by the consortium members are complementary or if goods are substitutes competing among themselves,² the consortium duration and complexity.

In terms of complexity, there are several export consortia categories, from the simplest, which provides only secretariat functions and assists in communication and translation between agents, until those who assume the responsibility of sales and marketing

² For example, according to Criado, Carazo and Criado (2005), the Spanish consortium COFME is an uni-sectorial (electrical equipment) export consortium despite the member firms belong to other subsectors (such as tools, emergency lighting, sound and internal communication systems, etc.). Since the members produce different electrical materials, their products are complementary not competing with each other for customer preference.

departments of the consortium members having a significant administrative autonomy (UNIDO, 2003). According to UNIDO (2003), the newly created consortia should not be from the beginning too sophisticated. It is therefore advisable that there is an incremental evolution and development of the export consortium. This progression should occur as relations between its members strengthen and the cohesion of the group consolidates. Despite the usual be the identification of consortia by commercial activity, all factors must be taken into consideration for a strategic analysis of the consortium, and understand what features may represent a threat or a weakness, an opportunity or a competitive advantage (UNIDO, 2009).

Whatever the type of export consortium, the members must recognize and value the potential gains from joint efforts so that cooperation between them to develop. For the success of the alliance is essential that the perceived benefits by its members outweigh the costs and contributions made by these (Wilkinson *et al.*, 1998). Thus, in the following sections we summarize the main benefits and the main disadvantages of export consortia.

Benefits of an export consortium

The recognition of several benefits that can be obtained through an export consortium is very important to strengthen the desire of the members to participate and cooperate. According to UNIDO (2009) who studied nine cases of consortia, firms can obtain several benefits from cooperating in an export consortium, such as accumulation of knowledge, cost sharing, obtaining public support, among others, which resulted in an increase of exports and turnover of its members. Table 2 presents a summary of the advantages of export consortium in relation to other types of strategic alliances, and its potential benefits.

As stated by UNIDO (2003), the firms in the consortium maintain a high degree of independence, maintaining their financial, legal and administrative autonomy, which makes this type of alliance suitable for small and medium enterprises (SMEs) wishing to work together to achieve the same goal, without having to lose or get very limited in decision-making. According to SELA (2015) "The consortium is not the unification of the companies integrating it, since they simply participate in the creation of a new organization with which they establish a trade agreement" (p.22). These characteristics inherent to the export consortium are also very useful at the time of dissolution of the alliance or when one of the firms intends to leave the consortium. Whatever the reason for the dissolution / exit, such as the willingness to individually pursue their international activities or the failure to achieve the proposed objectives, the fact that the structure of an export consortium is more flexible and lighter than other types of strategic alliances allows that firms are able to leave the consortium easily, without any constraints or high sunk costs (Silva & Sousa, 2009; UNIDO, 2003). Furthermore, firms "can continue trading other products individually on other markets" (SELA, 2015, p.21).

The maintenance of autonomy at various levels is the great advantage of export consortia in relation to other types of strategic alliance, such as joint ventures. Additionally, the investment involved is smaller, there is less risk and less restrictions (Antoldi *et al.*, 2011; Bigliardi *et al.*, 2011). However, according to Antoldi *et al.* (2011), the lowest risk and involvement can lead to consortium members to strive less than they should and therefore the results of the consortium may be lower than planned. This may lead to a vicious circle, because the failure will cause firms do not feel motivated to strive, causing, ultimately, the failure of the consortium.

Table 2. Advantages of an export consortium compared to other strategic alliances and export consortia benefits

Advantages of an export consortium in relation to other types of strategic alliances	Author (year)	Benefits of export consortium	Author (year)
High degree of independence of the members	SELA (2015); UNIDO (2003)	Reduction of internal and external barriers to internationalization	Leonidou (2004); UNIDO (2009)
Greater flexibility		Expansion of business contacts network	UNIDO (2009)
Financial, legal and administrative autonomy		Acquisition of knowledge and sharing of experiences	SELA (2015); UNIDO (2003)
Lower risk	Antoldi <i>et al.</i> (2011); Bigliardi, Dormio and Galati (2011)	Economies of scale	Bigliardi <i>et al.</i> (2011); UNIDO (2009)
Easy dissolution or abandonment	Silva and Sousa (2009); UNIDO (2003)	Easier to get support from public entities Sharing of costs and risks related to internationalization Greater bargaining power	Antoldi <i>et al.</i> (2011); Renart (1995); Renart (1999)
Position to pursue, at the same time, international activities individually	Antoldi <i>et al.</i> (2011); SELA (2015)	Joint participation in international fairs and missions Ability to create own brand representative of the consortium	UNIDO (2009)
Lower investment		Wider range of products if the consortium members have complementary products More responsive to large orders if members produce similar products	

Source: own elaboration based on the literature reviewed.

In addition to the aforementioned advantages, it is noteworthy that an export consortium presents other potential benefits. It may arise connections between members resulting from the activities carried out by the consortium, which can improve their competitiveness (Antoldi *et al.*, 2011; SELA, 2015). Furthermore, the export consortium allows exploit economies of scale without losing flexibility and represents a solution to overcome the internal and external barriers to internationalization that members individually do not have the expertise and resources to overcome (UNIDO, 2009). This benefit is one of the main advantages of belonging to a consortium and is regarded as one of the main reasons for creating this type of strategic alliance.

Participation in an export consortium can help to overcome some export barriers (e.g. lack of knowledge / information about foreign markets) by allowing firms to increase their knowledge of the markets (SELA, 2015). As highlighted by SELA (2015) "They obtain more information regarding the markets where they will participate and

they prepare better to satisfy the demands of these markets” (p.21). Moreover, as reported by UNIDO (2003), the acquisition of knowledge resulting from the sharing of information and experiences of the consortium members is a solution to combat internal barriers related to the lack of marketing skills, which can be extended to other areas such as negotiating with banks or to implement certain standards required internationally, as the members are aware of the benefits of cooperation between firms. In short, one of the main advantages of the export consortium is to provide specialized management, marketing skills, as well as facilitate access to acquisition / adoption of trademarks and patents to the members of the alliance (Bigliardi *et al.*, 2011).

Furthermore, an export consortium can help to overcome barriers related to the scarcity of resources, combining resources and efforts, benefiting from economies of scale, obtaining a wider range of products, improving and intensifying promotional activities abroad, such as the skills of staff and administrative managers (UNIDO, 2009).

Taking into account the collective nature of the consortium, public / private agencies become more efficient than if they had to assist each firm individually, because they have only to deal with an organization, making it easier to get this public support to internationalization (Antoldi *et al.*, 2011), which help to overcome some external export barriers mentioned above.

The advantages / disadvantages are also related to the type of export consortium (promotional versus sales). For example, the potential of promotional consortia to explore economies of scale is much lower than the second type of consortium (UNIDO, 2009). Promotional consortia can only benefit in terms of cost sharing (such as cost from participation in fairs), while sales export consortia can provide gains in several areas, from the distribution channels to the sales department.

Another advantage of the export consortium related to public agents has to do with subsidies these agents assign in order to promote the consortia, which can reach on average 35-40% of costs and investments of the group in the early years of the alliance (Renart, 1995). The author stresses that it is still possible to get more public financial support, in order to promote exports and the internationalization of the firms which may result from the consortium. The same author (Renart, 1995) also notes that with these new financial resources, and the sharing of internationalization costs for all members of the export consortium, it may be more prone to hire a competent expert in the field of internationalization and export, which may prove to be an important asset, and thus contribute to the success of the organization.

An export consortium can also contribute to risk reduction and improvement in profitability. The risk reduction can be accomplished through the increased knowledge obtained about a market and a greater diversification of target export markets (UNIDO, 2003). The improvement in profitability can be achieved both in terms of costs reduction (for example, the sharing of administrative and advertising costs) and in terms of revenues, increasing total sales by international customers (UNIDO, 2003). SELA (2015) also emphasise the reduction of costs (“distribution of expenses among the different partners”) as an important advantage of the export consortium.

Still related to improved profitability in the cost side, the cooperation of member firms may result in greater bargaining power over its suppliers and agents of the distribution channels, resulting in a decrease in spending in these business areas (Renart, 1995). Also SELA

(2015) highlights that the participation in export consortia enables firms to increase their ability to negotiate with foreign agents, such as distributors, importers and customers.

Despite the various benefits that can be obtained from cooperation and the presence in an export consortium, it also carries risks and has disadvantages, which should be taken into consideration in the creation and management of the export consortium.

Risks and disadvantages of export consortia

The disadvantages and risks of participating in an export consortium should be analyzed and studied when it is created in order to take preventive measures to minimize their negative impacts (Renart, 1995). According to UNIDO (2009), this type of alliance has risks since the evidence shows that usually firms only get concrete results two years after the creation of the consortium which may cause a decrease in the effort by the consortium members, for thinking that the alliance is a failure and, consequently, can actually compromise the success of the export consortium. These risks and disadvantages are summarized in Table 3. The table is divided into three parts: the first refers to the risks and disadvantages of all types of export consortia; the second refers only to the risks and disadvantages of promotional consortia; the latter refers to sales consortia.

As with all types of strategic alliances, there are several factors that can create problems in the export consortium and jeopardize the success of the union. These factors are due largely to the nature of its members and the interactions between them. According to Antoldi *et al.* (2011), the difference in size between the members may be the source of many problems which, ultimately, can lead to at least one member leaves the organization. In the case of a firm to be considerably smaller than the others, it may not have the necessary resources to contribute with its share. If the remaining members did not consider their contribution enough, it is likely that the result is the abandonment of the consortium by the smaller firm. In the opposite case, the firm with greater size can bias the balance of power between members and have too much influence in the decisions taken by the group, or being too ambitious with its internationalization objectives, which can also lead to misunderstandings and disagreements in the alliance.

Summing up, "Differences in size can be an obstacle to formulating strategy because different visions and goals can be size-related, and different sizes lead to differences in terms of availability of resources" (UNIDO, 2009, p. 76).

Cultural differences should also not be underestimated, since they can hamper the strategic planning of the export consortium. Organizational culture is affected by several factors such as business models, beliefs, values, industry in which it operates and nationality, and in the case of SMEs their cultural identity is strongly influenced by their leaders (Antoldi *et al.*, 2011; Renart, 1999; UNIDO, 2009). Thus, the management of relationships between entrepreneurs and leaders of the firms participating in an export consortium is vital to the success of the consortium, being necessary to foster the relationship among members. Thus, informal activities to create trust and sympathy, are fundamental so that cooperation develops (UNIDO, 2003).

To Renart (1999), a problem that over time can arise in the export consortium concerns the earnings disparities obtained by different members of the organization, including business results and knowledge acquired, which, according to the author, occur frequently and may generate tensions between the member firms. Firms in trying to justify this discrepancy may think that this difference is due to the fact that the executive director

of the consortium is biased, giving preferential treatment to certain firms. Additionally, this may require a change in the contributions made by alliance members (Renart, 1999; UNIDO 2003). Another problem are the “hidden agendas”, i.e., certain member firms may be hiding the true goals (different from those stated) (Antoldi *et al.*, 2011; UNIDO, 2003; UNIDO, 2009). These authors show that there are several reasons why firms have hidden agendas, for example, obtaining an advantage over another firm or not share important information in order to gain a competitive advantage over partners. In addition, there is the possibility of a firm plans to join the export consortium without any genuine intention to cooperate and its interest in obtaining the benefits to be placed in the background, aiming only to get an opportunity to spy on other firms, or simply due to a direct rival entered the strategic alliance (Antoldi *et al.*, 2011; UNIDO, 2003; UNIDO, 2009).

Table 3. Risks and disadvantages of export consortia

Risks and disadvantages of export consortia		Author (year)
Export consortia	Size differences between members which makes it difficult to define the strategy	Antoldi <i>et al.</i> (2011); UNIDO (2009)
	Cultural differences	Renart (1999)
	Disparities in gains obtained	Renart (1999); UNIDO (2003)
	Secret diaries	Antoldi <i>et al.</i> (2011); UNIDO (2005); UNIDO (2009)
	Lack of cooperative spirit and reluctance to work jointly	Bigliardi <i>et al.</i> (2011); UNIDO (2009); Welch <i>et al.</i> (1996)
	Too large dependence on external agents	UNIDO (2009); Welch <i>et al.</i> (1996)
	Little effort / dedication	Antoldi <i>et al.</i> (2011)
	Difficulties in drafting the statutes, contracts and social pacts and their review	Renart (1999)
	“Free-riding”	Brito & Silva (2005)
	Divergent views on goals and targets	
Promotional consortium	Inconsistency between the image and the prices of its products	UNIDO (2009)
	Perception of the gains obtained by the consortium	
	Limited economies of scale gains	
Sales consortium	Poor quality of at least one of the organization’s members	Antoldi <i>et al.</i> (2011)
	Table of prices charged inconsistent with the alliance value proposition	
	Little variety of products when the consortium has complementary businesses;	
	Reduced ability to respond to large orders of the same product if the consortium has too heterogeneous members.	

Source: own elaboration based on the literature reviewed.

Additionally, according to Bigliardi *et al.* (2011), firms are reluctant to actively participate in a consortium because they see it as a way to lose control over the decision making of their firms, and are afraid that a strategic alliance allows potential rivals easy access to their local markets.

The export consortium is not a risk-free strategy as evidenced above, since, in addition to the described problems, there are others, such as incompatible business models, difficulty in putting firms to work together effectively, too high dependence on agents external to the export consortium (such as public institutions) to support strategic alliances (UNIDO 2009; Welch *et al.*, 1996), so it is always needed good management and monitoring of this strategic alliance.

According to Welch *et al.* (1996) and UNIDO (2003), most of these risks can be managed or prevented with careful analysis in the process of selection of firms that are part of the strategic alliance and with the promotion of relations and solidarity between members, making it clear in all export consortium steps the gains the firms can by integrating the consortium, in order not to encourage deviant attitudes.

In addition to the risks inherent to the export consortium, it should be noted that this also has disadvantages compared to other types of strategic alliances and difficulties that must be managed. One of the biggest difficulties of this type of alliance is to identify common goals and to define a strategy to achieve those goals (UNIDO, 2009). In this regard, export grouping scheme which, as mentioned above, is formed only when a specific opportunity is located in a foreign market, have an advantage compared to the export consortium, because they are set clear objectives from the outset, which minimizes the concerns of potential members on the benefits that this strategic alliance may provide (Wilkinson *et al.*, 1998). However, the first type of alliance has the disadvantage of requiring a study on an international opportunity that firms can take advantage, what is costly and takes time. Typically, this analysis is done by public agencies in order to promote exports and national competitiveness (Wilkinson *et al.*, 1998).

Despite the lower investment required to achieve an export consortium, and its flexibility (compared to other forms of cooperation) be considered an important advantage over other types of cooperative organizations, consortium members may neglect to the extent that they have little to lose, a situation that can lead them to strive less than they should. Consequently, the consortium's results may be lower than planned (Antoldi *et al.*, 2011).

In addition, and also related to the consortium flexibility, difficulties may arise in the drafting of laws, contracts or social pacts, to the extent that firms do not want to get too involved (Renart, 1999). According to the same author, the revision of the statutes can also present itself as a major obstacle because, in the event of unforeseen situations (macro-economic changes or circumstances that were not foreseen at the beginning of the export consortium) which require amendments to the Statutes, member firms may not be willing to do so, creating conflicts within the strategic alliance.

Another disadvantage in strategic alliances is the "free-riding", that is the existence of alliance members that do not participate in joint actions because they prefer to benefit from the efforts of others, without having to spend any financial resources (Brito & Silva, 2005). This occurrence may create conflicts both in the short and long term, and tensions between individual interests and collective interests. This problem differs from the problem of hidden agendas because in the latter case, as explained above, there is no interest in obtaining the benefits to which the alliance was created, unlike what happens in the "free-riding" in that there is such interest, but it is not intended to contribute or cooperate for the success of the organization. This is prone to happen if the financing system of the export consortium is not

fair and well planned; in addition the determination of the contributions to the funds of the strategic alliance may generate, by itself, conflicts and tensions (Renart, 1999).

Thus, in order to avoid conflicts, the contributions of the export consortium members should have two components: an annual / monthly fixed quota for all members in order to avoid the “free-riding”; special contributions for specific services or actions, in order to avoid large disparities between the earnings of the consortium members. Another benefit of this second component would be to present to the members the option to participate or not in a joint action, without having to bear costs for something that they have not benefited (UNIDO, 2003).

In addition, the promotional consortium may face difficulties such as inconsistency between the image and the prices of their products, the perception of the gains obtained by the consortium and different opinions on which goals and objectives the organization must continue, geographically and target markets (UNIDO, 2009). Moreover, the weaknesses / disadvantages of sales consortium are: poor quality of at least one member of the organization affecting negatively the image of the others; list of prices practiced inconsistent with the value proposition of the alliance; poor variety of products if the consortium does not include complementary firms; absence of skills related to sales (Antoldi *et al.*, 2011).

In conclusion, considering the advantages and disadvantages of the export consortium, this type of alliance presents itself as a viable solution for the internationalization of small and medium enterprises, and according to Antoldi *et al.* (2011) its biggest advantages compensate typical weaknesses. Ideally, an export consortium should establish clear goals after selecting the potential members. According to UNIDO (2003) “participating firms must meet carefully defined criteria with respect to their size, reputation, financial stability and the goods or services they offer. They must be able to offer products of adequate quality, in sufficient volumes and at a price that is competitive at the international level” (p.23).

MATERIAL AND METHODS

Export consortia have been used in several countries in order to assist firms in their internationalization process. In this section we analyse some cases of export consortia, seeking to ascertain whether they have achieved the objectives that are proposed on its creation. The presented case studies cover several sectors and countries across three continents (Europe, Africa and South America). Table 4 presents a summary of the information regarding to 13 international export consortia, focusing on the designation of the consortium and the respective year of establishment, the country, the sector of activity, the number of members and type of consortium, as well as the main benefits, particularly in terms of impact on exports, turnover, bargaining power, among others.

Observing Table 4 we can see that only two consortia are in developed countries (Spain and Italy), seven of them are from South America, and the rest (four) from the North Africa. There are several sectors covered by these alliances, although the agricultural and food sector is represented in greater number.

Regarding the number of members in most consortia it is within normal parameters for a consortium. According to Renart (1995), typically they have between three to seven members. According to UNIDO (2003), the number of firms belonging to the strategic alliance varies greatly depending on their objectives and size of the members. The consortium must

be large enough in order to obtain the necessary resources for an adequate supply of services to achieve the goals that individual firms cannot reach, but the cohesion and efficiency of the group decreases as the size of the strategic alliance increases (UNIDO, 2003).

Concerning the type of consortium it appears that most usual are promotional export consortia, and only three are a sales consortia. It is possible that some of these evolve into a sales consortium, as the alliance develops and the reluctance of firms to give up part of their autonomy decreases as opposed to the potential benefits.

Considering that one of the main objectives of these strategic alliances is to export, only four of the thirteen consortia of Table 4 do not present data for exports. The lack of such information does not mean that the consortium had no impact on exports of its members. With regard to the consortia that provide information, it can be seen that exports have a strong increase. In the case of promotional consortia, as mentioned before, it is particularly difficult to analyse the performance of this type of consortia to the extent that they apply their resources in promoting the products of their members, and the firms are responsible for their sales. As a result, sales will not be awarded to the consortium because they are registered by the members themselves (UNIDO, 2009).

Benefits such as increasing the number of contacts, the acquisition of knowledge and greater bargaining power were in general also observed in most cases, showing that an export consortium can bring advantages to be taken into account, although they are not directly measurable or they are difficult to assess.

In addition to the benefits and advantages presented in Table 4, it is noted that there were other benefits and advantages disclosed in the case studies of export consortia. In most cases, the creation of the strategic alliance allowed the joint participation in international fairs and missions, which provided an opportunity to establish new relationships and create a positive image of the export consortium at the international level. Piñero *et al.* (2011) present a case of a promotional export consortium, GAPMA, an Argentine consortium in which their first joint activities were related to the creation of an identity for the group and then to promote their products through trade missions and international fairs. On the other hand, according to Criado *et al.* (2005) the Spanish export consortium, COFME, is a sales consortium created in 1998 and its first activities were related to collective purchases from suppliers and joint negotiations with commercial agents (e.g. transport firms), with the objective of making gains through greater bargaining power. As it was developing this organization created a sales department and in 2008 it had 13 selling platforms in international markets.

In addition, as evidenced in the various sources of Table 4, the creation of an entity with larger size made it easier to obtain public and private funding such as export promotion agencies or consultancy firms. Another benefit resulting from the consortia work was to obtain quality certificates of members' products of the three export consortia (COFME, Vitargan and Phyto Uruguay) and to obtain, by the Italian consortium (Parma), product recognition of certified origin. This quality recognition from international organizations has contributed to a greater internationalization of the members of the export consortia (Criado *et al.*, 2005; O'Reilly *et al.*, 2003; UNIDO, 2009).

In the cases studied by UNIDO (2009), it was analysed the evolution of firms skills in order to ascertain to what extent those skills have improved by participation in in the export consortium. According to data obtained by this organization, in general, firms belonging

Table 4. Synthesis of export consortium cases – characteristics and effects

Case studies	Consortium characteristics				Consortium effects							Source
	Country	Sector	Nº of firms	Type of consortium	Exports	Turnover	Nº of Business Contacts / Customers	Knowledge	Costs	Bargaining power	Foreign presence	
Brazilian Health Products (2002)*	Brazil	Health products	12	Promotional	↑ 268,2%	↑ 43,2%		Foreign trade and marketing	↓	↑		Lima , Garcia , de Carvalho and Martinelli (2007)
GAPMA (2003)	Argentina	Agriculture machinery	12	Promotional	↑ About 60% per year		↑	Sharing experiences	↓		Higher visibility	Piñero, Herrera and Di Meglio (2011)
COFME (1998)	Spain	Electric material	7	Sales	Increased share of total sales	↑		Sharing information	↓	↑	About one hundred countries	Criado et al. (2005)
Mosaic (2004)	Morocco	Textile	6	Promotional	↑ 30% on average		↑	Acquisition of knowledge about markets		↑	Better positioning	UNIDO (2009)
Vitargan (2005)	Morocco	Agriculture	6	Promotional			Slight increase	Acquisition of knowledge	↓	↑	Higher reputation and visibility	
Travel Partners (2006)	Morocco	Tourism	7	Promotional			Slight increase	Knowledge about markets	↓	↑	Access to new markets	
Get'IT (2005)	Tunisia	Information technology	6	Promotional		↑ About 30%	↑	Knowledge about markets			Greater visibility and reputation	
Muyu (2005)	Peru	Handmade products	5	Promotional	↑ 235%	↑ 100%	Slight increase	Knowledge about markets			Greater visibility and reputation	
Peruvian Bio Consortia (2006)	Peru	Natural products	3	Promotional	↑ About 40%	↑ 20%	Slight increase				Image enhancement	
ACMC (2007)	Peru	Metal and engineering	4	Sales	↑ 205,5%	↑ 95,5%	Slight increase					
Ande Natura (2007)	Peru	Organic food	5	Promotional	↑ 384,5%	↑ About 85%	↑	Sharing of information among members	↓		Increased promotional activities	
Phyto Uruguay (2005)	Uruguay	Food	9	Sales		↑ 20%		Sharing experiences		↑		
Parma (1963)	Italy	Food	23	Promotional	€237 Millions	↑ 15%	↑	Access to information			About 80 countries	

Legend: ↑ - Significant increase; ↓ - Significant decrease; *- Consortium dissolved in 2005

Source: own elaboration based on the literature reviewed.

to the consortium improved their technical, administrative, and marketing skills and their capacity of analysing international markets.

In terms of the consortium duration, according to Renart (1995), its duration is not defined or limited in advance. However, in most cases the participation of a firm in an export consortium is a phenomenon of limited duration in time. When firms acquire the knowledge and skills to export autonomously they may leave the consortium and it can be dissolved (Renart, 1995).

In the case study of Lima *et al.* (2007) the export consortium was dissolved three years after its creation, in 2005, but this does not mean that the organization has failed. According to the authors this alliance ended because the main mission of the consortium (to help firms to enter foreign markets) had been fulfilled to the extent that the firms integrating the consortium had already started their activities in international markets, obtained knowledge about these markets, and were already able to export individually. This facility to finish the export consortium when the members of the organization desire is another advantage compared to other types of strategic alliances, which present great difficulties and obstacles to its end (UNIDO, 2003).

However, despite the success of the cases presented, in the case of the “Parma” consortium it was identified some problems that may arise in the development of a strategic alliance. Despite the creation of a single brand to be a differentiating factor from other competitors’ products, the members of “Parma” have difficulties in creating their own brand due to the domain of the unique brand. Consequently, some members decided to undertake their own advertising and avoid generic promotion that would benefit all members (O’Reilly *et al.*, 2003).

O’Reilly *et al.* (2003) also highlighted another problem, which was the debate between the produced volume of hams versus a premium price. The dramatic increase of consortium members (from 23 to 201) led to increased production, thus pushing prices to lower. Since Parma ham is a high quality product, this should have a high price, a situation that the consortium could not control because of the enormous quantity produced with the trademark “Parma” and the difficulty in flow the production of the members of this alliance (O’Reilly *et al.*, 2003).

An informal network of cooperation between firms is not uncommon. The existence of informal relationships between firms can help to overcome barriers such as mistrust and help solidify mutual aid within the consortium. According to Marschan *et al.* (1996) and Turnbull (1990) “personal, informal relations among people at various levels of an organization play a key role in developing the relationship and providing a foundation for mutually beneficial cooperation between firms” (as cited in Welch *et al.*, 1996, p. 475).

To sum up, an export consortium can have effects in six areas, as evidenced in Table 5.

CONCLUSIONS

This study aimed to carry out a literature review on the topic of SMEs export consortia. This type of alliance can be a viable approach to overcome internal and external barriers to export and thereby benefit SMEs helping them in their internationalization process.

Table 5. Synthesis of the consortia effects on firms' areas

Areas	Consortia effects
Financial	Improvement of financial results, such as the return on assets or the return on sales, because the greater bargaining power derived from joint purchases allows member firms lower purchasing costs.
Market	Growth of exports and number of markets supplied; greater notoriety in the domestic market.
Learning	Acquirement and expansion of "knowledge-based resources and competencies from and with the other partners" which facilitate the approach to new markets.
Reputational	Greater recognition of the members' brand as well as of the consortium, which is especially important for promotional consortia.
Innovation	Acquisition of relevant feedback for updating and innovating the range of products / services.
Relational	Assistance in the development of new business contacts, both domestically and abroad.

Source: adapted from UNIDO (2009, p.113).

Among the various benefits of the consortium, the literature highlights the increased presence in foreign markets reflecting an increase in exports, increased business contacts, increased bargaining power, and acquisition of knowledge about markets, among others. The review of papers focusing on the study of consortium cases corroborates the benefits identified. In particular, it can be seen that the internal competences of the member firms related to internationalization, such as number of clients abroad and the positioning in the international market, have improved significantly.

The present literature review allowed us to conclude that the existing studies have focused mainly on the analysis of export consortia in developing countries. To our knowledge, only Criado *et al.* (2005) and O'Reilly *et al.* (2003) focus on cases of consortia from developed countries as is the case of Spain and Italy, respectively. In addition, the analysis of the effects of the consortium, particularly on exports, is done in isolation, not controlling for other factors that may affect exports and existing studies use very small samples. Therefore, future investigations in this area should seek to obtain larger samples in order to undertake a more rigorous empirical analysis. A deeper understanding of the benefits of export consortia can help policy-makers to design more appropriate export promotion policies.

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Trends in entrepreneurial behaviour among immigrant students: Conclusions from research conducted at the University of Social Sciences

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ABSTRACT

Objective: The main aims of the thesis were to compare entrepreneurial behaviour trends in a group of Polish and foreign students and an attempt to define the determinants of such behaviours.

Research Design & Methods: Research was conducted using a questionnaire. Descriptive statistics methods were also used.

Findings: The undertaken research shows the diversity of entrepreneurial behaviours among both Polish and foreign students surveyed. Foreign students participating in the study showed a greater propensity to take risks and greater flexibility in their business plans, which may be indicative of greater skills and ability in adapting to the requirements of the labor market.

Contribution & Value Added: In the light of the undertaken research, it can be assumed that the state of the education system may account for one of the most important factors in facilitating change of the growing labor supply into benefits in the form of economic recovery and the creation of employment opportunities.

Article type: research paper

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INTRODUCTION

The number of students in Poland decreases year by year. During the years 2013-2017, this decrease fell to 16.7%, which meant a reduction in the number of students by 258.5 thousand people. A similar trend covered all Polish voivodships, being the weakest in the Mazowieckie

Voivodship, where there was a 12% drop in the number of students. In Warsaw city it was even smaller – less than 10%. Mazowieckie Voivodship is a region of one-fifth of all Polish students. A total of 230.3 thousand people studied at Warsaw universities in 2017, which constituted 17.85% of all students nationwide. The Mazowieckie Voivodship was also the region with the most rapid increase in the percentage of immigrant students. During the years 2013-2017, it increased from 3.8% to 9.0% (Główny Urząd Statystyczny [GUS], 2019).

The intensified influx of foreign students into the Mazowieckie Voivodship was accompanied by a positive balance of foreign migrations for permanent residence of the working age population. This is an exceptional situation when compared to the country in which it remains at a negative level – in 2016 and 2017 it had declined to -0.15‰ (GUS, 2019).

The Mazowieckie Voivodship has the largest number of enterprises and entrepreneurs operating in the country. The number of enterprises in this region also increased at the quickest pace in the country – from 2013 to 2017 the number of registered enterprises increased by 84,372 units, and in Warsaw alone by 63,200 units. In the whole Mazowieckie Voivodship there were 18.78% of all Polish enterprises and in 2017, more than half of enterprises from the Mazowieckie Voivodship were located in Warsaw – 434 676 business units from 809 369 located in the Mazowieckie Voivodship (GUS, 2019). In connection with the above statements, one can ask the question about the role of immigrant students in shaping economic development and entrepreneurship in the region, which shows its huge potential, but also is already highly saturated with economic units of various sizes and profiles. At the same time, the increasing influx of working-age people from abroad increases the phenomenon of competition between entrepreneurs and people looking for employment. It seems important to conduct research on how competition in the Masovian labor market affects the educational aspirations of immigrant students and plans related to their undertaking the so-called entrepreneurial behavior. The purpose of this study was to attempt to define behavior trends related to the entry of foreign students to the labor market and the differences in entrepreneurial behavior undertaken by immigrant and domestic students.

MATERIAL AND METHODS

In the implementation of the research objective, two research hypotheses were formulated:

- H1:** Immigrant students are more likely to undertake entrepreneurial activities than host country students.
- H2:** Factors differentiating entrepreneurial attitudes of immigrant students and students of the host country include differences in educational motivations and a different attitude to risk.

The conducted analyzes used statistical data collected by Statistics Poland. The article presents the conclusions of the research conducted in 2018. The survey included 988 fully completed surveys collected from students of the University of Social Sciences. Foreign students constituted 28% of the total number of respondents. Among them, the dominant group were students from Ukraine – 93.43%. Belarusians and Vietnamese were among the remaining national groups. The questions concerned respondents' plans to start a business, factors influencing this decision and educational needs corresponding to its launch. Descriptive statistics methods were used to analyze the material collected through the

questionnaires. Verification and supplementation of pre-received applications was possible by using the chi square test of independence.

LITERATURE REVIEW

Nowadays, the dominant belief is that the entrepreneurship of immigrants, especially self-employment is conducive to improving the condition of the economies of the receiving countries (Kubiciel-Lodzińska, Maj, Bębenek, 2018; Kuciński, 2004). However, one should remember that immigrant entrepreneurship is distinguished by a different specificity. This is the result of overlapping entrepreneurial cultures and standards of conduct from the country of origin on the established system in the receiving country (Glinka, 2018). Secondly, the fact of taking the risk of entering the foreign country's labor market and of changing the country of residence allows us to define the profile of immigrants as individuals willing to undertake activities with a higher degree of risk and in possession of characteristics of entrepreneurial behavior already at the moment of migration (Kosała, 2016). However, the pursuit of business activity in the case of immigrants does not always have to result from economic or ambition-based reasons. The reason for setting up an enterprise is often "forced entrepreneurship" – for example, the in connection with the difficulty of meeting the employers' requirements (Kosała, 2016). Another reason may be the perception of the potential resulting from the origin, which is conducive to undertaking activities such as teaching foreign languages, preparing language translations, employment mediation for immigrants (Andrejuk, 2016). At the same time, it is observed that immigrant entrepreneurship presents an opportunity to enjoy economic integration (Brzozowski, 2017).

In a general look at the fact of the inflow of foreigners, as a positive result of this phenomenon for the socio-economic development of regions, Kuciński (2014) lists taking over job positions that are not attractive to local people and the diversity of wages for work performed by people with higher and lower qualifications – as a result, it leads to raising the qualifications of the local population and thereby increasing their income. According to Kosała (2016), immigrants can often bring to the regions a resource in the form of rare qualifications. A similar effect may appear as a result of starting a business activity. Hence, long forgotten areas of activity (for example those due to low profitability) may be revived. In addition, the inflow of migrants may result in the stimulation of economic relations between countries (Glinka, 2018, Li, Isidor, Dau, & Kabst, 2018), and according to Coleman, help to solve the problem of structural mismatch between labor demand and labor supply (Coleman, 1992 as cited in Kubiciel-Lodzińska, 2018, p. 11). Due to barriers to employment and self-employment by immigrants, it is not possible to replace the receiving country's workforce with one-to-one relationships. Undertaken entrepreneurial activities are rather complementary to the existing ones (Kuciński, 2014). Among the barriers to expansion into the labor market and the development of own businesses by immigrants, which ensure the occurrence of the effect described above Andrejuk (2016) and (Chen, Tajeddini, Ratten, & Tabari, 2019), distinguishes among others the language barrier, amounts of taxes, problems with understanding the complexity of the law, high costs of running a business and the often recurring expectation that immigrants will expect lower wages than the local population for their work. Studies show that migrants from non-western countries are in a less -advantageous position in the labor market than the locals (Storen, 2004).

Research on entrepreneurship of immigrants most often refers to cultural and ethnic issues. Differences in the behavior of migrants from the same country seem to depend from the host country (Baltaci, 2017). To a lesser extent – although the need to undertake such research in trends is increasingly recognized – it concerns entrepreneurship undertaken by immigrant students (Glinka, 2018). Research conducted in the US by Hunt in 2011 and 2015 showed that the tendency to set up own businesses (research related to companies employing more than 10 people) was greater among immigrants than US citizens. Such a tendency was mainly true of immigrants being US-college graduates. In addition, the probability of establishing a company turned out to be greater in the group of immigrants for whom the reason for changing their place of residence was education or willingness to improve their financial situation (S. P. Kerr & W. R. Kerr, 2016). On the other hand, the risk connected to migration may have a negative influence on the perception of the chances for business success. (Kushnirovich, Heilbrunn, & Davidovich, 2018). Similarly, Kosała (2016) cites data from which it follows that Poland is a country in which economic activity is greater among migrants than indigenous inhabitants. The report prepared by OECD in 2010 indicates that 11.2% of Poles and 29.2% of immigrants were self-employed (Kosała, 2016). According to Kubiciel-Lodzińska (2018), groups of immigrants that can become entrepreneurs are permanent immigrants whose purpose for moving is paid activity or education – gaining financial resources is particularly important for this group, especially when they come from less developed countries than the receiving country. In the literature it is often stressed that migrants are more enterprising than natives (Kahn, La Martina, & MacGarvie, 2017). However, it is also argued that migrants educated in their native country tend to be more enterprising than the natives educated in the host country (Blume-Kohout, 2016).

Also students are the subject of studies (Iwu, Ezeudji, Eresia-Eke, & Tengeh, 2016). Due to the fact that students of Ukrainian descent are usually the largest group among foreigners at Polish universities, this ethnic group is one of the most frequent reference points in the study of students immigrating to Poland. On the basis of the studies carried out among students from Ukraine, Andrejuk and Korniychuk (2018) state that among immigrant students, adaptation to the labor market starts at the beginning of education. Moving to self-employment takes place in accordance with three possible scenarios. Firstly, as undertaking business activity resulting from previously undertaken employment – the business profile is most often not related to the field of study, while cultural assimilation is high. Secondly, as starting a professional development in the direction of education – often in connection with a family business already operating. The third option is to take up self-employment after gaining a full qualification (graduation) – characteristic accompanying scholarship support or a course of study requiring a lot of time commitment (Andrejuk & Korniychuk, 2018). The willingness to undertake gainful activity from the first moments of study is confirmed by studies conducted by Majkut, Pluta, Rybczyński (2016) at the WSB University in Wrocław, according to which about 51.5% of immigrant students gain financial independence after 2 years of residence in Poland.

In connection with the demographic decline in Poland, and at the same time the opening of Polish universities to the possibility of educating foreign students, the number of immigrant students is growing year by year. Not without significance is the fact that foreign students can now apply for longer residence permits while studying. It also gives

greater opportunities to take up employment (Kaczmarczyk, 2013). Therefore, the current research seems to be up-to-date due to the need to monitor the effects of the migration trends on the Polish economy. It is also a challenge for universities whose task is to adapt foreign graduates to the Polish labor market in the best possible way. More specifically according to the results of surveys carried out by Trzcíński (2015) in the Mazowieckie, Małopolskie, Dolnośląskie and Lubelskie Voivodships, 64% of immigrant students wanted to remain in Poland after graduation. Particular attention that their education deserves, should also arise from the fact that often the immediate motivation for staying in Poland is the economic and political instability of the former Soviet republics, which in Poland's case are the place of origin of the dominant group of immigrant students (Andrejuk, 2016).

The subject of entrepreneurship of migrants, including students, does receive considerable attention and a growing interest in the topic can be observed, (Cruickshank & Dupuis 2015) whilst being analyzed from various perspectives. However, the phenomenon is of a dynamic nature and requires further studies broadening our existing knowledge of the subject.

RESULTS AND DISCUSSION

The tendency to start a business among domestic and foreign students

In order to achieve the research goal, lists of results collected from groups of students with different characteristics regarding preferences and plans for conducting business activity and related experiments were used. The results obtained from students of Polish and foreign origin were compared. First, respondents were asked to provide information on their entrepreneurial plans. The results are presented in Table 1.

Table 1. Intention to start a business – answers given in the survey among the respondents in total and in the group of persons with and without experience in running a business activity

Intention to start a business – total percentage of responses in the group of respondents [%]		Including among people:	
		Having experience in running a business	Without experience in running a business
Polish students			
Definitely yes	8.68	38.36	5.30
Rather yes	10.23	10.96	10.14
Considering	38.38	17.81	40.72
Rather no	26.75	12.33	28.40
Definitely no	6.02	12.33	5.30
I do not know	9.94	8.21	10.14
Foreign students			
Definitely yes	21.90	38.33	17.29
Rather yes	34.31	40.00	32.71
Considering	28.10	8.33	33.64
Rather no	7.66	8.33	7.48
Definitely no	0.36	1.66	0.00
I do not know	7.67	3.35	8.88

Source: own study.

Among students of Polish descent, a group of people considering conducting business activity, but are still undecided, dominated with a figure of 38.38%. Among the students declaring their intention to run a business, there were 8.68% of respondents expressing such intention in a decisive way and 10.23% of respondents rather inclined to start a business.

Respondents not planning to conduct business constituted 32.75% of all respondents (responses 'rather not' and 'definitely not' combined). They constituted a larger group compared to the group of people showing the intention to run their own business. An analysis of the responses of foreign respondents has highlighted some differences in intentions in this area. Over half of foreign respondents answered 'definitely yes' or 'rather yes'. Of this, 21.90% were definitely willing to start their own business. About 28.10% of respondents considered such a possibility. Due to the fact that the research group included both persons with and without experience in running a business, it was verified how it could influence the decision to resume this type of undertaking. Among students of Polish nationality, 10.23% of respondents had experience in running a business, while among foreign students it was twice as high (21.90%). Among the respondents who already have experience in running a business, the percentage of people decisively setting up their own business was similar in both groups. It was just over 38% among Polish and foreign students. After considering people who were rather determined to run their own business, the difference became apparent. Altogether 49.32% among Polish students and 78.33% among foreign students expressing their intention to start business (in a more or less decisive way). Polish respondents with experience in running enterprise and not planning to create enterprise accounted for 24.66%. Half of them (12.33% of Polish respondents) was definitely not inclined to run a business. On the other hand, 9.99% of foreign students with business experience, did not plan to take up business again. In the case of the group of Polish origin, the percentage of those considering but undecided to start their own business was larger. Compared to the total number of Polish students surveyed, in the group of people having experience in running their own enterprise, both the percentage of respondents decided to establish an enterprise and those who decidedly do not intend to undertake such type of economic activity increased. Among foreign respondents, the percentage of people definitely not intending to run a business remained almost unchanged and stood at 1.66%. Intentions related to economic activity represented by groups of respondents from Poland and abroad in both cases were closer to those observed in the total surveyed group than in the group of people with experience as an entrepreneur. Among Polish students, only 5.4% of people were fully decided to conduct business – less than in the case of the surveyed group in general. Exactly the same percentage of respondents definitely did not intend to run their own enterprise – so, less than in the case of the surveyed group in general and significantly less than in the case of a group of people with experience in running an enterprise. It is interesting that among respondents from abroad not conducting their own economic activity so far, no one expressed a clear lack of intention to start one. The percentage of people planning such an undertaking was high and constituted 50% of the respondents. These results seem to confirm the conclusions cited in the literature about the greater willingness of immigrant students to start their own business. At the same time, it is interesting to note that a larger percentage of respondents who have experience as an entrepreneur express a tendency to lead it again than in the case of Poles. Having such experience, however, causes a certain approximation of tendencies in both national groups – the difference in the percentage of

people expressing their intention to do business in both groups is narrowing. Having experience also favors the crystallization of further intentions.

Some respondents could indirectly draw conclusions about the benefits and risks of running their own business based on family experiences. In 74.37% of cases, Polish students subjected to the survey have the owner of the enterprise among their closest persons (Table 2).

Table 2. Intention to start a business – answers given in the survey among the respondents having the owner of the enterprise among their closest persons

Intention to start a business – possible responses	The percentage of responses in the group of respondents	
	Polish students	Foreign students
Definitely yes	9.98	25.00
Rather yes	11.84	38.50
Considering	38.04	23.50
Rather no	23.54	7.50
Definitely no	5.84	0.00
I do not know	10.76	5.50

Source: own study.

In the case of foreign students, this percentage was very similar and stood at 72.89%. However, again there were some differences between the group of native and foreign students. The similarity connecting both groups was a visible, slightly greater propensity to undertake business activity by these people. It was declared with less determination than in the case of people who have their own experience of running a business, while the positive effect of observing the experience of family members on the decision to establish a business can be seen. In the case of Polish students, the percentage of respondents intending to run a business in this group was higher compared to the total number of respondents). Among the foreign respondents, the change was significantly more visible. The percentage of people declaring their willingness to conduct business activity answering 'definitely yes' and 'rather yes' was a total of 7.29 percentage points higher in the case of people observing entrepreneurial experience among relatives than in the group of foreign students in general. In this group of foreign students, none of the respondents stated that they definitely do not intend to run a business. It can therefore be said that the conclusions drawn from observing family experiences are conducive to the development of entrepreneurial attitudes, especially among the students surveyed from abroad. This possibility also facilitates making decisions about such plans – among foreign students, the percentage of people undecided about opinions about the possibility of starting a business was twice lower than among Polish students. In addition, among Polish students with family experience it was greater than in the total surveyed.

Business start barriers and financial factor

Often, the deciding factor if the intentions of running an own business can be fulfilled, is the wealth of financial resources or the possibility of obtaining them. Financial issues play an important role in making decisions related to making plans to start an own business, but this is not a decisive factor. This issue is developed slightly by the results obtained in relation to the question addressed to respondents about the reasons for refraining from

starting a business (Table 3). A very common reason for not starting a business was the lack of funds. Most often it was a matter of concern to only those considering starting a business – 39.78% among Poles and more, as much as 61.04% among foreigners. Foreigners taking part in the survey more often than Poles pointed to the lack of financial resources as a reason to suspend starting a business, while they are determined to take such a step. The financial barrier was most often indicated in the groups of respondents declaring their intention to run a business as the answer ‘definitely yes’, ‘rather yes’, ‘I am considering’. Secondly, insufficient knowledge was pointed out – in the case of people definitely planning to start their own enterprise, it was much more common among foreign students. Polish respondents most often indicated insufficient knowledge needed to conduct business activity being ‘rather’ determined to undertake it. The fear of the risk arising from developing their own business was more frequently indicated by Polish respondents. Among them, this barrier and lack of idea were most often mentioned by people who did not show willingness to start a business. The financial barrier prevailed among the undecided respondents. In the case of foreign respondents it was slightly different. Lack of an idea was the most common barrier for the undecided, the financial barrier was still of great importance, even in the case of people who were not inclined to play the role of an entrepreneur. A higher percentage of responses related to the inability to define the reason for not taking steps to implement finalized business plans was on the side of respondents of Polish origin – 17.74%, while on the side of foreign respondents it was 10.00%.

Table 3. Reasons for refraining from starting a business in groups of respondents with different attitudes to running a business – the percentage of responses

Reasons for refraining from starting a business	Intention to start a business – percentage of responses [%]					
	Definitely yes	Rather yes	Consid-ering	Rather no	Definitely no	I do not know
Polish students						
Lack of financial resources	37.10	34.25	39.78	16.23	2.33	32.39
Insufficient Knowledge	17.74	36.99	20.80	9.95	11.63	16.90
Fear of risk	14.52	20.55	18.71	21.99	2.33	15.49
No consent from family members	1.61	0.00	0.73	0.52	6.98	5.63
Lack of idea	4.84	2.74	10.95	25.65	76.74	1.41
Satisfaction with the current professional situation	6.45	2.74	3.65	19.37	0.00	7.04
I do not know	17.74	2.74	4.01	5.76	0.00	8.45
Foreign students						
Lack of financial resources	46.67	50.00	61.04	33.33	0.00	14.29
Insufficient Knowledge	31.67	25.53	22.08	19.05	0.00	19.05
Fear of risk	5.00	8.51	9.09	9.25	100.00*	14.29
No consent from family members	0.00	1.06	1.30	0.00	0.00	0.00
Lack of idea	5.00	11.70	12.19	14.29	0.00	19.05
Satisfaction with the current professional situation	1.67	1.06	1.30	0.00	0.00	4.76
I do not know	10.00	2.13	1.30	19.05	0.00	28.57

Only one respondent answered “definitely no”. This figure, therefore, cannot be interpreted

Source: own study.

The lack of consent of family members to start a business and satisfaction with the current professional situation turned out to be the barriers of the least importance. However, a higher frequency of intentions for the second of these reasons was noticeable in the group of Polish respondents. Respondents asked about readiness to start a business in the scenario of receiving financial support, gave similar answers regardless of their nationality (Figure 1). About 20% of respondents from each of the surveyed groups would then decide to start a business. The percentage of people answering 'rather not' or 'definitely not' together was higher on the Poles' side – 21.31%, while among foreigners it was 16.28%. There were more there was more hesitancy on the part of foreign respondents – however, it should be remembered that this group was more likely to plan to launch a business despite the lack of sufficient financial resources. In addition, they more often indicated the lack of ideas as the main barrier to starting business than the lack of financial resources.

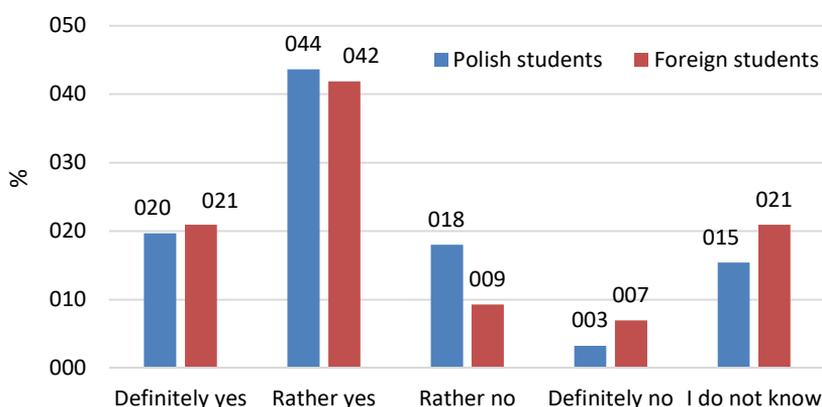


Figure 1. Attitude to starting a business in the case of obtaining a sufficient pool of financial resources among respondents who have not yet planned to start a business (previous answers were definitely no, rather no or I do not know)

Source: own elaboration.

Educational needs of foreign students and Polish students in the light of plans related to starting a business

The feeling among respondents of not having enough knowledge to start a business, which appears quite often leads to recognizing the educational needs of students, depending on their plans related to the direction of taking up economic activity in the future. Throughout research on this issue, respondents were asked to indicate what types of issues related to running a business form part to their interests (Table 4). The structure of the answers provided varied slightly depending on the readiness to start a business, as well as depending on whether the respondents already had experience in conducting one. The topics related to marketing and promotion of the company, as well as grants for financing activities, were particularly popular among Polish students. Over 50% of surveyed students showed interest in marketing and company promotion issues. For the remaining groups of respondents separated due to their attitude to starting a business, these issues were also important, while the structure of responses was already less polarized. The topic of computer courses garnered the least interest. The group most strongly interested in the basics of accounting

Table 4. Educational needs in setting up a business – the percentage of responses in groups of respondents with different intentions regarding running a business (multiple choice question)

Educational needs – possible responses	Intention to start a business – percentage of responses [%]						Experience in running a business	
	A	B	C	D	E	F	Yes	No
Polish students								
Administrative and legal aspects of starting a business	32.26	39.73	36.13	32.46	30.23	32.39	36.99	34.17
Subsidies for business financing	46.77	61.64	49.64	37.17	20.93	46.48	45.21	45.24
Marketing and promotion	51.61	58.90	52.55	45.03	16.28	49.30	35.62	50.08
Writing business plans	19.35	36.99	34.67	21.47	27.91	23.94	24.66	29.02
Basics of accounting	17.74	26.03	31.02	32.46	32.56	32.39	23.29	30.73
Computer training	9.68	8.22	13.87	18.32	13.95	22.54	10.96	15.44
Activation and creativity training	29.03	15.07	17.15	23.56	16.28	12.68	24.66	18.56
Time management and organization of own work	38.71	32.88	27.37	30.37	30.23	22.54	27.40	29.64
Human resource management	33.87	30.14	30.29	36.65	34.88	32.40	35.62	32.45
Foreign students								
Administrative and legal aspects of starting a business	40.00	34.04	24.68	19.95	0.00	14.29	35.00	28.50
Subsidies for business financing	25.00	21.78	15.58	9.52	100.0*	9.52	26.67	16.82
Marketing and promotion	66.67	70.21	63.64	61.90	0.00	66.67	61.67	67.76
Writing business plans	45.00	29.78	24.68	33.33	0.00	33.33	33.33	31.78
Basics of accounting	11.67	14.89	10.39	19.05	0.00	4.76	10.00	13.08
Computer training	10.00	11.70	22.08	19.05	0.00	42.86	18.33	16.82
Activation and creativity training	20.00	35.11	29.87	28.57	0.00	42.86	30.00	30.37
Time management and organization of own work	43.33	40.43	54.55	52.38	0.00	38.10	36.67	48.13
Human resource management	46.67	54.26	36.36	66.67	100.0*	33.33	48.33	46.73

* Only one respondent answered “definitely not”. This figure, therefore, cannot be interpreted. A – Definitely yes; B – Rather yes; C – Considering; D – Rather no; E – Definitely no; F – I do not know

Source: own study.

turned out to be respondents definitely not planning to conduct business activity, human resources management ‘rather’ not planning, and administrative and legal issues and writing business plans were indicated comparatively often in all groups. Compared to the group of respondents of Polish origin, foreigners felt the need for further training in the field of business subsidies to a much lesser extent. Their main focus turned out to be issues related to marketing and promotion of the company and this issue aroused significantly more interest in this group. The administrative and legal issues of starting a business and writing of business plans skills were most interested in the groups of respondents deciding to run a business. In fact, the percentage of those interested in this type of knowledge increased with the transition to a group with an increasingly strong determination to conduct business – from the percentage of responses at the level of 14.29% to 40.00% in the case of administrative and legal matters. Computer training and activation training as well as creativity training turned out to be the most needed from the point of view of people who do not express a position on possible business activity. International students more

appreciated the usefulness of knowledge related to human resource management and time management, as well as the organization of their own work – especially those students who are not planning to undertake business activity.

It can be said that Polish respondents were more interested in knowledge directly related to launching and developing business activity, while those from abroad also had issues related to the long-term functioning of the enterprise and organizational matters of a more general nature. Regarding the relationship between experience in doing business and demand for knowledge, there were no significant differences for Polish respondents. People with no experience more perceived the need to acquire knowledge in the field of marketing and promotion of the company and in the field of accounting than those with prior experience. On the side of foreign students, experience in running a business fostered the emergence of the need to supplement knowledge in the field of business subsidies. Slightly less so was the need to become familiar with marketing issues and others related to time management and work organization (less by 11.44 percentage points) than among people without experience. Experienced people more appreciated knowledge in the field of human resource management while the difference remained minimal (both among Poles and foreign students). Experience resulted in a stronger interest in administrative and legal matters – however, it grew more intensively among foreign students than among Polish students.

The conclusions presented were confirmed by the chi square test of independence (Table 5). Using this method, the relationship between the propensity to take up business activity and factors considered to be potentially determinative was investigated.

Table 5. Chi square test of independence results

Willingness to run own business after graduation		χ^2	Cramér's V
Criterion	Nationality	149.70*	0.39
Gender (Woman; Man)	Polish students	24.78*	0.19
	Foreign students	8.85	0.18
Age (less than 23; 23 and more)	Polish students	5.75	0.09
	Foreign students	3.06	0.11
Study mode (full-time studies; part-time studies)	Polish students	17.99*	0.16
	Foreign students	3.39	0.11
Study cycle (I; II)	Polish students	1.89	0.05
	Foreign students	1.90	0.08
Receiving financial support (yes; no)	Polish students	112.57*	0.40
	Foreign students	45.29*	0.41
Having funds to start the business (yes; no)	Polish students	73.29*	0.32
	Foreign students	34.07*	0.35
Own experience in running a business (yes; no)	Polish students	116.47*	0.40
	Foreign students	25.88*	0.31
Family experience in running a business (yes; no)	Polish students	19.70*	0.17
	Foreign students	20.16*	0.27

* Statistically significant $\alpha = 0.05$

Source: own study.

It can be concluded that nationality significantly affects the readiness to conduct business after graduation. Both in the group of students from abroad and Poles, this readiness depended on such features as: the possibility of receiving support, funds, and the activities

conducted by themselves or their relatives. Among Polish students, the declaration of willingness to start their own business depended additionally on a demographic factor such as gender, as well as the mode of study undertaken. In the case of a group of foreign students, the impact of such factors – which may indirectly affect the shaping of entrepreneurial attitudes – did not occur. This confirms the belief that there are more defined aspirations related to running own enterprises among students from abroad.

CONCLUSIONS

The conducted research allows concluding that the first hypothesis has been positively verified. There was a significant relationship between the nationality of the student groups surveyed and their level of specification of plans for starting a business. Moreover, research proves different attitudes towards entrepreneurship among immigrants and native-born citizens (Lee & Eesley, 2018; B. Sundararajan & M. Sundararajan, 2015,). Foreign students more strongly declared their willingness to lead their own enterprise. It also confirms the conclusions from the literature about the greater risk appetite of young people deciding to emigrate, which also translates into their plans related to economic activity.

The results of the conducted research also allow for positive verification of the second hypothesis. A manifestation of greater risk appetite was, among others, the attitude of foreign students to plan to lead their own enterprise in the face of a shortage of funds. The lack of financial resources often delaying the implementation of business plans by immigrant students, reported in other research (Mukta, 2015) was not a deterrent. At the same time, greater interest in subsidies for financing business activities among Polish students, with greater indecision in the implementation of economic plans and the more often declared lack of ideas for the profile of business activity may suggest that the current shape of financial and educational support systems is conducive to consolidating a certain pattern of behavior related to undertaking business activities that slightly limit the creativity of potential entrepreneurs or build their passive attitude. Therefore, from the point of view of building an educational offer, it may be first of all, inclination not only to transfer knowledge, which can be simultaneously obtained from other sources, but aimed at creating skills to use information, assess risk and gain soft skills. In other research it was also discovered that modern curricula do not develop entrepreneurship. (Fasla, 2017; Manero & Edigo, 2014), Nevertheless it should be their main aim. (Lubis, 2014).

The most frequently indicated educational needs turned out not to be those closely related to the process of functioning of the enterprise, such as the basics of accounting, preparation of a business plan, but those related to the functioning of the enterprise in the external environment – administrative and legal aspects as well as marketing and public relations. On the other hand, the more frequently declared lack of knowledge on the part of foreign students with a greater propensity to take risks suggests the need to take special care of them in the form of transferring basic knowledge.

The Mazowieckie Voivodship is a region with high potential for entrepreneurship development, but also a place where competition is intensified and a constant influx of people is increasing. It may be interesting to answer the question about the shape of these phenomena in other regions of the country. For example, in voivodships with high entrepreneurship dynamics and a negative balance of international migration. The key question is also how immigrant students are able to cope with providing economic needs in such a

dynamically developing region as the Mazowieckie Voivodship and the city of Warsaw. It is not known whether the described phenomenon will someday be a factor conducive to the growing disproportion between Mazowieckie and other voivodships. The special role of units educating immigrant students is to provide such skills that will stimulate their inclination to undertake economic activity support the economic development of the regions. Undoubtedly, this will affect the education system in the long run.

It is worth to underlining that the research findings cannot be generalized as it was conducted only among students from a particular university. It seems necessary to repeat the research on a larger and more diversified sample. It will allow making a comparable analysis and take into consideration the impact of cultural differences on entrepreneurial behaviors. Additional research should also allow recognizing students' needs and expectations. Another important aspect is to analyse institutional forms of support for entrepreneurship development.

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Earnings quality, earnings management and religiosity: A literature review

Konrad Grabiński, Piotr Wójtowicz

ABSTRACT

Objective: The variety of proxies for earnings quality (EQ) induces us to concentrate on the review of existing literature. We identify the research gap related to the link between moral attitudes and behaviour proxied by religiosity and the EQ. Our objective is to assess the relationship between the EQ and the religiosity and hence build the foundation for future empirical research. Our main thesis is that religiosity influences managerial behaviour, thus potentially may have an impact on earnings management.

Research Design & Methods: The research method is based on critical and synthetic literature review. We conducted keywords based review of accounting literature related to earnings quality, earnings management and proxies for religiosity. Recommendations for future empirical research are presented.

Findings: There is no clear and widely accepted definition of the elusive construct of EQ. There exist over a dozen measures of earnings quality but none of them is universal. They measure various aspects of the broad notion of the EQ. From a decision-usefulness perspective, it seems that further research should focus on discretionary accruals, but the existing literature does not show without any ambiguity the superiority of any model for these accruals. Religion and religiosity influence managerial behavior, but the impact of religion on earnings management differs across religion denominations. The proxy for religious commitment is a serious challenge for empirical research, either in the case of single- or multi-country and multi-religion settings.

Contribution & Value Added: Investigation of the measures and determinants of earnings quality gives insight into the relationship between earnings management behavior and religiosity.

Article type: literature review

Keywords: earnings quality; accrual earnings management; real earnings management; religion, religiosity

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INTRODUCTION

The notion of earnings quality (EQ) builds on the assumption that financial statements are useful to investors and other capital providers in making their resource allocation decisions. It is perceived as a key characteristic of financial reporting. However, EQ is an elusive construct and researchers, as well as practitioners, understand it in many different ways. We are not aware of any generally accepted definition and measure of EQ, but in this paper we review a variety of proxies for it, focusing on particular attributes of earnings.

The variety of proxies for EQ induces us to concentrate on the review of existing literature in this area. We identify the research gap related to the link between moral attitudes and behavior proxied by religiosity and the EQ. The notion of religiosity, however apparently clear, touches various aspects of different religions and is elusive too. Researchers usually do not have at their disposal the data related to personal religiosity of managers responsible for financial reporting. Thus, our objective is to build the foundation for future empirical research on the relationship between the EQ and the religiosity. Our main thesis is that religiosity influences managerial behavior, thus potentially may have an impact on EM.

The paper is organized as follows. In the first section, the notion of the earnings quality (EQ) is described on the basis of many definitions provided in accounting literature. Then most commonly used measures of the EQ are presented, which is followed by the section describing the most important determinants driving EQ. The next section focuses on earnings management (EM) as a subset of the EQ problem. In more detail, the definition of EM is analyzed and the role of the manager as an EM decision-maker. The last section is devoted to the link between religion, religiosity and earnings management.

MATERIAL AND METHODS

The paper uses a critical analysis as the main research method. We selected papers using the terms “earnings quality”, “earnings management” and “religiosity” in the EBSCOhost database. From the enormous number of earnings management related items (over 8,000) we selected mainly articles published in high-rated journals, linking the notion of earnings management and religiosity. We also refer to monographs and publicly available data presented by FTSE Russell, Gallup and Pew Research Center.

LITERATURE REVIEW

Earnings quality: The problem of definition

Earnings quality is perceived as a key characteristic of financial reporting. However, EQ is an elusive construct and researchers, as well as practitioners, understand it in many different ways. Nelson and Skinner (2013) concluded, that there is a lack of consensus with regard to the definition and measurement of EQ. Thereby there are at least over a dozen measures of EQ, which are present in accounting literature. So far, we are not aware of any generally accepted definition and measure of EQ, but in this paper we review a variety of proxies for it, focusing on particular attributes of earnings. It seems that there is no consensus on the definition of EQ, or even on what this construct is intended to. Simultaneously, there exists a huge amount of academic research assessing it.

The first mention of the EQ could be traced back to the year 1934 when the book "Security Analysis" by Graham and Dodd (1934) was published. The value of the company was defined as a product of multiplication of the P/E ratio and the so-called "quality ratio". The latter one was a proxy for the "strength of the earnings", which incorporates a wide variety of information like dividend policy, company size, reputation, financial situation, future perspectives, etc. In fact, that was the late 60-es of the XX century, when the pioneer empirical research on EQ started (Grabiński, 2016). Two very prominent papers were published in the year 1968, which started empirical research in accounting and at the same time laid the foundations for the theory of EQ. The first paper presents the study of Ball and Brown (1968), who assumed that the useful information should influence investor's behavior. Therefore, the moment the financial statement is published and financial information became publicly available should translate into a change in a share price in a short time-window. The second paper presents the study of Beaver (1968), who noticed that influential accounting information (earnings) should translate into investors' behavior, and therefore should motivate them to make investment decisions, resultant in a higher volume of transactions. Accounting theorists, as it was pointed out by Lev (1989), define EQ as informational content of earnings, which is defined as a strong correlation between accounting earnings and the rate of return on shares of the company listed on the stock exchange.

Dechow, Ge and Schrand (2010) define the high quality of earnings as providing more information about the features of a firm's financial performance that are relevant to a specific decision made by a specific decision-maker. Therefore, the concept of the EQ cannot be analyzed without the context of the decision-maker. Essentially the EQ is determined by two main factors: innate underlying economic performance and the system of financial reporting within the reporting entity. The main goal of financial reporting is to measure the innate economic performance and the crucial question is how reliable is the financial statement in terms of depicting the underlying economic situation. As Dechow *et al.* (2010) point out, the main task of empirical research is to separate the "innate" factor and the "reporting" factor. The basic assumption is that the "innate factor" changes very slowly in time and is sector-specific when the "reporting factor" is much more volatile and discretionary, dependant on the management decision.

Schipper and Vincent (2003) relate EQ both to decision usefulness, and to the economics-based definition of income developed by Hicks (1946). Unfortunately, the perspective of decision usefulness is context-specific because there are many users and uses of financial statements. As a result, the usefulness of accounting numbers must be evaluated in the context of some assumptions, and the conclusions are conditional on the context, in other words, they may not be universal. On the contrary, the Hicksian concept of income is context-neutral, but from an accounting perspective it refers to the non-operational idea of representational faithfulness. Schipper and Vincent (2003,) define EQ as "the extent to which reported earnings faithfully represent Hicksian income, where representational faithfulness means correspondence or agreement between a measure of description and the phenomenon that it purports to represent"(p.98). The practical problem is that accounting earnings do not measure Hicksian income, no matter if we use IFRS, US GAAP or other accounting systems.

Francis, Olsson and Schipper (2006) also point out that EQ, as a construct, implies nothing about its measurement because it is context-specific. They do not define EQ but

they follow the above concept of decision usefulness and they associate earnings quality with precision, i.e. the higher the EQ, the more precise is earnings with respect to an underlying valuation-relevant construct that it is intended to describe. They discuss the concept of EQ in the broad perspective of information quality, then focus on financial reporting quality and finally consider EQ as an indicator of financial reporting quality. Instead of defining clearly EQ they provide discussions of several EQ measures and determinants.

The IASB and the FASB agendas highlight that the EQ is the utmost and the most important goal of policymakers. It is due to the widely accepted assumption that high-quality earnings help investors to make better investors decisions and thereby improve the capital allocation process from a macroeconomic perspective. Going in this line of reasoning we can refer to Dechow *et al.* (2010) definition of the EQ, which states that high-quality earnings should depict current economic efficiency and at the same time should be a good proxy for the future performance. Therefore, it should be a useful input in the process of the shareholder value's estimation. They mention that high-quality earnings should also be predictable and persistent, and all the above are not the complete picture of the EQ concept, which consists also of many other elements.

We may draw a provisional and rather perplexing conclusion at this point. There is no clear and widely accepted definition of EQ. Nevertheless, there exist many research papers assessing its various operationalized aspects. Building on Statement of Financial Accounting Concepts No. 8 (FASB, 2010) we follow the idea of faithful representation and we propound that earnings are of high quality if they faithfully represent the phenomena that they purport to represent. This conclusion induces us to deeply investigate the determinants and measures of the elusive construct of EQ.

Measures of earnings quality

Francis, LaFond, Olsson and Schipper (2004) list seven proxies for EQ, while Perotti and Wagenhofer (2014) used eight among the existing in the literature (only five proxies are used in both papers). They divide these proxies into two groups: accounting-based and market-based. Accounting-based measures only use accounting earnings and their components. Market-based measures use accounting earnings and market returns. Within the group of accounting-based EQ measures, they identified three subcomponents: measures based on the time series of earnings, on their volatility or smoothness, and on the unexpected part of accounting accruals.

The two measures based on a time-series are persistence and predictability. Persistence is equal to the slope coefficient α_1 of the following regression:

$$NI_{i,t} = \alpha_0 + \alpha_1 NI_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

where NI (net income reported) is scaled by total assets at the beginning of period t . Predictability is the R^2 of this regression.

Perotti and Wagenhofer (2014) use two smoothness measures based on the volatility of earnings or accruals relative to the volatility of operating cash flows. They note that these measures assume that operating cash flows are not subject to earnings management. This is obviously not true. Cash from operating activities is not sensitive to accrual earnings management, but it is influenced by real activities, and hence it is subject to managers' discretion. They use the standard deviation of earnings divided by the standard deviation of cash flow from operations CFO , both $NIBE$ and CFO scaled by beginning total assets:

$$s(NIBE_{i,t})/s(CFO_{i,t}) \quad (2)$$

and the correlation of accruals ACC and cash flow from operations:

$$r(ACC_{i,t}, CFO_{i,t}) \quad (3)$$

One view is that smoothness is negatively associated with EQ because it is the final outcome of intentional actions taken by managers, i.e. an attempt to blur the firm's performance, and hence reduces the information value of reported earnings (Nanda, Leuz, & Wysocki, 2003). An alternative, more comprehensive view, builds on the observation that accounting earnings are the sum of operating cash flows and accounting accruals. The users of financial statements use earnings in their decision-making process, although they can ignore earnings and use cash flows only. In such a case some smoothness must be desirable because it reduces volatility of cash flows. Furthermore, due to reversing nature of accounting accruals, smoothing incorporates managers' private information and experience. Under this view, smoothness is positively associated with EQ.

The next set of EQ measures concentrates on accounting accruals. One, extremely popular approach, follows the paper of Jones (1991). Abnormal accruals are the residuals from the following model:

$$ACC_{i,t} = \alpha_0 + \alpha_1 \Delta REV_{i,t} + \alpha_2 PPE_{i,t} + \varepsilon_{i,t} \quad (4)$$

Dechow, Sloan and Sweeney (1995) proposed modified version of Jones model:

$$ACC_{i,t} = \alpha_0 + \alpha_1 (\Delta REV_{i,t} - \Delta AR_{i,t}) + \alpha_2 PPE_{i,t} + \varepsilon_{i,t} \quad (5)$$

where ΔREV is the change in revenues, ΔAR is the change in accounts receivable, and PPE is gross property, plant, and equipment (all variables scaled by beginning total assets). The abnormal accruals measure is the residuals from (5). Stubben (2010) finds that the original Jones model exhibits better specification than the modified Jones.

All Jones-like models assume that it is possible to split accruals into "normal" and "abnormal" part. The former is the result of "normal" operating activity of the firm, the latter is the outcome of managers' discretion, constrained by reversing nature of accruals, private information, and also influence of the environmental conditioning (e.g. other executive officers, mid-level managers or local community) and personal characteristics (e.g. education, attitude towards risk, religiosity). The high absolute value of abnormal accruals is interpreted as an indicator of low EQ because abnormal accruals are likely to be discretionary. The alternative approach, less popular, is that abnormal accruals are the accounting-based means of communicating managers' private information (Perotti & Wagenhofer 2014). In such a case abnormal accruals are an indicator of high EQ, reduced by intentional earnings management.

The mentioned above models for abnormal accruals estimation assume implicitly that managerial intervention in the reporting process occurs via accounting estimates and methods, so they refer to so-called accrual earnings management (AEM). Roychowdhury (2006) notes that managers may also manage earnings through operational decisions, like the acceleration of sales or alterations in shipment schedules. He defines real activities manipulation as "departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations" (p.337). His definition and analysis refer to so-called real earnings management (REM). These departures enable managers to meet reporting goals but do not necessarily increase the value of a firm.

To study the level of REM Roychowdhury (2006) uses three measures derived from the model developed by Dechow, Kothari and Watts (1998). Acceleration of the timing of sales through increased price discounts or more convenient credit terms is proxied by the difference between normal and actual CFO. Normal CFO is expressed as a linear function of sales and change in sales:

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{S_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left(\frac{\Delta S_{i,t}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (6)$$

Reporting of the lower cost of goods sold through increased production is proxied by the difference between normal and actual production costs *PROD*. The following model is used to estimate the normal level of production costs (Roychowdhury 2006):

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{S_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left(\frac{\Delta S_{i,t}}{A_{i,t-1}} \right) + \alpha_4 \left(\frac{\Delta S_{i,t-1}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (7)$$

Finally, to assess the level of REM resultant form decreases in discretionary expenses *DISEXP*, including advertising, R&D, and SG&A expenses Roychowdhury (2006) estimates the normal level of *DISEXP*:

$$\frac{DISEXP_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{S_{i,t-1}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (8)$$

Roychowdhury's (2006) approach has two limitations. Firstly, only abnormal CFO is a comprehensive and universal variable available for every firm and industry, e.g. Roychowdhury analyzes contrived production costs for non-production firms. Secondly, revenues from early in the year are treated in the same way as revenues from later in the year. Stubben (2010) overcomes the latter limitation. His findings indicate that measures of discretionary revenues produce estimates with substantially less bias and measurement error than those of accrual models, discretionary revenues can detect not only revenue management but also earnings management via revenues. Finally, he finds that the revenue model is less likely than accrual models to falsely indicate EM, and more likely than accrual models to detect EM management when it does occur.

Following Stubben (2010) we suggest the modification of Roychowdhury's (2006) approach. We express normal CFO as a linear function of sales and change in sales in the current period, but we split current year sales into the first three quarters sales *S1-3*, and sales in the fourth quarter *S4*:

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{S1-3_t}{A_{i,t-1}} \right) + \beta_2 \left(\frac{S4_t}{A_{i,t-1}} \right) + \beta_3 \left(\frac{\Delta S_t}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (9)$$

Early sales usually are collected in cash before the end of the fiscal year. We hypothesize that the level of REM increases in the 4th quarter, and hence sales made late in the year are more likely to remain on account at year-end. The ability of the modified accrual models to detect REM needs to be investigated.

A second accruals-based measure is accruals quality (Dechow & Dichev, 2002). They derive an empirical measure of accrual quality as the residuals from firm-specific regressions of changes in working capital ΔWWC on past, present, and future operating cash flows:

$$\Delta WWC_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t-1} + \alpha_2 CFO_{i,t} + \alpha_3 CFO_{i,t+1} + \varepsilon_{i,t} \quad (10)$$

The residuals from the above regression reflect the accruals that are unrelated to cash flow realizations, and the standard deviation of these residuals is a firm-level measure of

accrual quality, where higher standard deviation denotes lower quality. Despite its popularity, it is difficult to be used because the future CFO is not known at the time of estimation. According to prior literature, the better the mapping explains the accruals, the lower is the residual from a regression based on these cash flows and the higher is the EQ. Some empirical literature suggests that accruals quality is superior to other accounting-based measures, and therefore it is used in many studies (Eliwa, Gregoriou, & Paterson, 2019). On the other hand, accruals quality is subject to concerns similar to those noted for abnormal accruals. The residuals reflects earnings management and potentially useful information. Nevertheless, Stubben (2010) concludes that the Dechow-Dichev model exhibits greater misspecification than other accrual models when used to estimate discretionary accruals.

Francis *et al.* (2004) list timeliness and conservatism among the accounting-based measures of EQ. They derive their reasoning from the view that accounting earnings are intended to measure economic income, defined as changes in the market value of equity. The timeliness is the explanatory power of a reverse regression of earnings on returns and conservatism is the ratio of the slope coefficients on negative returns to the slope coefficients on positive returns in a reverse regression of earnings on returns. Conservatism, therefore, differs from timeliness in that it reflects the differential ability of accounting earnings to reflect economic losses (measured as negative stock returns) versus economic gains (measured as positive stock returns). Combined timeliness and conservatism are sometimes described as “transparency”.

Value relevance is the most common market-related measure of the EQ and is measured by the slope coefficient in a regression of the market returns on earnings, so-called earnings response coefficient (Perotti & Wagenhofer, 2014):

$$R_{i,t} = \alpha_0 + \alpha_1 NI_{i,t} + \varepsilon_{i,t} \quad (11)$$

where $R_{i,t}$ is the 12-month return ending 3 either 4 months after the end of the fiscal year t (e.g. Daly, 2018; Karamanou, 2012). NI is scaled by the market value of equity at the beginning of period t . High-value relevance is generally considered to indicate high earnings quality. The last commonly used market-based EQ measure is R^2 of the above regression. Ewert and Wagenhofer (2012) find value relevance being most closely related to EQ. Jakubowski and Wójtowicz (2019) find that the value relevance of accounting earnings in Poland is very low, relative to the value relevance of earnings forecasts.

Determinants of earnings quality

We have outlined the plethora of EQ measures and we may conclude that despite the lack of precise definition and commonly accepted proxy (ten proxies defined), EQ exists and may depend on many factors, including economic and environmental conditions (for instance legal enforcement or level of corruption), business model of a firm, financial reporting system (including audit quality), activities of intermediaries (for instance analysts and financial press), goals and incentives of managers in making their reporting choices (including moral attitudes). However, the existing literature broadly discussing determinants of EQ is very scant (Dechow *et al.*, 2010; Francis *et al.*, 2006).

Francis *et al.* (2004) distinguish innate (operating and environmental) and discretionary (reporting) determinants of EQ. Innate determinants derive from business models and operating environments. Discretionary determinants are associated with accounting choices, implementation decisions, managerial error, auditing, governance, and enforcement. Francis

et al. (2006) claim that innate factors are changing slowly relative to factors that influence discretionary EQ, nevertheless, some changes can be abrupt (exiting a line of business) while others can be gradual (building a brand). The final outcome of the possible empirical research depends on the ability to identify and separate innate and discretionary factors.

Reporting sources of EQ arise from the financial reporting process, including (Francis *et al.* 2006):

- management’s financial reporting implementation decisions, including judgments and estimates,
- the quality of the information systems used to support financial reporting,
- monitoring activities, including internal and external audits,
- governance activities, boards of directors, compensation arrangements, and ownership structures,
- regulatory scrutiny, including the extent and nature of securities laws and the enforcement of those laws,
- reporting standards.

We will concentrate on management decisions because we conjecture that despite the extensive research on earnings management (EM) there are still avenues for future research. A large body of accounting literature analyzes financial reporting decisions examining both incentives for earnings management and its consequences. Financial reporting and reported earnings are one of the key outputs of the managerial decision-making process. Managerial discretion is very present in financial reporting practice and allowed by accounting regulations, which is considered to be the main opportunity for earnings management behavior. In consequence, it can be expected that EM behavior – according to upper echelon theory (Hambrick & Mason 1984) – should be explained at least partially by CEO’s interpretation of encountered situations, and this, in turn, should be depended on the CEO’s environmental and personal characteristics (i.e. values, educational background, etc.). The researcher should address two areas affecting the CEO’s interpretation and behavior having supposedly impact on the EM: environmental conditioning and personal/psychological traits. There are of course many proxies for environmental conditioning, but the religiosity of the local community seems to be especially interesting. CEO’s psychological features must be proxied by a set of control variables, which influence EM behavior and have been already documented in other studies.

Definition of earnings management

Ronen and Yaari (2008) discuss the definition of earnings management and classify them into three categories: white, gray and black. White (or beneficial) EM enhances the transparency of financial reporting (e.g. Beneish, 2001). Grabiński, Kędzior and Krasodomska (2014) state that the complete lack of EM practice is considered negatively by the stock market. Gray EM is the manipulation of reports within the boundaries of compliance with standards. It can be either opportunistic or efficiency-enhancing (Arya, Glover, & Sunder, 2003). Finally, black (or pernicious) involves misrepresentation, fraud and reduced transparency of the financial reports (e.g. Schipper, 1989).

Ronen and Yaari (2008) try to summarize the three strands of thought on EM by quoting Healy and Wahlen (1999) who define the EM in the following way: “earnings management occurs when managers use judgment in financial reporting and in structuring transactions to

alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers” (p. 26). However, they note that not all EM is misleading. For example, managing earnings, in order to allow separation of persistent earnings from the effects of a one-time transaction, help investors evaluate future prospects of the firm. Therefore, they offer alternative definitions of EM: “earnings management is a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management. Earnings management can be beneficial: it signals long-term value; pernicious: it conceals short- or long-term value; neutral: it reveals the short-term true performance. The managed earnings result from taking production/investment actions before earnings are realized, or making accounting choices that affect the earnings numbers and their interpretation after the true earnings are realized” (p.27).

The last sentence in the above definition distinguishes between real earnings management (actions before earnings are realized) and accrual earnings management (accounting choices that affect the earnings numbers). Both definitions emphasize the role of managerial decisions/judgment in EM practice. In other words, the prevalence and extent of earnings management result from incentives, quality of reporting and auditing system or legal enforcement, and from managers’ social and personal conditioning too.

Manager as earnings management decision-maker

The classical school of economy defines a decision-maker as a “unique actor whose behavior is not only intelligent but rational. The decision is the choice this actor makes, in full awareness, from among all the possible alternatives he has, in order to maximize his advantages...” and chooses the alternative that procures maximum gain or satisfaction (Gremion, Boyko, & Boddewyn, 1972, p. 126). The refinement of decision-making theory states that the criteria of satisfaction depend on the personal values of the actor and perception/interpretation of reality. So the concept of “homo economicus”, who was assumed to be a rational actor evolved to the concept of the decision-maker, whose rationality is subjective and relative.

Building on this notion Hambrick and Mason (1984) proposed an upper echelon theory stating that organizational outcomes – strategic choices and performance levels – are partially explained by managerial background characteristics like age, career experiences, education, socioeconomic roots, group characteristics. Hambrick (2007) twenty years later proposed an enhancement of the theory definition stating that the CEO’s experiences, values, and personalities greatly influence interpretations of the encountered situations and in turn affect their choices and courses of action. One of the key development of the theory is introducing a moderator – managerial discretion (Hambrick & Finkelstein, 1987), which is defined later by Hambrick (2007) as “an absence of constraint and when there is a great deal of means-ends ambiguity – that is, when there are multiple plausible alternatives”(p.335). Hambrick (2007) explains that this theory is especially valid in situations where managerial discretions exist.

The other set of factors influencing managers’ decisions is explained by Kohlberg (1984). He claims that most adults judge the morality of actions by comparing them to society’s views and expectations. The conventional morality is characterized by an acceptance of society’s conventions concerning right and wrong, and a rule’s appropriate-

ness or fairness is seldom questioned. Individuals will behave and act in a way that conforms to the behavioral norms of the groups and the local society he/she belongs to. Local religious norms represent the type of social influence that is likely to affect the attitudes of managers of firms headquartered in a given area.

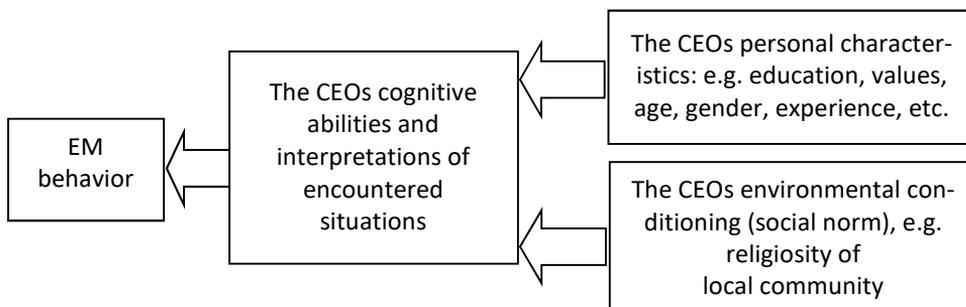


Figure 1. The relationship between EM behaviour, personal characteristics and environmental conditioning of CEOs

Source: own elaboration.

For instance, Conroy and Emerson (2004) use church attendance as a proxy for religiosity. They show that it is associated with lower acceptance of the use of accounting manipulation. Longenecker, McKinney and Moore (2012) find little relationship between religious commitment and ethical judgment when their respondents were divided on the basis of broad faith categories – Catholic, Protestant, Jewish, other religions, and no religion. Respondents who indicated that religious interests were of high or moderate importance to them demonstrated less accepting of unethical decisions. In short, we conjecture that managers' EM behavior is influenced by both personal traits and social norms of the local community (fig. 1), including religiosity.

The relationship between religiosity and earnings management

The studies investigating the impact of religion on EM are very scant. Dyreng, Mayew and Williams (2012) state that religion promotes honesty and risk aversion in a system of social values and norms. The study of Bartke and Schwarze (2008) provide evidence suggesting that Moslems are significantly more risk-averse than Protestants and another study (Barsky, Juster, Kimball, & Shapiro, 1997) shows that Protestants are more risk-averse than Catholics. Overall it is difficult to argue that different religious affiliations play the same or very similar role as a factor limiting propensity to EM.

Religiosity and its impact on the CEO's decision-making process is usually ascribed to the broader concept of business ethics. Goldman and Bounds (2015) provide an in-depth analysis of the business ethics definition and concluded that it deals with the values and rules of behavior of society while pursuing the objectives of an organization. Furthermore, they note that organizations (corporations included) do not necessarily act as ethically as their stakeholders expect them. On the other hand, as Mousa (2018) points out, ethical leadership fosters both individual and organizational performance.

Religion in local communities affects corporate behavior and business ethics and for this reason should be treated as a potential determinant of EM (Du, Jian, Zeng & Du, 2014).

Additionally, Du, Jian, Lai, Du and Pei (2015) state that “managers may not be religious believers, but they may be affected by the religious norms in a geographic area”(p. 700). They selected a Chinese context, where a dominant religion is Buddhism and Taoism. The nature and philosophy of these religions deter EM, considering it as unethical. The results show a negative association between religion and EM, proving that religion is a set of social norms that have the potential to mitigate EM, especially in the case of emerging markets, where corporate governance mechanisms are weaker.

McGuire, Omer and Sharp (2012) hypothesize that there is an influence of godliness on reduced acceptance of unethical business practices like EM. On the basis of the sample consisted of US companies they found that religiosity has a negative impact on AEM and positive on REM, concluding that managers in firms located in more pious areas prefer REM over AEM.

Callen, Morel and Richardson (2011) analyzed the link between EM and different culture dimensions and religiosity. The latter is considered to be an additional layer of culture. Based on other studies they noted that religiosity mitigates criminality and tax avoidance, and therefore for the same reasons it should limit EM. They note that religiosity is a very complex social construct and phenomenon. The consequence is the problem of its measurability. Finally, they decided to use measures proposed by Stack and Kposowa (2006). Therefore, they use as a proxy for religiosity: the degree of public participation in religious rituals and individual determination based on surveys. The results of the study show that the culture influences EM, but only in the dimension of individualism (negatively) and uncertainty avoidance (positively). They concluded there is no proof of the statistical influence of religiosity or religion denomination on EM.

Religiosity vs. wealthiness around the world. The problem of proxy for religiosity

Gallup surveys conducted in 114 countries in 2009 show that religion continues to play an important role in many people’s lives worldwide. The global median proportion of adults who declared that religion is an important part of their daily lives was 84%, unchanged from what Gallup has found in other years. There is a strong negative relationship between a country’s socioeconomic status and the religiosity of its residents. In the world’s poorest countries (average GDP per capita of \$2,000 or lower) the median proportion who say religion is important in their daily lives is 95%. In contrast, the median for the richest countries (average GDP per-capita higher than \$25,000) is 47%. The United States is one of the rich countries which is exception to the trend. About 65% of Americans declared that religion is important in their daily lives. Among high-income countries, only Italians, Greeks, Singaporeans, and residents of the Persian Gulf states are more likely to say that religion is important (Gallup, 2010).

Poland seems to be the next exception. The level the religiosity estimated according to Gallup’s survey in Poland is the highest among countries classified by FTSE Russell (2019) as developed. Furthermore, Polish religiosity is unique because it is mainly Catholic: 87% of citizens declare themselves Catholics, while 78% in Italy, 77% in Portugal, 75% in Austria and Lithuania, and 72% in Ireland (PEW Research Center, 2018a). There are other mono-religion Orthodox countries in Europe – Moldova, Greece, Georgia, Armenia, Serbia, Romania - but their level of economic development is much lower. Therefore, Poland represents a unique opportunity from researchers’ perspective – a mono-

religious country with a relatively strong economy and capital market, which allows avoiding problems with religious differences.

PEW Research Center (2018b) surveyed the level of religiosity of respondents in 34 European countries in 2015-2017. The findings differ from the Gallup (2010) survey. The difference may result from the time span between surveys. PEW created the overall index by combining four individual measures of religious observance (1) self-assessment of religion's importance in one's life, (2) religious attendance, (3) frequency of prayer, and (4) belief in God. The results are presented in Table 1. All European FTSE (2019) developed countries are marked as bold. According to the overall PEW index, Poland is still the most religious developed European country. Similar conclusion can be drawn comparing individually percentage of respondents who declare that religion is very important in their lives (rank 10 in column "Ranking (1)"), who declare that they pray daily (rank 11 in column "Ranking (3)"), and those who declare that they believe in God with absolute certainty (rank 9 in column "Ranking (4)"). The surprising finding is that Poles are absolutely the most religious people in Europe considering the percentage of respondents who declare worship services attendance at least monthly (rank 1 in column "Ranking (2)").

The above conclusion brings a challenge for earnings management and religiosity-related empirical research. Findings may depend heavily on the choice of proxy for religiosity. A researcher must consider the following issue: is observed or declared religiosity in a country, e.g. Poland, a matter of tradition and culture, or it is a signal of personal faith? The former may not influence managers' real action and EM behavior, the latter may have a significant impact on the level of EM and finally earnings quality.

CONCLUSIONS

The above literature review shows that despite a significant number of papers on earnings quality, earnings management, and ethical issues in this area there are still avenues for future research. The impact of religiosity may be especially interesting, nevertheless a researcher faces several problems.

First major implication of the study is demonstrating the lack of universal measure of earnings quality. The described measures refer to various aspects of the broad notion of the EQ. From a decision-usefulness perspective, it seems that one should focus on discretionary accruals, but the research findings do not show without any ambiguity the superiority of any model for these accruals.

Secondly, many models for abnormal accruals estimation assume implicitly that managerial intervention in the reporting process occurs via accounting practices – accrual earnings management (AEM), but managers may also manage earnings through operational decisions – real earnings management (REM). It implies the possible trade-off between AEM and REM should be considered.

Thirdly, the proxy for religiosity is complex issue of. The quoted above surveys provide data on the level of religiosity in a given country. In the case of firm-level research one needs data on religiosity in a given area or firm, the most desirable data describe personal religiosity of firms' top executives. Next, which proxy to choose? A case of Poland (and also Italy, see Table 1) shows that reasonable proxies may differ greatly. The problem of multi-religion countries arises too. How to proxy religious commitment in a country like Israel, with three broad religion categories, or in Poland, single-religion Catholic country, and

Table 1. Level of religiosity across European countries

Country	Overall index	Rank	(1)	Rank (1)	(2)	Rank (2)	(3)	Rank (3)	(4)	Rank (4)
Romania	55%	1	50%	4	50%	2	44%	3	64%	4
Armenia	51%	2	53%	3	34%	12	45%	2	79%	1
Georgia	50%	3	50%	4	39%	5	38%	5	73%	2
Greece	49%	4	55%	1	38%	6	29%	9	59%	5
Moldova	47%	5	42%	6	35%	9	48%	1	55%	8
Bosnia	46%	6	54%	2	35%	9	32%	7	66%	3
Croatia	44%	7	42%	6	40%	4	40%	4	57%	7
Poland	40%	8	29%	10	61%	1	27%	11	45%	9
Portugal	37%	9	36%	8	36%	8	37%	6	44%	10
Serbia	32%	10	34%	9	19%	22	27%	11	58%	6
Ukraine	31%	11	22%	13	35%	9	29%	9	32%	13
Slovakia	29%	12	23%	11	31%	13	31%	8	37%	11
Belarus	27%	13	20%	16	30%	14	25%	13	26%	16
Italy	27%	13	21%	15	43%	3	21%	15	26%	16
Ireland	24%	15	23%	11	37%	7	19%	17	24%	21
Lithuania	21%	16	16%	20	27%	17	15%	23	34%	12
Spain	21%	16	22%	13	23%	19	23%	14	25%	19
Bulgaria	18%	18	19%	18	19%	22	15%	23	30%	14
Netherlands	18%	18	20%	16	18%	24	20%	16	15%	24
Hungary	17%	20	14%	22	17%	25	16%	22	26%	16
Norway	17%	20	19%	18	16%	27	18%	18	19%	23
Russia	17%	20	15%	21	17%	25	17%	20	25%	19
Latvia	15%	23	10%	27	16%	27	17%	20	28%	15
Austria	14%	24	12%	23	30%	14	8%	32	13%	27
Finland	13%	25	10%	27	10%	33	18%	18	23%	22
France	12%	26	11%	24	22%	20	11%	25	11%	32
Germany	12%	26	11%	24	24%	18	9%	29	10%	34
Switzerland	12%	26	9%	31	29%	16	8%	32	11%	32
United Kingdom	11%	29	10%	27	20%	21	6%	34	12%	31
Belgium	10%	30	11%	24	11%	30	11%	25	13%	27
Sweden	10%	30	10%	27	11%	30	11%	25	14%	26
Czech Republic	8%	32	7%	33	11%	30	9%	29	13%	27
Denmark	8%	32	8%	32	12%	29	10%	28	15%	24
Estonia	7%	34	6%	34	10%	33	9%	29	13%	27

Interpretation of columns' titles: 1 – % who say religion is very important in their lives; 2 – % who say they attend worship services at least monthly; 3 – % who say they pray daily; 4 – % who say they believe in God with absolute certainty.

Source: authors' own elaboration on the basis of (PEW Research Center, 2018b).

Romania, single-religion Orthodox one? The possible answer to the last question is a survey, but in such a case one collects data on declarations, not real action. Finally he or she will not know whether the declarations reflect personal beliefs, influence of the group, or both.

Our study has also some limitations. We limited our review to top-rated English-language journals. It is possible that there are unmentioned important papers or monographs published in the national languages.

We identify some avenues for further research. First, mostly normative research may concentrate on clear definition and measure of earnings quality. Second, the relationship between earnings quality and earnings management need to be developed. Third, the reasoning behind the choice of proxy for religiosity needs to be developed with respect to psychological and sociological theories.

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Standard of residency in Poland and selected European countries: Comparative analysis

Paweł Ulman

ABSTRACT

Objective: The aim of the paper is to present the standard of residency in the European Union countries, in particular against the background of the housing policy implemented in selected EU countries.

Research Design & Methods: Linear ordering and hierarchical cluster methods were used for statistical comparative analysis of studied countries. The data on the surroundings of the home and the financial capacity of respondents to maintain the home are taken into account. The data were taken from EQLS (European Quality of Life Survey) – the 4th-edition survey was held in 2016 and 2017.

Findings: The article shows significant differences in the standard of residency among European countries. In separate areas for assessing the housing situation, no country ranked first in all areas at the same time. In some cases, the position of a given country (e.g. Finland) is fundamentally different due to the considered area of standard of residency assessment. In terms of a multidimensional assessment of this standard, Poland is generally better rated than using commonly used housing situation indicators (e.g. the number of rooms per person).

Contribution & Value Added: An added value is the proposal to measure the housing situation of the population not only on the basis of measuring one or two indicators, but in a multidimensional approach with separate areas of assessment. This allows for a broader and deeper look at the problem of satisfying one of the basic human needs of living.

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INTRODUCTION

Housing is a type of good, whose possession (ownership or rental) is one of the basic human needs; on the other hand, it is the foundation for satisfying other basic needs and higher-order needs defined in the classification proposed by A. Maslow. At the same time, having a home of a sufficiently high standard is often an indicator of the affluence of a given household and thus forms the basis for determining its economic situation, which in turn is used for studying poverty of households (population). The housing situation of a given individual is an important area for determining whether the individual is at risk of poverty or not (Kwarciński & Ulman, 2018; Soltes & Ulman, 2015).

The need for housing is not only an individual need of the individual members of society in a given country. Because of its universality, it has a social dimension, which means that the state should be more or less involved in the process of satisfying the need for housing by formulating and implementing appropriate housing policies. In developed countries, such policies are implemented, although they may vary according to the scope and tools used. In case of selected European Union countries, a synthetic description of the applied solutions can be found in the (Wójciczak, 2016). Moreover, the situation on the housing market and current housing policy solutions in European Union member states are presented in publications from the series entitled *A Housing Europe Review* (Pittini, Koessl, Dijol, Lakatos & Ghekiere, 2017).

The abovementioned actions of the state have their basis, justification and obligation in international and national law of the individual states. Article 25 of the 1948 Universal Declaration of Human Rights states that everyone has the right to a standard of living adequate to ensure the health and well-being of him/herself and their family, including, inter alia, housing. Mothers and children are to be given special protection. Article 31 of the revised European Social Charter contains a provision obliging the signatory states to ensure effective exercise of the right to housing by means of: supporting access to housing at an appropriate level, prevention, reduction and further elimination of homelessness, increase in income-based availability of housing. The European Union does not formally shape the housing policy of the member states, but it pays particular attention to combating social exclusion and poverty. This problem is highlighted in one of the five points of the Europe 2020 strategy (Salomon & Muzioł-Węclawowicz, 2015). Undoubtedly, owning a home and its standard are key elements influencing social exclusion and indicating the level and quality of life of individual members of society.

The aim of the paper is to present the standard of residency in the European Union countries, in particular against the background of the housing policy implemented in selected EU countries. Since decent housing conditions can be understood more broadly not only as the physical condition of the dwelling, but also as its surroundings, apart from parameters relating to the condition of the dwelling, data on the surroundings of the home and the financial capacity of respondents to maintain the home are taken into account in the multidimensional perspective. The data were taken from EQLS (European Quality of Life Survey) – the 4th-edition survey was held in 2016 and 2017. The comparison of countries was made using linear and hierarchical clustering ordering methods.

LITERATURE REVIEW

Housing needs

The dictionary definition of the concept of a need is reduced to the statement that it is what is necessary for normal existence or proper functioning. It can be said that the need is a lack, which is defined as a shortage of certain objects or satisfaction (Wiśniewski & Śleszyński, 1976). Based on this notion, it could be assumed that housing needs are a lack of housing or a lack of adequate housing for the person(s) concerned (Seling, Milligan, Phibbs, & Thompson, 2008).

However, the problem of defining housing needs is not that simple, as it is difficult to clearly state what a need is in general terms. Does it differ from such notions as aspiration, wants, desire, choice or guaranteed right to own or receive something (a home)? Moreover, it is not clear whether needs are considered universal, objective and absolute or whether they are relative, subjective and culturally specific. Researchers studying the problem have divided into three camps: those who claim that needs are necessarily relative; those who consider needs to be absolute; and those in the middle who try to combine the aspects of the two approaches (Seling, Milligan, Phibbs, & Thompson, 2008). Adopting a relativistic approach leads to an inability to define needs (including housing needs) in a broader (global) sense, because they depend on social and cultural conditions. So, if these conditions change, needs may also change. On the other hand, an attempt can be made to identify universal needs, because as people we all have basic needs (of a lower order). According to A.H. Maslow's concept, the basic needs (at the base of the pyramid of needs) include physiological needs (food, water, protection against elements, sleep, sexual needs) and safety needs (personal, economic, health and well-being and safety i.e. protection against accidents/diseases and their consequences). Assuming that a home is a shelter, the need for a home can be easily linked to at least two of the abovementioned levels of the Maslow needs structure. In a broader context, meeting housing needs forms the basis for emotional development, conditions social participation and determines the individual status of the person (family).

This broader understanding of the importance of housing needs has been expressed by Stone (1993): „Housing is more than physical shelter. The residential environment consists of not only the dwelling unit but the site and setting, neighbours and community, municipality and public services, habitability and accessibility, rights and responsibilities, costs and benefits. Yet housing is even more than the residential environment, for it is only in relation to those who inhabit and use it that housing has meaning and significance – not only physical and economic, but emotional, symbolic and expressive” (p. 13). In this concept, housing becomes something essential and vital to the life of individuals or families and is also a means of making it easier to satisfy people's needs rather than just being an end in itself. This perception of the role of housing makes the problem of defining a housing need even more complicated. The ways of interpreting housing needs were presented in (Ytrehus, 2000).

The lack of an unambiguous or at least commonly accepted definition of this concept is an important problem in the shaping and implementing housing policy. If the policy is to respond to the housing needs of the population, it should refer to a relatively precise concept of the housing need, on the basis of which it will be possible to measure the extent of housing shortage in terms of individuals and, most of all, the society.

Housing policy

If a dwelling satisfies the need for shelter and thus a number of other needs mentioned in the previous part of this paper and this need also has a social dimension, then in any modern country housing problems should be (or must be) the subject of social and economic policies in this respect. In general, housing policy can be considered a part of the social policy of the state, whose aim – on the basis of analysis and assessment of the housing problem (housing needs) – is to equalise social chances for obtaining housing (Salomon & Muzioł-Węclawowicz, 2015). Looking at it from a narrow perspective, it is therefore one of microeconomic policies implemented by the state (on a central and local level), which involves ensuring proper functioning of the housing market. In a broader sense, housing policy is a set of state measures that affect the functioning of the housing market and its outcomes (quantity, prices and quality of housing resources) (Lis, 2011). Housing policy with a general objective of improving housing conditions in a given area (state, territorial unit) should support different social groups of citizens in meeting housing needs, with a particular focus on the needs of economically weaker groups. For this purpose, legal, institutional, organisational and financial instruments are used (Salomon & Muzioł-Węclawowicz, 2015).

Different housing policies are in place in individual European Union states. This arises from the sovereignty of the member states in this area, cultural and political diversity and different experiences of socio-economic development during at least the period since the Second World War. This makes it extremely difficult to class countries on the basis of a similar housing policy without only taking into account very general criteria, which does not allow us to show the specific character of the policy in one country in relation to others. Therefore, below is a brief description of the housing situation and solutions introduced on the housing market over several or around a dozen years, until 2017, in selected European countries: Sweden, Germany, France, Great Britain, Spain and Poland.

A significant proportion of Sweden experiences a lack of housing mainly in metropolitan regions, the problem affects especially young people, newcomers and the elderly, who are looking for a more suitable home for their needs. Sweden has the highest housing prices in the EU and is characterised by low competitiveness in the construction sector. Due to the high housing prices, housing cooperatives and municipal housing companies have initiated projects aimed at lowering the costs of housing for the abovementioned groups of the population. Sweden generally has no social housing, but almost half of the rental sector is owned by municipal housing companies, which aim to provide housing for all, regardless of gender, age, origin or income. Rents do not differ substantially between private and public housing. The Swedish tax system favours owner-occupied housing. In 2008, the national property tax was abolished and replaced by a lower property tax. Measures were taken to regulate mortgage in order to avoid excessive indebtedness of households. In recent years, Sweden has gradually implemented a number of actions to increase the supply of new housing by removing supply bottlenecks and improving the efficiency of the housing sector: streamlining the planning and appeals process, simplifying building regulations, cutting red tape, introducing small budget support for new construction (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

Germany is the only country in the EU where renting is more popular than owning a home. Due to the dynamic demographic development related to migration and general mobility of the population (especially young people), there is a large regional diversity in

terms of housing: there is a lack of housing in metropolitan areas and vacancy rates are quite high in regions situated far from metropolitan areas. As a result, rents in large cities have increased significantly. In the last decade, residential construction in Germany has not been able to keep up with the growth of the population in the largest cities. Another problem is the ageing population, which means that housing stock need to be converted to meet the needs of the elderly. It is estimated that by 2035, there will be a need for around 2.9 million of such homes. Growing rent rates force the authorities to introduce solutions for new, inexpensive residential construction, including deregulation of the housing law, prefabricated construction and stricter rent regulations (the so-called rental price brake). In Germany, there are not many typical social housing units. However, under the influence of the migration wave, more and more apartments of this type have been built in recent years (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

The housing market in France has been gradually improving since spring of 2015, which is reflected in an increase in the number of dwellings under construction, including, to a large extent, social housing. As in Germany, the population of France concentrates around large cities, where the needs are the greatest. In order to deal with these challenges, a number of housing sector reforms have been introduced, including: reform of territorial management, rules of social housing acquisition, a new financial framework to support new social housing and a target of 25% social housing stock in France for certain regions. Great importance is also attached to the construction of social housing that meets the requirements of low-energy buildings. In 2017, the French government presented a housing policy strategy to address the lack of affordable housing. In short, it can be described in three slogans: build more, better and cheaper; respond to every need; ensure better quality of life in the neighbourhood (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

Social housing in the UK is mainly provided by housing cooperatives and local authorities. In 2015, such units accounted for 22% of the total number of erected dwellings. There is a persistent housing shortage in the UK, with serious adverse consequences for affordability, especially for low- and middle-income households. More than a third of all private tenants in the UK are overcharged with rent, which is also reflected in the growing homelessness figures. Over 10 years, investment in England's housing stock has fallen from an annual level of around 3 billion GBP to around 1 billion GBP (2015/16 to 2017/18). In the meantime, the number of people claiming housing benefit has increased by more than half a million. Since 2016, a co-ownership and inexpensive housing programme has been implemented. Co-ownership involves payment of rent for the unacquired part of the house. This programme places great emphasis on house ownership and does not provide any subsidies for social housing rental. In the area of social housing, perpetual rental has been abolished with the introduction of temporary contracts (up to 10 years). The programme offering the right to purchase a dwelling at a discounted rate was extended to include cooperative housing apart from social housing. Within the social welfare system there are housing benefits available for people who require support due to high maintenance costs (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

Until 2015, Spain had to face the consequences of the housing crisis, which was reflected in a decline in the number of new homes built, a fall in prices, an increase in vacancy rates and a decrease in the availability of housing for the population. Traditionally, in Spain it is much more preferred to own a home. However, the crisis affected these preferences by increasing

interest in housing rentals, especially among young people. Only 2.5% of households use the public rental system in Spain. The housing plan (lasting until 2017) focuses on the promotion of flats for rent, including public rental through a system of subsidies for private companies with the right to build dwellings, public authorities, foundations and associations. A programme was also established to transform empty private dwellings into cheap rental apartments. The existing housing improvement measures in Spain include: subsidised mortgage loans; rent allowances; support for evicted residents; financing the supply of housing for rent; financing of energy efficiency improvements; financing of maintenance and accessibility measures; urban and rural regeneration programme; subsidies for young people; and housing programmes and subsidies for the elderly (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

In Poland, the number of homes per 1000 inhabitants is still one of the lowest in the EU. Successive governments over the last 20 years have introduced various programmes aimed at improving the housing situation of Polish households, but so far their effectiveness has not been high in this respect. In Poland, private ownership of a home is preferred, which is reflected in the relatively easy transformation of home ownership from cooperative to private. In recent years, the price-based availability of flats in Poland has improved. This was caused by the relative stability of prices, low interest rates on housing loans (mortgage loans) and growing salaries. On the other hand, one should not forget the limitations of this availability resulting from stricter conditions for granting mortgage loans and the problems faced by borrowers with foreign currency loans. The first government initiative to support housing construction in Poland in the 1990s for low-income households was a system of support for the supply of homes for rent with moderate rent amounts, under which Social Building Associations and the National Housing Fund were established, which was dissolved in 2009 and its tasks were taken over by Bank Gospodarstwa Krajowego. Other programmes supporting access to housing implemented in Poland include: "Rodzina na swoim" ("Family with own home"), "Mieszkanie dla młodych" ("Home for young people") and the National Housing Programme "Mieszkanie Plus" ("Home Plus"). A slightly different initiative is the Housing for Rent Fund, which was established in order to make housing rental available to people who cannot afford to pay rent at market prices or who are not creditworthy (Pittini, Koessler, Dijol, Lakatos, & Ghekiere, 2017).

To sum up the problem of housing policy in the EU, it is worth mentioning that in June 2019 the European Commission published recommendations for member states in the field of housing policy, stressing the importance of social housing and affordable housing. Countries such as Ireland, Germany, Latvia, Luxembourg and Slovakia are affected by these problems (Housing Europe, 2019). In addition, an in-depth analysis of housing policies in selected European countries can be found in (Treanor, 2015) and about contemporary housing policy challenges is written in (UNCHSUD, 2017).

MATERIAL AND METHODS

Statistical data and research method

For the purpose of this article, data from the European Quality of Life Survey (EQLS), fourth edition, carried out by Eurofound in 2016 and 2017 in 33 EU and other European countries, was used. The total size of the dataset was 36908 observations and the sample size for individual countries was not less than 1000. EQLS is a quality of life survey documenting

the living conditions and social situation of the population in Europe. Housing issues are undoubtedly an important element of the standard of living and quality of life, so the questionnaire included a number of questions referring directly or indirectly to the housing conditions of the respondents and their households. For the purposes of the study on the standard of residency, three areas were distinguished: the physical characteristics of the dwelling and the financial possibilities of maintaining it (1); the quality of the neighbourhood and the environment (2); the availability of services in the vicinity of the dwelling (3). The full list of variables with their original codes is provided in Table 1.

Table 1. The list of variables with their original codes form EQLS 2016

Variable code	Variable description	Field
Y16_Q25a	Shortage of space	the physical characteristics of the dwelling and the financial possibilities of maintaining it (1)
Y16_Q25b	Rot in windows, doors or floors	
Y16_Q25c	Damp or leaks in walls or roof	
Y16_Q25d	Lack of indoor flushing toilet	
Y16_Q25e	Lack of bath or shower	
Y16_Q25f	Lack of facilities (heating or cooling) to keep a comfortable temperature at home	
Y16_Q23	Number of rooms in accommodation / per capita	the quality of the neighbourhood and the environment (2)
Y16_Q26	Likelihood of having to leave accommodation due to affordability	
Y16_Q54a	Neighbourhood problems: noise	
Y16_Q54b	Neighbourhood problems: air quality	
Y16_Q54c	Neighbourhood problems: litter or rubbish on the street	
Y16_Q54d	Neighbourhood problems: heavy traffic	
Y16_Q55a	I feel safe when I walk alone after dark	the availability of services in the vicinity of the dwelling (3)
Y16_Q55b	I feel safe from crime when I am at home alone at night	
Y16_Q56a	Access to banking facilities	
Y16_Q56b	Access to public transport	
Y16_Q56c	Access to cinema, theatre or cultural centre	
Y16_Q56d	Access to recreational or green areas	
Y16_Q56e	Access to grocery shop or supermarket	
Y16_Q56f	Access to recycling services	

Source: based on datafile from EQLS 2016.

Apart from the abovementioned variables, the EQLS data set contains one variable covering the results of the measurement on a 10-point scale of satisfaction with living conditions (variable Q6d).

The need to study complex socio-economic phenomena in a multidimensional way using synthetic measures of the level of development or e.g. poverty began to appear in the scientific literature since the 1970s. In order to assess the economic status including non-income information about the surveyed units (individuals, households and countries) in the context of inequality and social welfare, among others, wrote Kolm (1977), Atkinson and Bourguignon (1982), Maasoumi (1986), Tsui (1995; 1999), Weymark (2006), Aristei and Bracalente (2011). In some cases, the authors combined different indicators in order to obtain a multidimensional index of standard of living, economic status or poverty. For example, Anand and Sen (1997) described the possibilities of using the synthetic index of human poverty at the macro level for various systems of weights of partial indexes.

Whereas at micro level Smeedeing *et al.* (1993) studied effect of non-cash income (education, health and housing) among others on living standard.

In order to make a comprehensive statistical comparative analysis of the objects (countries) due to complex phenomena, methods of linear ordering and hierarchical clustering are used in this work. The former facilitates projection of points representing countries placed in a multidimensional space of variables on a straight line. This in turn makes it possible to establish the position of a given country in the hierarchy of countries based on the studied phenomenon (housing situation). Among the methods of linear ordering we can distinguish methods based on synthetic variables, whose general idea boils down to aggregation of a set of variables describing objects in a multidimensional system. This approach is widely used in the study of complex socio-economic phenomena, such as levels of development, prosperity, poverty, etc. In the case of hierarchical clustering methods, the key result is the ability to associate a given object with a larger number of other objects without defining the order of these objects. This connection leads to the consequent grouping of these objects. Both methodological approaches will be used for further consideration.

In order to aggregate information from different variables, it is necessary to standardise the variables. Of the many possibilities, the zero-unitary method is frequently used, where primary variables are normalized according to the formula:

$$z_{ij} = \frac{x_{ij} - \min_i\{x_{ij}\}}{\max_i\{x_{ij}\} - \min_i\{x_{ij}\}} \quad (1)$$

where:

x_{ij} - denotes the value of the j -th variable for the i -th object.

The formula above is applied to variables that are developmental stimuli measured on at least an interval scale. Due to the fact that the objects are states, in the case of dichotomous variables, the value of such a variable (x_{ij}) for a given country is the share of responses given by those respondents who assess housing conditions as good among all respondents. For example, variable Q25a (too little space in the home) has two categories: yes, no. On the basis of this variable, the proportion of "no" answers is calculated for each country and becomes a variable (x_{ij}), describing one of the dimensions of the housing conditions. The higher the share, the better the housing situation in the country. In this way, all such variables are stimulants of housing conditions. Where a primary variable is characterised by more than two categories, the conversion should be slightly different. First, we determine the share of the respondents' responses for each category of the variable. Then we apply the formula for obtaining one value (for a given country) for the x_{ij} variable:

$$x_{ij} = \frac{\sum_{s=0}^{S-1} S * w_{ijs}}{S - 1} \quad (2)$$

where:

w_{ijs} - is the share of respondents who chose the s -th category of response to the problem from the original j -th variable (order variable with s categories) for the i -th country.

Of course, the order of these categories must reflect increasing improvement in housing conditions. The result is in the range from 0 to 1, where 0 indicates a situation where all the respondents in the country would indicate the worst housing situation with regard to the

variable under consideration and 1 is the opposite. Values of the variable x_{ij} obtained according to the formula (2) are not interpretable but make it possible to assess and compare the housing situation in the countries surveyed at the level of the j -th variable.

After application of formula (1) for variables x_{ij} a weighted average was calculated for the three areas. The weighing system was selected based on the proposal of Betti and Verma (1999). It takes into account the discriminatory and information capacity of variables. Discriminatory ability are most often assessed by measuring the variation level of the variable, while the information capacity is measured on the basis of the level of the given variable's correlation with all the other variables. The said system of weights can thus be expressed as follows:

$$w_{hj} = w_{hj}^a \cdot w_{hj}^b, \quad h = 1, 2, \dots, m; j = 1, 2, \dots, k_h \quad (3)$$

where:

w_{hj}^a - is the measure of the information level of the j -th variable in the h -th field;
 w_{hj}^b - is the measure of the discriminatory capacity of the j -th variable in the h -th field.

Defining weights based on individual correlated variables is performed to favor most of these variables that are at least correlated with some other variables, and vice versa, the least rewarded are those with the highest correlation. Applying the following formula implements this requirement:

$$w_{hj}^a = \left[\frac{1}{1 + \sum_{j'=1}^{k_h} |r_{z_{hj,hj'}}| |r_{z_{hj,hj'}} < r_{z_{hj}}^*} \right] \left[\frac{1}{\sum_{j'=1}^{k_h} |r_{z_{hj,hj'}}| |r_{z_{hj,hj'}} \geq r_{z_{hj}}^*} \right] \quad (4)$$

$j, j' = 1, 2, \dots, k_h; h = 1, 2, \dots, m$

where:

$r_{z_{hj,hj'}}$ - is the correlation coefficient of housing standard corresponding to j -th and j' -th variable in the h -th field;
 $r_{z_{hj}}^*$ - is the threshold value of the correlation coefficient of housing standard due to the j -th variable in the h -th field that can be evaluated as follows:

$$r_{z_{hj}}^* = \min_j \max_{j'} |r_{z_{hj,hj'}}|, \quad j, j' = 1, 2, \dots, k_h; j \neq j'.$$

After calculating the weighted average for each country and area, the overall synthetic variable was calculated as the arithmetic mean of the area averages.

The procedure presented above allowed for linear ordering of the surveyed countries due to their standard of living, while in the case of hierarchical clustering, Ward agglomeration procedure with the use of Euclidean distance was used. In the case of linear ordering of countries, the division of objects (countries) into classes can be done according to the following formula:

$$\begin{aligned} (1) G_1: s_i < \bar{s} - S(s) \\ (2) G_2: \bar{s} > s_i \geq \bar{s} - S(s) \\ (3) G_3: \bar{s} + S(s) > s_i \geq \bar{s} \\ (4) G_4: s_i \geq \bar{s} + S(s), \end{aligned} \quad (5)$$

where:

\bar{s} - arithmetic mean of the synthetic variable;
 $S(s)$ - Standard deviation of the synthetic variable.

Empirical results

First of all, the results of the structure of the responses to the question of satisfaction with accommodation are presented. Figure 1 presents the results of this structure for selected EU countries.

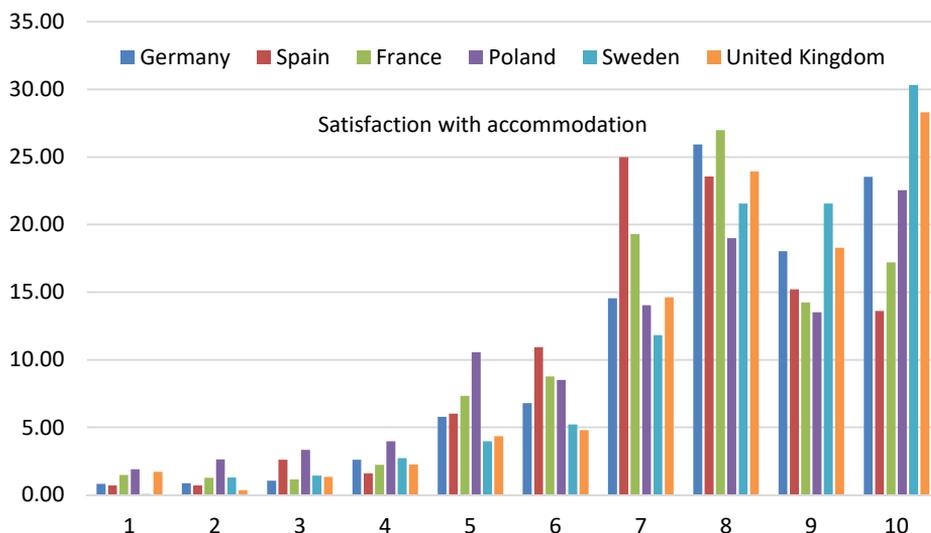


Figure 1. Satisfaction with accommodation – measurement for selected EU countries

Source: own calculations based on data from EQLS 2016.

In general, in all the countries presented, the respondents most often express a high level of satisfaction with their place of residency. The dominant rating for Great Britain, Poland and Sweden is 10 (very satisfied), while for France and Germany it is 8 and for Spain it is 7. It is also worth noting that low ratings for satisfaction with residency conditions (lower than 6) were the most common in Poland, which suggests a relatively large variation in satisfaction in Poland in relation to the countries presented. Taking into account the other countries (apart from the countries presented in the chart), a low level of satisfaction was observed the most often in Albania and the highest – in Austria and Denmark.

Another frequently used indicator of the housing situation (standard of living) is the number of rooms per person living in the housing unit. Figure 2 shows the values of this indicator for the European countries surveyed, highlighting selected EU countries. By far the worst housing situation is in the Balkans. Poland is also characterised by a relatively low number of rooms per capita (1.15) and is far behind from the other 5 countries, with the best situation in the UK. Among all the countries surveyed with EQLS, Belgium had the highest number of rooms per capita (2.25) and Albania the lowest (0.65).

It is worth noting that the countries differ significantly due to the adopted measure of the standard of living. The gap between Belgium and Albania points to a generally worse housing situation for the population in Albania in both relative and absolute terms. In addition, it can also be seen that on the left-hand side of figure 2 (with lower

values) are mainly post-socialist countries, while on the right-hand side are western European countries. This shows that despite various problems in the housing market in the latter group of countries, the citizens of these countries are still in a better housing situation than the population of Eastern European countries, even after 25 years since the beginning of the systemic transformation in the region.

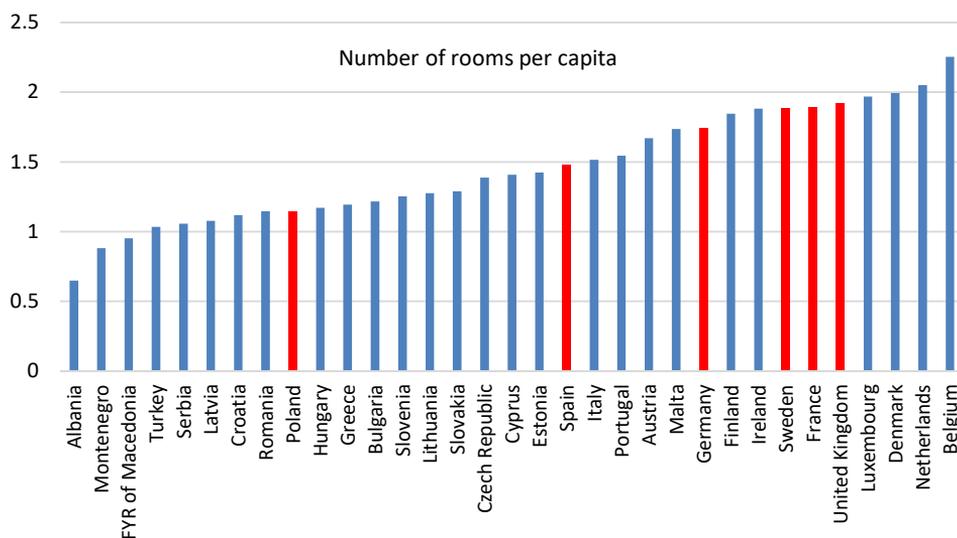


Figure 2. Number of rooms per person in European countries

Source: own calculations based on data from EQLS 2016.

Table 2 summarises the results of the comprehensive assessment of the standard of residency in the examined European countries. The first part of the table presents the synthetic value of the measure of the standard of residency in the first area – the physical characteristics of the home and its maintenance, the second area – the quality of the neighbourhood and surroundings, the third area – the availability of services in the surroundings of the home and in the overall system. In the second part of the table, the rankings of the surveyed European countries are similarly presented based on the standard of residency of the population.

In general, no country has obtained the highest score for the standard of residency in all areas. The closest to achieving this was the Netherlands, which was ranked first in two areas: first and third, as in terms of the overall evaluation. Sweden achieved evenly high ratings for the standard of residency. Whereas Turkey, Albania and Montenegro have the lowest ratings for housing standards.

Taking into account the highlighted countries (France, Germany, Spain, Sweden, Great Britain and Poland), it is worth noting that Poland does not differ much from most of them. Only Sweden is the undisputed leader in the hierarchy of countries based on their standard of residency. This result differs positively from the assessment of Poland's housing situation made on the basis of commonly used indicators, such as the one presented in Figure 2. This shows that it is worth looking at the assessment of housing conditions (housing standard) from a multidimensional perspective for greater accuracy, because this standard is a multidimensional phenomenon.

Table 2. Values of a synthetic measure of the standard of residency and ranking of countries due to the standard of residency

Country	Synthetic measure				Ranking			
	Field 1	Field 2	Field 3	Total	Field 1	Field 2	Field 3	Total
Albania	0.524	0.483	0.366	0.458	32	23	26	31
Austria	0.876	0.692	0.694	0.754	3	11	10	5
Belgium	0.742	0.395	0.481	0.539	14	27	22	24
Bulgaria	0.718	0.288	0.686	0.564	19	32	11	23
Croatia	0.704	0.531	0.260	0.498	21	20	30	26
Cyprus	0.730	0.545	0.925	0.734	17	18	2	8
Czech Republic	0.738	0.363	0.594	0.565	15	29	17	22
Denmark	0.832	0.879	0.877	0.863	8	2	4	2
Estonia	0.708	0.741	0.603	0.684	20	8	16	11
Finland	0.885	0.985	0.533	0.801	2	1	19	4
France	0.696	0.700	0.371	0.589	23	9	25	20
FYR of Macedonia	0.643	0.396	0.412	0.484	28	26	24	28
Germany	0.876	0.514	0.629	0.673	4	21	14	13
Greece	0.652	0.351	0.746	0.583	27	30	8	21
Hungary	0.738	0.694	0.415	0.615	16	10	23	18
Ireland	0.826	0.794	0.612	0.744	10	5	15	7
Italy	0.730	0.383	0.299	0.471	18	28	29	30
Latvia	0.604	0.667	0.721	0.664	30	14	9	15
Lithuania	0.655	0.563	0.779	0.666	26	16	5	14
Luxembourg	0.817	0.667	0.749	0.744	11	13	7	6
Malta	0.842	0.301	0.634	0.592	6	31	13	19
Montenegro	0.631	0.439	0.202	0.424	29	25	31	32
Netherlands	0.941	0.784	0.945	0.890	1	6	1	1
Poland	0.753	0.680	0.510	0.648	13	12	21	16
Portugal	0.702	0.751	0.154	0.536	22	7	33	25
Romania	0.580	0.509	0.354	0.481	31	22	28	29
Serbia	0.658	0.469	0.365	0.497	25	24	27	27
Slovakia	0.840	0.541	0.645	0.676	7	19	12	12
Slovenia	0.800	0.807	0.556	0.721	12	4	18	9
Spain	0.688	0.656	0.531	0.625	24	15	20	17
Sweden	0.859	0.838	0.890	0.862	5	3	3	3
Turkey	0.272	0.125	0.157	0.185	33	33	32	33
United Kingdom	0.827	0.551	0.758	0.712	9	17	6	10

Source: own calculations based on data from EQLS 2016.

Figure 3 presents the division of European countries into four groups, based on the standard of residency in three areas and the overall assessment of this standard. The division was made using formula (5).

Figure 3 graphically confirms the previous conclusions. Looking at Poland, we can see that in areas 1 and 2 it falls in the third group (in the hierarchy of groups 1 to 4). Finally, based on the general assessment of the standard of residency, Poland can also be included in the third group of countries. It is also worth noting that the standard of residency in Italy was poorly rated, which is also confirmed by the results in Table 2.

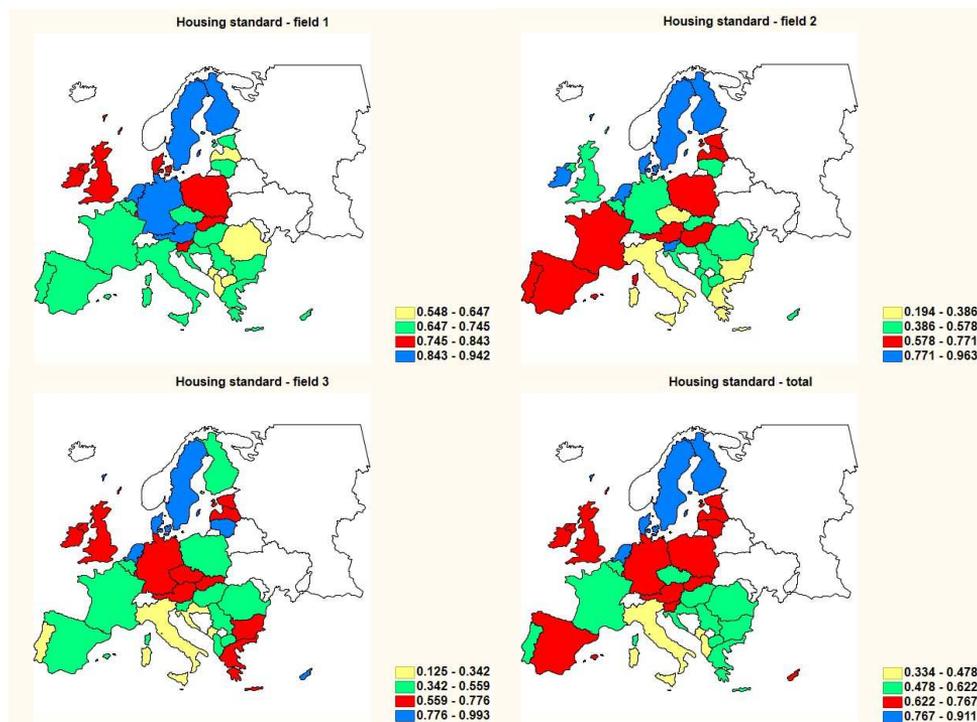


Figure 3. Division of European countries by standard of residency based on area and overall assessment – linear ordering

Source: own calculations based on data from EQLS 2016.

In principle, the classification of countries in Figure 4 also confirms previous conclusions. However, it is worth remembering that tree diagrams are the result of applying clustering of objects, i.e. they provide information about the similarity of individual countries and not about their ordering. In interpreting the composition of the groups, an attempt may be made to assign them a level of residency standard and to establish a hierarchy, although this is not the primary objective of clustering.

Taking into account Poland in the arrangement of all variables, it fell in the same group as Spain, then as France and then as Austria, Ireland, Slovenia and Finland. Analysing the classification of countries based on the three synthetic variables, Poland shows similarities to Spain, then Estonia and then to France and Hungary.

CONCLUSIONS

Undoubtedly, the issue of housing and social and economic policy in this area is an important and still topical research and practical issue. The question of how to shape the housing policy (in social and economic terms) in order to increase the level of satisfaction of the housing need, both in terms of quantity and quality, is still relevant. Unfortunately, there is no easy and unambiguous answer to this question. An overview of policies in EU

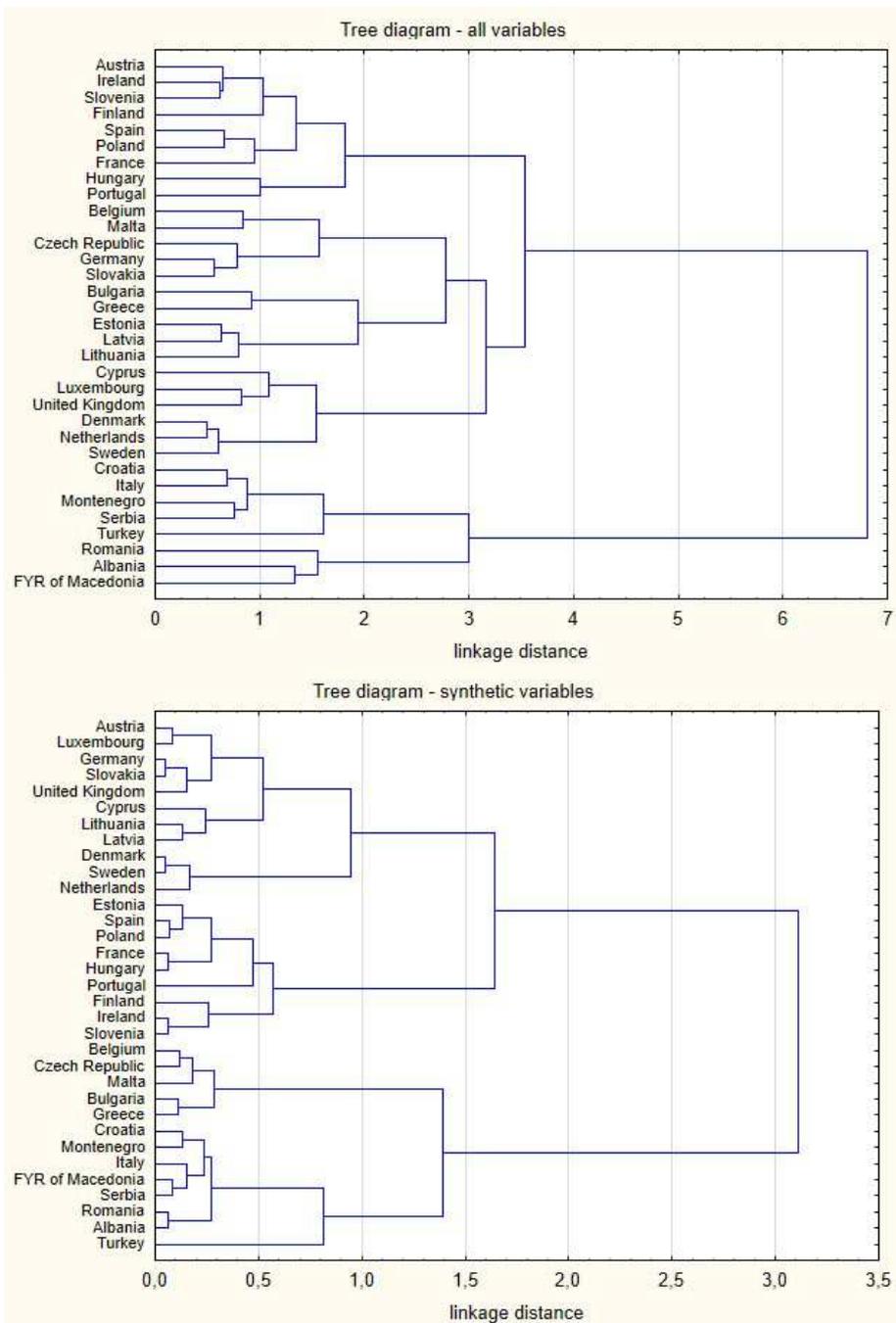


Figure 4. Division of European countries by standard of residency based on area and overall assessment – hierarchical clustering

Source: own calculations based on data from EQLS 2016.

countries shows that the solutions to the “housing problem” are sometimes very different and often linked to the financial capacity of the country over a given period of time. It is therefore difficult to compare the effectiveness of this policy in terms of specific solutions, which does not prevent final (overall) comparisons of its outcomes. It should also be remembered that these effects are the result of a number of more long-term and well thought-out as well as short-term and timely actions, which means that housing policy and its current effects should be viewed in the long term.

The results presented in the paper show – obviously, not in the full scope – the effects of housing policy in European countries, although it is worth remembering that the standard of residency is not just the result *sensu stricto* of the state housing policy. These results were based on a multidimensional approach to the assessment of the standard of residency. It undoubtedly has advantages over the use of single and numerically limited indicators of the housing situation. The advantage is that as much information as possible on this situation, covering both its quantitative and qualitative aspects, is taken into account. However, the problem is access to comparable data, access to data containing relevant information on the housing situation (relevant indicators) and methodological solutions concerning the construction of a synthetic variable and grouping of the countries surveyed. The researcher has to decide on the manner of aggregation of individual indicators (their selection, standardization, weighting, aggregation formula) and on the number of groups of countries or the threshold for their differentiation. Nevertheless, it seems that this approach sheds a different (perhaps new) light on the housing situation – here in terms of the standard of residency - in comparative research. The evidence is a much better assessment of the situation in Poland in relation to other countries than the one made on the basis of an index relating to the number of apartments or the number of rooms per specified number of persons.

Moreover, having individual data allows further research to monitor the standard of residency of social groups distinguished on the basis of specific socio-economic characteristics, which in turn will allow for comparison of the housing situation of these groups, both within a given country and between countries. To this end, it is possible to use, for example, a multidimensional approach to measuring the quality of housing based on the fuzzy set theory, widely used in research on the assessment of poverty risk.

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How do investors invest in crowd-investing? A qualitative study in Mexico

Enrique Wiencke, Pilar Madrazo-Lemarroy, Luz Estela Reyna

ABSTRACT

Objective: The purpose of this paper is to understand for the first time how inexperienced investors invest in high-risk new ventures in Mexico through a crowd-investing platform.

Research Design & Methods: The study follows a qualitative approach based on case studies. We developed our case study design from theoretical propositions which also guided the case study analysis. The in-depth interviews with investors revolved around investors' motives for investing and the way they evaluated investment opportunities in new ventures.

Findings: The study shows that novice investors in Mexico invest in crowd-investing not because of financial motivations but because they want to learn how to finance private companies and to live an exciting experience. In addition, their investment decisions are based on intuition to recognize the right people for the project and on their business experiences to assess the growth potential of the new venture.

Contribution & Value Added: To date, there is limited research on investors' behaviour in crowd-investing markets. This research presents academics and practitioners with valuable insights into factors that influence the decision-making process of crowd-investing investors.

Article type: research paper

Keywords: investment decisions; crowd-investing; equity crowdfunding; investor behaviour; business angels; fintech; Mexico

JEL codes: G21, G24, G32, K22, L26, M13

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INTRODUCTION

Mexico has a large and growing community of technology and software developers, the largest market outside of the U.S. for Techstars Startup Weekend, and close to 120,000 new engineers graduating every year. A productive breeding ground for start-ups, indeed.

Given that access to capital is one of the biggest obstacles Mexican entrepreneurs currently face, crowd-investing has the potential to create an entirely new capital market in Mexico to fund the growing number of innovative ventures.

Crowd-investing is becoming a popular funding mechanism for companies in the very early stages of development (Cholakova & Clarysse, 2015). It is a real phenomenon that is transforming the way new ventures raise capital (Angerer, Brem, Kraus, & Peter, 2017). This emerging entrepreneurial finance scheme supports firms that lack collaterals and financial history to access traditional sources of financing (Kim & De Moor, 2017). Firms with growth potential as opposed to lifestyle firms (Ibrahim, 2015). In particular, crowd-investing financing aims to finance innovative new ventures (Ibrahim, 2015), high-tech endeavours (Brown, Mawson, Rowe, & Mason, 2018), and knowledge-based firms (Wilson, Wright, & Kacer, 2018).

Crowd-investing is a design via online platforms that allows a large number of individuals to contribute with small amounts of money for fractions of ownership in recently created business (Ahlers, Cumming, Günther, & Schweizer, 2015; Brown *et al.*, 2018; Mochkabadi & Volkmann, 2018). New regulations on financial transactions online and the proliferation of crowd-investing platforms have attracted numerous investors to the new asset class. Although very unique in Mexico, it is a legal and viable alternative financing tool for founders. Many young and innovative ventures have risen capital in crowd-investing platforms. Estimates show that a large share of early-stage equity comes from online platforms (Cummings, Rawhouser, Vismara, & Hamilton, 2019; Kim & De Moor, 2017).

However, the method possesses its challenges. Crowd-investing is commonly related to high information asymmetries between founders and investors (Kleinert & Volkmann, 2019), ambiguity (Piva & Rossi-Lamastra, 2018), and high levels of uncertainty (Ibrahim, 2015). Under these circumstances, investors may decide not to invest because they cannot assess the quality of the investment opportunity. Thus, new ventures signal their value to investors to successfully raise money via a crowd-investing platform (Ahlers *et al.*, 2015). These signals are essential for investors for making investment decisions.

Additionally, crowd-investing investors are ill-informed and inexperienced investors (Estrin, Gozman, & Khavul, 2018). The immense majority of investors have no previous experience investing capital in private companies (Abrams, 2017). They have limited means too and do not have the time to discern low-quality firms from high-quality firms (Moritz, Block, & Lutz, 2015; Walthoff-Borm, Schwienbacher, & Vanacker, 2018). Thus, avoiding investing in low-quality or fraudulent start-ups becomes a challenge for crowd-investing investors. In this regard, the platforms' work of pre-selecting only high-quality new ventures is a necessary step for a successful crowd-investing. Platforms assure that new investments are real and no frauds and that they are attractive for investors (Angerer *et al.*, 2017).

Therefore, in a market with asymmetric information, inexperienced investors, intermediaries filtering high-quality investments, and new ventures signalling high-quality, we need to understand how investors evaluate investments. Our common goal of this crowd-investing research is to study how investors approach investments, find investment opportunities in platforms, and evaluate them.

The study follows a qualitative approach based on case studies. We developed our case study design from theoretical propositions which also guided the case study analysis.

We conducted case studies of crowd-investing investors in Mexico to examine the financing of new ventures. We analysed the data that emerged from the interviews to relate concepts to two research questions. First, why do investors invest in crowd-investing in Mexico? Second, how do these investors evaluate investment opportunities in new ventures? The result of the study shows that investors invest in crowd-investing because of non-financial reasons and that the evaluation of investments by these investors is instead more a subjective, informal, and emotional process. The rest of the document is structured as follows. We start with a literature review of the two research questions. We then describe the data gathered for the study and report about the case study framework used to analyse the data. Next, we present the results of the research and a discussion of the findings. Finally, we consider conclusions of the study, discuss practical implications of the findings, report limitations of the study, and suggest future research.

LITERATURE REVIEW

Following, we developed three sets of literature review related to investors investing in crowd-investing. In the first set of our literature review, we discuss the motives for investing in crowd-investing. We stress the great variety of investors investing in crowd-investing and highlight that their motivations to invest in crowd-investing are both financial and non-financial. The second set of our literature review addresses the evaluation process of investors in crowd-investing. We draw attention to the evaluation criteria that investors commonly take into account to make investment decisions of groups. Finally, the third set relates to third-party endorsements. We stress the importance of herding behaviour in crowd-investing investments.

Motivations for investing in crowd-investing

The characterization of investors in the literature is based on demographic characteristics such as age, gender, education level, work experience, income level, wealth, occupation, and geographic location (Daskalakis & Yue, 2017; Geiger & Oranburg, 2018; Hervé, Manthé, Sannajust, & Schwienbacher, 2017; Moysidou & Spaeth, 2016). There are also aspects of investors relative to investment decisions such as financial literacy, risk aversion, investing experience, entrepreneurial experience, and whether they are business angels (Niemand, Angerer, Thies, Kraus, & Hebenstreit, 2018). Lastly, there are features of investors related to their investment activity, such as the number of investments in crowd-investing, and the amount invested (Block, Hornuf, & Moritz, 2018; Hervé *et al.*, 2017; Horvát, Wachs, Wang, & Hannák, 2018).

This wide variety of investors have heterogenous motivations for investing in crowd-investing (Mollick & Robb, 2016). Although investors have a primary intrinsic motivation, they also hold other motives to invest. The widespread assumption is that financial returns drive investment decisions in crowd-investing, so investors are financially motivated (Cholakova & Clarysse, 2015). However, the literature identified a handful of non-financial motives as well, such as personal or social motivations. For example, investors invest in crowd-investing because they are passionate about particular ideas, products, innovations, and industries (Freedman & Nutting, 2015).

They also invest because they want to help others like entrepreneurs, family members, friends, vulnerable strata, and towns (Bruton, Khavul, Siegel, & Wright, 2015; Kim

& De Moor, 2017; Moritz *et al.*, 2015). Finally, investors invest in crowd-investing too because they want to network with start-up associations, to get recognition from active participation in the community, and to achieve reputational benefits (Abrams, 2017; Cumming, Vanacker, & Zahra, 2019; Cummings *et al.*, 2019). Despite all these motivations, according to (Cholakova & Clarysse, 2015), non-financial motivations play no significant role in the desire of investors to invest.

Investment evaluation criteria

Crowd-investing opens access to risky investment opportunities to non-professional investors with no experience investing in very early-stage investments. Still, they should evaluate the available investment opportunities, recognize the high risks of early-stage ventures, and protect themselves from those risks.

The existing literature on crowd-investing describes two opposite approaches used by crowd-investing investors for investing in new ventures: a formal one more in line with the way traditional investors such as business angels and venture capitalists invest in firms, and an informal one for first-time investors. Typically, traditional investors in crowd-investing focus on standard factors driving early-stage venture investments like the team, the product, the venture and the campaign (Estrin *et al.*, 2018). The non-traditional investors focus more on particular unidimensional factors (Estrin *et al.*, 2018).

Related to the team, investors consider factors such as previous founder's entrepreneurial experience, prior funding amount collected by founders, characteristics of the team driving the effort, and financial commitments by founders (Kleinert & Volkmann, 2019; Mochkabadi & Volkmann, 2018; Vismara, 2016a). Also, factors considered by investors related to the product are product innovation, product high-quality, technology, patents, and a developed prototype (Block *et al.*, 2018; Mochkabadi & Volkmann, 2018; Mollick, 2014).

Moreover, investors examine factors related to the venture such as its business model, the degree of development of the business, the type of venture, and external certifications like awards and grants (Angerer *et al.*, 2017; Block *et al.*, 2018). Finally, investors examine factors related to the campaign like the participation of leading and professional investors, the minimum investment amount and the equity offered, the funding goal, the campaign duration, and the number of investors investing in the venture (Geiger & Oranburg, 2018; Hervé *et al.*, 2017; Ralcheva & Roosenboom, 2018; Shafi & Sauermann, 2017; Wallmeroth, 2019).

Despite all these factors, Huang and Pearce (2015) note that emotional and social criteria may be more important to crowd-investing investors than financial returns. Emotions, intuition, and impulsiveness are considerations when investors evaluate the options before making an investment decision (Moysidou & Spaeth, 2016). The authors remark that decision making by investors is feeling-driven. Investors invest in crowd-investing when they trust their gut feeling rather than relying on a formal analysis (Huang & Pearce, 2015).

Third-party endorsement

To discern low-quality new ventures from high-quality new ventures in a complex environment, unacquainted investors rely on signals from trusted third-party endorsements (Mollick & Robb, 2016). Third-party endorsements alleviate information problems between founders and potential investors. These signals provide a venture with legitimacy and contribute to the funding success of the new venture. These outside endorsements can come from positive word-of-mouth from specialists in the field and media quotes (Mollick & Robb, 2016),

from trusted third parties such as family and friends (Agrawal, Catalini, & Goldfarb, 2014), and from winning a prestigious business award (Ralcheva & Roosenboom, 2018).

Without certification from third-party endorsements, the signals delivered by the crowd become essential (Vismara, 2016b). The wisdom of the crowd asserts that a large number of people with diverse sources of information, views, and expertise can attain better decisions than an individual (Ibrahim, 2015). Investors' pledges can be seen as endorsements as they reflect the investors' commitment towards the venture. To save efforts to process information from a particular investment, crowd-investing investors rely on others' decisions. This herding behaviour is a notable feature of crowd-investing markets (Colombo & Franzoni, 2015; Hornuf & Schwienbacher, 2016; Vismara, 2016b). The literature shows that investors are more inclined to invest in new ventures that have attained a higher percentage of their funding goal (Agrawal *et al.*, 2014). Investors also take into consideration the number of previous backers to make investment decisions. However, the literature does not determine whether herding is rational or not. Whether investors passively follow other choices ignoring the characteristics of the new venture or whether they arrived at the funding decision by analysing such characteristics

MATERIAL AND METHODS

We gather data mainly from investors investing in one of the two leading crowd-investing platforms in Mexico. The two platforms operate in the country using different business models. The platform taking part in this study is ArkAngeles headed by Mr Luis X. Barrios. We approached Mr. Barrios, who helped us get a representative cross-section of crowd-investing investors. Although the investors taking part in this study liked the leading-investor model, they also relate to other crowd-investing platforms. As of May 2019, the platform had 18 months of operation, had funded 37 new ventures, and had 175 active investors. The minimum size of the investment ticket in ArkAngeles is USD1,000.

We interviewed 25 participants who were the primary data sources. The participants in the study were 13 investors, all men, with ages from 22 years old to 50 years old. One of them was an international investor. Ten investors were active, and three were investors in the process of investing. We also interviewed the five members of the platform's top management team and seven backed founders to gain a richer understanding of the investment decisions process.

Interviews with participants were unstructured interviews. The idea of the meetings was to gather enough information to understand how investors get started in crowd-investing, find innovative new ventures to invest, and make investment decisions. The interviews were all carried out by the three authors in person using a video conferencing service to video-record interviews with participants. Participants were on their premises during the meetings. All interviews were confidential. We sent the recorded interviews to a third party for transcribing the audio of the discussions. The transcribed interviews resulted in close to 100,000 words. These texts were the data analysed by the three researchers.

The approach of the study was qualitative and relied on the case study framework (Eisenhardt, 1989; Eisenhardt & Graebner, 2007) to analyse the emerging data from the interviews. The general strategy of the study relied on theoretical propositions which led to research questions and a review of the literature. We started with research questions to identify evidence in the data to address these questions. Then, researchers searched

for patterns such as frequency of codes or codes combinations, insights, or concepts emerging from data to link them to the research questions. Finally, as we developed and tested the emerging ideas, we interpreted the findings by contrasting them with rival explanations identified in the literature review. The initial theoretical propositions were modified to reflect these findings. Researchers showed early versions of the document to participants to solicit their comments. The final version of the paper incorporates those comments from participants. Figure 1 shows the conduction of the research.

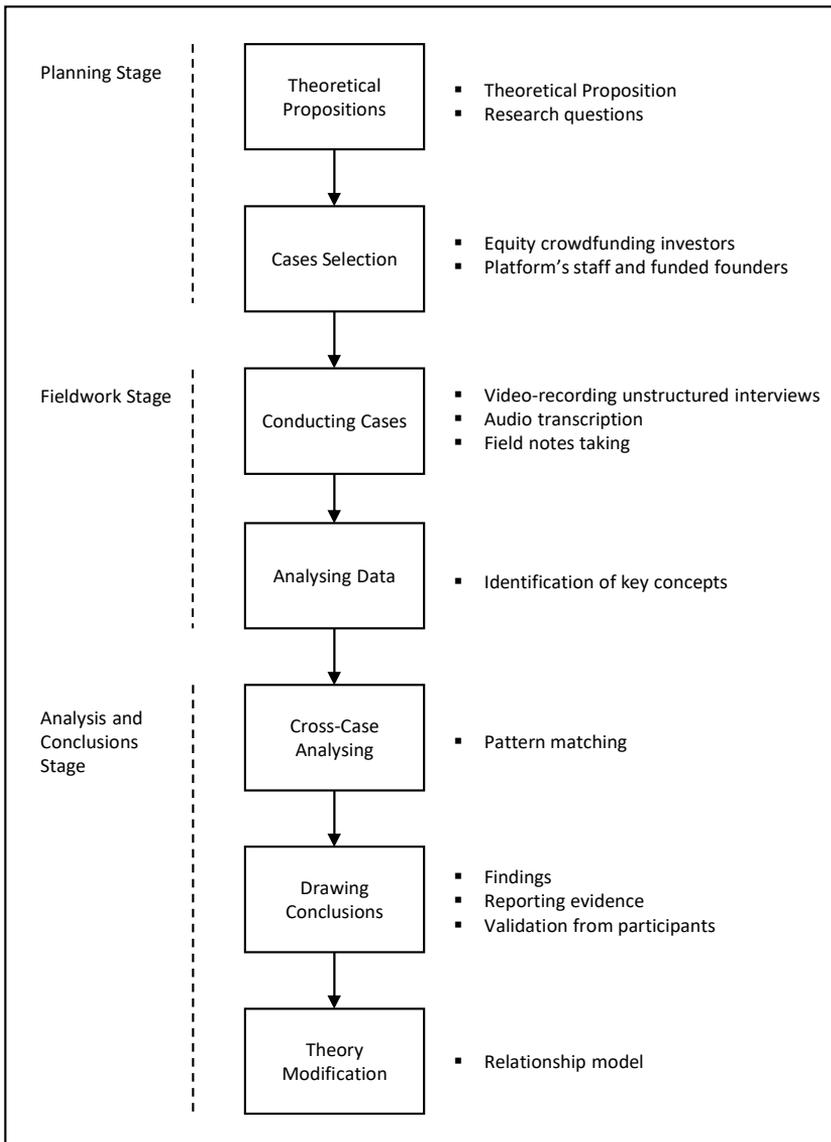


Figure 1. Conduction of research

Source: own elaboration.

RESULTS AND DISCUSSION

The relational model shown in Figure 2 summarizes the results of the study. Despite herding is cited to be a prominent feature of crowd-investing markets, we found no evidence that herding has an effect on investors investment decision. Third-party endorsement and its contribution to crowd-investing investments was rather referred to as a non-deal breaker. The variable third-party endorsement appears in the relational model with dotted lines reflecting the null contribution to investments. What follows is a discussion of these findings.

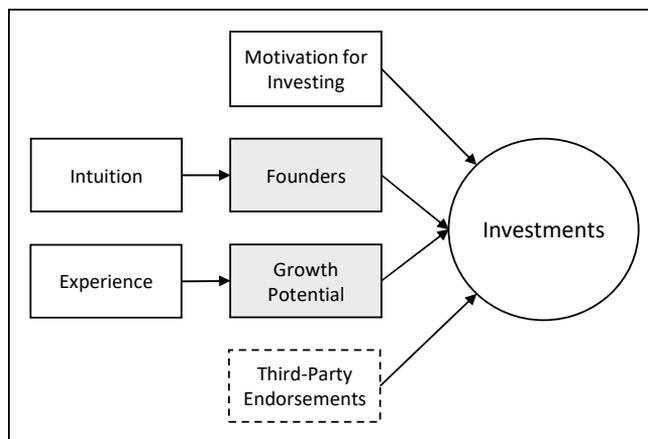


Figure 2. Relational model emerging from interviews

Source: own elaboration with data from participants.

Non-financial motives for investing in crowd-investing

Novice investors in Mexico invest in crowd-investing not because of financial motivations but because they want to learn how to fund private companies and to live an exciting experience.

Learning how to invest in new ventures

Investors want to invest in crowd-investing because they want to learn about the process of investing in new ventures. They are aware that crowd-investing is like a new major area of study which deserves gathering and examining information, and they want to learn by doing. For investors, it is a personal development thing to become a better investor in the future. They develop communications with other investors, platforms, and founders to learn from their experiences. Investors mainly use the information provided by crowd-investing platforms and the information conveyed through comments in social networks and attend crowd-investing events. They enjoy learning by actually investing in companies. They want to be able to assess the growth potential of projects better, and thus their quality. Learning is a significant incentive for investors to enter the crowd-investing market. An investor put it this way:

“For me investing is a learning opportunity, it is like attending an MBA program, it is great to be with people who are highly innovative, younger than me, who are doing things with much passion and with great technological knowledge.”

Literature does not address learning as the primary motive for investment. We believe that the newness of the market and the lack of financial evidence of the results of crowd-investing are the reason why other factors mentioned by scholars such as financial motivations are less relevant for the investors in their decision to participate in crowd-investing.

Living an exciting experience

Crowd-investing investors are more emotional than rational investors. The risk of investing in an innovative start-up is so high that if they were rational, they would not invest. For investors, investing in crowd-investing is emotional. Given that investors have low visibility of the fundamentals of the venture and that the success rate of an innovative venture is slim, investors know that they can lose all their money. Investors are captivated by the idea of doing something different and exciting, much more exciting than buying stocks. Their investment decisions are not premeditated, nor based on rules. Investors are excited about business ideas, the people trying to convert those ideas into big companies, new technologies, and the business potential to improve people's lives. Investors are excited to help foster innovation, and they want to be part of something bigger, of an effort that genuinely improves society with work and products. If investors are captivated by an investment opportunity, they will invest in the new venture. An investor highlights the excitement of investing as follows:

“Investors know that we can lose everything because the companies we fund are high-risk businesses. That is why it is more exciting to know that we are supporting founders with teams that are very passionate, very motivated, and very prepared. They will provide solutions to day-to-day problems of society, that otherwise, it would not happen.”

Previous studies highlight the role of excitement in crowd-investing investment decisions (Bretschneider & Leimeister, 2017; Cholakova & Clarysse, 2015; Daskalakis & Yue, 2017; Mollick, 2014). However, those studies do not consider excitement a primary motive for investing as opposed to the results of this study where the excitement of investing is one of the highest-rated drivers by investors. We believe that the small amount of money required to invest in a new venture makes investors approach investments more like a betting experience.

Evaluation of investment opportunities

Once investors trust investing in crowd-investing, they begin funding innovative new ventures. The results show that the two main criteria used by investors to evaluate investment opportunities are the people driving the effort and the new venture business potential. Business potential defined in this study as a combination of market size, differentiation, and accomplishments by the venture so far.

Founders assessment

Investors assess whether founders are the right people to grow the venture. They are aware that new ventures are a group of people with minimal resources who work the best way they can, relying on their expertise, their technical capacity, the money they have, their persistence, and their luck to turn an effort into a company. Investors agree that teamwork determines if a company is successful or not, so they want to know the

mix of the top management team, who the members are, what they do, for how long the team has been working together, and whether they are committed to growing the venture. They look after the right combination of people to assess that the founders will not collapse when facing a storm.

Investors want great teams to back the growth of new ventures, so when evaluating investments, they focus on what the teams have accomplished in the past. Smart, hard-working, and honest are important personal characteristics that investors look after in founders and their teams. They also seek for other traits of founders that are relevant such as vision, commitment, ambition, a hint of madness, and readiness to roll up their sleeves and do the hard work. Intuition referred by the interviewed investors as gut feeling, common sense, sixth-sense, act of faith, plays a crucial role to identify the right team. An investor highlights the importance of intuition in making an investment decision.

“Based on my professional experience, I can tell you that there is a subjective element, a feeling, which I think is difficult to express, that makes you think if a founder is going to make it. ... I met him, and I got a good impression of him. That, I think, was the subjective element that encouraged me to invest in his venture.”

The intuition of investors drives team assessment. The finding intuition in this study contrasts with the view that decision making is cognitive in which emphasis is on data and rationality (Moysidou & Spaeth, 2016). On the other hand, intuition is a trait used by business angels. In this regard, investment behaviour of crowd-investing investors looks like business angel's behaviour. We understand that investors are learning how to invest in new ventures, and thus, their decision-making process is mostly subjective.

Growth potential assessment

In addition to team assessment, investors consider the growth potential of the new ventures when evaluating investments. Interviewed investors identified three factors to assess growth potential namely the accomplishments of the new venture so far, the differentiation of its product or the degree of innovation, and the size of the market in which the new venture seeks to participate.

To assess the growth potential of an investment opportunity, investors are interested in what the new venture has accomplished. For example, whether the venture has already a final product and whether the venture has existing customers. The kind of accomplishments that can prove that the venture is not just an idea but a business model that might work and that there is a potential market for the product. Investors believe that financial indicators do not tell much about venture performance when dealing with recently created businesses, so they do not carry out any formal financial analysis on the project. An investor emphasizes the importance of accomplishments as follows:

“In the seed stage of a venture, the venture needs to prove that it has achieved some success already. These favourable outcomes of the venture will help the venture to have access to more money to grow that success.”

Moreover, when assessing growth potential, investors want to identify what differentiates the new venture from the existing ones. Crowd-investing investors look for innovative endeavours that have a competitive advantage in the market. Innovative endeavours that

have associated intellectual property protection. Investors look for those two-three characteristics that differentiate the venture from the rest so that the venture can adopt a winning positioning. The more original the solution to a big problem, the more attractive the venture will be for the investor. Concerning differentiation, an investor shares the following comment:

“So, the idea sounded fantastic, but several companies were doing the same thing or something very similar. It was not possible to distinguish what the differentiating factors of the company were. The moment I realized the offer was a copy of an existing solution, I ignored the investment.”

Finally, investors seek big markets which could allow ventures to grow and become big companies. Investors try to validate whether there is a problem to solve, the nature of the problem the venture wants to solve, and the significance and relevance of the market need. The more the population affected by the problem and the more painful the problem, the larger the potential market for the venture. An investor accentuates how important is the size of the market the venture is trying to serve:

“For example, for this bracelet project there are 10 million blind people in the United States, and there are 25 million in Europe that makes 35 million people with the possibility of buying the bracelet for US\$299. So, we have a market size of US\$10.5 billion in these two regions alone. When we consider more regions, we could reach 285 million blind people in the world. The market and the possibility to grow are big.”

The growth potential assessment of investors resulted in a simple decision process based on the three factors described above. However, investors relied on their working experience for making this assessment. The investor’s experience in a particular business domain allows the investor to see beyond the proposed investment to choose the right new venture. This implies that for people with no working experience may be difficult to assess the growth potential of a venture. Also, there is here again an analogy with the way business angels make investment decisions and the way crowd-investing investors invest. Business angels rely on their experience to make investment decisions (Mochkabadi & Volkmann, 2018). Given these experiences, we argue that investors can identify high-quality investments regardless of their lack of investing experience in crowd-investing.

CONCLUSIONS

Understanding investor behaviour in a nascent market is essential for its success; however, there is little research on investor behaviour in crowd-investing. This research explored investor motives and uncovered the factors that influence the evaluation process of investors – two steps to encourage a detailed understanding of investor behaviour in a crowd-investing context. The interviews revealed that investors’ motives for investing are non-financial, namely their desired to learn how to fund private companies and to live an exciting experience. However, contrary to the majority of research describing a more rational, formal, and objective evaluation process, interviewed investors described an informal, emotional, and subjective decision-making process based on their experiences and their intuition. We believe that to the extent that investors in crowd-investing learn to invest in private companies,

to that extent, they will rely more on cognitive factors described in the literature. They will move away from an intuitive decision process and closer to a rational one.

We think that our paper carries significant implications for practice and policy. First, founders need to provide signals to investors so that investors can assess the founders' fit to the business they are promoting. Ideally, the founders need to meet with investors to probe they are suitable for the task. Second, founders need to make available information to investors for assessing the growth potential of the new venture. These signals and information will increase the founders' probability to get funded. Third, platforms should also help investors make investment decisions by presenting information on founders and their teams and on the markets where the promoted ventures participate. Lastly, policy makers should consider policies aimed at helping potential investors to learn the ropes of investing in crowd-investing. The outcome of this education is to increase the number of knowledgeable investors investing in innovative new ventures, which stimulates the growth of new ventures looking for crowd-investing.

Crowd-investing is still in its infancy in both research and practice, which induces some limitations to this study. Most notably, the research pertains to the Mexican market only and the institutional and temporal circumstances in which we conducted the study. The market is new, few potential investors are aware of its existence, and relatively few ventures have received support from investors. Despite the newness of the market, we believe that the timing of our research allowed us to carry it out smoothly because of the availability of the participants and their genuine interest in promoting the crowd-investing market in Mexico. Second, despite there are two leading crowd-investing in the country with two different business models, we focus on one platform. We chose the one that desired to involve the academy in the study of crowd-investing in Mexico. Finally, the methodological aspects associated with our qualitative research limited our findings, mainly from the determination and size of the sample. The sample size was relatively small. Although the size was enough for case replications, our results would be more meaningful with a larger sample size. Also, the exploratory nature of this research introduces subjectivity in the analysis of data from the sample. However, to minimize subjectivity in the identification of themes, we based the classification of the relevant contributions of the participants on the collective understanding of the three researchers.

The limitations of this study provide directions for further research. First, a promising avenue for future research is to analyse whether our findings are generalizable to other crowd-investing platforms in the country and other countries with similar circumstances. Second, given that the literature on this topic is minimal, further research should attempt to quantify the drivers of investing in crowd-investing based on the relational model emerged from this study. Finally, given the contradictory findings of the paper concerning existing research studies, further work is needed to better understand the role of the crowd in the decision-making process of investors.

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Appendix A: List of Questions that Guided the Interviews with Participants

1. What motivated you to invest in crowd-investing?
2. How did you find out about crowd-investing?
3. How did you approach investing in crowd-investing?
4. Why did you choose to invest in ArkAngeles?
5. How do you differentiate between good quality investments and “lemon” investments?
6. What specific selection criteria do you use to invest in a new venture?
7. What can you tell us about your investments?

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Leadership and the role of women in the success of logistics companies

Katarzyna Kolasińska-Morawska, Łukasz Sułkowski, Marta Brzozowska

ABSTRACT

Objective: The objective of this article is discussing the role and importance of women's leadership qualities in shaping the business success of firms in the logistics industry.

Research Design & Methods: Research was divided into two steps. Data was collected from both primary and secondary sources. Authors used monographic methods, along with an evaluation of documents in terms of their publication usefulness. In the next step, data was collected from primary sources: women working in the logistics industry as managers or managing their own firms – the technique applied was based on individual in-depth interviews, as well as employees of logistics companies led by women – the technique applied was direct questionnaires.

Findings: As the conducted research shows, the growing authority of women in the logistics industry results from their having the fundamental qualities and competences that should characterize an effective leader. In addition, some personality traits characteristic of women proves to be extremely useful in the multi-stimuli corporate environment. Therefore, women are perfectly capable of managing logistics.

Contribution & Value Added: According to the authors' recommendations, the study should be expanded to include a larger group of respondents. Moreover, there should be included companies from different parts of the world. In addition, the next step should consider the socio-cultural conditions of the firm's country of origin.

Article type: research paper

Keywords: Leadership; success in business; logistics; empower; womanager

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INTRODUCTION

As trends in social and economic environment that form the outside of an organization inertly influence its inside, interactiveness and interdependence between a firm and its

environment become particularly strong. Currently, globalization, internationalization, technologization, computerization and customization result in a decision-making individual being confronted with new challenges. The world has shrunk. The pressure to work faster is a phenomenon that has arisen the demand for information and knowledge is almost limitless. As a result, intellectual capital becomes the most valuable resource, which is often strongly correlated with a firm's market success. Thus, reputation, guidance and leadership gain a new aspect, especially in terms of the structure of the members who co-create and manage organizations.

This article is aimed at discussing the role and importance of women's leadership qualities in shaping the business success of firms in the logistics industry.

To achieve the said aim, the authors had to specify areas of consideration. In accordance with the adopted research procedure, the following questions were put forward: What is leadership as understood in literature on the subject? Can success be defined unambiguously? Is there any relationship between leadership and the business success of firms? What is the role of women in the modern economy? How important are such factors as personality, the system of values, cultural patterns and education on a women's path to become a success-oriented leader? What is the current position of female leaders in the logistics industry?

MATERIAL AND METHODS

To reach their set goal, the authors of this article had to find answers to the above questions. Thus, the authors had to apply a multi-component research methodology that involved a specific type of reasoning, based on analysis, synthesis and inference arising from deduction in accordance with the laws of logic. They started their research by collecting information both from secondary sources, including available printed and digital sources, and from primary sources: women working in the logistics industry as managers or managing their own firms, as well as employees of logistics companies led by women. In the research analysis of secondary sources, monographic methods were applied, along with an evaluation of documents in terms of their publication usefulness. The content of the selected publications was analysed using the technique of semantic analysis of the co-occurrence of terms. The material obtained from secondary sources was supplemented with that from primary sources. In cases of women working in the logistics industry as managers or managing their own firms, the technique applied was based on individual in-depth interviews, and in cases of employees of logistics companies led by women, direct questionnaires were used.

LITERATURE REVIEW AND THEORY DEVELOPMENT

The modern economic and social development of countries and individual business entities depends on many different factors. One of them is leadership. Its importance is because the changing environment promotes those who are characterized by their creativity, flexibility, willingness to face new challenges, optimism, focus on constant self-improvement and an ability to gather around themselves other people eager to pursue their visions. In every organization, the presence of successful leaders exerts a significant influence on its effectiveness and efficiency. Leaders motivate, support and inspire.

Historical theories of leadership place emphasis on its various aspects. According to trait theories, some people are born leaders, which can be determined by quantification of their personality traits and attributes (social, physical and intellectual ones). Behavioural theories, on the other hand, referred to quantification of behavioural patterns, with the basic assumption that people can be taught specific behaviours, and thus possibly trained to become leaders. Finally, there is a group of situational theories which suggest that leadership behaviours are situation-dependent, i.e. it is possible to identify a group of situational factors that favour such behaviours (Griffin, 2004).

Modern theories, in addition to historical views, also consider an additional aspect that characterizes leadership: “leaders inspire others with their words, concepts and behaviours” (Robbins, 2012). These are transformational and charismatic leadership theories. Transformational leadership theory refers to the motivational aspect, with emphasis on the importance of inspiration, creativity and innovativeness – qualities that leaders should possess to make their subordinates believe that the goals of the organization are important to them personally. Charismatic leadership theory, on the other hand, refers to charisma, or to a group of such personality traits such as optimism, enthusiasm, communicativeness, relationality, unconventionality, courage and sensitivity to the needs of other people, which allow a leader to influence others. Also, strategies engaged in the construction of leadership in three different yet apparently interrelated domains of public life and public policy, political communication, management/business discourse, and academic communication are considered as very important (Lehman, Sułkowski & Cap, 2019). Another perspective of women’s leadership is gender diversity. Authors explore this subject in academia context. Starting from thesis that there is large disproportion in the number of highest power positions in between men and women in academia they came to conclusion that such model is more related to public universities but not private universities where both men and women are treated equally (Sułkowski, Bogacz-Wojtanowska & Wrona, 2019). Also, other authors confirm that institutions of higher education are in nations with their own specific historical, cultural, social, economic, legal and political legacies that render comparisons difficult (Fitzgerald, 2014). When examining, analysing and evaluating female and male leaders, gender operates as first series of prisms (Klenke, 2004). In that context the nation can ill afford to exclude so many talented women from positions of influence, particularly given the growing body of evidence suggesting that women bring distinctive strengths to these roles (Rhode, 2017; Waters-Sobkowiak, Kowalski & Smits, 2018). Moreover, authors in (Stober-Walker & Haber-Curran, 2017) express that equality for women and girls is sorely needed in today’s world and they believe that theorizing in this domain has the power to positively impact the future. But still there is a lot of resistance to women’s leadership. In the language of psychologists, the clash is between two set of associations: communal and agentic. Women are associated with communal qualities, which convey a concern for the compassionate treatment of others while agentic traits are associated in most people’s minds with effective leadership perhaps because of long history of male domination of leadership roles (Ibarra & Tannen, 2018). Also, socially people are getting increasingly accustomed to seeing women in management and leadership positions. However, because of many men and women’s early social conditioning, some simply cannot get used to the idea of woman as a credible leader in the workplace (Rezvani, 2009). Ultimately, women who seek top management positions must weed

through culturally formed stereotypes and at the same time avoid crossing culturally generated barriers (Belasen, 2012). According to Fabiańska (2016) the next generation of women is characterised by great openness to changes and willingness to take risks.

Perhaps solution is an emotional agility? Emotional agility is a four-step approach that allows women to navigate life's twists and turns with self-acceptance, clear-sightedness, and an open mind. No matter how intelligent, resilient, or creative people are, when they ignore how situations or interactions make them feel, they miss opportunities to gain insight, getting hooked by thoughts, emotions, and habits that prevent them from reaching their full potential (David, 2016). Also, success in business is very important factor. Success means making meaningful work that promotes inclusivity and community (Bonney, 2016). The strategies for success that fallow is about doing things differently. The status quo has been left alone for too long now and it is time for change. There is fundamental shift in the way most businesses work. It is time that businesses looked after their talented women employees to ensure that they reap the returns that this will deliver in terms of loyalty, experience and success (Unerman & Jakob, 2016). Finally, the shortfall of women willing and can enter political leadership presents a double bind for increasing the numbers (O'Connor, 2010).

Thus, leadership is the art of leading people where they would not be able to go on their own (Owen, 2003). Leadership is an ability to influence a group to pursue a vision or a set of goals (Robbins, 2012). Leadership involves encouraging and inspiring people and teams to do their best to reach the desired result (Armstrong, 1997). Leadership can be perceived as an ability to engage others in the process of reaching a goal as part of a larger system or environment. In addition, the nature of leadership is never uniform (Kędziora, Piotrowicz & Kolasińska-Morawska, 2018). We can identify formal, granted leadership and non-formal leadership, leadership that is people-oriented and the one that is task-oriented, traditional leadership of a legal and rational character, and charismatic leadership based on extraordinariness and exceptionality. In addition, we can distinguish between autocratic and democratic-liberal leadership and overt and covert leadership.

From the etymological perspective, 'success' means both a venture and its positive result. Some related terms are positive result, favourable outcome, prosperousness, prosperity, achievement, accomplishment, feat, coup, victory, win and triumph (Kolasińska-Morawska, 2014). It is difficult to propose a single definition of success that would encompass all its aspects, as – to paraphrase W. Clement Stone – “the core of one's success is his or her underlying philosophy.” In other words, there are as many definitions of success as there are those who try to define it. Each man or woman who undertakes various tasks sets some goals for himself or herself – specific points in time and space that they want to achieve. These achievements are then marked out as successes or failures.

A successful individual is a person who feels happy and fulfilled. Indeed, a well-balanced individual can achieve success in every field and derive satisfaction from it. By way of analogy, that definition of success can be also applied to a company, where fixed assets represent the body, relationships – both intra-corporate and those between the company and its environment – represent emotions, employees' knowledge and corporate know-how represent the intellect, and corporate values represent the spirit. People of success are admired. Many would like to trade places with them. The force that makes them pursue their success is largely connected with motivation. Highly motivated people can push

limits and go beyond themselves to accomplish much more than they had planned (Nkwocha, 2013). In this context, motivation is of crucial importance as a process occurring in human consciousness and resulting in a desire to do something, i.e. a motive. However, for such a motive to be shaped, specific conditions must be met. First, there must be a need, a feeling that something is missing. Second, the need must be important. Third, an individual must see an opportunity to satisfy that need. The need associated with the craving for success refers to overcoming obstacles when performing difficult tasks, with maximum use of one’s own assets in a specific field. In addition to an analysis from the angle of negative pressure, subject literature also discusses the need for success in the context of achievements (McClelland, 1961). It arises from people’s manifestations of values that have been instilled in them their whole lives. In such a case, motivation is additionally strengthened by rising to challenges that allow an individual to push his or her limits. High self-esteem is also an important factor. In addition, it should be remembered that the motivation to reach set goals can be shaped by an appropriate educational system. Thus, we are not born people of success. We become them.

As the general women’s activation trend shows, increasingly more women undertake studies, which makes them better educated than men (Figure 1). As per the Eurostat report, in 2016, the estimated total percentage of female students in EU-28 countries was 54.1%. The percentage of women was a little higher in cases of master’s students (57.1%) and a little lower in cases of bachelor’s students (53.2%) and participants of short-cycle programmes (52.1%).

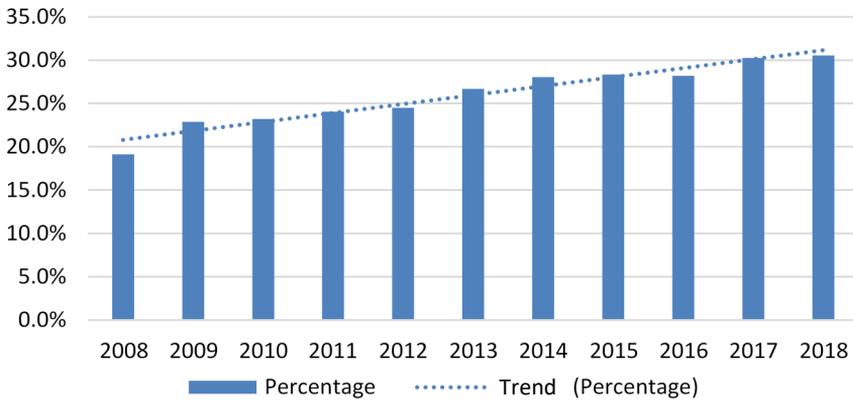


Figure 1. Dynamics of growth in the number of women studying logistics at the University of Social Sciences in the period 2008-2018

Source: data from the POL-on system per October 31.

In Poland, an increasing number of women take up studies in various fields, including logistics. One case in point is the University of Social Sciences in Łódź where the percentage of female logistics students is growing by the year (when analysing the data from the recent decade, the increase amounts to slightly over 10.0% in the period from 2008 to 2018). Women complete studies to improve their qualifications, which makes it easier for them to find employment in logistics. Now, meeting a female semi-trailer truck, bus or railway engine driver, forklift truck operator, storekeeper or quality controller is no longer

as surprising as it used to be. Women feel perfectly comfortable in the so-far male-dominated world of logistics. They have appropriate knowledge and skills, and when this is not enough to do the job, their sensitivity and empathy prove invaluable.

Leadership qualities differ from managing competences and are particularly highly valued in logistics where teamwork is the dominant model. Literature about this provides many examples of research into leadership qualities. Rossiter names such qualities as innovativeness, respect for others, politeness and sensitivity (Rossiter, 2014). She also points out the fact that leaders function well in a team, demonstrating creativity and willingness to communicate with other team members, which makes them trustworthy, and they are also well-organized. One leadership quality that is much discussed today is empowerment. Sashkin (2018) proposes a scale to measure leadership qualities. The researcher identifies the following leadership indicators: skilful management; recognizing the potential; leadership communication; reliable, caring, trusted, follower-focused, visionary, culture-building leadership.

In the case of logistics, leadership qualities can result from the specific character of this industry. Subject literature divides logistics management skills into several categories (Gibson, Gibson & Rutner, 1998). Emphasis is put on orientation towards people in the context of leadership, but also with reference to teamwork or conflict management. However, it should be noted that research by Murphy and Poist (2007) suggests that managing competences are still considered the most important, while knowledge and logistics experience come second.

RESULTS AND DISCUSSION

Primary material was collected from two research samples: female managers or owners of logistics firms and employees of such firms. In cases of women working in the logistics industry as managers or managing their own firms, the technique applied was based on individual in-depth interviews, and in the case of employees of logistics companies led (i.e. owned or managed) by women, direct questionnaires were used. The first research sample consisted of 20 women selected with the use of a non-random typical case snowball sampling method, applying the criterion of at least 2 years of experience as a logistics manager. The second research sample consisted of 924 employees selected with the use of a quota sampling method, applying the criteria of at least 2 years of experience as an employee in a logistics company and functioning within the structures of a firm owned or managed by a woman being the respondent's superior. We should start by presenting main issues raised by the female owners or managers of logistics firms participating in the research.

After the research, the original data obtained from the interview was counted and analyzed for existing common threads in the statements of the study participants. In turn, the material obtained from a direct survey of employees of logistics companies was subjected to formal and substantive verification. Then, the collected material, after coding the data in accordance with the adopted coding system, was transferred to aggregate information sheets using the Microsoft Excel and SPSS tool (Statistical Package for the Social Sciences) programs to process and analyze the data. Firstly, the distribution was analyzed using descriptive statistics methods. In the second step, where there was justification, an attempt was made to determine the possibility of relationships between selected variables, using cross-combinations and determining the boundary

values. The basis for examining the relationship between features was the table of independence (contingencies), which was used to order at least two features at the same time. This table consisted of r rows and s columns, with each row (column) corresponding to variants of the X (Y) feature. The interior of the contingency table consists of the numbers n_{ij} of those elements of the sample that have the i -th variant of the feature X ($i=1,2, \dots, r$) and the j -th variant of the feature Y ($j=1,2, \dots, s$). Contingency tables allowed to verify partial hypotheses about the existence of stochastic independence between X and Y variables. χ^2 statistics were used to verify the H_0 hypothesis about stochastic independence of variables. They use the methodology for testing hypotheses about the statistical significance of the relationship between variables using the SPSS computer program, the value of statistics and significance levels for selected pairs of variables were determined. The verification of the statistical significance of the observed dependencies of individual variables consisted in checking whether for the value of the chi-square statistics of a given pair of analyzed variables, the value of the parameter of asymptotic significance is less than 0.05. If so, the observed relationship between variables could be considered statistically significant. The results obtained from the analysis of empirical material were the basis for verifying the truth of the hypotheses of the study on the existence of possible relationships.

Female owners and managers of logistics companies about female leaders

Most of the research participants declare that they have been working as managers for 5 to 10 years (50.0%) or more than 10 years. They represent medium-sized firms employing 50 to 250 people (40%) or more than 250 people (40%). They also declare that currently, they manage teams of 50 people (30%), 50 to 250 people (40%) or more than 250 people (30%). Most of them are aged 31-45 years (60%) or over 45 years (30%). In terms of their education, they hold academic degrees, usually MSc or MBA (60%).

As regards the sex of a leader, our female respondents claimed that it is completely irrelevant to them. What is important is the person's knowledge, skills and attitude to his or her colleagues. A potential head of a company should demonstrate not only pragmatic knowledge in the firm's area of activity, but also have a good understanding of economics and psychology. He or she should be resolute, as well as patient and capable of staying calm. A leader should be able to listen, encourage dialogue and have experience in conflict resolution.

In reference to the issue of a leader's sex, the female respondents pointed out that women, in order to be appreciated as managers, should be professional in everything they do and come up with original ideas. According to the respondents, women "should avoid revealing excessive emotions at work, including bringing events or emotions from their personal lives into the professional sphere." Companies that enjoy success under 'womangement' owe it to the determination, professionalism, commitment, empathy, creativity and diligence of their female leaders. According to the research participants, "women analyse, organize and plan more easily and quickly, they think long-term and specify the conditions realistically, instead of fooling themselves. Therefore, they are more effective than men." They are characterized by their non-standard approach to solving problems.

Employees of logistics companies about female leaders

Having analysed the results of research with the participation of female owners or managers of logistics companies, we should now consider the opinions of employees functioning within the structures of such companies.

In this research sample, the dominant group are women (69.9%), while men are in the minority (30.1%). Over a half of the respondents (56.5%) are aged 31-45 years, and one in three is a representative of the under-30 age group (29.1%). According to the declarations, almost half of the research participants have secondary education (44.9%), one in three holds a bachelor's degree (35.7%), and one in seven completed master's or doctoral studies (15.9%). Most of the participants declare that they work within the structures of companies employing more than 50 people (41.3%) or more than 250 people (39.0%). Over a half of the respondents are line or middle-ranking employees (57.0%). The sample is dominated by people from Poland (42.6%) and the UK (28.4%). Other research participants come from Germany (6%), Spain (5.8%), Italy (4.9%), Croatia (4.1%), Greece (3.0%), France (2.6%) and the Czech Republic (1.8%).

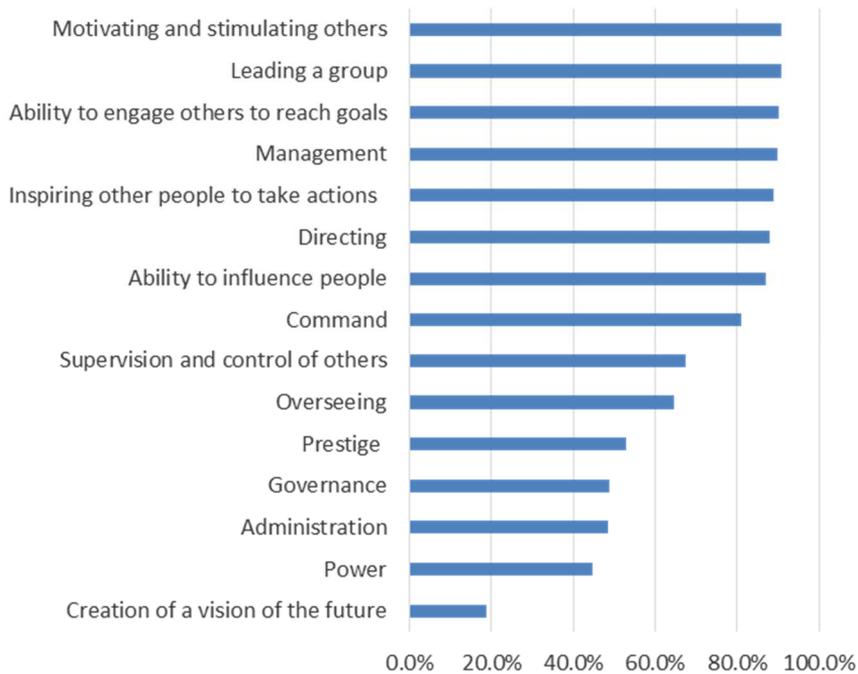


Figure 2. Leadership

Source: Results of a study carried out as part of the "Female Face of Logistics" research programme – May 2019.

According to research participants, leadership definitely means leading a group of people (90.7%), motivating and stimulating others to take specific actions (90.7%), the

ability to engage others in the process (90.0%), management (89.8%), inspiring other people to take actions (88.7%), directing (88.1%), the ability to influence other people (87.0%) and command (81.0%). Slightly fewer respondents believe that leadership is based on supervision and control of others (67.3%), overseeing (64.5%) and prestige (53.0%). By comparing the variants of the definition of the definition of the term success with the size of the company in which the respondents work, it can be concluded that there is a relationship between the recognition of success understood as conduction (the value $\chi^2 = 5.676$ is statistically significant and the existing relationship is strong $p > 0.5$), stimulating and stimulating motivation to act (value $\chi^2 = 4.872$ is statistically significant, although the existing relationship is weak $p < 0.05$), the ability to involve others in the process (value $\chi^2 = 10.335$ is statistically significant, although the existing relationship is weak $p < 0.05$), management (value $\chi^2 = 5.521$ is statistically significant, although the existing relationship is weak $p < 0.05$), managing (value $\chi^2 = 5.676$ is statistically significant and the existing relationship is strong $p > 0.5$), the ability to influence other people (value $\chi^2 = 6,376$ is statistically significant, although the existing relationship is weak $p < 0.05$) and command (value $\chi^2 = 0.357$ is statistically negligible, but the existing relationship is strong $p > 0.5$).

Table 1. Qualities, skills and competences that are “definitely” necessary for a leader to lead a group of people (n = 924)

Leadership qualities		Leadership skills		Leadership competences	
	Definitely yes		Definitely yes		Definitely yes
Communicativeness	88.3%	Communication skills	82.9%	Managing emergency and conflict situations	71.2%
Authenticity	73.4%	Responsibility	82.5%	Ensuring good information flow within the team	70.1%
Courage	70.6%	Creativity	80.7%	Constant self-development	69.9%
Diligence	67.1%	Trustworthiness	75.3%	Leading and taking care of the team	69.7%
Self-awareness	62.6%	Self-discipline	72.1%	Establishing and keeping good relationships within the team	67.3%
Openness	62.3%	Matter-of-factness	70.1%	Supporting other team members in their development	65.6%
Frankness	60.2%	Innovativeness	69.7%	Having essential knowledge in a specific field	64.7%
Relationality	56.1%	Consistency	69.7%	Supporting employees' initiatives concerning innovations	63.4%
Enthusiasm	55.4%	Reliability	68.0%	Orientation to reaching long-term goals	60.6%
Optimism	50.2%	Assertiveness	65.6%	Initiating events and processes	59.1%
Curiosity	32.3%	Business-likeness	65.2%	Orientation to constant changes	39.8%
–	–	Resoluteness	63.0%	Having appropriate education	25.1%
–	–	Meticulousness	62.1%	–	–
–	–	Self-control	61.5%	–	–

Source: Results of a study carried out as part of the “Female Face of Logistics” research programme – May 2019.

In addition, identifying the term success with the concept of management (the value $\chi^2 = 2.088$ is statistically significant, although the existing relationship is weak $p < 0.05$), inspiring other people to act (the value $\chi^2 = 2.244$ is statistically significant, although the existing relationship is weak $p < 0.05$), prestige (value $\chi^2 = 5,208$ is statistically significant, although the existing relationship is weak $p < 0.05$) and administration (value $\chi^2 = 6.428$ is statistically significant, although the existing relationship is weak $p < 0.05$).

Most respondents believe that firms need leaders (96.5%). In their opinion, a leader should possess such **qualities** as communicativeness (88.3%), authenticity (73.4%) and courage (70.6%). In addition, leaders should be characterized by their diligence (67.1%), self-awareness (62.6%), openness (62.3%), frankness (60.2%), relationality (56.1%) and enthusiasm (55.4%). The most desirable **skills** mentioned by the respondents are communication skills (82.9%), responsibility (82.0%), creativity (80.7%), trustworthiness (75.3%), self-discipline (72.1%) and matter-of-factness (70.1%). A good leader should also be innovative (69.7%), consistent (69.7%), reliable (68.0%), assertive (65.6%), business-like (65.2%), resolute (63.0%), meticulous (62.1%) and self-controlled (61.5%). As regards **competences**, the most desirable include managing emergency and conflict situations (71.2%), ensuring good information flow within the team (70.1%), constant self-development (69.9%) and leading and taking care of the team (69.7%).

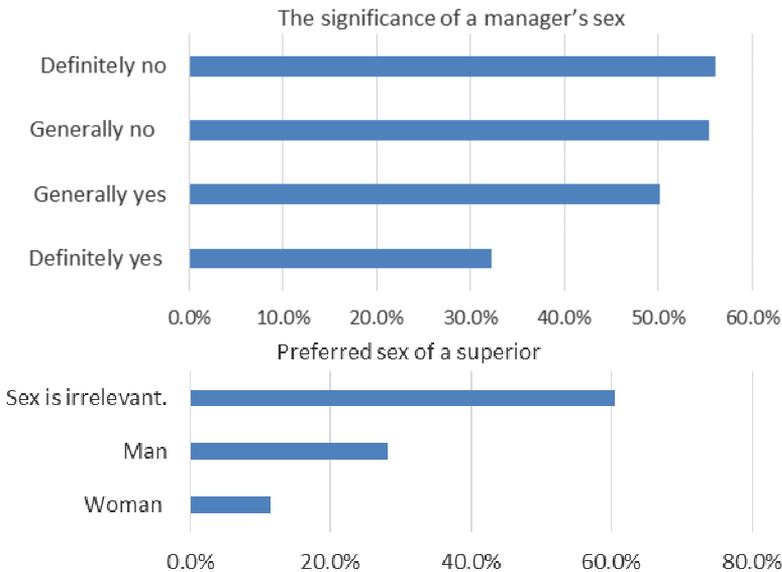


Figure 3. Manager vs. sex – does a manager's sex make a difference? (n = 924)

Source: Results of a study carried out as part of the "Female Face of Logistics" research programme – May 2019.

In addition, according to the respondents, an effective leader should establish and maintain good relationships within the team (67.3%), support other team members in their development (65.6%), have essential knowledge of a specific field (64.7%), support employees' initiatives concerning innovations (63.4%) and be oriented towards reaching long-term goals.

In answer to the question: “Does a manager’s sex make a great difference?”, most of the respondents answered, “definitely no” (40.69%) or “generally no” (43.29%). Only a small group of research participants believes that sex or generally makes a difference (6.49% and 9.52%, respectively). This is reflected by the answers to the question: “If you were given a choice, would you prefer your superior to be a woman or a man?”. Most of the participants answered that they consider their manager’s sex irrelevant (60.4%), whereas one in three respondents would prefer a male superior (28.1%) and only one in ten would rather be subordinate to a woman (11.5%). This state confirms the existence of a relationship between variables that mean the significance of the manager’s supervisor in the context of the size of the company (the value of $\chi^2 = 37.509$ is statistically significant, although the existing relationship is weak $p < 0.05$), which means that the larger the firm, the more often gender is important, although this is not always important. In contrast, comparing the gender of the superior with the respondent’s country, we get a significant interesting relationship (value $\chi^2 = 37.351$, although a weak $p < 0.05$). So more often in countries such as Great Britain, Germany and Poland superior’s gender has more important than in the case of countries such as Spain, Italy, Greece, Croatia and the Czech Republic.

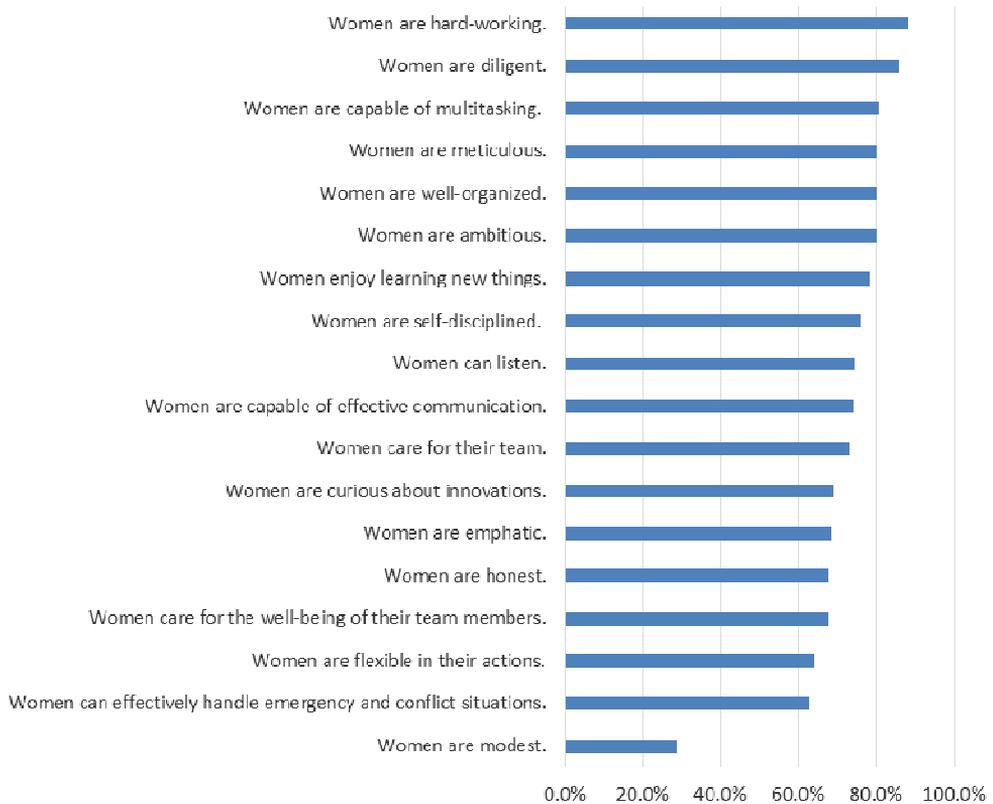


Figure 4. Factors contributing to the effectiveness of female leaders, that influence the results achieved by women-led companies, rated 4 or 5 per 5 (n = 924)

Source: Results of a study carried out as part of the “Female Face of Logistics” – May 2019.

However, women working in logistics, also face many adversities. According to the respondents, these are “definitely” or “generally” the male reluctance to work with women and a fear of strong women (81.0%), career affecting personal life (67.1%), the need to constantly prove something to somebody (66.5%) and underestimating own successes (61.9%). Other significant factors include excessive perfectionism (56.3%) uncertainty and lack of self-esteem (53.0%).

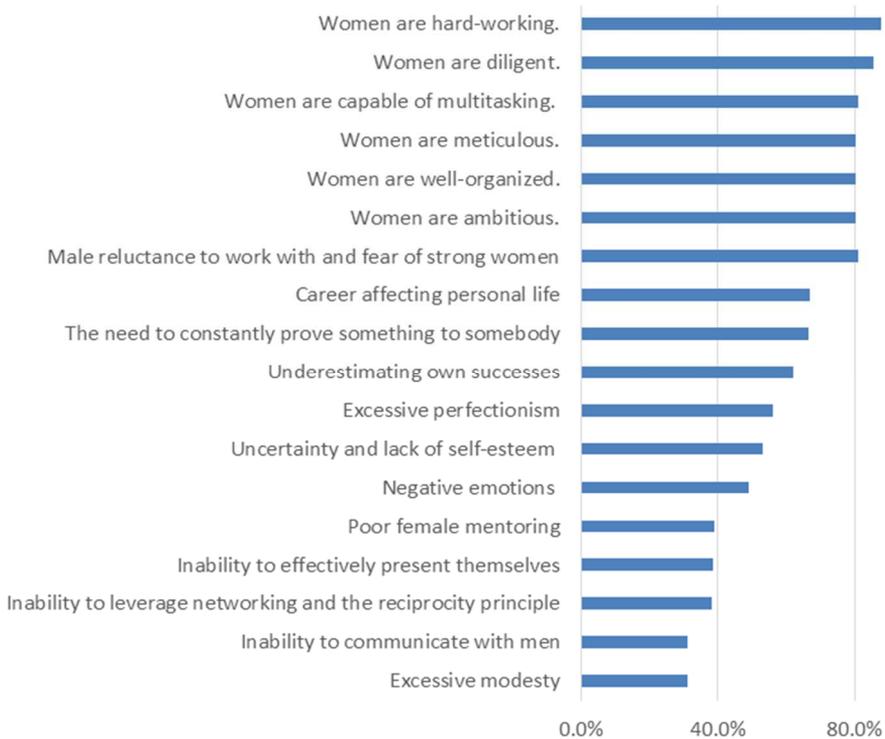


Figure 5. Adversities that women “definitely” or “generally” must face in pursuing their professional career (n = 924)

Source: Results of a study carried out as part of the “Female Face of Logistics” research programme – May 2019.

According to the respondents, to be successful in business, women working in the logistics industry should clearly and precisely define and express their needs (71.6 %) and have high self-esteem (71.6%). In addition, women in the logistics industry should make sure that everything they do is charged with positive emotions (56.3%), improve female mentoring (45.0%), celebrate their successes (43.3%) and know how to leverage networking (43.3%).

CONCLUSIONS

Due to their very turbulent environment, organizations must be managed by people who demonstrate appropriate competences. These are not limited to effective administration and task assignment. An important factor contributing to a successful business is also an

ability to meet the customer's requirements and quickly respond to actions taken by the competition and business partners.

As the conducted research shows, the growing authority of women in the logistics industry results from their having the fundamental qualities and competences that should characterize an effective leader. In addition, some personality traits characteristic of women proves to be extremely useful in the multi-stimuli corporate environment. Therefore, women are perfectly capable of managing logistics.

The logistics industry is transforming in parallel to its environment. Global competition, changing legal regulations and the increasing importance of environmental protection dramatically affect the functioning of logistics companies. However, at the same time, new opportunities are appearing thanks to the implementation of innovative technological solutions. Thus, further development of firms requires human resources that demonstrate appropriate potential, skills and personality traits.

When first introduced, human resource management in firms was considered a necessary evil, however, research reveals a relationship between proper staff management and business success (Sims, 2002). Hence, more often, an equally crucial feature of a leader is the ability to manage people, discover talents and develop them, and — as the research suggests, it is women who most often display it. In addition, women crave success. They often know that, to achieve it, they must perform many functions and prove that they are the best in each of them. When working their way up the ladder, they know that they will not be given a second chance, so they try to accomplish the impossible. This is supposed to ensure their success and open doors to the top of a business hierarchy (Décosterd, 2013).

Research suggests that women are renowned for their ability to “fight for what is theirs,” but at the same time, they care for others, which allows them to survive in industries that are largely dependent on relationality and communicativeness, such as the logistics.

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The importance of swap transactions in the evolution of the Polish currency market and the OTC interest rate derivatives market

Robert W. Włodarczyk, Magdalena Sikorska

ABSTRACT

Objective: The article aims to present the importance of swap transactions in the evolution of the Polish currency market and the OTC interest rate derivatives market.

Research Design & Methods: The theoretical considerations in the article were based on a critical analysis of the literature on the subject. In turn, the empirical part of this article was developed using numerical parameters characterizing the studied phenomenon.

Findings: It cannot be unequivocally confirmed that swaps, due to their universality and design, are the most frequently used instrument of the Polish currency market and the OTC interest rate derivatives market. This is because, although, on the currency market, the main share in transactions was achieved by currency swaps, in the case of the OTC interest rate market, interest rate swap (IRS) transactions no longer record the largest share.

Contribution & Value Added: The issue of swap contracts, according to the authors of the thesis, is the subject of limited interest in the Polish research literature, and this article was to be a response to the need to systematize knowledge about these instruments and a synthetic presentation of their development.

Article type: research paper

Keywords: swap; currency market; derivatives market; futures market; financial risks

JEL codes: G130, G190, G320

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INTRODUCTION

Swap transactions have been in the spotlight for several decades. They are the subject of discussions between practitioners, investors, as well as representatives of science. J. Hull (1998) emphasizes, that the first swap transactions in the world were concluded in 1981.

So, these are relatively “young” financial instruments that have entered the financial markets quite aggressively. Varied use of swap contracts is possible due to the existence of numerous variations as well as availability on the OTC market (Kukurba, 2016). In the practice of business operations, swap contracts are treated as a tool to support the proper management of their assets and liabilities. They also allow modifying currency, interest, and risk of changes in the prices of shares and commodities. As financial markets became uncertain and risky, measuring and managing the risks of participants in the financial markets became the main focus of modern finance theory (Martinkutė-Kaulienė, 2015). In the period of globalization of financial markets, which is part of the broader phenomenon of globalization of national economies, swap contracts enable effective optimization of capital use in terms of quantity, costs and affect the diversification of cash flows. Currently, swap contracts are an inseparable element of international finance. We find them in most domestic and international money and capital markets.

The article aims to present the importance of swap transactions in the evolution of the Polish currency market and the OTC interest rate derivatives market. The authors of the article sought the answer to the question of whether swaps, due to their universality and design, are the most frequently used instrument of the Polish currency market and the OTC interest rate derivatives market.

The next part of the study presents a review of the literature on the theoretical aspects of the currency market and the OTC interest rate derivatives market, as well as swap contracts. Definitions and theories regarding these markets have been presented. Their features, operating principles, and the most important participants were characterized. The next chapter presents the general meaning of swap contracts – their definitions, types, and meaning have been described. The fourth chapter contains the results of the analysis regarding the share of swap transactions in the development of the Polish currency market and the OTC interest rate derivatives market in the years 2004-2016. The source of empirical data is the results of the turnover study on the foreign exchange market and the OTC derivatives market in Poland. The dynamics of changes and the share of swap contracts in all transactions on selected financial markets were examined. The last chapter is the ending and contains a summary of the analyzes carried out and a commentary on the presented conclusions.

LITERATURE REVIEW

Currency and interest rate swaps: definitions and classifications

Swap transactions belong to a broader group of assets called derivatives. They are a component of the derivatives market, where in addition to swap contracts there are also forward transactions, futures contracts, and options. The value of derivatives, including swap contracts, depends on the value of other assets to which they were issued. These assets are referred to in the literature as basic, primary or underlying instruments (Czekaj, 2008). However, it should be noted that there is a relatively frequent problem separating the derivative market from other financial market segments. This is because, in practice the basic instruments are both capital, money and currency market instruments, as well, as stock market indices or interest rates (Kolb, 1997). As a result, derivatives are included in the capital, money, currency and commodity markets, depending on the nature of the assets that are underlying assets in these instruments. It is similar

with swap transactions, which on the one hand, are a derivative instrument, on the other hand, can be classified into different financial market segments.

The literature on the subject contains many divisions of derivatives. The classification of derivatives by necessary instruments deserves special attention (Jajuga, 2009):

- derivative instruments on shares (also known as equity derivative instruments) the primary instrument is the company's share and, above all, its price,
- foreign exchange derivative (also known as currency derivatives) – the underlying instrument is a currency, more precisely the exchange rate,
- derivatives on stock market indices (otherwise referred to as index derivatives) the primary instrument is the stock index, usually the stock exchange index,
- interest rate derivatives – the basic instrument is the interest rate from the financial market or a debt instrument such as a bond or treasury bill.

In the empirical part of this thesis, mainly instruments from the interest rate derivatives market, and more specifically, interest rate swaps (IRS transactions) and the currency derivatives market will be discussed.

The term swap used in Polish literature comes from English and is understood as an exchange process. Swaps are agreements between two parties to exchange one series of future cash flows for another (Martinkutė-Kaulienė, 2015). This process is also mediated by another financial institution called a swap dealer. The exchange of payments is created in such a way that both parties of the contract and the intermediary financial institution gain a sure profit. In practice, this is possible if the difference in interest rate proposed to the transaction parties is positive. Also, attention should be paid to relevant information that is specified in the swap contract and applies to, i.e., (Marynarski, 1999):

- payment currency,
- transaction prices,
- maturity date,
- the time of commencement and frequency of payments.

Swaps belong to the category of symmetrical financial instruments related to the obligation to conclude transaction agreements, the subject of which is the underlying instrument on the terms and within the time limit arising from the parameters of the derivative (NBP, 2018). In practice, this means that one of the participants of the transaction must buy a fixed amount of the underlying on the day of the transaction, and the other of the participants of the transaction is required to sell the same amount of the underlying instrument. Formally, this transaction may be related to the physical delivery of the underlying instrument, e.g., a barrel of oil, or making a cash equivalent payment, determined on the basis of the difference between the value of the underlying instrument on the transaction maturity date and the transaction price resulting from the parameters of the derivative (Trader's area, 2018).

In other terms, a swap is defined as a portfolio of forward contracts. It combines a long position in one bond with a short position in the other bond. It is also called a "tailor-made" contract because the parties to the transaction can create an entirely new contract that satisfies their needs much better than other standard financial instruments. The parties to the contract determine the most convenient contract expiration date themselves

and set the amount they exchange as part of the transaction and are not limited by fixed contractual conditions, as in the case of instruments listed on the stock exchange.

The Bank for International Settlements (BIS) is involved in the study of swap transactions, especially on the OTC market. Since 2010, BIS has proposed a new classification of transactions, according to which the following instruments are distinguished within the currency market:

- spot transactions,
- outright forward transactions (including transactions with differential settlement),
- currency swaps,
- CIRS transactions,
- currency options.

In turn, BIS qualified for transactions related to the OTC interest rate market:

- forward rate agreement (FRA),
- interest rate options,
- one-currency interest rate swaps (IRS).

Swap contracts, due to their versatility and design, can create very different forms, often similar to other financial instruments. However, in the practice of the functioning of the financial market, swaps are distinguished by their flexibility and uniqueness. The following typology of swaps is most common in the literature on the subject (Malinowski, 2011):

- plain vanilla swaps – which form the first-generation swaps, including currency, interest rate, and currency-interest rate swaps,
- swap derivatives – which form second-generation swaps, are a modification of classic swaps as well as other derivatives.

A separate group of derivatives – linked to interest rate instruments – are credit derivatives or credit risk swaps (CRS). They allow to isolate credit risk from other types of risk existing on the financial market as well as to manage and trade this risk (Rule, 2011).

Reasons for development and operation mechanism of swap contracts

The use of derivatives on a larger scale began in many international markets in the 1970s and continues to this day. Contributing to this was the progressive increase in interest rates, exchange rate volatility, and stock and commodity prices. Not without reason was the rise in debt of many countries and increased risk in financial and commodity markets, as well as the acceleration of the frequency of economic fluctuations and shortening the period of business cycles. The changes could be observed in global markets, and the increase in the volatility of prices of financial instruments resulted in a higher risk of investing in these instruments. Derivatives were therefore introduced to limit the risk. Derivatives are futures, which means that the buyer (seller) of the goods guarantees the purchase (sale) of these goods in the future at predetermined prices. Conditions favoring the development of the derivatives market occur when the cost of necessary instruments shows fluctuations, which in turn generate the risk of changes in these prices. Another factor is the gradual process of globalization of the economy, and with it, the development of international trade and other connections with foreign entities, which increases the risk of changes in the value of both assets and liabilities of economic entities expressed in foreign currency (Czekaj, 2008). Under the influence of these changes, commodity derivatives also developed, whose main task was to limit

the risk of changes in commodity prices, and more specifically to hedge against the appreciation or depreciation of commodity prices, primarily agricultural products (Jajuga, 2009). However, it should be remembered that regardless of the form of derivatives used, it is impossible to estimate all future changes with a hundred percent accuracy. It is imperative to know and identify the risks that may occur. Besides, the use of derivatives in financial markets requires excellent skills and extensive experience.

An essential part of the development of the derivatives market are changes occurring within swap transactions. The cooperation of the Bank for International Settlements with central banks and taking actions in the scope of regulating the functioning of the swap market show that its growing importance and problems related to its functioning are being recognized (Kukurba, 2016). The development of swap transactions was a direct result of the change in financial market conditions and the related increase in the risk of entities' operations in the 1970s. The importance of the swap market has also increased due to the creation process and the rather rapid development of global currency markets. Foreign exchange swaps were the first type of convertible operations. They were the result of the introduction by the United Kingdom of foreign exchange restrictions in the form of an unfavorable exchange rate when purchasing foreign currencies for foreign investment, as well as a ban on granting loans in pounds to finance foreign trade, aimed at counteracting speculative attacks on the pound (Tymuła, 2000). Swap transactions are currently an essential part of the financial market, including the currency market and the derivatives market. A.M. Chisholm (2009) rightly emphasizes that swaps are one of the most important tools of modern financial markets. Swap contracts are an inseparable element of international finance. They are used in most areas of the country and international money and capital markets (McDougall, 2001). Swap supports the management of the assets and liabilities of a company or bank and facilitates making investments or taking loans that without their participation would be too expensive or not available at all (Wolańska, 1998). Besides, this contract is a tool that allows exchanging one risk for another. The range of risk factors that can be reduced through swap transactions has been gradually expanding over the past 30 years. The main types of risk that can be changed through the use of swap contracts include the risk of changes in exchange rates, changes in interest rates, changes in share prices, changes in commodity prices, changes in the borrower's creditworthiness or changes in climate conditions (related to, i.e., weather or temperature change) (McDougall, 2001). Taking a specific position in a swap contract can anticipate expected movements in market interest rates (Chisholm, 2009). As a result of a swap transaction, one can secure a position against currency and interest rate risks, make a synthetic diversification of a loan portfolio, reduce the cost of taking out a loan, or change a payment schedule, often so crucial from the point of view of ensuring adequate liquidity for business entities.

The 1970s and 1980s were a period of virtually no significance for the development of the Polish derivatives market. This also applied to swap transactions. It was not until the political and economic changes in the 1990s that these instruments appeared on the Polish financial market. The following years brought visible changes in this area, and the swap segment developed significantly. The dynamics of the growth of the swap market in Poland against the background of the capital market development after 1989 is so large that its importance in the financial system is significant and is of interest to the Polish central bank. The dynamic development of swap transactions in Poland means that it is justified

to look for the effects of these changes. Furthermore, this is supported by the fact that it is a relatively new derivative instrument, relatively little attention is paid to such transactions in the literature on the subject, and more and more entities are interested in such transactions. All this means that these processes increase the impact of swap contracts on economic systems. Most swap transactions on the Polish financial market take place on the OTC derivatives market. These transactions are part of both the OTC derivatives market and the OTC interest rate derivatives market, but most of them are made on the currency market. The currency market is an area where supply and demand for currencies of different countries meet (Lutkowski, 1998), a place to exchange one currency for another, meeting the demand for a given currency (Dąbrowski, 2010), as well as a network of connections among all market participants (Taylor, 2000). The currency market is also understood as the entirety of currency exchange transactions together with institutions that help to carry them out (these are mainly commercial banks) and a set of rules according to which currency transactions are concluded, as well as all devices and activities leading to the conclusion of transactions (Zabielski, 2005). The decentralized currency market is global, the geographical location of transaction counterparties is not significant, and trade is smooth and efficient (Dmowski, Prokopowicz, 2010). Although the currency market is a place of spot and forward transactions, such transactions account for a much larger portion of total turnover on it. Among the currency as mentioned earlier derivative financial instruments on the Polish market, the most common are outright forward contracts, FX swap (currency swaps) and currency options. In turn, the use of interest rate derivatives on the Polish derivatives market is based on (Gwizdała, 2013):

- the term structure of individual interest rate derivatives,
- average daily turnover in derivatives markets,
- counterparties of given transactions on the derivatives market.

The main motives for which entities are guided when concluding swap contracts include (Leszczyńska, 2003):

- the ability to manage currency position,
- treating swap contracts as a substitute for loan transactions,
- liquidity management,
- the possibility of increasing the efficiency of undertaken investments or reducing financing costs,
- impact on the type of interest on receivables or liabilities, e.g., from fixed interest rate to variable interest rate,
- the option of securing against interest rate or exchange rate risks,
- an indirect way of using markets that would be inaccessible to a given entity for legal or tax reasons.

Additional benefits that flow from swap transactions on the OTC market also include (Leszczyńska, 2003):

- low transaction costs compared to other derivatives. It is conditioned by the lack of the need to block funds in margins and resignation from premium fees (as in the case of options),
- the ability to choose the risk that an entity wants to take on, by the type and nature of its operations,

- transaction privacy on the OTC market –only parties to the transaction can know about the contract, which would be impossible if trading on the stock exchange.

MATERIAL AND METHODS

Analysis of swap transactions on selected financial markets in 2004-2016

The theoretical considerations in the article were based on a critical analysis of the literature on the subject. In turn, the empirical part of this article was developed using numerical parameters characterizing the studied phenomenon.

The source of empirical data is the results of the turnover study on the foreign exchange market and the OTC derivatives market in Poland. Data on turnover on the currency market and OTC derivatives market in Poland have been presented since 2004, from that moment, for the first time, Poland began to participate in this study to the full extent. Data before 2004 are not fully comparable, because, in the editions of the project from 1998 and 2001, the National Bank of Poland did not carry out a separate statistical survey but based on information obtained from banks in monthly reporting. The NBP forwarded to the Bank for International Settlements only data on turnover in the most developed segments of the domestic currency market and over-the-counter derivatives.

The presented data include transactions in which at least one of the parties was a banking entity or a branch of a credit institution conducting operating activity in Poland, having the status of reporting entity. The data used does not include estimated delays.

The research sample concerning the analysis of turnover on the currency market and the OTC derivatives market in Poland in 2004-2016 was, on average 17 entities, including banks and branches of credit institutions operating in Poland.

In the reports from 2004 and 2007, the currency market and the OTC derivatives market constituted another group of transactions. At that time, the currency market was defined as spot and forward transactions – currency swaps and outright forward contracts. In turn, the OTC derivatives market included the following derivatives: two-currency interest rate swaps (CIRS) and currency options as well as interest rate derivatives – future interest rate contracts (FRA), interest rate swaps (IRS) and interest rate options.

The analysis refers to the currency market, including currency swaps and CIRS transactions, as well as the OTC interest rate derivatives market including interest rate swaps (IRS). The given values are presented in USD million, which results from the standards adopted by BIS. Data on transaction values were forwarded to BIS using prepared reporting forms and detailed guidelines. The National Bank of Poland has checked the correctness of the submitted reports.

Analysis of the currency swaps and currency-interest swaps share, in a turnover on the Polish currency market

According to the terminology adopted by the Bank for International Settlements, transactions carried out on the currency market include currency swaps and CIRS (Currency Interest Rate Swap) transactions. Table 1 presents the average daily value of foreign exchange swap turnover and CIRS transactions on the Polish currency market, as well as their share in the average daily net turnover on the domestic currency market in the period 2004-2016.

The analyzed data show that currency swaps constitute the main share in all transactions performed on the currency market. In the period from 2004 to 2016, their average percentage share in the currency market was around 64,64%, and their average daily value was USD 5177 million.

The large share of currency swaps relative to the entire currency market is primarily due to the various possibilities of their use. According to the National Bank of Poland, foreign banks use currency swaps, i.e., to manage liquidity in PLN and to finance their involvement on the market of treasury bonds denominated in PLN. In turn, domestic banks use foreign exchange swap transactions to limit the currency risk related to housing loans denominated in foreign currencies in markets. In addition to banking institutions, foreign exchange swaps also use other financial institutions to speculate on changes in interest rates, as well as in strategies for opening currency positions.

Considering currency-interest rate swap transactions, it should be noted that they did not even exceed 2% in all transactions on the Polish currency market. In the discussed period, their average daily value is USD 87 million.

Table 1. Average daily value of swap and CIRS transactions, as well as their share in the total sum of all daily transactions on the Polish currency market in the period 2004-2016 (in USD million)

Years	2004	2007	2010	2013	2016	\bar{x}
Currency market	6534*	9224*	7848	7564	9116	
Foreign exchange swaps	4095	5881	5368	4581	5958	5176.6
CIRS transactions	3	68	79	125	160	87
Other	2442	2932	2401	2858	2998	2726.2
Share of currency swaps in the currency market (%)	62.67	66.22	68.4	60.56	65.36	64.64
CIRS share in the currency market (%)	0.05	0.77	1.01	1.65	1.76	1.05

* currency derivatives (CIRS contracts and currency options) + currency market (cash, outright-forward transactions and currency swaps) – data provided following the new definition of the currency market, in force since 2010. Source: National Bank of Poland (2004, 2007, 2010, 2013, 2016). The results of the turnover survey on the currency market and OTC derivatives market in Poland, Warsaw.

The cited data shows that in the period from 2004 to 2016, there was no significant increase in the daily value of swap transactions performed on the Polish currency market, as shown in Figure 1. In turn, analyzing CIRS transactions, one can see an apparent increase in their value in one day (although their total value is still much lower than currency swaps). The reason for this could be a significant increase in the number of transactions concluded by domestic banks to hedge currency risk and interest rate risk resulting from a mismatch in the structure of loans granted and deposits accepted. A detailed analysis of the value of CIRS transactions is presented in Figure 2.

Analysis of the IRS transactions share in a turnover on the Polish interest rate OTC derivatives market

According to the terminology adopted by the Bank for International Settlements, transactions carried out on the interest rate OTC derivative market include, i.e., interest rate swaps or IRS (Interest Rate Swap). Their average daily value in the period from 2004 to 2016 was USD 799,2 million, while their average share in the entire Polish OTC interest rate derivatives market was around 40,55%. FRA (Forward Rate Agreement) transactions,

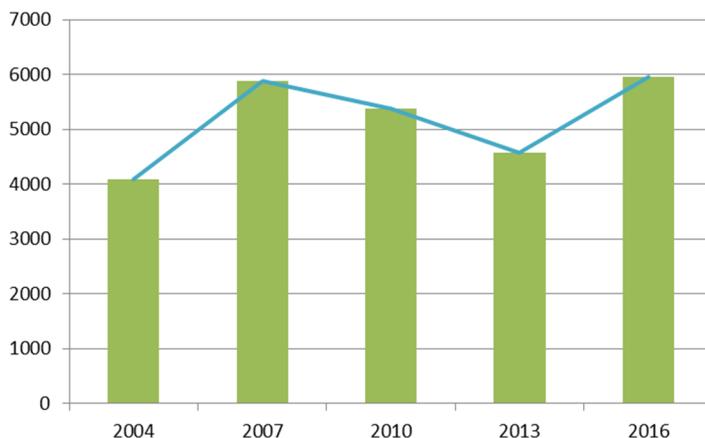


Figure 1. Average daily value of swap transactions on the Polish currency market in the period 2004-2016 (in USD million)

Source: National Bank of Poland (2004, 2007, 2010, 2013, 2016). The results of the turnover survey on the currency market and OTC derivatives market in Poland, Warsaw.

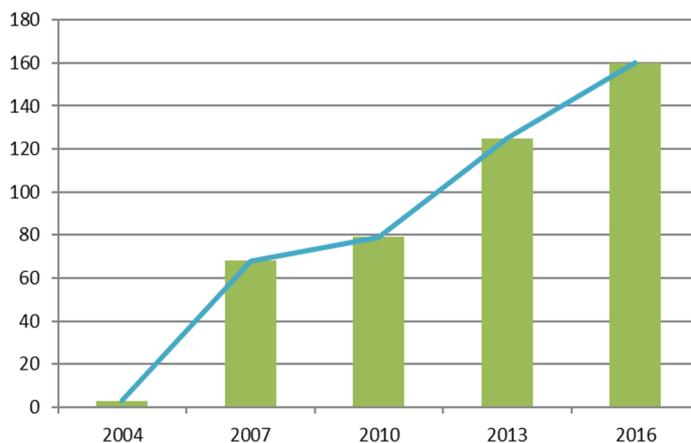


Figure 2. Average daily value of CIRS transactions on the Polish currency market in the period 2004-2016 (in USD million)

Source: National Bank of Poland (2004, 2007, 2010, 2013, 2016). The results of the turnover survey on the currency market and OTC derivatives market in Poland, Warsaw.

which are the effective interest rate for the future period already known on the day of the transaction, were used much more frequently. Their average share in this market was about 59,19%, and the average value was around USD 1154,4 million. Detailed information is presented in Table 2.

According to the data from Table 2, it can be stated that in the period from 2004 to 2016, the daily values of IRS transactions performed were variable and did not show a steady increase over the years, as did their share in all transactions on the derivatives market. Increases and decreases in IRS transactions may have depended on their use by banks

both for speculative purposes, but also to limit the interest rate risk arising from the balance sheet position (major debt securities). Figure 3 shows the fluctuations in the daily values of IRS transactions in the period from 2004 to 2016.

Table 2. Average daily value of IRS transactions and their share in the total sum of all daily transactions on the Polish derivatives market in the period 2004-2016 (in USD million)

Years	2004	2007	2010	2013	2016	\bar{x}
Currency market	958*	2681*	1561	3038	1558	
IRS transactions *	267	1240	786	992	711	799.2
FRA transactions	691	1435	775	2035	836	1154.4
Other	0	6	0	11	11	5.6
IRS share in the interest rate derivatives market (in %)	27.87	46.25	50.35	32.65	45.64	40.55
FRA share in the interest rate derivatives market (in %)	72.13	53.52	49.65	66.98	53.66	59.19

* including OIS transactions (Overnight Index Swap).

Source: National Bank of Poland (2004, 2007, 2010, 2013, 2016). The results of the turnover survey on the currency market and OTC derivatives market in Poland, Warsaw.

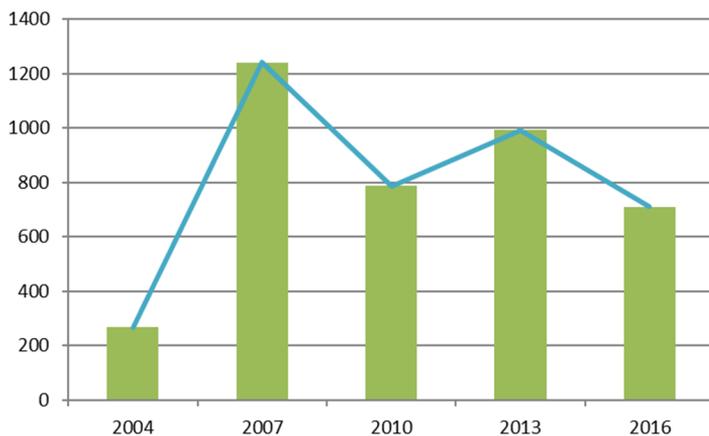


Figure 3. Average daily IRS transaction values and their fluctuations on the Polish OTC interest rate derivatives market in 2004-2016 (in USD million)

Source: National Bank of Poland (2004, 2007, 2010, 2013, 2016). The results of the turnover survey on the currency market and OTC derivatives market in Poland, Warsaw.

Impact assessment of the swap transactions on the development of the Polish currency market and OTC derivatives market

Currently, the Polish swap contract market is developing dynamically, including first- and second-generation swaps. It functions just like the international contract market, meeting the principles of the OTC (Over the Counter) market. One of its main advantages is flexibility and the ability to conclude transactions directly between market participants. In addition, the price of the financial instrument and its specification is determined each time between the parties to the transaction. Many companies see the swap contracts as the opportunity to manage financial risk actively.

Searching for access to cheaper capital is a challenge for most Polish entrepreneurs. Swap transactions allow freely manage assets and liabilities. Among Polish market partic-

ipants, the level of knowledge about transaction risk and how to secure against it is gradually increasing, which increases the interest in this type of derivatives. The main participants using swap contracts on the Polish currency market are banks, brokerage companies, and entrepreneurs (but to a lesser extent compared to other participants).

Currently, the most liquid instrument on the Polish currency market is currency swaps. Polish banking institutions that use swap contracts manage currency positions and their liquidity. A large part of transactions is also concluded between Polish and foreign banks (Leszczyńska, 2003). Foreign exchange swaps are used by foreign entities, i.e., to finance their positions in securities denominated in PLN (foreign institutions prefer systematic renewal of short-term FX swap transactions). Interest in CIRS contracts has also been growing since 1999. Almost all these transactions carried out by domestic banks in April 2016 were reconciled with other banks, mainly foreign ones or with non-financial public sector entities. The use of this type of derivatives enables securing against interest rate risk. Many of the second-generation swap transactions, which include, i.e., callable swap, puttable swap, floored swap, capped swap, and callared swap does not yet have a Polish name. The use of this group of swap contracts is still relatively low in Poland, although there is some interest.

The versatility of swap instruments contributes to the development of the Polish currency market and OTC derivatives market, as the diversity of use and flexibility of swaps is appreciated by subsequent market participants. The motivation that supports the use of swap transactions by Polish business entities is either the desire to gain a competitive advantage or a commercial need. Some business activities of companies in the financial industry generate exposure to risk, both in currency and interest rates. Swaps minimize this risk.

CONCLUSIONS

Critical analysis of the literature indicates that we are currently observing the dynamic development of both first and more often second-generation swap contracts. The possibilities of various swap applications depend on the existence of different types and their flexibility, which results from the operation of OTC transactions. Each of the parties to the transaction may affect the terms of the contract and adapt them to their needs. They can be used in many ways, including in hedging, risk diversification, and cost optimization.

From the empirical studies carried out and described above, the following conclusions were made:

- In the case of currency markets, in the period from 2004 to 2016, the average percentage share of currency swaps was about 64,64%; therefore, it was the most frequently used instrument.
- Despite the significant share in the currency swap market, they do not show an upward trend during the period considered. Their value varies over the years.
- Figures for CIRS transactions indicate that although these transactions represent only a 2% share in the entire currency market, a steady increase in the value of these transactions is observed from 2004 to 2016.
- In the case of OTC interest rate markets in the period from 2004 to 2016, the average percentage share of IRS transactions was around 40,55%, so it was not the most used instrument. FRA transactions were much more often used, their average share in this market was about 59,19%.

– In the period from 2004 to 2016, the daily values of IRS transactions performed were variable and did not show steady growth over the years, as did their share in all transactions on the derivatives market.

Therefore, it cannot be unequivocally confirmed that swaps, due to their universality and design, are the most frequently used instrument of the Polish currency market and the OTC interest rate derivatives market. This is because, although, on the currency market, the main share in transactions was achieved by currency swaps, in the case of the OTC interest rate market, interest rate swap (IRS) transactions no longer record the largest share.

The issue of swap contracts, according to the authors of the thesis, is the subject of limited interest in the Polish research literature, and this article was to be a response to the need to systematize knowledge about these instruments and a synthetic presentation of their development. To conclude the considerations made in this article, it should be noted that the conducted research shows that only certain types of swaps find recognition among investors and are instruments relatively often used in financial markets. Future research should focus on comparing the swap contract market in Poland with other EU countries. Such research would give an opportunity for a broader comparative assessment of the swap market and indicate the most desirable directions for its further development in Poland.

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Soft skills influencing motivation and their impact on the employee performance: An Indonesian company case

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ABSTRACT

Objective: The importance of this study in bridging the gap between existing research literature works of soft skills, motivation and employee performance, and offering an empirical reference to the industry's experience.

Research Design & Methods: This study reflects an empirical analysis by taking a quantitative approach to finding and demonstrating the degree of the influence of variables on the proposed hypotheses.

Findings: The variables of soft skills, i.e. interpersonal skills and intrapersonal skills have shown a positive influence on motivation and a positive impact on employee performance. These variables have a continuous effect on the overall performance of the company. The analytical results represented empirically through the path analysis conducted in this study.

Contribution & Value Added: This study emphasizes the creation of understanding among companies, primarily to strengthen soft skills that go hand in hand with growing hard skills, to promote encouragement to take the effect of the overall performance of employees and organizations to thrive and indeed grow in the current era of global competition.

Article type: research paper

Keywords: soft skills; interpersonal skills; intrapersonal skills; motivation; employee performance; path analysis

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INTRODUCTION

Manufacturing firms are largely dependent on humans and machines in carrying out their operations and in their efforts to increase the efficiency of their businesses. In addition to increasing the need and awareness of manufacturing industries in the province

of Riau, Indonesia in general, and the pulp industry in particular. To address the needs of trained and skilled human resources to meet employers' demands in the face of global challenges, particularly in the smart factory challenge and intelligent technology embodied in Industry 4.0 links across diverse aspects of human life. By implementing this application, the manufacturing technology has achieved the inclination towards machine automation and data exchange. This has changed other areas of human life, such as the economy the world of business and lifestyle.

The changes introduced with all the implications make the manufacturing sector more compact and efficient. However, other implications, such as the propensity to minimize the use of human resources, are due to the substitution by machines or robots. Employee burnout, work stress, health issues, and problems in managing work duties and private life are extremely relevant challenges nowadays. Such a scenario leads to HRM being rethought whether companies are willing to have the workers in the future to run the business. Some scholars argue that sustainable HRM could serve as a possible solution to restore humanity to HRM (De Prins *et al.*, 2014), while sustainability refers to regeneration, development, and renewal of resources (Ehnert, Harry, & Zink, 2013). The need for continuous improvement of employee skills, both soft skills and hard skills, is unavoidable in the presence of these changes. The attributes of soft skills and hard skills play a crucial role in assessing the success of the employee. Nevertheless, aspects of hard skills (technical skills) are more concerned than aspects of soft skills, and vice versa. Besides, what should be necessary for this global era remains an innovative approach between hard and soft skills.

A report published in January 2015 by a global economic research institute (The Development Economics), which reported that in most cases, if not all, modern workplaces, the contribution of soft skills arises from the significance of collaboration, teamwork, worker interactions. Survey responses from senior business leaders that soft skills matter to the vast majority of companies. For instance, a recent survey of businesses undertaken in the U.S discovered that communication skills (83%) and the ability to work within a team (74%) are among the top three qualities employers are currently looking for in new workers. The purpose of this study is to explore the direct and indirect effect on the motivation of soft skills and their effects on employee performance, primarily in the pulp industry.

Problem statement

This study based on the phenomenon identified during the pre-research activities conducted at the PMP Company. The PMP Company has implemented a policy of rationalization of employees following the implementation of a production automation program. Consequently, the initiative to rationalize the number of employees removes 50 % of the total number of employees by investing in the procurement and upgrading of equipment and manufacturing machinery. The management of PMP Company strives to maintain and improve the morale and skills of its employees. In particular, the study aimed at identifying the degree to which the soft skills (interpersonal and intra-personal skills) possessed by employees of PMP Company affect their motivation to perform their work and have an impact on the performance of their employees. Subsequently, the question addressed through this analysis is whether soft skills have a positive influence on motivation to have a positive impact on employee performance.

Research gap

There are several studies on soft skills, motivation, and employee performance. Nonetheless, there are gaps where only a few empirical and relevant types of research are carried out in the manufacturing sector, especially in the pulp manufacturing business, which is introducing programs to streamline the number of employees, modernize and automate production lines. This phenomenon can affect the degree of employee morale and knowledge of developing employees' skills in the Industry 4.0 paradigm.

LITERATURE REVIEW

Soft skills definition and attributes

Soft skills in the 20th century are a major differentiator, a vital factor of employability and life achievement. Soft skills are characterized as competence and ability to manage themselves properly and to establish successful relationships with others (Muqowim, 2012). Therefore, as explained by Muqowim, soft skills have an intrinsic ability to succeed in doing work, where soft skills have also been defined as personal and interpersonal behaviors needed to develop and optimize human performance. Soft skills are the ability to deal with others (interpersonal skills) and the ability to manage oneself (intrapersonal skills) to work effectively and efficiently (Firdaus, 2017). Employers now attach great importance to interpersonal and intrapersonal skills and offer technical skills somewhat less weight (Vijayalakshmi, 2016). Soft skill is a concept associated with a collection of personal, positive attributes that improve the relationships, work performance, and market value of an individual. Through learning soft skills, each person can adapt to the environment and to any transition that occurs in thinking, talking and acting following relevant norms (Okoro *et al.*, 2017).

Interpersonal skills are needed to be successful in their personal and professional lives. Interpersonal skill is an ability to properly understand and react to other people's feelings, attitudes and behaviors, inspiration, and desires. How someone can create harmonious relationships by understanding people or others and reacting to them (Robbins *et al.*, 2012). Interpersonal skills are abilities related to the community group's social environment or work environment and individual experiences. Some interpersonal skills examples include; communication skills, leadership skills, negotiation skills, public speaking skills, and teamwork (Firdaus, 2017).

Intrapersonal skills are the abilities in an individual's mind. The other end of this axis is the interpersonal skills that relate to people's relationships or communication (Vijayalakshmi, 2016). Intrapersonal skills are self-regulating skills. Before someone forms a relationship with another person, these abilities are essential. Some examples of intrapersonal skills include the transformation of character, time management, confidence, and proactive capacity (Firdaus, 2017).

Motivation

Work motivation was shown to be connected to the provision of service quality by enhancing employee productivity and leading them to individual and group goals (Kaba *et al.*, 2013). Work motivation is a collection of energetic elements that arise both within and beyond the being of an individual, initiate work-related action, and determine its shape, path, duration

and intensity (Pinder, 1998). Motivation is widely considered one of the most essential determinants of successful employment (Dietrich, Parker, & Salmela-Aro, 2012).

Most of the last half of the 20th century, work motivation theories were closely aligned with a performance-centric perspective that focuses almost primarily on motivation as a proximal determinant of employee performance (Kooij & Kanfer, 2019). Over the past decades, however, improvements in the nature of work and advancements in motivational theorization have extended and emphasis to include a person-centered perspective that emphasizes the multi-level motivational processes which naturally occur and affect the individual's constructive role and behavior and the creation of his / her work (Kanfer & Chen, 2016). Modern work motivation concepts explain how people act, and the factors that influence job initiation, orientation, strength, and persistence (Kooij & Kanfer, 2019).

Employee performance

Performance is a notion that describes how an individual can use his or her potential or actual knowledge skills to achieve his or her own goals or expectations (Altındağ & Köseadağ, 2015). Employee performance refers to the task-related behavior required of an employee and how they are performed (Goodall Jr., 1992). The factors that include an employee's productivity include happiness, sluggishness, enthusiasm, and dedication to work; while employee fulfillment implies employee satisfaction when he/she is at work (Anderson, Rungtusanatham, & Schroeder, 1994). Employee performance is important to the company because it is a reflection of the success of the organization (Sadikoglu & Zehir, 2010). It evaluates the non-financial indicators of a company such as teamwork, motivation, productivity index, service quality and competency (Manzoor *et al.*, 2011). Employee performance has been found to increase organizational productivity indirectly through innovation as employees generate ideas for new products or services to increase the competitiveness of the business (Sadikoglu & Zehir, 2010).

Traditionally, organizational success has been calculated using financial metrics such as income, the share of the market, profits, and rate of growth (Demirbag *et al.*, 2006). However, non-financial indicators, which are usually developed in line with human resources outcomes such as turnover, absenteeism, job satisfaction, productivity, and quality, must also be taken into consideration (Abdalkrim, 2013). Employee performance is about how employees achieve organizational objectives (Imran *et al.*, 2012) as well as the timely, effective and efficient fulfillment of organizational goals (Osman *et al.*, 2016).

Previous study

Cimatti (2016) conducted research on manufacturing firms in the USA, studied and examined soft skills as personal transversal competencies such as communication skills, teamwork, social interactions and other personality traits that form individual characteristics in their positions in organizations. The results of the study showed that soft skills are a strategic and essential component for a professional to support the business by building an effective team and working environment to boost the competitiveness of the organization. Cimatti also emphasized the importance of organizations to choose and improve human resources with the best soft skills, so that enterprises can work effectively and efficiently to deliver products and services in line with what is provided, including in sectors where technology plays a critical role.

Dean and East (2019) performed a study on logistics companies in New Jersey, USA. This study showed that hard skills are not enough for workers to compete in a globally competitive environment and soft skills are a need and consider being of utmost importance. Seetha, (2014) studied several multinational companies in Malaysia engaged in manufacturing, stating that the firms' management valued soft skills is more than hard skills. Employers, however, see a lack of staff equipped with deep intellectual capacities and practical skills to be able to carry out their jobs in a more job-oriented manner. Employers claim that to develop a learning organization the workforce is equipped with soft skills other than hard skills.

From the results of their research on employees working in the home accessories and porcelain industry in Indonesia, Hendarman and Tjakraatmadja (2012) revealed that soft skills are needed for technical innovation. Soft skills in this study have a positive impact on technical innovation that is needed to create new products or services. Furthermore, Hairi *et al.* (2011) conducted a study focusing on the soft skill requirements needed by entrepreneurs from 150 local and multinational companies in Malaysia and found that soft skills are also required and rated "important" by Malaysian employers.

Research hypotheses and framework

The proposed research hypotheses framework to examine are as follow:

Hypotheses:

- H1:** Intrapersonal skills and interpersonal skills have a positive influence on job motivation.
- H2:** Intrapersonal skills and interpersonal skills have a positive influence on employee performance.
- H3:** Intrapersonal skills and inter-personal skills through work motivation have a positive impact on employee performance.

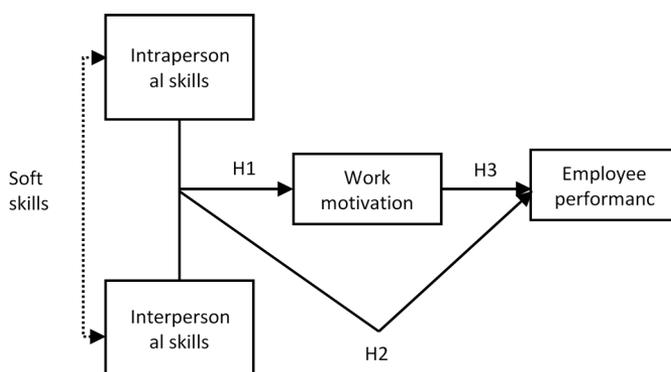


Figure 1. Research framework

Source: own elaboration.

RESEARCH METHODOLOGY

This study reflects an empirical analysis by taking a quantitative approach to finding and demonstrating the degree of the influence of variables on the proposed hypotheses. The quantitative analysis starts with validity and reliability testing where both types of tests are required to determine the level of validity of the questionnaire and to evaluate the degree of stability, consistency, predictive capacity and accuracy of the questionnaire submitted. Subsequently, after validity and reliability tests have been carried out, it has been expanded by performing a classic assumption test, which aims to provide certainty that the regression equation obtained consistent, unbiased and reliable estimation accuracy.

Why is the classical assumption test important? Because a model can be called a good model in the classical assumption test if the model meets the criteria of the Best Linear Unbiased Estimator (BLUE). BLUE has been reached if it satisfies the classical assumptions. There are several research practices in the classical hypothesis method, such as multicollinearity, heteroscedasticity, and normality, which have the function and usefulness of each testing. After the classical assumption test, followed by a path analysis with functions to analyze the inherent causes by using path coefficients to determine the amount of influence of exogenous variables on endogenous variables. The structure for the proposed equations of path analysis are as follow:

$$Y_1 = C + PY_1X_1 + PY_1X_2 + e_1 \quad (1)$$

$$Y_2 = C + PY_2X_1 + PY_2Y_1 + PY_2X_2 + e_2 \quad (2)$$

where:

C - constant;

P - path coefficient;

X_1 - soft skills (Intrapersonal skills);

X_2 - soft skills (Interpersonal skills);

Y_1 - work motivation;

Y_2 - employee performance

e - residual.

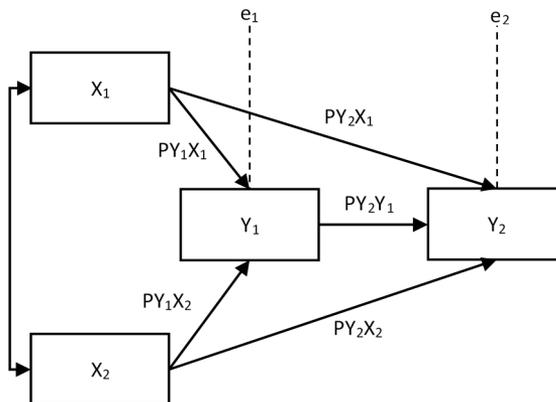


Figure 2. Path analysis diagram

Source: own elaboration.

The study uses information collected based on two types of data categories primary and secondary data obtained from the relevant sources. Primary data collected employing a questionnaire exclusively carried out by PMP Company employees appointed as production executors by terms of a purposeful sampling method, while secondary data derived from company documentation and scientific and relevant literature for study, in particular, those related to soft skills, motivation, and employee performance. The ordinal scale is used to calculate the outcomes of the questionnaire using the Likert Summary Scale, which provides five elective answers: 1 (strongly disagree); 2 (disagree); 3 (neutral); 4 (agree) and 5 (strongly agree).

The Case Company

The PMP Company is a company engaged in pulp production in the province of Riau, Indonesia, with a total workforce of 183 permanent employees (excluding contractors). PMP Company produces pulp with an installed production capacity of 30,000 tons per month, which is then used as raw material for the manufacture of domestic paper and tissue that is also imported into various countries in Asia, Europe and America.

Research sampling

The target population of the study was all PMP employees with 183 employees, while the sample used was employees who worked as process operators with 121 employees in the production area. Nonetheless, only 112 respondents were willing to participate in the questionnaire. Based on the demographic data of the respondents in Tables 1 and 2, from the number of respondents participating in the survey (N=112), 105 male respondents (93.75 %) and only 7 females (6.25 %) participated. In comparison, when viewed from the age category, the average age of workers as respondents remains 36.14 years with a standard deviation of 8.491. In the average, age range of respondents from 20 to 53 years of age. The most influential respondents were between 30 to 40 years of age, 52 (46.43 %) followed by 20 to 30 years of age, 27 (24.11 %). The remaining 40 to 50 years of age, 20 (17.86 %) and only 13 respondents (11.61 %) who are older than 50 years of age.

In the education level category, the largest number of respondents for high school education was as high as 50 (44.64 %), 38 (33.93 %) had Diploma Education certificates, and the remaining 24 (21.43 %) had Graduate degree Education as their academic degrees. In addition to the work experience of 4 to 25 years, the average working duration is 13.01 years with a standard deviation of 5.519. Participants with service years between 10 to 15 with a total of 42 (37.50 %), followed by respondents with service years between 5 to 10 years, 27 (24.11 %). In the meantime, respondents with more than 20 years of experience are 13 (11.61 %) and the workers with 0-5 years of work. Subsequently, seen from the class of position held by the respondents who worked as production executors, the lowest level was as a machine operator with a dominant number of 76 (67.86 %) followed by one level higher position, a team leader of 24 (21.43 %). The remains were populated with one level higher than the team leader, with 12 (10.71 %) as supervisors.

Table 1. Respondent demographics

Description of respondents (N = 112)	Frequency	Percent	
Age	20 - 30 years	27	24.11
	31 - 40 years	52	46.43
	41 - 50 years	20	17.86
	> 50 years	13	11.61
Gender	Male	105	93.75
	Female	7	6.25
Educational level	High School	50	44.64
	Diploma	38	33.93
	Graduate	24	21.43
Work experience	0 - 5 years	10	8.93
	5 - 10 years	27	24.11
	10 - 15 years	42	37.50
	15 - 20 years	20	17.86
	> 20 years	13	11.61
Level of job position	Machine operator	76	67.86
	Team Leader	24	21.43
	Supervisor	12	10.71

Source: PMP Company.

Table 2. The Mean and standard deviation of respondent demographics

Category	N	Mean	Std. Deviation
Age	112	36.14	8.491
Gender	112	1.06	0.243
Educational level	112	1.77	0.782
Work experience	112	13.01	5.519
Level of job position	112	1.43	0.681

N=112.

Source: own study.

RESEARCH FINDINGS & DISCUSSION

Validity test

Validity analysis carried out to assess valid or invalid questionnaires. This study also uses the Pearson correlation coefficient, by measuring the correlation between items with cumulative scores from existing constructs: soft skills 39 statements (consisting of 24 intrapersonal skills and 15 interpersonal skills statements), then 10 statements for motivation variable and 10 statements for employee performance variable.

Based on the results of the validity test it was noted that four statements of intrapersonal skills variables were invalid because they had a significant value below 0.05 (5 %) and those four statements were omitted from the questionnaire. Because there is a reduction, the statement items used for intrapersonal skills adjust from the previous 24 statements to the 20 statements used. Subsequently, after measurements, the four measured variables are valid (because the Pearson correlation value exceeds 0.05) and can be further analyzed.

Reliability test

After these variables were tested by the validity test, the consistency test was later performed to evaluate whether or not the questionnaire was considered reliable based on decisions on reliability. Assuming the statements made by the respondents are consistent over time, the construct values said to be reliable or consistent if the Cronbach Alpha value is ≥ 0.60 , and vice versa, if the Cronbach Alpha value is < 0.60 , it is considered non-reliable.

The reliability test results in Table 3 show that the alpha value of Cronbach is ≥ 0.60 of the four variables evaluated. It ensures that variables such as intrapersonal skills (Cronbach's Alpha = 0.895), interpersonal skills (Cronbach's Alpha = 0.848), motivation (Cronbach's Alpha = 0.796) and employee performance (Cronbach's Alpha = 0.846) are reliable use in data processing.

Table 3. Reliability test result

Variables	Cronbach's Alpha
Intrapersonal skills	0.895
Interpersonal skills	0.848
Motivation	0.796
Employee performance	0.846

Source: own study.

Classic assumption test

Multicollinearity test

Multicollinearity testing performed to check whether there are intercorrelations between independent variables in the regression model. Interrelation is a linear relationship between predictor variables and other predictor variables. Interrelation has shown by the correlation coefficient between the independent variable, the VIF value and the tolerance.

Table 4. Multicollinearity test result

Collinearity Stat.	Intrapersonal Skills (X_1)	Interpersonal Skills (X_2)	Motivation (Y_1)
Tolerance	0.614	0.641	0.819
VIF	1.628	1.560	1.221

Source: own study.

The results of the multicollinearity test indicate that the tolerance values and VIFs in Table 4, based on the measurement tests, are 0.614, 0.641 and 0.819 for intrapersonal skills (X_1), interpersonal skills (X_2) and motivation (Y_1) where the value is > 0.10 . The VIF value for intrapersonal skills (X_1) variables is 1,628, interpersonal skills (X_2) are 1,560 and motivation (Y_1) variables are 1,221. The three values of VIF are < 10 . Subsequently, referring to the decision-making basis found in the multicollinearity test, it concluded that there are no signs of multicollinearity in the regression model.

Heteroscedasticity test

The presence of heteroscedasticity symptoms or problems will result in inaccuracies in the outcome of the regression analysis conducted in this analysis. Heteroscedasticity analysis

using the scatterplot diagram by following the requirements where the data form a certain pattern, it is concluded that there is a heteroscedasticity disorder. Furthermore, if the data do not form a certain pattern and the point spreads on the Y-axis at the top and bottom of the number 0, it was assumed that there was no interference with heteroscedasticity.

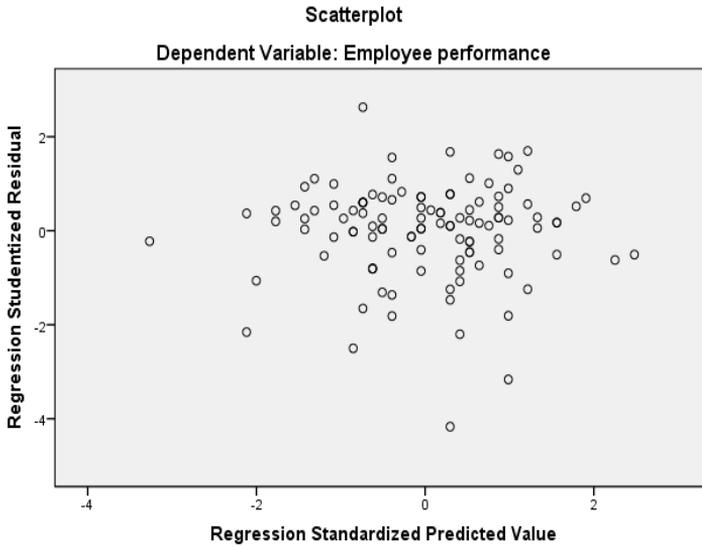


Figure 3. Scatterplot diagram – X₁
Source: own elaboration.

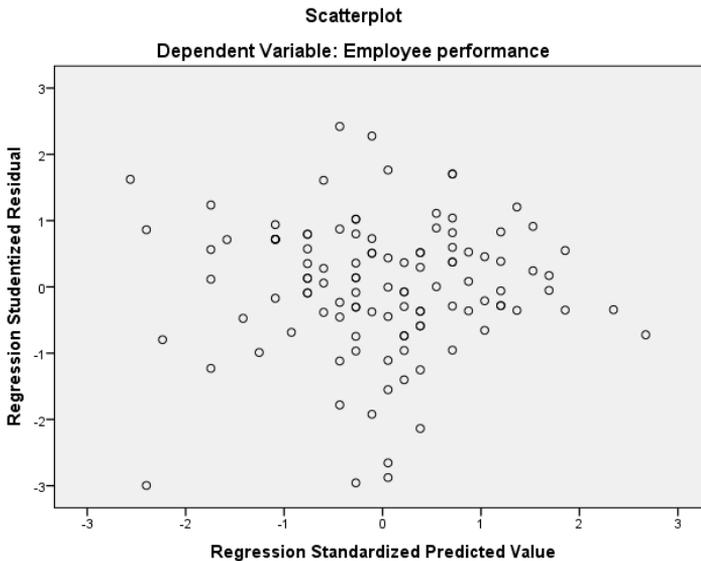


Figure 4. Scatterplot diagram – X₂
Source: own elaboration.

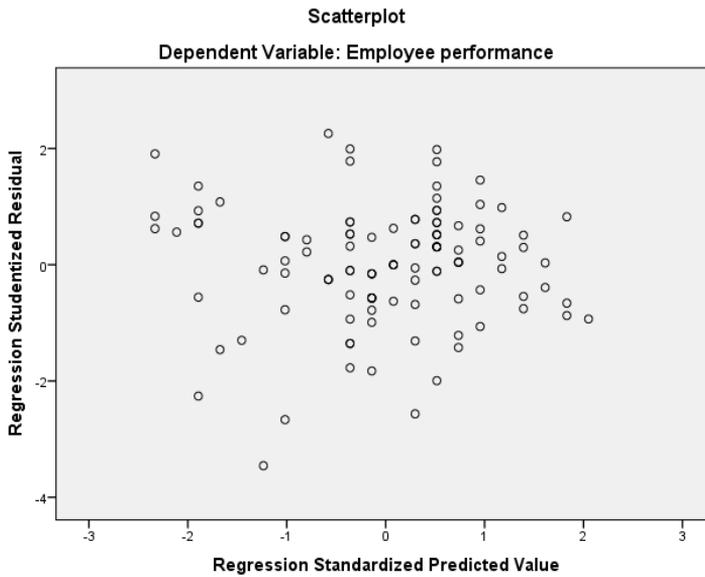


Figure 5. Scatterplot diagram – Y_1

Source: own elaboration.

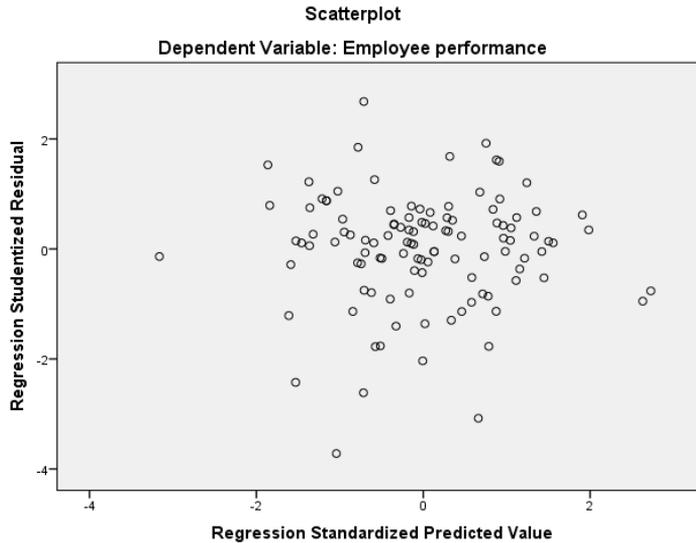


Figure 6. Scatterplot diagram – X_1 , X_2 and Y_1

Source: own elaboration.

Based on the test results from the scatterplot diagram (as shown in Figs. 3, 4, 5 and 6) between SRESID and ZPRED, the Y-axis is the Y-axis that has been projected and the X-axis

is the residual that has been standardized. Showing the point spreading randomly, not creating a certain clear pattern, and scattering the Y-axis up and down to zero. The distribution of data points does not form a wave pattern, but then narrows and widens again. This concluded that there were no symptoms of heteroscedasticity in the regression model. As a result, this regression model was good, ideal and feasible to use.

Normality test

Table 5. Normality test result

Variables		Intrapersonal Skills	Interpersonal Skills	Motivation	Employee Performance
		X ₁	X ₂	Y ₁	Y ₂
Kolmogorov-Smirnov	Statistic	0.081	0.071	0.118	0.108
	Sig	0.069	0.200	0.101	0.103
Shapiro-Wilk	Statistic	0.99	0.989	0.963	0.957
	Sig	0.582	0.538	0.103	0.111

df = 112.

Source: own study.

The normality test used to figure out how the data are distributed. The argument is whether the independent and dependent variables in a good regression model are regression models with a normal or near-normal distribution. In the four variables that carried out the normality test in Table 5, the significance value (p) of the Kolmogorov-Smirnov test were intrapersonal skills with sig value. 0.069, intra-personal skills with sig. 0.200, motivation with sig 0.101 and the sig. 0.103 on the performance of employees. Based on the Kolmogorov-Smirnov test results for these variables with output values > 0.05, it was concluded that the data were properly distributed.

The assumption of normality in the regression model has therefore been fulfilled. Besides, this also confirmed the outcomes of the Shapiro-Wilk test by evaluating the outcome of each variable as follows: intra-personal skills with sig. 0.582, interpersonal skills 0.538, motivation sig. 0.103 and the performance of employees with sig. 0.111. As a result, with all the values of the importance of variables > 0.05, it is summarized that the data are properly distributed.

Hypothesis test

Path coefficient analysis for each variable used to test the hypothesis proposed to assess the direct effect of each of these variables. According to Table 6, it is understood that the value of t sig, from variables X₁ and X₂ to Y₁, is X₁= 0.007 and X₂ is 0.1 for the calculation of the path coefficient $Y_1 = C + PY_1X_1 + PY_1X_2 + PY_1X_1 + PY_1$. It concluded that only X₁ variables partially cause a significant impact on Y₁ in this regression model. The regression model has an F test value (Anova) with a sig value. 0.000, which means that X₁ and X₂ influence Y₁ simultaneously. The R square value provided is equal to 0.181, which indicates that the contribution of the influence of X₁ and X₂ to Y₁ is 18.1 %, while the remaining is the contribution of other variables not included in this study, while for the value of $e_1 = 0.181 = 0.904$. Therefore, the first regression model developed with a constant value= 18,690: $Y_1 = 18.690C + 0.296 PY_1X_1 + 0.178 PY_1X_2 + 0.904e_1$.

Table 6. Path coefficient – test result

Model		β	F Sig.	t - Sig.	R square
Intrapersonal Skills	X_1	0.296	0.000	0.007	0.181
Interpersonal Skills	X_2	0.178		0.100	
Motivation	Y_1	–		–	
Intrapersonal Skills	X_1	0.303	0.000	0.05	0.219
Interpersonal Skills	X_2	0.221		0.037	
Employee Performance	Y_2	–		–	
Intrapersonal Skills	X_1	0.286	0.000	0.009	0.221
Interpersonal Skills	X_2	0.211		0.049	
Motivation	Y_1	0.055		0.047	
Employee Performance	Y_2	–		–	

Source: own study.

In the next regression model, the equation of $Y_2 = C + PY_2X_1 + PY_2Y_1 + PY_2X_2 + e_2$, the value of t sig. The three variables obtained are $X_1 = 0.009$, $X_2 = 0.049$ and $Y_1 = 0.047$, then based on the value of t sig. It was found that the variables X_1 , X_2 , and Y_1 partially had a significant effect on Y_2 . In contrast, the F check value (Anova) with a value of 0.000 means that the X_1 , X_2 , and Y_1 variables simultaneously have a significant effect on Y_1 . The R square value obtained is equal to 0.221, meaning that the contribution of variables X_1 , X_2 , and Y_1 to Y_2 is 22.1 %, while the rest of the variables are not examined for contributions from other variables. For the use of the e_2 obtained $e_2 = 1 - 0.221 = 0.882$. Regression models built with constant values = 14,876 are as follows:

$$Y_2 = 14.876 \cdot C + 0.286 \cdot PY_2X_1 + 0.211 \cdot PY_2Y_1 + 0.055 \cdot PY_2X_2 + 0.882 \cdot e_2 \quad (3)$$

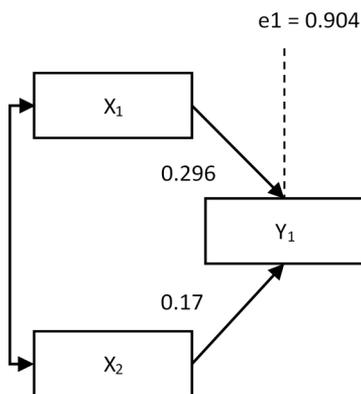


Figure 7. Path diagram $Y_1 = C + PY_1X_1 + PY_1X_2 + e_1$

Source: own elaboration.

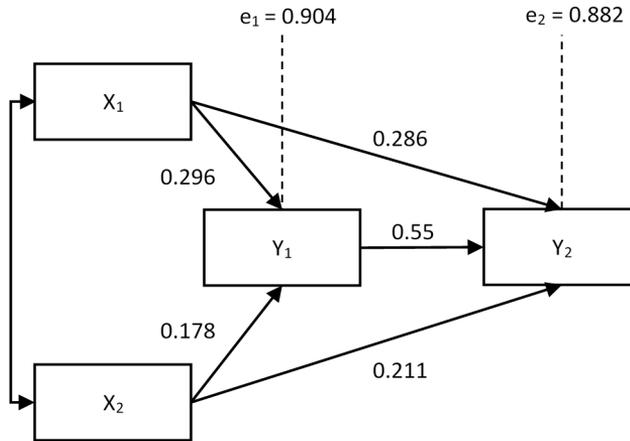


Figure 8. Path diagram $Y_2 = C + \beta_{Y_2X_1} X_1 + \beta_{Y_2Y_1} Y_1 + \beta_{Y_2X_2} X_2 + e_2$
 Source: own elaboration.

After the hypothesis test has been completed, the outcome is conceptually summarized in Table 7 with the following explanation.

Table 7. Hypotheses test result

Hypotheses and explanations		Verification
H1	Intrapersonal skills and interpersonal skills have a positive influence on work motivation	Accepted
	This is shown by the positive value found in the $\beta = 0.296$ (X_1) and 0.178 (X_2) path coefficients. Subsequently, the H1 statement is accepted.	
H2	Intrapersonal skills and interpersonal skills have a positive influence on employee performance	Accepted
	Hypothesis 2 with positive path coefficient values for variables X_1 and X_2 towards Y_2 , i.e.: $X_1 = 0.303$ and $X_2 = 0.221$, with the result that the statement in H_2 is accepted.	
H3	Intrapersonal skills and interpersonal skills through work motivation have a positive influence on employee performance.	Accepted
	The path coefficient values of the variables X_1 , X_2 and Y_1 towards Y_2 are positive, i.e. $X_1 = 0.286$, $X_2 = 0.211$ and $Y_1 = 0.055$. The hypothesis of H3 is therefore accepted.	

Source: own study.

The direct and indirect impacts of variables on employee performance

The direct and indirect effects discussed in Table 8 below indicate that each variable X_1 , X_2 , and Y_1 has a direct impact on the variable Y_2 . The cumulative direct impact value is 0.497 and the indirect impact value is 0.529 . It indicates that the indirect impact has a greater impact than the direct impact.

Table 8. Direct and indirect impact

Variables	Employee performance	
	Direct impact	Indirect impact
Intrapersonal skills	0.286	0.296
Interpersonal skills	0.211	0.178
Motivation	–	0.055
Total influence	0.497	0.529

Source: own study.

CONCLUSIONS, IMPLICATION & LIMITATION

Conclusion

After evaluating the three hypotheses suggested in this report, it concluded:

- First, the test of Hypothesis 1, which indicates that there is a positive influence on motivation between intrapersonal skills and interpersonal skills, although only partially intrapersonal skills have a significant influence. At the same time, however, the variables of X_1 and X_2 have a significant influence on motivation.
- Second, the results of the tests performed on the hypothesis with the statement submitted that there are positive influences of intrapersonal skills and interpersonal skills on employee performance have shown to be accepted.
- Third, Hypothesis 3, which notes that there is a positive influence on motivation between intrapersonal skills and interpersonal skills and has an influence on employee performance, has shown to have a positive path coefficient value. The findings of the partial variable test (t-test) and the simultaneous test (F-test) obtained by achieving significant results.

Theoretical implication

The theoretical implications of this study are the increase in research references on soft skills, motivation and employee performance, primarily in manufacturing firms and in pulp manufacturing companies in particular. Another theoretical implication is to promote the development of organizational behavior studies, which can then consider organizational and personal factors that can improve the performance of employees. Based on these theoretical implications, it is proposed that future studies may use more varied or more detailed research variables on how the business optimizes its output factors to enhance organizational efficiency.

Managerial implication

Potential labor shortages due to soft skills deficiencies due to underinvestment in soft skills are expected to contribute to skill shortages where employers are unable to fill job vacancies, as they are unable to find candidates with appropriate skills and fail to improve existing employees to meet global challenges. This study has implications for the creation of understanding among companies, in particular, those engaged in the field of industry, to change their policy and operational approaches. Primarily to strengthen soft skills that go hand in hand with growing hard skills, to promote encouragement to take the effect of the

overall performance of employees and organizations to thrive and indeed grow in the current era of global competition.

Limitation

This study recognizes limitations as it has only been performed in one pulp manufacturing company. The findings of the study may be different if the scope of the research is different and applied to other manufacturing companies. Another drawback is that this research gives priority to data processing approaches using information obtained from questionnaires distributed to respondents so that the emotional state of the participants at the time the questionnaire was completed is uncertain and the variables chosen are limited.

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Okun's law in an emerging country: An empirical analysis in Indonesia

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ABSTRACT

Objective: Labor economics policy instruments, such as gross domestic product (GDP) and unemployment are persistent challenges for every country. As an emerging country, Indonesia seeks to reduce unemployment and increase gross domestic product. The aim of this study is to investigate the relationship between GDP and the open unemployment rate in Indonesia starting from 1987 to 2017.

Research Design & Methods: The data were obtained from Indonesia's Central Bureau of Statistics website. Moreover, the econometric model of the Granger causality and Structural Vector Autoregression capture the causality of GDP and the open unemployment rate.

Findings: The Granger causality test suggested the open unemployment rate does Granger cause gross domestic product, but not vice versa. In line with the Structural Vector Auto-regression, there was a negative relationship between GDP and the open unemployment rate.

Contribution & Value Added: This study is in line with Okun's law which explains the more labor used in production will have implications for increasing GDP in the economy. It means this study presents evidence to support the existence of Okun's law in Indonesia. Also, this study contributes to the literature in an emerging country by using the Structural Vector Autoregression model.

Article type: research paper

Keywords: Okun's law; Gross Domestic Product; Open Unemployment Rate; Granger Causality; Structural Vector Autoregression; Emerging Country

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INTRODUCTION

Economic growth and employment are the two important macroeconomic variables (Bande & Martin-RoMan, 2017; Blázquez-Fernández, Cantarero-Prieto, & Pascual-Sáez, 2018; Rahman & Mustafa, 2017; Soylu, Çakmak, & Okur, 2018; Pawęta, 2018). Therefore, successful development will be seen from the maintenance of economic growth and job availability for society. The study conducted by Arthur Okun found economic growth had a negative relationship with unemployment. It indicates the higher unemployment rate will reduce economic growth, and vice versa (Okun, 1962).

As an emerging country, Indonesia has discovered and enjoyed high economic growth. During a global financial crisis from 2008 to 2009, the real gross domestic product (GDP) grew positively by 6.0% in 2008 and 4.5% in 2009. From an economic perspective, higher growth contributes to creating employment and reducing unemployment and poverty levels, then causing an increase in welfare. However, the unemployment rate remained high after the financial crisis in 1999. In 2007, the unemployment rate was 9.11% of the total workforce, which was higher than the one before the crisis in 1997 (4.7%) (Central Bureau of Statistics, 2019a).

In terms of employment, Indonesia still faces the low minimum wage and high unemployment rate (Yaumidin, 2009). This indicates the growth of new job seekers is faster than the creation of employment opportunities. Before the 1997 crisis, Indonesia had the lowest unemployment rate during the 1980s. In Indonesia, the economic growth is not always followed by a decline in the unemployment rate from year to year. During the period of 1990 to 2006, the relative unemployment rate increased every year, except in 1995, 1997 and 2000, which was down to 0.12%, 0.16%, and 0.28% respectively. Moreover, from 2011 to 2017, unemployment had decreased significantly. However, the decline in the unemployment rate is not always accompanied by an increase in economic growth. Job creation, as a result of economic growth, should absorb the workforce, reduce the number of unemployed people and the unemployment rate (Sasongko, Huruta, & Pirzada, 2019; Sasongko, Huruta, & Gultom, 2019; Appiah, Li, Frowne, & Donkor, 2019). Moreover, the Okun's Law can be used to see the relationship between the economic growth and unemployment more deeply which was by looking at the impact on sub-populations and the economic sub-sector (Boďa & Povařanová, 2015; Dimian, Aceleanu, Ileanu, & Șerban, 2018; Dixon *et al.*, 2016; Melguizo, 2016; Zanin, 2014, 2016). Thus, it can be understood previous researches still show various results of the relationship between unemployment and output.

This article has identified the existence of Okun's Law in an emerging country particularly Indonesia. We use the time-series analysis such as stationary test, lag length test, Granger causality, Vector Autoregression, White Noise Residual, VAR Stability, Cointegration test, and Structural VAR. The observation period starts from 1987-2017, which includes Indonesia's financial crisis in 1998 and the global financial crisis in 2007-2008.

In addition, this article is arranged in several sections. In the second section, we provide a literature review. In the third section, we provide materials and methods. In the fourth section, we provide findings. The fifth section, we provide discussion, and the sixth section we provide conclusions include limitation and suggestion for future research.

LITERATURE REVIEW

Okun's law explains the negative relationship between the unemployment gap ($U - U^n$) and the output gap ($Y - Y^p$). It can be understood when the output is above potential, affect the output gap to be positive. While the unemployment rate will be below the natural rate of unemployment. Thus, the unemployment gap becomes negative. Theoretically, a tight negative relationship exists between the unemployment gap and output gap which can be explained in Equation 1.

$$U - U^n = -0.5 \times (Y - Y^n) \quad (1)$$

The plot of the unemployment gap and output gap shows a linear relationship. It can be proved by the solid line with a slope of -0.5. Okun's law describes that for each percentage point where the output is above potential, the unemployment rate is one-half of a percentage point below the natural rate of unemployment. Moreover, Okun's law could also be explained that a one percentage point increase in output will lead to a one-half percentage point decrease in unemployment. It reveals that when the output rises, the firms do not increase employment commensurately with the increase in output (e.g., labor hoarding). In fact, the firms were still required their employees to work harder (e.g., increasing their office-hours) (Mishkin, 2016).

There have been many studies on the causality between unemployment and economic growth. In Arab countries, Abdul-Khaliq *et al.* (2014) who used the Pooled EGLS stated economic growth had a negative and significant effect on the unemployment rate. The nine Arab countries included Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Sudan, Syria, and Tunisia. Lebanon had the lowest unemployment rate, while Palestine, Sudan, Tunisia, and Jordan had generally the highest unemployment rate among these countries. In other countries, some increases could be seen in various periods. In Nigeria, Adeyeye *et al.* (2017) who used the Toda-Yamamoto Granger non-causality and Generalized Method of Moments found there was no causality between unemployment and economic growth. It can be understood that Okun's argument of bidirectional causality between unemployment and economic growth is invalid for Nigeria. Thus, promoting economic growth was such a policy tool for reducing the unemployment rate in Nigeria.

In Jordan, Alamro and Al-dala'ien (2016) who used Autoregressive Distributed Lag and Error Correction Model stated that economic growth had a weak negative short and long-run effect on unemployment. Furthermore, there was a slow response of the labor market to economic development, especially in gaining new skills and suitable training and also the emigrants' labor to Jordan, which made the impact of economic growth to be unsteady in terms of unemployment among the Jordanians. In Greece, a study by Apergis and Rezitis (2003) who used Hodrick- Prescott filter decomposition and the band-pass decomposition proved the Okun's coefficients did not exhibit substantial interregional differences, except for the cases of Epirus and North Aegean Islands. Thus, policymakers must place more emphasis on deregulating certain sectors in the economy, particularly, the labor market. In Nigeria, Arewa and Nwakanma (2012) who used the Vector Autoregressive proved the Okun's coefficient was not significant in the Nigerian economy. However, the trade-off between the output and unemployment-gap was shown to be positive. Therefore, the Nigerian government should provide enabling grounds for a productive minority to operate freely through subsidies, flexible credit facilities, stable, and sustainable electricity. In

Spain, Azorín and de la Vega (2017) used the spatial Seemingly Unrelated Regressions model stated when the spatial effects were not incorporated, a growth threshold was obtained and could be considered to be notably overvalued. The Okun coefficients varied over time and showed clearly differentiated responses by the employment and unemployment to changes in the output. In Spain, Bande and Martín-RoMan (2017) used Ordinary Least Squares and the Generalized Method of Moments found all of the Okun's coefficients were significant and showed the expected negative sign. All of the Spanish regions portrayed the cyclical behavior of the local labor markets to a greater or lesser extent. In Nigeria, Bankole and Fatai (2013) used Engle-Granger Cointegration and Fully Modified OLS stated that there was a positive coefficient in the regression. It means the Okun's law interpretation was not applicable to Nigeria. It was recommended that the government and policymakers should employ economic policies that were more oriented to structural changes and would reform in the labor market.

In the European Union, Blázquez-Fernández *et al.* (2018) used the Hodrick-Prescott (HP) filter and two-way ANOVA revealed an inverse relationship between unemployment and the output hold for the whole sample and subsamples. It can be understood that these countries showed smaller output loss associated with higher unemployment. Thus, the policymakers should design various ways to increase employment opportunities for diverse groups, such as on specific age cohorts, for those who were working in particular economic activities or those who were living in specific countries or macro-regions. In the four PIGS countries, Boďa and Považanová (2015) who used the Structural Vector Autoregression stated the output gap instantaneously influenced both the male and female unemployment gaps, and vice versa. It revealed that it was established and admitted that gender was such a factor which resulted in the respective segments of the labor market to respond slightly differently to changes in the real output. In Greece, Christopoulos (2004) used Panel Data revealed the Okun's law could be confirmed for six out of the thirteen regions. The sizable structural component of the total unemployment in Greece as well as the fact that the Greek labor market was still regulated by restricting the adjustment of firms to the desired level. In the Netherlands, de la Fonteyne (2017) used Vector Autoregression and revealed that Okun's Law was not a suitable tool to estimate unemployment from the gross domestic product growth. It can be understood that the slope of the curve depended strongly on the evolution of the frequency distribution of the gross domestic product.

In the Mediterranean countries, Dimian *et al.* (2018) used the Panel Data revealed that agriculture was the less-sensitive sector of activity to the output fluctuations in terms of unemployment and could be a buffer for the unemployed during the recessions. The industry was highly responsive to economic developments and bad specialization could worsen the unemployment situation. In addition, educational mismatches had a significant impact on the unemployment that employed a low educated workforce. In the twenty OECD countries, Dixon *et al.* (2016) used Sensitivity Analysis revealed the share of temporary workers played a crucial role in explaining changes in the Okun coefficient over time. The Okun coefficient was not only different for young, prime-age and older workers, but it also decreased with age. Thus, an increase in economic growth would not only have the desired outcome of reducing the overall unemployment rate. In the four Mediterranean countries of European Union, Dritsaki and Dritsakis (2014) used Hodrick and Prescott's filter revealed the cost per unit on unemployment rate from the decrease of real gross do-

mestic product was higher in Italy and lower in Greece. It means that the unemployment cost from the viewpoint of the loss of the real gross domestic product was larger in Italy. In the thirteen European Union countries, Economou and Psarianos (2016) used panel data and Mundlak decomposition provided evidence the Okun's law was robust to alternative specifications. It means that the effect of the output changes to unemployment rates was weaker for countries with increased labor market protection expenditures. Also, it was more persistent for countries with low labor market protection.

In the eight European Union countries, Gabrisch and Buscher (2006) used panel regressions with instrument variables that proved the transition of labor markets could be considered completed since the unemployment responded to the output changes. The labor market rigidities did not play an important role in explaining high unemployment rates. However, the gross domestic product growth was dominated by productivity progress and the employment-relevant component of aggregate demand was too low to reduce the high level of unemployment substantially. In the twenty-one, OECD countries and thirty-two Non-OECD countries, Huang and Yeh (2013) used Cross-Country Panel Data showed the unemployment output linkages were found to be negative and highly significant both in the short and long-run. Moreover, these results also proved a similar trade-off existed in the long-run. In the Eurozone Monetary Union countries, Hutengs and Stadtmann (2013) used a Linear Regression (OLS) model revealed the size of the Okun's coefficients differed quite substantially across countries. Thus, the huge gaps between unemployment rates across the EMU countries might rise social or political tension. In Nigeria, Jibir *et al.* (2015) used the Ordinary Least Squares and Granger causality proved there was a negative relationship between unemployment and economic growth. So, the government needs to introduce programs and policies that would create job opportunities for the teeming unemployed youths.

In the OECD countries, Kargi (2016) used the Engle-Granger Cointegration test to prove the Okun's Law existed in the twenty-three countries. It means that an increase in unemployment caused a decrease in the gross domestic product. In addition, the thirty-four OECD countries showed that a reversed relation between unemployment and growth was valid and they were cointegrate in the long-run. In Algeria, Kori Yahia (2018) used the Autoregressive Distributed Lag linear model and a Bayesian Normal Linear Regression model proved there was a negative correlation between changes in unemployment and economic growth. The results indicated that there was an Okun coefficient of -0.2 and suggested several rigidities of the labor market in Algeria. In Spain, Melguizo (2016) used Vector Autoregression and Panel VAR proved Spain's provinces showed large differences in their unemployment sensitivity to economic variations. Therefore, the provinces with less diversified industries need to develop the services sector. Also, the higher rates of labor participation were suffered from higher variations in the unemployment rates. In the G7 countries, Moosa (1997) used OLS, rolling OLS and SUR proved the employment was more responsive to the economic growth in the United States and Canada than in Europe and Japan. Furthermore, the employment was more responsive to the economic growth in the United States and Canada because of the lack of job security provisions and restrictions on layoffs.

In Malaysia, Noor *et al.* (2007) used Granger causality showed there was a two-way causality between the unemployment rate and output growth in Malaysia. The existence of these relationships would not solve unemployment problems. Policymakers must be creative in creating new jobs to ensure that these jobs matched with the job seeker's

talents and skills. In the British area, Palombi, Perman, and Tavéra (2017) used the Spatial Panel approach provided evidence the regression coefficient was lower than the previously shown by cross-country evidence. Also, it was largely attributable to the spatial mechanisms which were at work in a small distance. Moreover, the interregional linkages and spillover effects from the labor mobility had important implications for the presence of Okun's law. In the G7 countries, Pierdzioch *et al.* (2011) used Panel Data showed there was a significant negative relationship between the expected change in the unemployment rate and the expected growth rate of the real output. Moreover, the Okun coefficient showed some variations over the year. Also, the estimated coefficients were significant and largely comparable in size to those found in studies based on the realized data. In Romania, Ruxandra (2015) used the there was a reverse relation between the gross domestic product and unemployment rates. However, fiscal and monetary policies were not sufficient to reduce unemployment. So, the government needs to promoting mobility to areas where there were vacancies.

In the thirteen developed countries, Rahman and Mustafa (2017) used Bivariate Error-Correction Model revealed the Okun's Law was quite valid only for the USA and South Korea. A more flexible labor market would lead to a large output gain and also the employment gain would record a lower unemployment rate. The USA and South Korea were likely to succeed in mitigating the unemployment rate by enhancing the real gross domestic product growth through monetary and expansionary fiscal policy. In the United States, Silvapulle *et al.* (2004) used the Asymmetric Dynamic Model provided evidence of the short-run effects of positive cyclical output on cyclical unemployment that were quantitatively different from those of negative ones. Overall, the cyclical unemployment was more sensitive to negative than to positive cyclical output. In the Eastern European Countries, Soylu *et al.* (2018) used Panel Data analysis revealed an increase in growth could be seen by setting unemployment-reducing measures. In addition, there was a co-integration between unemployment and growth. Thus, the governments need to consider the globalization situation, the information society requirements, and technological developments.

In the European countries, Tatoglu (2011) used Panel Error Correction Model showed the Okun's law exists in the European countries. Also, the significance of the relationship between the economic growth rate and the unemployment rate varied between countries. In addition, the long-run coefficients obtained from this study were lower compared to the Okun coefficient. In the European countries, Zanin and Marra (2012) used Penalized Regression Spline, Rolling Regression, and Time-Varying coefficient model found the inverse relationship in some European countries was spatially heterogeneous and time-varying. In addition, this finding confirmed that the number of coefficients increased over time, especially for Spain, France, Portugal, Ireland, and Italy. Furthermore, the coefficients for Finland and the Netherlands exhibited a change of direction during the last years. Therefore, these results had been analyzed in light of the rate of output growth needed for a stable unemployment rate proposed. In the OECD countries, Zanin (2014) used traditional Ordinary Least Squares provided evidence the estimated Okun coefficients were not always statistically significant for each subgroup of the population. These results also highlighted a general common pattern of higher Okun coefficients for the youngest cohorts. This suggested that the young population (e.g., the young male) tended to be most exposed to the business cycle in both developed and emerging OECD countries.

In Italy, Zanin (2016) used Binary Generalized Extreme Value Additive Model found the young population was less sensitive to business cycles. As the workforce ages, this gap in sensitivity tended to shrink. In addition, there were no significant differences by gender in the number of Okun's coefficient among the youngest population.

In Indonesia, Yaumidin (2009) used the difference model and the gap model found the difference model of the Okun's Law could not be used on the Indonesian economy. Moreover, Astuti (2016) used correlation analysis showed there was no match between the Okun's law and Phillip's Curve. In order words, the economic growth and unemployment in Indonesia had a negative but not significant. However, Darman (2013) used the difference version and Ordinary Least Square models showed the Okun's coefficient was different in each country. In Indonesia, Okun's coefficient was negative. It indicates there was a relationship between economic growth and the unemployment rate. However, the significance level of Okun's coefficient was quite small. Overall, previous studies still show various results of the relationship between unemployment and output. In addition, previous studies also use many kinds of econometric modeling. Thus, it can be indicated that there is an uncertain relationship between the rate of unemployment and output in various countries. For example, the economic growth had a negative and significant effect on the unemployment rate (Abdul-Khaliq *et al.*, 2014; Alamro & Al-dala'ien, 2016; Bande & Martin-RoMan, 2017; Blázquez-Fernández *et al.*, 2018; Darman, 2013; Dritsaki & Dritsakis, 2014; Jibir *et al.*, 2015; Kargi, 2016; Kori Yahia, 2018; Noor *et al.*, 2007; Pierdzioch *et al.*, 2011; Ruxandra, 2015; Soyly *et al.*, 2018; Tatoglu, 2011; Zanin & Marra, 2012), the Okun's coefficient was not significant (Apergis & Reztis, 2003; Arewa & Nwakanma, 2012; Astuti, 2016; Yaumidin, 2009), there were positive coefficients in the regression and it implied that the Okun's legal interpretation did not apply (Bankole & Fatai, 2013), there was no causality between economic growth and unemployment rate (Adeyeye *et al.*, 2017), there was a two-way causality between unemployment and output growth (Bođa & Považanová, 2015; Noor *et al.*, 2007), and the Okun's coefficient was different for each country (Azorín & de la Vega, 2017; Bande & Martin-RoMan, 2017; Dixon *et al.*, 2016; Hutengs & Stadtmann, 2013; Moosa, 1997; Rahman & Mustafa, 2017; Silvapulle *et al.*, 2004). Based on these findings, the following hypotheses was suggested:

H₀: The open unemployment has no significant influence on GDP.

H_a: The open unemployment has a significant influence on GDP.

MATERIAL AND METHODS

The secondary data obtained from Indonesia's Central Bureau of Statistics publications. Also, we use time-series data extracted from the open unemployment rate and gross domestic product in 1987 to 2017. The open unemployment rate was measured by the percentage of unemployment in the total workforce. While the gross domestic product was measured by the total production of goods and services assessed at constant prices (Central Bureau of Statistics, 2019b).

The time-series data must find out the components of existing elements such as trend, seasonal, and cycle. Therefore, the stationarity test is needed to be done. So, we develop the stationary model which can be seen in Equation 2 (Rosadi, 2012).

$$\Delta Y_t = \beta_1 + \beta_{2t} + \delta Y_{t-1} + u_t \quad (2)$$

The second equation reveals that Y is an observed variable, β is an intercept, δ is trend component, Δ is the first difference, t_{-1} is first lag, t is time and u is residual. After the stationarity assumptions are met, the lag length test was needed to be done. The optimal lag selection was done by selecting the AIC value (Ivanov & Kilian, 2005). Moreover, the optimal lag can be used to run the Granger causality test. This model can be seen in Equation 3 and 4 below.

$$Y_t = \alpha_1 + \sum_{i=1}^m \beta_i Y_{t-i} + \sum_{j=1}^n \gamma_j X_{t-j} + \mu_t \quad (3)$$

$$X_t = \alpha_2 + \sum_{i=1}^p \phi_i X_{t-i} + \sum_{j=1}^q \psi_j Y_{t-j} + \eta_t \quad (4)$$

Equation 3 and 4 reveals that X is the open unemployment rate, Y is the gross domestic product, μ_t and η_t are error terms assumed to contain no serial correlation. Besides the Granger causality, the VAR analysis was also used particularly in VAR (p) with k -endogenous variable (Lütkepohl, 2005). In fact, the Vector Autoregression is based on data and not theories. Thus, it can be understood that it's better to use Structural Vector Autoregression. Absolutely indeed that a Structural Vector Autoregression is based on theories. That's why the theories can be considered in this model. Therefore, we begin to develop a reduced-form of Vector Autoregression (e.g., we assume that A is invertible). Therefore, it can be seen in Equation 5 below.

$$y_t = A_1 y_{t-1} + \dots + A_p y_{t-p} + Cx_t + \epsilon_t \quad (5)$$

Moreover, the simplified form of the error structure can be explained in Equation 6, 7, and 8 below.

$$\epsilon_t = A^{-1} B u_t = S u_t \quad (6)$$

$$E(\epsilon_t \epsilon_t^{-1}) = \sum \epsilon_t = A^{-1} B B' A^{-1'} = S S' \quad (7)$$

$$S = A^{-1} B \quad (8)$$

Based on Equation 6, 7, and 8 we derivative the short-run A - B model as can be seen in Equation 9, 10, and 11 below.

$$\epsilon_t = A^{-1} B u_t \quad (9)$$

$$A \epsilon_t = B u_t \quad (10)$$

$$\sum \epsilon_t = A^{-1} B B' A^{-1'} \quad (11)$$

Amisano and Giannini (1997) stated that the restrictions on A and B take the structure of contemporaneous feedback of variables and the correlation structure of the errors in Structural Vector Autoregression. Furthermore, Blanchard and Quah (1989) stated that the Keynesian model consists of aggregate supply (AS), aggregate demand (AD), and monetary rule equation. We focus on the AS characterizes particularly the relationship between unemployment and output (the Okun's law). The series model will be collected in the 2×1 vector. It can be seen in Equation 12 below.

$$y_t = [y_{1t}, y_{2t}]' = [y_t, u_t]' \quad (12)$$

where:

y_t - GDP;

u_t - Open Unemployment.

While the structural disturbances collected in the vector can be seen in Equation 13 below.

$$e_t = [e_{2t}]' \quad (13)$$

where:

e_{2t} - shock on aggregate supply.

Amisano and Giannini (1997) also stated that the relationships between y_t and structural shocks contained in e_t are determined by the A and B matrices. It can be seen in Equation 14 below.

$$u_t = -a_{21} y_t + b_{22} e_{2t} \quad (14)$$

Thus, we can develop the short-term restriction in a Structural Vector Autoregression as can be seen in Equations below.

$$A\epsilon_t = Bu_t \quad (15)$$

$$\begin{bmatrix} 1 & 0 \\ a_{12} & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ a_{12} & 1 \end{bmatrix} \begin{bmatrix} \epsilon_{y1} \\ \epsilon_{y2} \end{bmatrix} \begin{bmatrix} \epsilon_{y1} \\ \epsilon_{y2} \end{bmatrix} \begin{bmatrix} b_{11} & 0 \\ 0 & b_{22} \end{bmatrix} \begin{bmatrix} b_{11} & 0 \\ 0 & b_{22} \end{bmatrix} \begin{bmatrix} u_{y1} \\ u_{y2} \end{bmatrix} \begin{bmatrix} u_{y1} \\ u_{y2} \end{bmatrix} \quad (16)$$

$$\epsilon_{y1} = b_{11} u_{y1} \quad (17)$$

$$\epsilon_{y2} = -a_{21} \epsilon_{y1} + b_{22} u_{y2} \quad (18)$$

So, it can be understood that Equations and Matrices show the open unemployment rate is simultaneously related to GDP and instantaneously affected by supply disturbances.

FINDINGS

The results of the time series data's stationarity test are presented in Table 1 below.

Table 1. Stationarity test

Variable	Degree of integration	p-value	Conclusion
GDP*	I(0)	0.9990	The series does not stationary
D(GDP)**	I(1)	0.0358*****	The series does stationary
Open***	I(0)	0.9775	The series does not stationary
D(Open)****	I(1)	0.0000*****	The series does stationary

Note: (*) GDP implies the gross domestic product at constant prices.

(**) D(GDP) implies the gross domestic product (constant prices) at the first difference.

(***) Open implies Indonesia's open unemployment rate.

(****) D(Open) implies Indonesia's open unemployment rate at the first difference.

(*****). Indicate reject the null hypothesis at the significance level of 1%, 5%, and 10%.

Source: own study.

Table 1 indicates that the gross domestic product is stationary at the first difference or I(1). This can be seen from the p-value of 0.0358 which is smaller than the significance level of 1%, 5%, and 10%. While the open unemployment rate is stationary at the first difference or I(1). This can be seen from the p-value of 0.0000 which is smaller than the significance level of 1%, 5%, and 10%. Also, the results of the lag length test can be seen in Table 2 below.

Table 2. Lag length test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-444.7281	NA	1.14e+13	35.73825	35.83576	35.76530
1	-437.4244	12.85461	8.75e+12	35.47395	35.76648	35.55509
2	-428.1669	14.81202	5.80e+12	35.05335	35.54090	35.18857
3	-421.2028	10.02827*	4.67e+12*	34.81622*	35.49879*	35.00554*
4	-418.8236	3.045373	5.51e+12	34.94589	35.82348	35.18929
5	-418.2222	0.673521	7.69e+12	35.21778	36.29039	35.51527

Note: (*) Indicate the optimal lag.

Source: own study.

Table 2 reveals that lag 3 is the optimal lag that can explain the effect of a variable on its past variables and other endogenous variables. This is supported by the Akaike Information Criterion value of 34.81622 which is smaller than AIC value in the other lags. Based on the lag length test, the results of the Granger causality test are displayed in Table 3 below.

Table 3. Granger causality test

Pairwise Granger Causality Tests			
Sample: 1987 2017			
Lags: 3			
Null Hypothesis:	Obs.	F-Statistic	Prob.
D(GDP) does not Granger Cause D(Open)	27	0.80642	0.5051
D(Open) does not Granger Cause D(GDP)		13.0248	6.E-05*

Note: (*) Do not accept the Null Hypothesis.

Source: own study.

The null hypothesis proposing that D(Open) does not Granger causes D(GDP) is not accepted. It means that open unemployment exhibited the Granger cause on gross domestic product. The results suggest that D(Open) does Granger cause D(GDP), but not vice versa. The decision to do not accepted the null hypothesis is based on the probability value of 6.E-05 that is lower than the level significance of 5%. After running the Granger causality test, this study continues to examine the Vector Autoregression test. The results of the VAR test are displayed in Table 4.

The dependent variable of the open unemployment rate is significantly affected by D(Open)(-1). Furthermore, the dependent variable of gross domestic product is significantly affected by D(Open)(-1), D(Open)(-2), D(Open)(-1), and D(GDP)(-1).

The estimates of the Vector Autoregression are also supported by the results of the white noise residual test illustrated in Table 5.

There is no correlation between residuals (the white noise residual was fulfilled). This can be seen from the p-value which is bigger than the significance level of 1%, 5%, and 10%. The estimates of the white noise residual are also supported by the results of the VAR stability test illustrated in Figure 1.

Figure 1 reveals there is no root lying outside the unit circle. This means that Vector Autoregression helps the stability condition as can be seen from the modulus, ranging with an average value of less than one. The estimates of Vector Autoregression stability are also supported by the Cointegration test that can be seen in Table 6.

Table 4. VAR model of D(Open) and D(GDP)

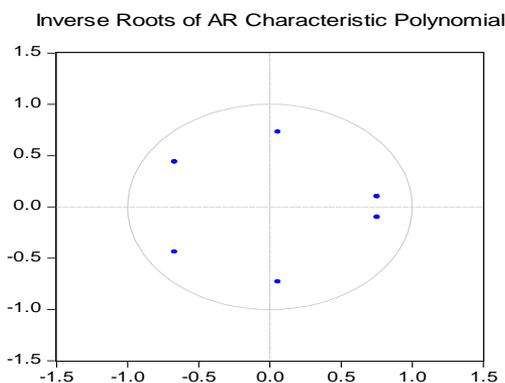
Variables	D(Open)		D(GDP)	
	Coefficients	t-stat	Coefficients	t-stat
D(Open)(-1)	-0.507064	-2.30130	-451864.1	-2.48228
D(Open)(-2)	-0.007229	-0.02513	-427920.9	-1.80076
D(Open)(-3)	0.018076	0.05858	843913.8	3.31035
D(GDP)(-1)	-1.79E-07	-0.78135	0.796596	4.20758
D(GDP)(-2)	4.85E-08	0.27173	-0.235330	-1.59463
D(GDP)(-3)	-2.31E-07	-1.38006	0.231356	1.67307
C	1.029478	1.32807	649192.3	1.01370
R ²	0.338941	–	0.748524	–
F-statistic	1.709080	–	9.921753	–
Log-likelihood	-43.45258	–	-411.3154	–
AIC	3.737228	–	30.98632	–
Swarz SC	4.073186	–	31.32228	–

Source: own study.

Table 5. White noise residual test

Lags	Q-Stat	Prob.
1	1.286594	NA*
2	1.943286	NA*
3	2.872925	NA*
4	3.835771	0.4287
5	6.774449	0.5612
6	8.080915	0.7788
7	10.55343	0.8362
8	12.36713	0.9029
9	13.16176	0.9634
10	17.74461	0.9324

Source own study.

**Figure 1. The VAR stability**

Source: own elaboration.

Table 6. Unrestricted cointegration rank test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.274224	9.551386	15.49471	0.3168
At most 1	0.045766	1.218016	3.841466	0.2697

Note: (*) denotes rejection of the hypothesis at the significance level of 5%.

(**) MacKinnon-Haug-Michelis p-values.

Source: own study.

The Trace test shows no cointegration at the significance level of 5%. It means that there is no cointegration or long-term relationship between the open unemployment rate and gross domestic product. That's why we use Structural Vector Autoregression with short-term restrictions. The short-term restriction in the SVAR modeling using D(Open) and D(GDP) can be seen in the Matrices and Equations below:

$$A = \begin{bmatrix} 1 & 0 \\ 271127.8 & 1 \end{bmatrix} \quad (19)$$

$$B = \begin{bmatrix} 1.405606 & 0 \\ 0 & 1096946.1 \end{bmatrix} \quad (20)$$

$$\epsilon_{y1} = 1.405606 u_{y1} \quad (21)$$

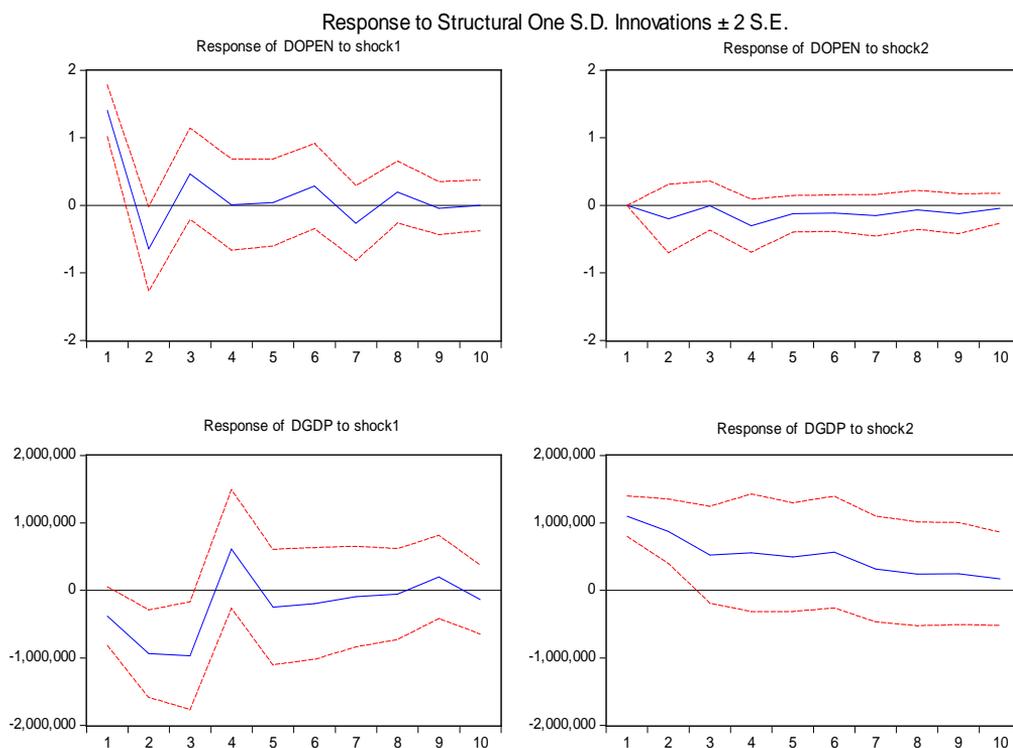
$$\epsilon_{y2} = -271127.8 \epsilon_{y1} + 1096946. u_{y2} \quad (22)$$

The Matrices and Equations show that e_{y1} is the residual of D(Open), while e_{y2} is the residual of D(GDP). Through the formation of restrictions noted on Structural Vector Autoregression, the Structural Impulse Response Functions (SIRFs) and Structural Variance Decomposition (SVD) can be developed.

From the first year to the eighth year, the response of D(Open) to shock one and two was still very volatile. While from the ninth year to the following year, the D(Open) stabilized again. It means that D(Open) was no longer volatile like the previous period. In order words, since the ninth year, D(Open) had reached an equilibrium. Moreover, from the first to the ninth year, the response of D(GDP) to shock one and two was still very volatile. While from the tenth year to the following year, the D(GDP) stabilized again. It means that D(GDP) was no longer volatile like the previous period. In order words, since the tenth year, D(GDP) had reached an equilibrium. The SIRFs results were also supported by the SVD as can be seen in Table 7.

Table 7 indicates from the first year, the SVD of D(Open) was strongly affected by shock one was 100%. While shock 2 did not have a significant effect. In this case, when we start from the first to the tenth year, the proportion of shock one to D(Open) was 93.20%. While from the first to the tenth year, shock two had only contributed 6.79% to D(Open). Therefore, it was concluded magnitude of shock one had a greater effect on D(Open). Also, the SVD of D(GDP) can be explained in Table 8.

Table 8 reveals from the first year, SVD of D(GDP) was strongly affected by shock two was 89.22%. While shock one did not have a significant effect. Starting from first to the tenth year, the proportion of shock two to D(GDP) was 57.24%. However, from first to the tenth year, shock one only contributed 42.75% to D(GDP). Therefore, it can be concluded the magnitude of shock two had a greater influence on D(GDP).



Source: own elaboration.

Table 7. SVD of D(Open)

Period	S.E.*	Shock1	Shock2
1	1.405606	100.0000	0.000000
2	1.558743	98.41222	1.587784
3	1.626978	98.54211	1.457891
4	1.654801	95.25964	4.740357
5	1.660061	94.71583	5.284173
6	1.688556	94.41344	5.586562
7	1.715651	93.81789	6.182109
8	1.728264	93.75531	6.244689
9	1.733358	93.26494	6.735061
10	1.733907	93.20594	6.794058

Note: (*) Indicate the standard error

Source: own study.

Finally, the results of SIRFs and SVD reveal that D(Open) shock has a greater influence by the shock two, rather than the shock one. On the other hand, the shock of D(GDP) has a greater influence by shock two rather than the shock one.

Table 8. SVD of D(GDP)

Period	S.E.*	Shock1	Shock2
1	1161260.	10.77001	89.22999
2	1730114.	34.29132	65.70868
3	2051445.	46.67229	53.32771
4	2211346.	47.84297	52.15703
5	2278907.	46.24159	53.75841
6	2356256.	43.94280	56.05720
7	2379070.	43.25918	56.74082
8	2392129.	42.84185	57.15815
9	2412962.	42.77685	57.22315
10	2422998.	42.75183	57.24817

Note: (*) Indicate the standard error

Source: own study.

DISCUSSION

This result is supported by Abdul-Khaliq *et al.* (2014); Alamro and Al-dala'ien (2016); Bande and Martín-RoMan (2017); Blázquez-Fernández *et al.* (2018); Dritsaki & Dritsakis (2014); Jibir *et al.* (2015); Kargi (2016); Kori Yahia (2018); Noor *et al.* (2007); Pierdzioch *et al.* (2011); Ruxandra, (2015); Soyly *et al.* (2018); Tatoglu (2011); Zanin and Marra (2012) who found a negative relationship between open unemployment rate and gross domestic product. The negative direction indicates a decrease in D(Open) which has implications for increasing D(GDP). This condition reveals the number of workers involved in the production process was getting bigger (Alamro & Al-dala'ien, 2016). This is also supported by the fact there was unemployment based on the education groups which affected the GDP. It can be seen in Table 9 below.

Table 9. The impact of labor forces by education level on eel GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25190310	3594548.	7.007921	0.0000
Non-School	-39.73537	24.95382	-1.592356	0.1256
Not Graduate	35.36817	16.07368	2.200378	0.0386
Elementary	6.009163	6.007584	1.000263	0.3281
Junior	-2.091703	7.951573	-0.263055	0.7950
Senior	-4.716806	6.872989	-0.686282	0.4997
Vocational	16.37103	7.734796	2.116543	0.0458
Diploma	-204.0429	27.44132	-7.435605	0.0000
University	142.0985	22.61086	6.284524	0.0000
R-squared	0.972781			
Adjusted R-squared	0.962883			

Source: own study.

The increase in unemployment based on people who did not graduate from elementary school which implied an increase in the GDP. It means the increase in the GDP was not caused by the increase in the workforce from these groups. When they left the labor

market, they were replaced by other education groups (Dimian *et al.*, 2018; Zanin, 2016). Thus, it can be understood an increase in the GDP did not require a workforce from non-school groups. In line with this group, the increase in unemployment based on the vocational-education level group had implications for the increase in GDP. It means the increase in GDP was not caused by the increase of labor from the vocational-education level groups. Basically, their skills were not in accordance with the needs of the labor market. The labor needs that occurred due to an increase in the GDP could not be met by the vocational-education level group. This indicates a miss-match skill from this group (Alamro & Al-dala'ien, 2016; Dimian *et al.*, 2018). Thus, it can be understood the group of workers originating from the vocational-education level group was not yet in accordance with the needs of the labor market. Moreover, the increase in unemployment based on the university group also had implications for the increase in GDP. It means the increase in GDP was not caused by the increase in the workforce from the university group. When they got out of the labor market, at the same time, the open unemployment rate and GDP actually increased. Thus, it can be understood the GDP increased more in labor-saving than labor-intensive (Rahman & Mustafa, 2017; Soylu *et al.*, 2018). However, the decline in unemployment based on the diploma group had implications for the increase in the GDP. It indicates that the diploma group was still needed in the labor market to work as teachers or educators in Islamic educational institutions. When the diploma group was involved as labor, it made the GDP increase. Thus, it is understood diploma group services were still needed in the labor market.

Moreover, there was unemployment based on the age groups which affected the GDP. It can be seen in Table 10 below.

Table 10. The impact of labor forces based on age groups on real GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	35829665	7715317.	4.643965	0.0002
15-19	2.902234	13.02387	0.222840	0.8259
20-24	24.60280	14.17831	1.735243	0.0981
25-29	-111.2787	47.04485	-2.365374	0.0282
30-34	138.7546	103.6864	1.338214	0.1958
35-39	-63.09374	104.9782	-0.601017	0.5546
40-44	111.6198	122.9880	0.907566	0.3749
45-49	23.92157	141.9794	0.168486	0.8679
50-54	-118.4486	159.6167	-0.742081	0.4667
55-59	270.2433	187.0104	1.445071	0.1639
60 +	-73.01866	26.19766	-2.787221	0.0114
R-squared	0.757139	–	–	–
Adjusted R-squared	0.635708	–	–	–

Source: own study.

The unemployment of the 25-29 age group had a negative effect on the GDP. It means the decline in the open unemployment rate had implications for the increase in GDP. The decline in the open unemployment rate indicated that the 25-29 age group was involved as labor. Moreover, this group actually belonged to the productive age category (Zanin, 2014, 2016; Zanin & Marra, 2012). Thus, it can be understood the increase in the number of productive age group had implications for the increase in GDP.

Moreover, the unemployment of the 60+ age group also had a negative effect on the GDP. It means the decline in the open unemployment rate had implications for the increase in GDP. This indicates that the 60+ age group was involved in the labor market. This condition shows the 60+ age group was still able to work in non-formal employment and the agricultural sector. Thus, it can be understood the involvement of the 60+ age group as labor had implications for the increase in GDP (Zanin, 2016).

The one-way relationship from the open unemployment rate to GDP implies that the GDP did not affect the open unemployment rate. It can be seen in Figure 3 below.

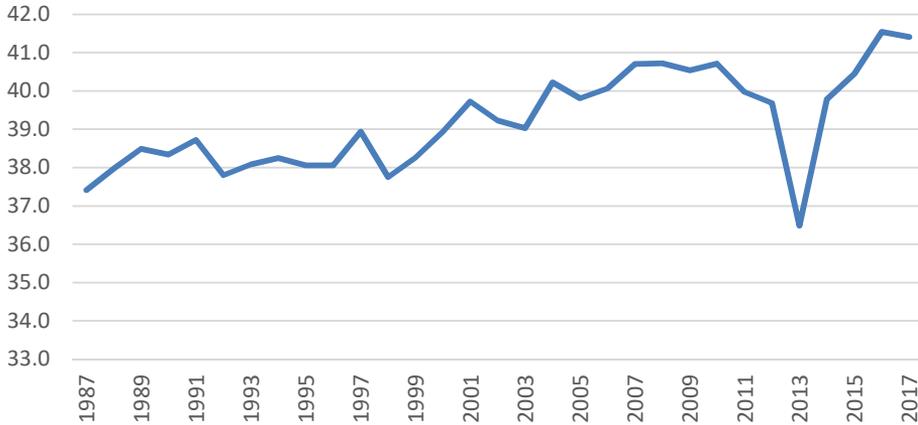


Figure 3. Working hours average

Source: Central Bureau of Statistics (2016a, 2016b, 2018, 2019c), processed.

The working hours average per week shows an increasing trend. The facts show from 37 hours in 1986, it increases to 41 hours in 2017. When the GDP increases, it should be followed by an increase in labor demand. The increase in the working hours average illustrates the fulfillment of labor needs did not originate from the additional number of workers but from the additional number of working hours (Alamro & Al-dala'ien, 2016; Apergis & Rezitis, 2003; Arewa & Nwakanma, 2012; de la Fonteijne, 2017). Thus, it is understandable if the increase in GDP did not affect unemployment.

CONCLUSIONS

The labor economics policies that aim to overcome unemployment will be effective to increase the GDP in an emerging country such as Indonesia. This argument implies that declining unemployment is effective to increase the GDP. It means Okun's law notice that the more labor used in production will have implications for increasing GDP in the economy. This study is in line with Okun's law which explains the more labor used in production will have implications for increasing GDP in the economy. The negative direction showed the low unemployment rate resulted in higher GDP. An increase in GDP implied a high number of workers in the production process. It can be understood when the GDP increased, it should have been followed by an increase in demand for labor.

Numerous facts support these findings, especially the increase in working hours average, education groups and age groups involved in the labor market. Based on Indonesia's economic structure, the majority of employment is still supported by the agricultural and the informal sector. Therefore, the government needs to encourage productive growth and absorb a lot of labor, not capital intensive growth. Our findings present evidence to support the existence of Okun's law in Indonesia. In addition, this study contributes to the literature in an emerging country by using the Structural Vector Autoregression model. However, the Indonesian geographical condition, consisting of thousands of islands, was likely caused by the implementation of labor economics policies to take a longer time. It implies the government needs to adjust to the inter-region differences.

Due to the current limitations, the Hodrick-Prescott (HP) Filter of the gap model and Structural Panel Vector Autoregression method can be used to improve the inference, not only for properties of the sample distribution but also for dynamics of individual members of the panel that lack of adequate data for a conventional time series SVAR analysis. Future research may consider long time-series and panel data to explain the impact of unemployment on the gross domestic product, and vice versa.

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The financing structure of companies of the Visegrad Group countries in the years 2005-2014

Katarzyna Łach

ABSTRACT

Objective: The main aim of the article is to compare the financing structure of companies of the Visegrad Group countries in the years 2005-2014, that is in the period before, during and after the global financial crisis.

Research Design & Methods: The paper investigates the structure of financing enterprises operating in the Visegrad Group countries in the years 2005-2014. In the analysis several financial ratios were calculated and analysed, presenting the capital structure and sources of financing companies.

Findings: In spite of the fact that the overall level of debt differs in analysed countries, trends in the shaping of the share of debt ratio were similar in individual countries. The strongest relationship between the ratios concerning enterprises in individual countries was observed in the analysis of the share of financial surplus of the firms and the scope of use of trade liabilities. The weakest in the level of financing with bank credits (long-term and short-term).

Contribution & Value Added: Research into determinants of the financing structure of companies takes a number of factors into consideration, among which the condition of economy is undoubtedly important. Therefore the research included in the paper follows changes in companies' financing structure in the aspect of a financial crisis. Additional a detailed comparative analysis was conducted concerning the financing structure of the Visegrad Group countries.

Article type: research article

Keywords: capital structure; determinant of capital structure; debt ratio; bank credits; self-financing; financial crisis

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INTRODUCTION

Managing the financing structure of an enterprise is still one of most often discussed but at the same time one of the most controversial issues of the contemporary finance. The aim of shaping the appropriate capital structure is primarily the maximisation of the profitability of equity and the firm's market value (Maślanka, 2007, p. 521). However, it should be emphasized that the choice of appropriate sources of financing, in proper proportions, favours the maintenance of financial liquidity, reduces operating expenses and risk. Research into determinants of the financing structure of companies takes a number of factors into consideration, among which the condition of economy is undoubtedly important.

This paper investigates the structure of financing enterprises operating in the Visegrad Group countries, thus also in Poland, the Czech Republic, Slovakia and Hungary. The research period included the years 2005-2014, therefore, the period comprises three pre-crisis years 2005-2007, two years of the global financial crisis, and five years 2010-2014, which can be called the period of overcoming the crisis.

The research used data from the Amadeus database which includes the basic data from financial statements of more than 20 million enterprises all over Europe, which are adapted to one universal format enabling comparisons between countries.

The main aim of the research undertaken was to compare the structure of the sources of financing enterprises, in which attention was paid to two important issues. Firstly, an attempt was made to check similarities and differences in the structure of financing enterprises of the studied countries. Secondly, visible changes were sought in the structure of the sources of financing enterprises, which could be the consequence of the financial crisis taking place in the analysed period.

In the conducted analysis several financial ratios were calculated and analysed, depicting the capital structure and sources of financing companies. The following relationships were taken into consideration: (i) debt ratio measured by total liabilities to balance sheet total, (ii) share of long-term bank credits in balance sheet total, (iii) share of short-term bank credits in balance sheet total, (iv) share of trade liabilities in balance sheet total, and (v) share of net cash flow (net profit + amortisation) in balance sheet total.

In the first place, those ratios were calculated for all the enterprises which for the studied years revealed the needed values, and then, in the division into the studied countries, the mean value and the median of individual ratios were calculated.

LITERATURE REVIEW

As it was indicated above, the main research aim of this paper is to compare the financing structure of enterprises operating in the countries of so-called Visegrad Group. In the past, the countries had a similar economic system, since 1990 they have changed their political and economic system, and since 1 May 2004 they have become the European Union members. Thus, enterprises which will be analysed conduct their activities in different countries, but at the same time they are countries which are characterised by geographical proximity, cultural and economic similarity, as well as common interests arising from belonging to the same region (Grabia, 2014, p. 36). Accordingly, one could think that the financing structure of firms from these countries should be similar.

Yet, on the other hand, findings of numerous research into financing enterprises in the international approach prove the existence of factors specific for a given country and influencing the capital structure of enterprises. The factors are of macroeconomic and institutional character. They determine benefits and costs of using various sources of financing in individual countries. They are called the capital structure determinants at the level of the state, and first of all they include (Lisińska, 2015, p. 213):

- legal system,
- tax system,
- creditor protection level,
- level of the development of financial markets,
- level of the development of the banking sector,
- inflation rate,
- GDP growth,
- ratio of listed companies' capitalisation to GDP,
- information asymmetry costs,
- agency costs.

However, it should be emphasized that there is no agreement among researchers as to the problem of the extent to which the above factors actually influence the capital structure of firms in individual countries.

Due to the above postulates, a detailed analysis was conducted in the paper concerning the financing structure of the studied Polish enterprises, as well as the comparative analysis of this structure between countries.

The other aim of the conducted research was to follow changes in companies' financing structure in the aspect of a financial crisis. Therefore, prior to the commencement of the research, scientific papers and reports on the impact of a crisis on the financial situation of enterprises were analysed.

In the majority of those sources it is indicated that one of the first symptoms of a crisis, a financial crisis in particular, taking its toll on the activities of enterprises, is limiting possibilities to acquire capitals, reducing their availability (Ostrowska & Cymek, 2012; Kaliszczak & Urban, 2011, p. 199; Antczak & Starczewska-Krzysztozek, 2009)

Uncertainty on financial markets and in banks is the reason for which it is more difficult to acquire external financing, including the fact that first of all the possibilities to finance with a bank credit decrease (Leicht, 2011, p. 47). Such a fact should be reflected in a decreased scope of financing firms with a bank credit. Therefore, to analyse the structure of the sources of financing in more detail, changes in debt from bank credits were analysed.

Another symptom of a crisis is a decrease in demand, which is manifested in firms in a decline of production, sales, and leads to the worsening of the financial situation primarily in the area of profitability and financial liquidity (Gryko, 2013, p. 123). Moreover, the consequence of such a situation are payment gridlocks increasing in the enterprises sector, which lead to the growth of the debt level of business entities. When attempting to verify this thesis, the scope of using trade credits (trade liabilities) was analysed to check whether we can talk about increasing payment gridlocks arising from financial problems in enterprises. A possible increase in financing with trade liabilities may be also a result of

an insufficient access to bank credits and loans (Iwin-Garzyńska, 2010, p.48). In such a situation companies could in a way force longer payment terms from suppliers, treating a trade credit as a substitute of a bank credit (Marzec & Pawłowska, 2011, p.36).

A symptom of the worsening of the financial situation of enterprises during a crisis is also lower profitability, reduced possibilities to finance a firm's activity from retained earnings. In order to study the scope of so-called self-financing of enterprises, the ratio of financial surplus to balance sheet total was investigated (Maślanka, 2012, p.218).

MATERIAL AND METHODS

The main aim of the article is to compare the financing structure of companies of the Visegrad Group countries in the years 2005-2014, that is in the period before, during and after the global financial crisis.

The article investigates the structure of financing enterprises operating in the Visegrad Group countries in the years 2005-2014. In the analysis several financial ratios were calculated and analysed, presenting the capital structure and sources of financing companies.

For the purpose of the analysis the statistical data was taken from the Amadeus database.

RESULTS AND DISCUSSION

The analysis of the ratios of the financing structure of companies of the Visegrad Group countries

In the study of companies' financing structure firstly debt ratio, and secondly a few other ratios depicting the scale of the use of various sources to finance company activities were used. For this purpose, the share of long-term and short-term bank credits, trade liabilities and generated financial surplus in financing (liabilities) were investigated. Below, in the subsequent tables, mean values of the ratios described above are shown for enterprises from individual countries.

Table 1 and Figure 1 show medians and mean values of debt ratio in enterprises from the studied countries.

Table 1. Mean values and medians of debt ratio in the studied enterprises of the analysed countries, 2005-2014 (%)

Country	Measure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	Mean	52.3	52.2	51.7	52.4	51.3	52.2	52.7	51.7	49.3	45.6
	Median	52.2	51.6	51.0	51.4	49.8	50.9	51.3	50.0	47.5	43.9
Czech Republic	Mean	58.7	58.8	58.2	57.1	57.1	57.7	57.4	56.6	55.6	51.6
	Median	58.2	58.4	57.5	55.8	54.7	54.9	54.2	52.3	51.3	47.2
Hungary	Mean	57.5	52.6	53.4	55.1	57.5	59.8	60.6	65.0	57.2	56.7
	Median	52.1	52.4	51.1	51.0	50.3	51.4	51.4	52.5	50.1	48.7
Slovakia	Mean	66.5	66.0	65.7	65.8	68.7	70.8	72.3	73.3	73.2	69.7
	Median	69.1	68.3	67.6	67.4	69.2	70.5	71.8	72.7	71.5	67.5

Source: own elaboration based on data from the Amadeus database.

By far the most indebted in the studied years were Slovak enterprises. The lowest level of debt concerned Polish businesses. It should be emphasized that in the majority

of cases the mean value of the ratio is higher than the median and the difference is higher each year. It means that the majority of the studied enterprises are characterised by lower debt than the mean for the studied group.

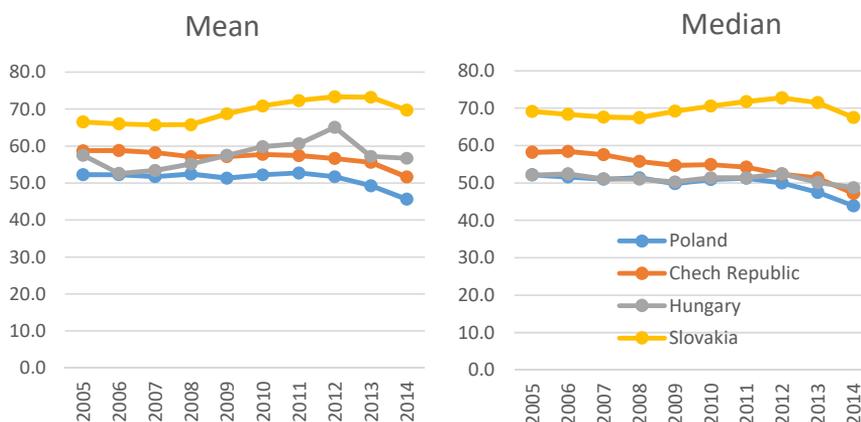


Figure 1. Mean values and medians of debt ratio in the studied enterprises of the analysed countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

In addition, insofar as the share of foreign capitals in financing firms in Poland dropped in almost all the years, in Slovakia the share went up in a significant part of the analysed years. Only the last studied year, 2014, brought a marked reduction of foreign capitals in Slovak enterprises.

A more thorough analysis of the debt level of the firms leads to the conclusion that the percentage of firms indebted to the greatest extent (80-100%) and in more than 100% is two to three times higher in Slovak enterprises than in Polish firms.

In enterprises in Hungary the median of debt ratio is similar to Polish entities. Until 2012 it is stable, that is about 50%, and then in 2013-2014 it decreases significantly. However, what is interesting is that the shaping of the average debt level in Hungarian firms is totally different. After a rapid drop in the ratio in 2006, a long period, lasting as long as until 2012, of the growth of debt begins. The mean value declines only in the last two years.

As for the Czech Republic, enterprises operating in that country have an average debt level in comparison with the remaining countries. The way of the shaping of the mean and median value of the described ratio in Slovak firms is very similar to trends occurring in Polish enterprises. The debt of Czech firms is, however, higher by a few percentage points.

When attempting to compare mean and median values of debt ratio in all the countries, we can find out that in the (whole) studied period the debt dropped in companies of all the countries except for Slovakia. The median of the ratio generally decreased in Polish, Czech and Hungarian firms. The mean value slightly declined in Polish and Czech entities, whereas in firms in Slovakia and in Hungary it went up until 2012 and in the last two years it started to decline visibly.

The second studied ratio was the share of long-term credits in financing enterprises. Mean and median values of the ratios in enterprises of the studied countries are shown below (Table 2, Figure 2).

Table 2. Mean values and medians of the ratio of the share of long-term bank credits in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Country	Measure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	Mean	10.7	11.4	12.4	13.6	14.1	13.6	13.5	13.3	13.1	12.2
	Median	8.5	8.8	9.5	10.0	10.6	10.1	10.2	10.1	9.9	9.3
Czech Republic	Mean	14.8	14.2	14.0	14.9	14.9	13.6	13.4	11.9	13.6	15.3
	Median	6.2	5.6	5.2	5.5	11.7	10.6	10.4	8.7	10.4	12.4
Hungary	Mean	12.2	11.2	12.3	13.2	13.4	11.9	12.0	11.9	13.0	13.0
	Median	8.5	8.4	8.7	9.9	9.9	8.9	8.2	8.5	10.4	10.8
Slovakia	Mean	15.3	14.3	14.4	14.3	14.4	14.0	13.3	13.8	13.7	14.3
	Median	12.6	12.0	11.8	10.6	11.7	10.8	10.8	10.4	10.8	11.4

Source: own elaboration based on data from the Amadeus database.

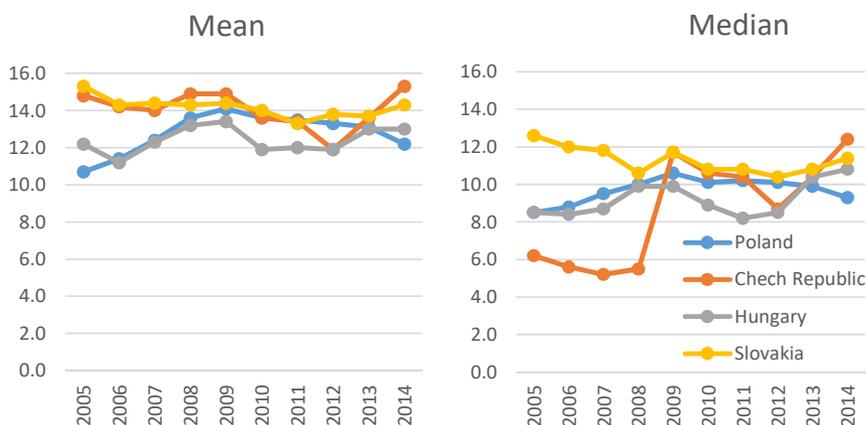


Figure 2. Mean values and medians of the ratio of the share of long-term bank credits in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

The level of the use of long-term bank credits in financing enterprises in the analysed countries fluctuated a lot. As in the case of total debt, those were Slovak firms which used long-term credits to the greatest extent. Only in single years the share of those credits was higher in Czech firms. It should be added that the mean and the median of the ratio in enterprises in Slovakia was most stable. What can be seen here is generally a decreasing trend in the first period (except for the growth in 2009), and then a greater level of the use of those financing sources in the last years of the analysis (mostly 2012-2014).

In general, long-term bank credits were used to the least extent by Hungarian firms. The share of those capitals went up significantly in enterprises in Hungary until the crisis, that is 2009, and then rapidly decreased and stayed on the lower level until 2012-2013. Only then the share of long-term bank credits increased.

The scale of the use of long-term credits in Polish enterprises was average in comparison with the remaining countries. In the shaping of this ratio one can see a similar trend as in Hungarian firms, but in Poland we cannot see such a great collapse after 2009. It is true that a downward trend in the share of the discussed capitals in the financing of firms

began but the changes were much smoother. Besides, in Hungarian firms the last 2-3 years brought again a visible growth of the “interest” of enterprises in a long-term credit, and in Polish firms the share of those capitals decreased until the end of the studied period.

The greatest changes in the mean and median level of the engagement of long-term credits in financing of firms took place in the Czech Republic. The incremental growth of the median of the ratio in 2009 even raises some doubts (as to the correctness of data). Using the calculated mean of the ratio we can say that until 2012 the significance of long-term credits in financing Czech enterprises decreased, except for the an increase in the years 2008-2009, whereas the scale of the use of those credits in the last two years increased significantly.

As the summary of the above we can add that when comparing the last studied year with the first one it was found that in three of the four countries, namely in Poland, the Czech Republic and in Hungary, the share (mean and median) of long-term credits increased, and only in Slovakia it decreased.

The next analysed source of financing are short-term bank credits. Their shaping (mean values and medians) in the studied firms are presented in Table 3 and in Figure 3.

Table 3. Mean values and medians of the ratio of the share of short-term bank credits in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Country	Measure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	Mean	10.6	10.4	10.8	11.1	11.3	11.1	11.3	11.7	11.2	11.0
	Median	8.9	8.5	8.9	9.0	9.0	9.1	9.1	9.6	9.1	9.2
Czech Republic	Mean	13.3	13.6	13.8	15.4	15.5	14.5	14.5	14.8	14.6	14.3
	Median	10.9	11.0	11.1	12.4	12.4	11.3	11.5	11.7	11.7	11.6
Hungary	Mean	15.2	12.5	13.4	13.7	14.9	14.1	14.2	13.3	11.8	10.6
	Median	11.6	10.0	10.5	10.8	11.4	10.9	10.7	10.2	8.7	7.7
Slovakia	Mean	13.0	12.7	13.5	14.4	15.7	15.3	16.1	15.5	15.6	16.3
	Median	10.6	9.9	11.1	11.6	11.8	12.0	12.3	11.6	11.7	12.3

Source: own elaboration based on data from the Amadeus database.

Slovak enterprises used short-term credits to the greatest extent. Only during a few years a higher share was marked in Czech firms. The mean share of short-term banks credits in firms in Slovakia generally went up in the studied period. It was observed that only in 2010 and 2012 the values dropped slightly. In the whole analysed period the share of the described capitals increased by over 3 percentage points. The median of the ratio shaped similarly.

The smallest extent of the use of short-term credits took place in firms in Poland. The share did not change much in the studied years, however a slight upward trend can be seen here. The significance of working capital loans in Polish firms dropped in 2010 and it dropped in the two last years of the analysis, namely 2013-2014.

The share of short-term credits changed more in Czech enterprises. In general, the debt arising from that in the firms in this country was a bit lower than in Slovakia and higher than in Poland. It can be seen that since the crisis, that is until 2009, the significance of working capital loans in the liabilities of firms increased, and in 2010 it significantly decreased. Since then it stayed on quite a stable level.

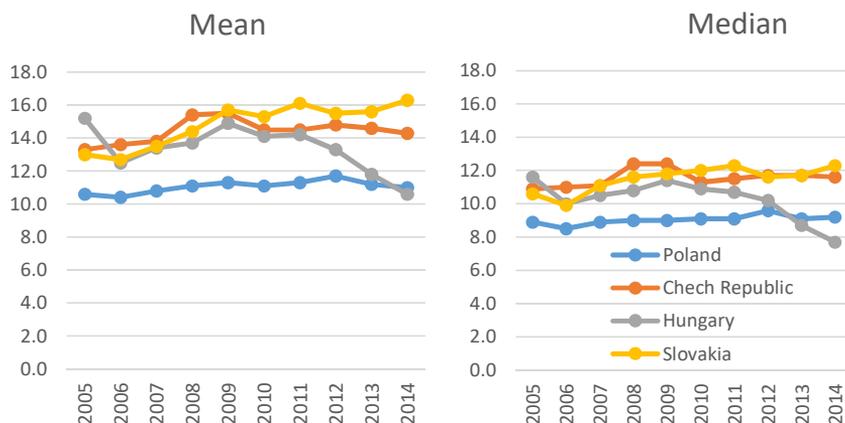


Figure 3. Mean values and medians of the ratio of the share of short-term bank credits in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

The biggest changes in the shaping of the mean and median value of the share of short-term credits in the financing of firms took place in Hungary. Here, after a drop in the share in 2006 a several -year-growth of the share of working capital credits took place. That was the situation in 2009. After that, the trend reversed and the share of the discussed sources of financing decreased significantly year by year.

On the above charts it can be also seen that only in Hungary in the whole studied period there was a significant drop in the engagement of short-term credits in financing enterprises (by about 4 percentage points). The share of those capitals in enterprises of the remaining countries increased slightly.

An important source of financing, in addition to the bank source of debt financing of enterprises, are trade liabilities. Table 4 and Figure 4 compare the ratios showing their share in financing enterprises of the studied countries.

Table 4. Mean values and medians of the ratio of the share of trade liabilities in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Country	Measure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	Mean	22.5	22.7	21.9	20.9	19.8	20.7	21.4	20.2	18.2	16.4
	Median	19.2	19.2	18.6	16.7	15.5	16.8	17.4	16.0	14.3	13.2
Czech Republic	Mean	22.1	21.5	20.9	18.9	17.6	18.7	18.5	17.9	17.6	16.1
	Median	17.7	17.4	16.8	14.4	12.8	14.0	14.0	13.4	13.2	12.1
Hungary	Mean	12.0	13.0	13.2	12.1	11.1	12.2	12.7	12.3	12.1	11.6
	Median	9.2	10.5	10.4	9.4	8.4	9.5	10.0	9.6	9.0	8.9
Slovakia	Mean	24.5	23.5	22.9	20.5	21.3	23.2	23.4	24.2	24.4	22.7
	Median	21.0	20.1	19.4	16.3	15.6	17.1	17.2	17.6	17.7	16.2

Source: own elaboration based on data from the Amadeus database.

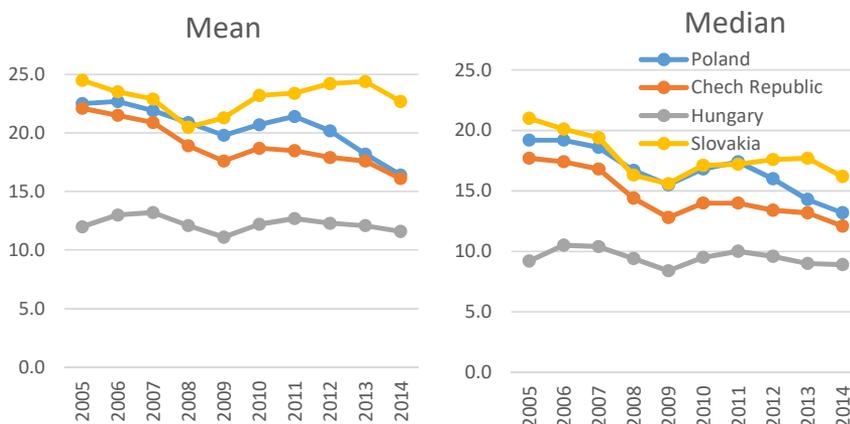


Figure 4. Mean values and medians of the ratio of the share of trade liabilities in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

When starting the comparative analysis of the extent to which the group of the studied countries used trade credits, attention should be paid to very similar trends in the shaping of the share of the discussed sources of financing.

Several sub-periods can be distinguished here: until the crisis, namely till 2009, the share of trade liabilities in the financing of enterprises in all the countries dropped. Then, the share of credits from suppliers visibly went up. In the majority of the countries the period lasted till 2011, only in Slovak firms trade credits took on importance until 2013. The last three years of the analysis (2012-2014), and the last studied year in Slovakia (that is, 2014) brought a gradual decline in the mean level of trade liabilities in financing.

Just like in the case of the total share of foreign capitals, and also as in the case of bank credits, the biggest share of liabilities towards suppliers was observed in Slovak firms. Quite similar, although a bit smaller scope of the use of those liabilities in the financing of firms took place in Poland. The scale of financing with trade credits in Czech firms was even lower than in Polish enterprises. The difference in mean values and in medians was approximately 2 percentage points. The smallest amount of trade liabilities was observed in Hungarian companies (about 5-7 percentage points less than in entities in the Czech Republic).

To conclude, it should be observed that firstly, the shaping of the level of the use of trade liabilities in firms of the studied counties was similar, secondly, there are big differences in mean shares of liabilities towards suppliers in firms of individual countries, and thirdly, in all Visegrad countries the level of the use in the whole period (2005-2014) decreased. The biggest drops concerned firms from Poland and the Czech Republic.

The last analysed ratio is the share of net cash flow in the firms' financing. The ratio aimed to indicate what possibilities of self-financing firms have. Adequate data are shown in Table 5 and Figure 5.

The basic observation and conclusion from the analysis of the above charts is great similarity between the shaping of share of net cash flow ratios in enterprises of individual countries.

Table 5. Mean values and medians of net cash flow ratio in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Country	Measure	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	Mean	13.5	14.0	14.9	11.8	10.3	10.4	10.2	9.5	10.3	11.8
	Median	12.2	12.4	12.9	10.5	9.6	9.4	9.2	8.6	9.4	10.5
Czech Republic	Mean	11.3	12.0	12.6	10.2	7.6	8.7	9.4	8.5	9.3	11.2
	Median	9.9	10.4	11.0	8.9	7.3	8.0	8.4	7.8	8.2	10.0
Hungary	Mean	12.2	13.3	13.2	11.5	8.2	9.2	9.5	8.1	9.6	11.2
	Median	10.9	11.6	11.2	10.1	8.2	8.5	8.4	7.7	8.5	9.5
Slovakia	Mean	12.1	13.3	13.4	13.3	9.2	10.9	10.3	8.7	8.4	10.0
	Median	10.7	12.2	11.9	11.7	9.1	9.8	9.3	8.0	8.0	9.2

Source: own elaboration based on data from the Amadeus database.

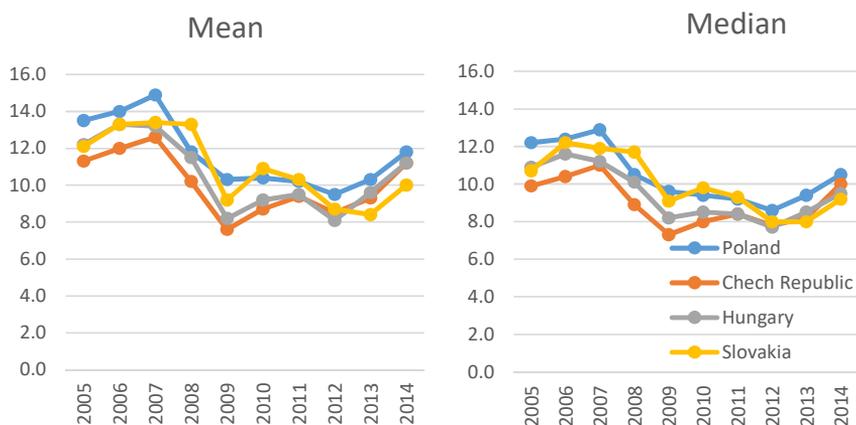


Figure 5. Mean values and medians of net cash flow ratio in financing the studied enterprises of the analysed countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

The first two years of the analysis are characterised by the growing and generally high share of net cash flow in the capitals of the firms, which means the biggest possibilities of self-financing in the studied period. In 2008 and 2009 there is a rapid decline in the share of net cash flow. In 2010 the situation improves, and then in the years 2011-2012 the share of net cash flow slightly decreases again. The last two years of the analysis, that is 2013-2014, bring the substantial improvement of the situation and the growth of the possibilities to finance the activities of enterprises from net cash flow.

However, the above-described course of the ratio of the share of net cash flow in the capitals of enterprises in individual years and countries is a bit disturbed. For example, in Slovak enterprises the mean and the median value of the ratio goes up only in 2006, and in the following year, 2007, it already begins to drop, whereas in other countries growth can still be observed. Besides, the mean level of the ratio drops from 2011 up to and including 2013, and in other counties 2013 brings the rebound and an increase in net cash flow.

Another departure from the described trends is the shaping of the ratio of the share of net cash flow firms in Poland after 2009. In 2010, in comparison with 2009, the situation in Czech, Slovak and Hungarian firms improves, that is the value of the ratio goes up, and in Poland the share of net cash flow in firms' liabilities decreased up to 2012.

When comparing mean values and medians of the described ratios in the studied countries, it was observed that enterprises in Poland had the biggest possibilities of self-financing. Slightly lower values concerned Slovak enterprises. Even lower values concerned ratios of companies in Hungary, and the lowest ones, thus the smallest possibilities of self-financing business activities concerned Czech entities.

Synthetic comparison of the financing structure of enterprises from the Visegrad Group countries

A synthetic summary of this paper is the comparison of the financing structure of enterprises in individual countries. To do this, the mean share of equities in financing enterprises was calculated based on the mean debt ratio. Moreover, mean shares of long-term and short-term bank credits, as well as trade liabilities were compared. The difference between debt ratio and the share of bank credits (long-term and short-term) and trade liabilities was presented in a joint category "other", standing for the remaining capitals. The chart below shows the above-described structure of financing enterprises in individual countries of the Visegrad group (Figure 6).

Based on the data included in Figure 6, a few conclusions were drawn, which constituted the synthesis of the conducted research concerning the financing structure of enterprises in the studied countries. They are presented below.

The biggest share of self-financing is visible in Polish enterprises. The difference between Poland and other countries in this respect is considerably big. It proves high financial independence and higher safety of Polish firms. However, at the same time it is the sign of a conservative financing strategy. A similar share of equities is characteristic for Hungarian and Czech enterprises. Yet, it should be observed that the mean share of self-financing in Czech firms grows year by year, whereas in Hungarian entities the share dropped (thus, the debt went up) in the whole period 2007-2012. The smallest scope of financing company assets with equity took place in Slovak enterprises. In the years 2008-2013 the share of equity in Slovak firms decreased even more.

Long-term bank credits are used to the greatest extent by enterprises in the Czech Republic and in Slovakia. The mean share of those credits in liabilities of firms in those countries is about 14%. Greater fluctuations in the level of the use of those credits took place in Czech firms. A little smaller share of long-term credits concerns Polish firms. Here, the mean share of the described credits for the whole period was a little less than 13%. In the years 2005-2009 a gradual growth of the level of the use of long-term credits is visible in Polish firms, and then the level gradually declines. The smallest amount of assets was financed from long-term bank credits in Hungarian enterprises (mean 12%).

In the study of the share of short-term credits it was also found that they are mostly used in enterprises in the Czech Republic and in Slovakia (just like long-term credits). The mean share of those credits in the whole period is 14.4% for the Czech Republic and 14.8% for Slovakia. Short-term credits are slightly less important for Hungarian enterprises. Here the share of the discussed credits fluctuates significantly, and its mean share in the studied years is about 13%. Polish firms use short-term credits to the least extent

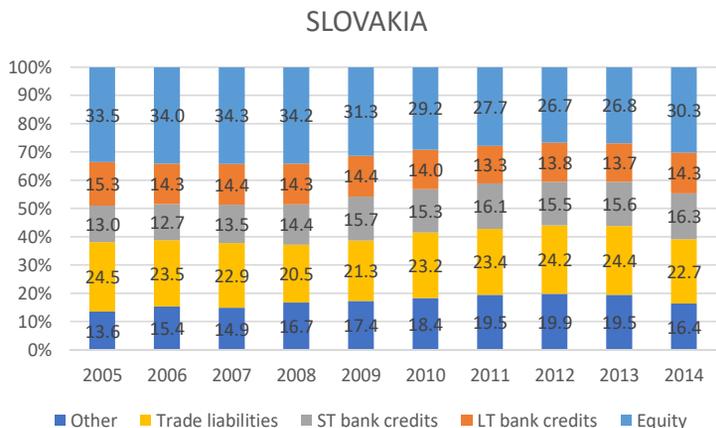
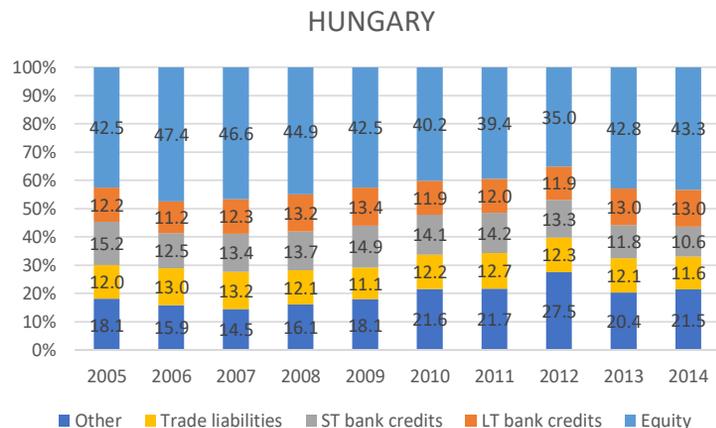
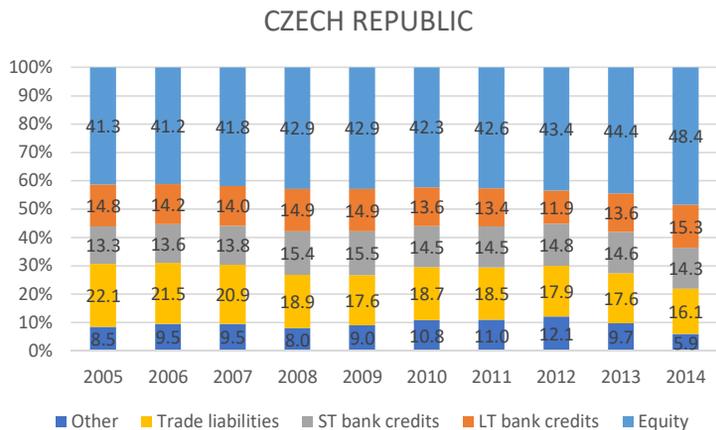
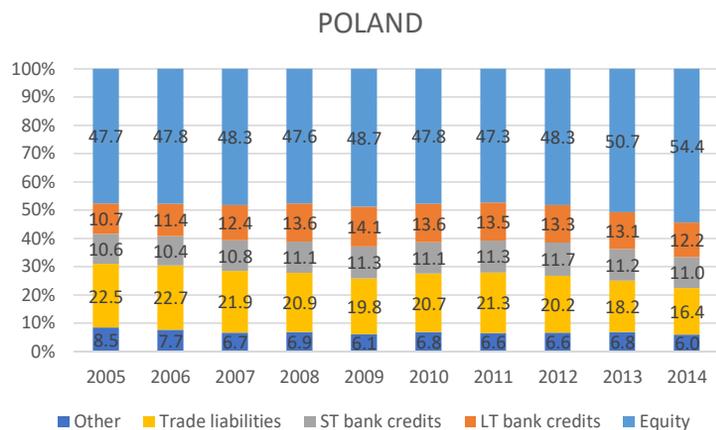


Figure 6. The comparison of the structure of financing enterprises in the studied countries, 2005-2014 (%)

Source: own elaboration based on data from the Amadeus database.

There is a visible difference between the engagement of those capitals in firms in Poland and in the remaining studied countries.

Another isolated source of financing are trade liabilities. It should be emphasized that although the shares of those liabilities are different in different countries, trends in their shaping for the firms of the Visegrad countries are the same. The discussed liabilities are most significant in the financing of Slovak firms. A little less important are credits from suppliers in Polish firms. The third country in this respect is the Czech Republic. Here the mean share of trade liabilities was 19% (Poland 20.5%, Slovakia 23%). By far the lowest share of trade credits is characteristic for the financing structure of Hungarian entities (mean 12.2%).

All other elements of the firms' debt were classified as "Other". Therefore, those are: some long-term liabilities other than long-term bank credits, short-term liabilities, also other than bank credits and liabilities towards suppliers, provisions or accruals. The importance of this form of financing was the greatest in Hungarian and Slovak firms, a bit lower in entities in Slovakia, and the lowest in Poland

CONCLUSIONS

When attempting to synthesise the above analyses, aiming at, among others, the comparison of the financing strategy of enterprises in the studied group of countries, it should be said that in spite of the fact that the overall level of debt differs in those countries, tendencies, trends in the shaping of the share of debt ratio are similar in individual countries.

Similarly, close or even stronger relationship between the ratios concerning enterprises in individual countries was observed in the analysis of the scope of use of trade liabilities, and the strongest in the study of the possibility to finance activities from the generated financial surplus.

The weakest relationship between the ratios calculated for individual countries was observed during the measurement of the level of financing with bank credits (long-term and short-term).

Such extensive research into changes in the sources of financing enterprises in the period comprising 10 years is a very complex task. Based on such an analysis it is particularly difficult to make univocal and final diagnoses. Even when in the studied period a financial and economic crisis takes place.

What is most visible is the impact of the economic slowdown in the examination of the financial surplus of enterprises and its share in the sum of the sources of financing. The biggest changes can be seen here and the changes are negative. In 2008 and 2009 a decrease in firms' profit was significant and, unfortunately, this negative trend maintained until 2012. Such a trend concerned enterprises of all the studied countries.

Moreover, it should be also emphasized that the issue of the financing structure is difficult to change radically in a short period of time. Therefore, in spite of the occurrence of at least two significant drops in the economic situation in the analysed period, we could not expect any significant changes in the share of individual financing sources of the business entities. However, we can assume that the observed fluctuations of the financing structure of the enterprises prove a certain reaction of the entities to the crisis.

Knowledge about the determinants of the financing structure is essential in managing a company's finances. It is very important to identify how strong fluctuations in the economy affect the practice of enterprises.

In next studies, it should be checked whether in the following post-crisis years the structure of financing sources in companies changed. In addition, in the study of the Visegrad Group companies it should be established whether there are any barriers to the obtainability of particular source of financing, including primarily bank loans. It could determine the degree of their use by enterprises.

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