W kierunku umiędzynarodowienia / Towards internationalization

The effect of international experts on company financial performance

Wpływ zagranicznych ekspertów na wyniki finansowe spółek

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Abstract

Objective: The article aims to evaluate the influence of international supervisory board experts on firm financial performance, based on the impact of international experts' characteristics, such as their knowledge, experience, independence, and connections.

Methodology/research approach: The empirical study is based on a unique hand-collected dataset covering a final sample of 256 companies listed on the Warsaw Stock Exchange (WSE) and which operated on the market during the observation period 2010-2015. The Generalized Least Squares (GLS) regression model with a random effect is employed to test the hypotheses.

Findings: The findings strongly suggest that the presence of supervisory board members with an outside perspective and international experience may exert a positive impact on companies' operational outcomes.

Research limitations/implications: The research has practical implications for Polish governmental agencies, as it verifies the usefulness of the recommendations for supervisory board composition presented in the Best Practices for WSE Listed Companies.

Originality/value: The study contributes to the existing literature on the factors that affect company performance. Consequently, great value is added to the research on supervisory board characteristics that are crucial for effective monitoring and advisory roles, enhancing the quality of corporate governance.

Keywords: corporate governance, international experts, company financial performance.

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Streszczenie

Cel: Celem artykułu jest ocena wpływu zagranicznych ekspertów, będących członkami rad nadzorczych, na wyniki finansowe przedsiębiorstw, uwzględniając przy tym cechy charakterystyczne ekspertów, takie jak: wiedza, doświadczenie, niezależność oraz kontakty.

Metodyka/podejście badawcze: Badanie empiryczne opiera się na wyjątkowym, ręcznie zebranym zbiorze danych, obejmującym końcową próbę 256 spółek notowanych na Giełdzie Papierów Wartościowych (GPW) w Warszawie, które prowadziły działalność na rynku w latach 2010–2015. Postawione hipotezy zostały sprawdzone przy wykorzystaniu Uogólnionej Metody Najmniejszych Kwadratów (UMNK) z efektami losowymi.

Wyniki: Wyniki badania jednoznacznie wskazują, że obecność członków rad nadzorczych z doświadczeniem międzynarodowym może pozytywnie wpływać na wyniki finansowe spółek.

Ograniczenia/implikacje badawcze: Badanie ma praktyczne implikacje dla polskich agencji rządowych, dostarczając analizę weryfikującą zasadność rekomendacji dotyczących różnorodności rady nadzorczej, zawartych w *Dobrych praktykach spółek notowanych na GPW*.

Oryginalność/wartość: Artykuł wnosi wkład do istniejącej literatury skoncentrowanej na identyfikacji czynników determinujących wyniki przedsiębiorstw. Ponadto, wartością dodaną badania jest rozpoznanie znaczenia cech charakterystycznych członków rad nadzorczych, kluczowych dla skutecznego monitorowania i pełnienia funkcji doradczych, które podnoszą jakość ładu korporacyjnego.

Słowa kluczowe: ład korporacyjny, zagraniczni eksperci, wyniki finansowe przedsiębiorstw.

Introduction

Corporate governance diversity remains an actively discussed topic (Novitaningrum, Amboningtyas, 2017; Dobija, Puławska, 2021; García-Sánchez et al., 2018; Joh et al., 2018; Kumar et al., 2018; Santoso et al., 2018; Shin et al., 2018; Widyaningrum et al., 2018; Guest, 2019; Goergen, Tonks, 2019), due to the corporate collapses that occurred at the beginning of the 21st century (Dobija, Kravchenko, 2017). Poland, as part of the EU, had to fulfil the criteria of a higher quality capital market and regulatory environment to be noticeable on the global market.

Globalization has affected the corporate sector thanks to the growing demand for the appointment of international supervisory board experts in multinational businesses. The demand is motivated by the idea that foreign directors bring international knowledge that leads to corporate success. Staples (2008) notes that corporate directors are selected and appointed to serve on boards based on their experience, expertise, and training. He also states that global diversity is essential for the boards to deliver success. This makes the research essentially.

The literature presents studies that are mostly conducted on the Anglo-American, one-tier corporate governance model. This leaves a pool for investigations to be conducted based on the European two-tier model, where the corporate governance institutions are still developing (Dobija, Kravchenko, 2017; Dobija, Puławska, 2021; Hardi, Buti, 2012; Słomka-Gołębiewska, Urbanek, 2016). Therefore, the presence of international experts on the supervisory boards creates an interesting research area.

The Best Practice for WSE Listed Companies for 2016 presents a second recommendation for management and supervisory boards, i.e., to diversify teams in

"terms of gender, education, age and professional experience" (WSE, 2016). Policy II.R.2 does not present foreign experience as an aspect of supervisory board diversity. The existing gap allows us to both investigate the usefulness of international supervisory board expert presence on boards and corroborate that internationalization is left out of the list of supervisory board diversity aspects. The research question of the current study is: Do international supervisory board experts improve firm financial and operating performance?

The study evaluates the influence of international supervisory board experts on firm financial performance, based on the impact of international experts' characteristics, such as their knowledge, experience, independence, and connections. The study is conducted on a unique, hand-collected dataset covering a final sample of 256 companies listed on the WSE with a two-tier corporate governance system that operated on the market during the observation period 2010–2015.

The quantitative method is used for the analysis as it combines the most important characteristics of methodology, being objective, formal. It can also provide us with argumentation that is beyond doubt for generating systemized information regarding situations or concepts by evaluating the relationships between theories and practices. The dataset is built as a panel; thus, the fixed or random-effects model is chosen using the Breusch-Pagan Test. The Generalized Least Squares (GLS) regression model with a random effect is employed to test the hypotheses.

The results suggest that the presence of international experts serves as a channel for the transmission of economically meaningful knowledge from countries with higher quality corporate governance. The following three implications can be drawn with regards to the view that firm-level corporate governance may be more important than country-level governance (Klapper, Love, 2004; Leuz et al., 2009):

1) international experts offer a conduit for higher quality corporate governance practices from country to country;
2) firms whose supervisory boards include an international expert with previous experience obtained in-country with higher quality legal institutions can benefit from the knowledge gained in foreign companies with stronger corporate governance (company to company);
3) the ex-post impact on companies' performance may vary from country to country due to the prevalent governance standards that are inherent in that country.

The research results have practical implications for Polish governmental agencies, verifying the usefulness of the recommendations for supervisory board composition presented in the Best Practices for GPW Listed Companies.

1. Literature review and hypothesis development

According to Kołodkiewicz (2008), an important dimension of the advancing globalization is not only the implementation of various solutions in the field of corporate governance between countries but also the internationalization of supervisory boards. This internationalization trend has also affected the supervisory boards of

companies listed on the WSE. Due to the increase in trading activity, the interest in having international representatives on the supervisory boards of entities in which the shares are actively invested significantly increased. Usman et al. (2020) showed improved board independence and efficiency due to increased foreign director representation in US firms. Choi et al. (2007) investigated the Korean capital market and found a positive effect of international experts on the board, while in developing markets, Ararat et al. (2010) found a positive impact of foreign directors on Tobin's Q and market-to-book ratio.

Nielsen and Nielsen (2013) note that top executive's nationality affects their values and cognition, and it even defines the directions for strategic decisions. Meanwhile, Hambrick and Mason (1984) concluded that the diversity of values and cognition resulting from executives' nationalities significantly affect strategic actions. Diversity can bring greater independence to the boards. Firooze et al. (2016) showed that board geographical diversity improves the disclosure quality, while Masulis et al. (2012) explained that foreign directors tend to be more independent of managers due to the weak frequency of interactions with members of the managerial team. Consequently, international experts are more effective in monitoring the managerial team's disclosure policies.

Cerrato and Piva (2012) and Masulis et al. (2012) presented a contrasting perspective, concluding that the presence of foreign members on the board "undermines a board effectiveness and contributes to more managerial slack and poor decision making". However, there is a positive side of the coin as well. Hahn and Lasfer (2016) argued that "foreign non-executive directors may help companies gain more expertise, and bring new breadth and culture to local boards".

Several empirical papers confirm that foreign directorship positively affects firm performance (Choi et al., 2007; Ujunwa et al., 2012). Girbina et al. (2012) showed the positive correlation between the proportion of board members holding degrees in finance and return on equity, the book value of assets, market value, as well as Tobin's Q performance indicators. What is more, Garba and Abubakar (2014) found that "foreign directorship has the positive and significant impact on firm performance" at a 1% significance level, in models with dependent ROA and ROE variables and Tobin's Q, used as a measure of firm performance. On the other hand, Zainal et al. (2013) state that "there is no significant difference in terms of profitability of firms with foreign directors and without foreign directors".

Based on the empirical studies, it can be argued that the presence of an international expert on the supervisory board affects corporate governance quality and consequently firm efficiency and productivity due to the positive impact on the advisory role performance (Fama, Jensen, 1983). Moreover, their knowledge of international company system operations contributes to the adoption of superior management practices (Bloom, Van Reenen, 2010). Consequently, the following hypothesis is drawn below:

H1. *International experts in Polish listed companies affect the companies' financial and operating performance.*

A large body of the literature and theory concentrates on board diversity factors that may influence company performance. As a result, it can be observed that gender,

as a type of diversity, received special attention. Critical mass theory and agency theory (Adams, Ferreira, 2009; Adams, Kirchmaier, 2016) highlight the link between the women directors' representation within the company structure and firm performance.

From the perspective of resource dependency theory, gender differences provide unique directors' information that managers can use for the decision-making process. Moreover, women directors have different external connections, human capital, and heterogenous functions on the boards (Hillman et al., 2002; Peterson, Philpot, 2007). Female participation on the board, especially during decision-making, is seen to enhance firm performance (Maturo et al., 2019) and their experience and competencies increase the development of human capital (Mori, 2014).

Adams and Ferreira (2009) list the following advantages of women directors in the context of human capital. Firstly, female directors are not members of "old boys networks," making them more independent. Secondly, their education and age improve board functioning (Joecks et al., 2013). This indicates that having women on the board positively correlates with firm performance, and their presence reflects the quality of the company's governance structure.

The findings of empirical studies, determining the positive and negative aspects of having women on the board, are different. Carter et al. (2010) and Mateos de Cabo et al. (2012) support a greater share of gender diversity in the boardroom. Also, females are less likely to be risk-takers, leading to long-standing investment strategies (Smith et al., 2006). In that light, Carter et al. (2010) discovered that gender diversity positively impacts their monitoring role. Furthermore, Abdelzaher and Abdelzaher (2019) and Moreno-Gómez and Calleja-Blanco (2018) identified a positive link between female board members and company performance. In the case of negative gender diversity dimensions, Ahern and Dittmar (2012) show a negative Norwegian market reaction to the appointment of women directors to boards. Similar results were founded in the US market (Adam and Ferreira, 2009). Building on the previous empirical studies, it can be predicted that women with foreign experience, knowledge, skills, and independence can affect a company's financial performance. Therefore, the following hypothesis was created:

H2. *International female experts in Polish listed companies affect the companies' financial and operating performance*.

A wide range of studies investigated the role of independent board members, and they presented very controversial results. This created a wide gap between the empirical evidence of the positive and negative impact of having independent members on the supervisory board. Boone et al. (2007), as proponents of the positive impact that independence has on firm performance, claim that large companies demand more outside directors since significant agency problems arise due to their large size. They highlighted the importance of an outside director in the quality of board monitoring services provision. Agency theory suggests that a board with the majority of outside members performs a key role in monitoring and controlling mechanisms (Amar et al., 2011). This is consistent with the idea presented by Fama and Jensen (1983), who noted that independent board members have a greater impact on strategic decisions than those influenced by the CEO.

On the other hand, Masulis et al. (2012) state that distances, different time zones, and many other factors result in foreign independent directors lacking information due to their limited access, and they are less familiar with the other country's standards, regulations and laws. The above-described circumstances make board performance less effective and, consequently, result in poorer company performance. Some studies conducted on the impact of outside financial directors on firm performance state that the positive impact is mostly drawn from the director's financial knowledge rather than their independence. Thus, Agrawal and Chadha (2005) claim that if taken alone, the argument for director independence has no explanatory power.

Baysinger and Butler (1985) argued for individual directors' financial and psychological independence from the management board. This allows independent supervisory board members to perform their supervising and monitoring functions more effectively. Therefore, it allows directors to increase firm financial transparency and reduce agency costs (Cuadrado-Ballesteros et al., 2015) by implementing their business experience and performing an advisory role. Consequently, based on the above-discussed pros and cons related to supervisory board independence, the following hypothesis is formulated to test if independence enhances board performance and, as a result, positively impacts the financial situation of the company.

H3. Independent international experts positively affect firm performance.

The following and important characteristic of international supervisory board members, in the context of human capital, is business experience, or as the literature suggests, industry-specific experience (Chen et al., 2017). This element of diversity consists of an intangible asset, i.e., knowledge about the industry, competitive conditions, technologies, and regulations (Le et al., 2013). Industry experience can be leveraged for a competitive advantage for the company (Aharoni et al., 2011). Knowledge of industry conditions allows directors to properly analyze and understand market dynamics and formulate strategies. Haynes and Hillman (2010) have examined the impacts of the director's variety of experiences on firm strategy. The main idea is that director experience improves the quality of performed functions, such as monitoring and advising (Forbes, Milliken, 1999). Furthermore, the industry-specific experience makes it possible to evaluate the firm strategy for the industry in which the entity operates (Porter, 1996). Therefore, director business experience enables them to identify potential market opportunities and threats. Later, the directors' industry expertise helps them to assess the success and effectiveness of the company's business activities.

Carpenter and Westphal (2001) and Pearce and Zahra (1992) showed that an outside board member's industry experience might be an advantage for a firm thanks to access to information, links with main industry players and industry resource network. It can be concluded that experienced outside directors can provide the necessary resources and new entrepreneurial cooperation for the firm (Certo et al., 2001). Moreover, when top management teams have limited industry experience and social networks, outsiders with specific industry knowledge and experience are needed and appointed to the companies' board (Filatotchev, Bishop, 2002).

Thus, outside board members with appropriate industry experience will support the top management team due to their specific knowledge. Overall, the abovementioned arguments lead us to formulate the following hypothesis:

H4. *Polish listed companies have better financial and operating performance due to the presence of international experts with industry experience on the supervisory board.*

The majority of studies on financial board independence claim that financial education improves the impact of director independence. Rosenstein and Wyatt (1990) claim that abnormal returns are higher when appointing an outside director previously employed in a financial firm. Dionne and Triki (2005) found that directors with a lack of financial knowledge cannot properly read complicated reports and, hence, could unwittingly vote for decisions that do not add value to shareholders' wealth or they might not necessarily act in shareholders' interest.

DeFond et al. (2005) examined the cumulative abnormal return (CAR) of newly appointed outside directors who were previously assigned to audit committees. Notwithstanding the significant positive market reaction to the appointment of an outside accounting expert, they concluded that their positive impact on corporate governance effectiveness is contextual. However, Güner et al. (2008) claimed that the role of financial experts cannot be investigated only in the context of accurate disclosure and audit committee performance because they might also impact other firm policies. They explained that board members who spend more time advising than monitoring, and financial experts who are affiliated with other financial institutions, might provide problematic advice. Analyst recommendations and IPO allocations may become an area of great concern. Indeed, the Sarbanes-Oxley Act (SOX) provides a broad definition of financial experts, who are most often bankers.

Güner et al. researched the impact of directors with financial expertise on shareholder wealth, taking into account their advisory role as an instrument for impact on firm policies and, consequently, shareholder value. Their study suggests that financial experts should be appointed with great caution as board members' interests often contrast with those of shareholders. They also conclude that policies related to financing and investment are not affected or are negatively affected by the appointment of financial experts. On the other hand, the proponents of SOX state the obvious positive influence of financial expert presence on the quality of monitoring the financial reporting.

According to these papers, financially educated international experts should make conscious decisions based on their ability to read and properly interpret detailed statements and reports. This implies that the financial education of international experts adds value to the firm and shareholder wealth. That is why the following hypothesis was formulated.

H5. *Polish listed companies have better financial performance thanks to the presence of international experts on the supervisory board with financial education and experience.*

Supervisory boards should perform monitoring and advisory roles with access to resources that are necessary for them to effectively perform their duties. The

board interlocks can provide unobservable resources that can be created with supervisory board activities and indirectly linked to company prosperity (Field et al., 2013). From this perspective, Berezinets et al. (2016) concluded that the board of directors can be a resource of intellectual capital, which is an intangible asset that can be used to generate future economic benefits. Supervisory board connections can be related to the development of social capital, having access to external resources that are strategically useful. These interlocks can provide essential industry information and be efficiently used for the company wealth.

This is consistent with agency theory (Jensen, Meckling, 1976), which suggests that board connections are positively associated with monitoring effectiveness because board members can gain information and experience, increasing their competence. In an efficient market, one would expect to find highly qualified board members employed by several companies simultaneously (Fama, Jensen, 1983). In real life, there is a limited number of competent supervisory board members with a good reputation (Loderer, Peyer, 2002), so supervisors seek to enhance their reputation by multiplying their board seats, and consequently, knowledge and experience. Ultimately, it is companies that get the advantage from the pressure put on supervisors.

Resource dependence theory, in turn, provides another argumentation for the undoubted benefit for a company to employ supervisory board members with multiple directorships. That is where an additional link to external resources, such as information or knowledge, which can be obtained by holding multiple seats, allows supervisory boards to operate more effectively, as a group, and allows for more creative and up-to-date strategic decisions.

Both theories support the positive impact of supervisory board interlocks and monitoring effectiveness; however, there can still be a negative association due to board members being involved in multiple duties simultaneously. The excessive use of board connections might be harmful to firm performance. Andres et al. (2013) claimed that "maintaining and adhering to the demands of a large social network can consume substantial temporal and cognitive resources, rendering intensely connected directors exceedingly busy and compromising their ability to serve as efficient monitors". Supervisory board members simply face limits due to the huge demand on their capacity (Perry, Peyer, 2005). Perry and Peyer considered not only the director's immediate connections (the direct link to the other directors within the social network) but also connections among the other director social networks. The idea behind this study is that a board member's formal ties also reflect the scope of informal ties. An example of such informal ties could be charities or golf clubs, where directors may also be informally tied to politicians or the media, who might play an important role as agents outside the boardroom. Consequently, expending time on such an event may simply leave no time to devote to monitoring duties. Concerning the agency and resource dependence theories, both the positive and negative effects of board interlocks on company performance can be observed. However, since the positive association argumentation dominates, the following hypothesis is proposed:

H6. *International experts with interlocks positively affect firm performance.*

2. Research design

In research, quantitative methodology is used to test a theory and present evidence of the links between dependent and independent variables. The methodology is applicable to this type of analysis, which is built to verify existing theories that specify practices experienced by corporate governance structures in Poland. The concept enables the transformation of the information into numeric variables that measure and generalize individual and group characteristics. The relationships and interdependences between the variables can also be predicted based on the existing literature.

2.1. Sample selection and data collection

For this study, a comprehensive panel dataset was compiled covering 356 Public companies quoted on the WSE. The initial sample was reduced by applying several filtering criteria, as well as the limited availability of required data for some of the sample companies. Only companies that existed throughout the entire observation period were included in the final research sample. Any company that ceased to exist, was delisted, or that was taken over through merger and acquisition transactions was excluded from the research sample. The necessary precondition for being included in the research sample is the availability of the complete time series of principle experimental variables encompassing the entire observation period; only companies traded on the main market of the WSE were analyzed. Thereby, 14 companies were excluded due to their industry classification, i.e., due to being classified as financial companies.

The empirical study is based on a unique, hand-collected dataset covering a final sample of 256 companies listed on the WSE and which operated on the market during the observation period 2010–2015. The data collection started with an analysis of the compositions of the boards of public companies. To that end, 1536 annual reports for all analyzed firms were compiled from the official investor relations sections of the corporate websites. To encode individual director-level qualitative characteristics, approximately 7700 members' curriculum vitae were analyzed.

Table 1. Sample construction

Years	2010–2015
WIG Poland (companies)	**356**
Excluding:	
• WIG financial companies (banks and insurance firms)	14
• Companies not traded on the main market of WSE during the entire period (2010–2015)	86
Total sample	**256**

Source: own elaboration.

2.2. Empirical model

The dataset is built as a panel; thus, the fixed or random effects model is chosen using the Breusch-Pagan Test. The GLS regression model with a random effect is employed to test the hypotheses. A GLS regression is more appropriate than the Ordinary Least Squares model, due to its ability to eliminate the omitted variables bias and heteroskedasticity, as well as autocorrelation presence in panel data (Wooldridge, 2002). The model is built to incorporate years dummy and industry variables to control for possible macroeconomic factors that can affect the dependent variables.

$$
\begin{aligned}
CompanyPerformance\ (ROA, ROS)_{it} \\
= \alpha + \beta_1 \%EXPERTS_{it} \\
+ \beta_2 InternationalExperts_{DIVERSITY_{it}} \\
+ \beta_3 InternationalExperts_{INDEPENDENCE_{it}} \\
+ \beta_4 InternationalExperts_{CONTROLS_{it}} \\
+ \beta_5 SupervisoryBoard_{CONTROLS_{it}} + \beta_6 Firm_{CONTROLS_{it}} \\
+ \beta_7 FirmPerformance_{CONTROLS_{it}} + \psi_t + \eta_i + \varepsilon
\end{aligned}
$$

in which:
- **$CompanyPerformance\ (ROA, ROS)_{it}$** – firm financial and operating performance indicators, respectively;
- **$\beta_1 \%EXPERTS_{it}$** – the fraction of international experts with foreign experience in the supervisory board of firm i, at time t;
- **$\beta_2 InternationalExperts_{DIVERSITY_{it}}$** – the diversity aspects of the group of international supervisory board experts, which includes the following explanatory variables:
  1) *%EXPERIENCE$_{it}$* – the fraction of international experts with foreign business experience in the supervisory board of firm i at time t;
  2) *%FINEXPERTS$_{it}$* – the fraction of international experts with financial and/or accounting experience in the supervisory board of firm i at time t;
  3) *%EDUCATION$_{it}$* – the fraction of international experts with financial and/or accounting education in the supervisory board of firm i at time t;
  4) *%INTERLOCKS$_{it}$* – the fraction of international experts who gained experience through holding supervisory board memberships on other listed WSE companies operating within the same sector as firm i at time t;
  5) *%FORINTERLOCKS$_{it}$* – the fraction of international experts who gained experience through holding supervisory board memberships within foreign domiciled companies operating within the same sector and country in which firm i conducts business activity at time t;
- **$\beta_3 InternationalExperts_{INDEPENDENCE_{it}}$** – the fraction of independent international experts in the supervisory board of firm i at time t;

- $\beta_4 InternationalExperts_{CONTROLS_{it}}$ – he group of international supervisory board experts control variables, such as:
  1) $INTEXPERTS_{it}$ – the dummy variable that indicates the presence of international experts on the supervisory board of company i at time t;
  2) $INTEXPERTSLOSS_{it}$ – the dummy variable that indicates the relationship between the presence of international experts on the supervisory board and reported loss in company i at time t.
- $\beta_5 SupervisoryBoard_{CONTROLS_{it}}$ – the fraction of independent members on the supervisory board of firm i at time t;
- $\beta_6 Firm_{CONTROLS_{it}}$ – the group of firm-related control variables, such as:
  1) AGE_{it} – dummy variable that indicates the age of firm i at time t and coded as 1 if the company age is higher than the median for the total sample (26 years) and 0 otherwise;
  2) $INDUSTRY_{it}$ – the industry (Service, Merchandising and Manufacturing) in which firm i at time t operates;
- $\beta_7 FirmPerformance_{CONTROLS_{it}}$ – the group of firm-financial control variables, such as:
  1) $FIXA_{it}$ – the variable that shows the structure of assets, calculated as the ratio of fixed assets to assets in company i at time t;
  2) REC_{it} – the variable that shows the structure of assets, calculated as the ratio of short-term receivables to assets in company i at time t;
  3) EQ_{it} – the variable that shows firm financial leverage, calculated as the ratio of equity capital to assets in company i at time t;
  4) TAT_{it} – the variable that shows assets turnover, calculated as the ratio of sales to assets in company i at time t.
- i – companies index;
- t – time period;
- α – constant;
- ψ_t – time effects;
- η_i – individual effects;
- ε – the standard error. Random disturbances.

2.3. Empirical results

The descriptive statistics present the primary analysis of the quantitative data which was acquired during data collection. Table 2 summarizes the descriptive statistics for the variables used for the study. The mean value for **ROA** and **ROS** between 2010–2015 is 3% and –6.75%, respectively. The winsorization at the 1st and 99th percentiles was applied to the variables due to the existence of outliers. The level of the winsorization remains unchanged for both variables (**ROA** and **ROS**).

The literature presents different types of correlation measures, among which are: Pearson's (r) Correlation, Spearman's Rank Correlation, Kendall's Rank Correlation, Biweight Midcorrelation, and Point-Biserial Correlation. The Pearson r correlation statistic is used for the analysis. Table 3 shows the correlation matrix

for the dependent variable **ROA** and independent and control variables that are used for the analysis, while Table 4 presents the correlation matrix for the models that are built with the dependent variable **ROS**. According to the presented tables, a weak positive correlation exists between the fraction of International Experts (**EXPERTS**) on supervisory boards and the firm performance indicators. Interestingly, the fraction of international experts (**EXPERTS**) is negatively correlated (−12.75) to the independence **IND** of the entire supervisory boardroom.

Table 2. Summary Statistics

Variable	Mean	Median	S.D.	Min	Max
ROA	0.0300	0.0345	0.0758	−0.213	0.185
ROS	−0.0674	0.0339	1.18	−9.25	2.98
EXPERTS	0.167	0.000	0.253	0.000	1.00
WOEXPERTS	0.00824	0.000	0.0364	0.000	0.333
EXPERIENCE	0.0765	0.000	0.162	0.000	0.800
FINEXPERTS	0.112	0.000	0.200	0.000	1.00
EDUCATION	0.0730	0.000	0.159	0.000	1.00
INTERLOCKS	0.0332	0.000	0.0975	0.000	0.800
FORINTERLOCKS	0.00939	0.000	0.0643	0.000	1.00
INDEXPERTS	0.110	0.000	0.186	0.000	1.00
INTEXPERTS	0.136	0.000	0.343	0.000	1.00
INTEXPERTSLOSS	0.0279	0.000	0.115	0.000	1.00
IND	0.658	0.714	0.308	0.000	1.00
AGE	0.326	0.000	0.469	0.000	1.00
INDUSTRY	2.14	2.00	0.858	1.00	3.00
FIXA	0.503	0.503	0.220	0.0251	0.949
REC	0.231	0.194	0.169	0.00538	0.790
EQ	0.520	0.520	0.196	0.0568	0.940
TAT	1.09	0.969	0.849	0.0105	4.55

Source: own elaboration.

The level of supervisory board overall independence, in turn, has a moderate negative correlation (−21.42) with international expert industry-specific experience **EXPERIENCE**. The rationale behind the result is that independent supervisory board members usually have no link to the business or business participants, and consequently, they are not expected to have experience related to the business. There is a slightly higher positive correlation between the **FORINTERLOCKS** and **ROA** when there is almost no correlation to **ROS**. A high correlation exists between the independent variables, which are not used simultaneously in one mode.

Table 3. Correlation matrix – ROA

	ROA	EXPERTS	WO-EXPERTS	EXPE-RIENCE	FIN-EXPERTS	EDU-CATION	INTER-LOCKS	FOR-INTER-LOCKS	IND-EXPERTS	INT-EXPERTS	INT-EXPERTS-LOSS	IND	AGE	INDU-STRY	FIXA	REC	EQ
ROA	1.0000																
EXPERTS	0.0230	1.0000															
WO-EXPERTS	0.0251	0.3704	1.0000														
EXP-ERIENCE	0.0009	**0.7661**	0.2606	1.0000													
FIN-EXPERTS	−0.0143	**0.8833**	0.2889	**0.6924**	1.0000												
EDU-CATION	−0.0138	**0.7727**	0.2598	**0.6406**	**0.8759**	1.0000											
INTER-LOCKS	0.0053	0.4204	0.2267	0.3678	0.2915	0.2159	1.0000										
FOR-INTER-LOCKS	0.0549	0.3129	0.1619	0.1829	0.1701	0.2054	0.3272	1.0000									
IND-EXPERTS	0.0366	**0.8175**	0.2687	0.4575	**0.7458**	**0.6468**	0.3861	0.2405	1.0000								
INT-EXPERTS	0.0287	**0.8384**	0.3420	**0.6836**	**0.7635**	**0.6679**	0.2752	0.2503	**0.6392**	1.0000							
INT-EXPERTSLOSS	−0.3417	0.3417	0.0827	0.2640	0.3591	0.2999	0.1233	0.0201	0.2802	0.2497	1.0000						
IND	−0.0704	−0.1275	−0.0919	−0.2142	−0.0653	−0.0598	−0.0584	−0.0428	0.1123	−0.1232	−0.0218	1.0000					
AGE	0.0636	0.0852	−0.0100	0.0804	0.0190	0.0447	−0.0438	0.0274	0.0411	0.0832	0.0074	−0.1553	1.0000				
INDU-STRY	0.0106	−0.0490	−0.0547	−0.0769	−0.0508	−0.0381	−0.1492	−0.0581	−0.0532	−0.0351	−0.0140	−0.1525	0.3243	1.0000			
FIXA	−0.1089	0.1265	−0.0066	0.0991	0.1095	0.1252	0.1282	0.0652	0.0937	0.0560	0.0929	−0.0116	0.0112	0.1001	1.0000		
REC	0.0691	−0.1040	−0.0358	−0.0886	−0.0921	−0.1236	−0.0447	−0.0415	−0.0733	−0.0666	−0.0961	0.0642	−0.0069	−0.2220	−0.6035	1.0000	
EQ	0.2599	−0.0755	0.0331	−0.0840	−0.1018	−0.0895	−0.0603	0.0643	−0.0245	−0.0402	−0.1260	−0.0082	0.0544	0.0096	0.1449	−0.2692	1.0000

Source: own elaboration.

Table 4. Correlation matrix – ROS

	ROS	EXPERTS	WO-EXPERTS	EXPE-RIENCE	FIN-EXPERTS	EDU-CATION	INTER-LOCKS	FOR-INTER-LOCKS	IND-EXPERTS	INT-EXPERTS	INT-EXPERTS-LOSS	IND	AGE	INDU-STRY	FIXA	REC	EQ
ROS	1.0000																
EXPERTS	0.0454	1.0000															
WO-EXPERTS	0.0273	0.3704	1.0000														
EXPE-RIENCE	0.0451	**0.7661**	0.2606	1.0000													
FIN-EXPERTS	0.0269	**0.8833**	0.2889	**0.6924**	1.0000												
EDU-CATION	0.0346	**0.7727**	0.2598	**0.6406**	**0.8759**	1.0000											
INTER-LOCKS	0.0579	0.4204	0.2267	0.3678	0.2915	0.2159	1.0000										
FOR-INTER-LOCKS	0.0147	0.3129	0.1619	0.1829	0.1701	0.2054	0.3272	1.0000									
IND-EXPERTS	0.0441	**0.8175**	0.2887	0.4575	**0.7458**	**0.6468**	0.3861	0.2405	1.0000								
INT-EXPERTS	0.0449	**0.8884**	0.3420	**0.6836**	**0.7635**	**0.6679**	0.2752	0.2503	**0.6392**	1.0000							
INT-EXPERTS-LOSS	−0.0988	0.3417	0.0827	0.2640	0.3591	0.2999	0.1233	0.0201	0.2802	0.2497	1.0000						
IND	−0.0299	−0.1275	−0.0919	−0.2142	−0.0653	−0.0598	−0.0584	−0.0428	0.1123	−0.1232	−0.0218	1.0000					
AGE	0.0655	0.0852	−0.0100	0.0804	0.0190	0.0447	−0.0438	0.0274	0.0411	0.0832	0.0074	−0.1553	1.0000				
INDU-STRY	0.0072	−0.0490	−0.0547	−0.0769	−0.0508	−0.0381	−0.1492	−0.0581	−0.0532	−0.0351	−0.0140	−0.1525	0.3243	1.0000			
FIXA	−0.0117	0.1265	−0.0066	0.0991	0.1095	0.1252	0.1282	0.0652	0.0937	0.0560	0.0929	−0.0116	0.0112	0.1001	1.0000		
REC	0.0984	−0.1040	−0.0358	−0.0886	−0.0921	−0.1236	−0.0447	−0.0415	−0.0733	−0.0666	−0.0961	0.0642	−0.0069	−0.2220	−0.6035	1.0000	
EQ	−0.0456	−0.0755	0.0331	−0.0840	−0.1018	−0.0895	−0.0603	0.0643	−0.0245	−0.0402	−0.1260	−0.0082	0.0544	0.0096	0.1449	−0.2692	1.0000

Source: own elaboration.

Tables 5.1 and 5.2, and 6.1 and 6.2 present the results of static econometric modelling with industry and year fixed effects. All econometric models possess satisfactory econometric properties. The validity of model specification is tested with the Chi-square statistic, which measures the joint statistical significance of regression coefficients. The Hausman test was conducted for all models to identify the most suitable model for the analysis. Therefore, the results suggest that the Ordinary Least Squares regression model does not fulfill the expectancies from the analysis, and that the Generalized Least Squares regression with the random effect is the most appropriate for the current study compared to the fixed effect model.

The tables present the results of empirical tests for the impact of the following independent explanatory variables on the dependent explanatory variables (corporate financial and operating performance, **ROA** and **ROS**, respectively)

- the fraction of supervisory board members with foreign experience (**EXPERTS**),
- the fraction of women with foreign experience (**WOEXPERTS**),
- the fraction of supervisors with industry experience (**EXPERIENCE**),
- the fraction of supervisors with financial and accounting experience (**FINEXPERTS**),
- the fraction of members with education in finance or accounting (**EDUCATION**),
- the fraction of international experts with domiciled and foreign interlocks (**INTERLOCKS** and **FORINTERLOCKS**),
- the fraction of supervisory board members who are independent international experts (**INDEXPERTS**),

The international experts-, board- and firm-related control variables are chosen for the analysis, such as: the dummy variable that indicates the relationship between presence of international experts in supervisory board and reported loss in a company (**INDEXPERTLOSS**), the fraction of independent members in the supervisory board (**IND**), the dummy variable that indicates the firm's age (**AGE**), the ratio of fixed assets to assets (**FIXA**), the ratio of short-term receivables to assets (**REC**), the ratio of equity capital to assets (**EQ**), and the ratio of sales to assets (**TAT**).

Table 5.1. Empirical relationship between
international expert characteristics and firm's

Explained Variable	ROA (1)	ROA (2)	ROA (3)	ROA (4)	ROA (5)
AGE	0.002	0.003	0.002	0.003	0.003
	(0.32)	(0.52)	(0.39)	(0.46)	(0.40)
FIXA	–0.044***	–0.043***	–0.044***	–0.044***	–0.044***
	(–3.23)	(–3.13)	(–3.19)	(–3.20)	(–3.23)
REC	0.011	0.009	0.010	0.010	0.012
	(0.60)	(0.47)	(0.54)	(0.55)	(0.63)
EQ	0.144***	0.141***	0.143***	0.143***	0.144***
	(11.42)	(11.25)	(11.33)	(11.34)	(11.40)
TAT	0.013***	0.013***	0.013***	0.013***	0.013***
	(3.83)	(3.89)	(3.90)	(3.83)	(3.78)
EXPERTS	**0.021****				
	(2.06)				
WOEXPERTS		**0.041**			
		(0.71)			
EXPERIENCE			**0.021**		
			(1.38)		
FINEXPERTS				**0.019**	
				(1.46)	
EDUCATION					**0.031****
					(1.99)
Constant	–0.039**	–0.034**	–0.036**	–0.037**	–0.038**
	(–2.49)	(–2.81)	(–2.34)	(–2.36)	(–2.41)
R-squared	0.129	0.125	0.127	0.126	0.126
Observations	1536	1536	1536	1536	1536

Note: *Table 5.1 presents a static panel GLS regression model with a random effect. The table presents the results of empirical tests for the impact on the dependent explanatory variable (ROA) of the following independent explanatory variables: the fraction of supervisory board members with foreign experience (EXPERTS), the fraction of women with foreign experience (WOEXPERTS), the fraction of supervisors with industry experience (EXPERIECE), the fraction of supervisors with financial and accounting experience (FINEXPERTS) and the fraction of members with education in finance or accounting (EDUCATION). The following firm-related control variables are included in the analysis: the dummy variable that indicates the firm's age (AGE), the ratio of fixed assets to assets (FIXA), the ratio of short-term receivables to assets (REC), the ratio of equity capital to assets (EQ), and the ratio of sales to assets (TAT). The t-statistics are presented beneath the respective regression coefficients. Statistical significance at the 1%, 5%, and 10% levels are denoted with ***, **, and *, respectively. All models include time and industry fixed effects.*

Source: own elaboration.

Table 5.2. Empirical relationship between international expert characteristics and firm's contemporaneous ROA

Explained Variable	ROA (6)	ROA (7)	ROA (8)	ROA (9)	ROA (10)
AGE	0.003	0.003	0.005	0.003	0.002
	(0.49)	(0.50)	(0.83)	(0.42)	(0.31)
FIXA	–0.045***	–0.044***	–0.040***	–0.044***	–0.043***
	(–3.27)	(–3.16)	(–3.02)	(–3.20)	(–3.12)
REC	0.009	0.009	–0.005	0.009	0.010
	(0.50)	(0.46)	(–0.29)	(0.53)	(0.56)
EQ	0.142***	0.141***	0.123***	0.142***	0.140***
	(11.36)	(11.22)	(10.18)	(11.33)	(11.22)
TAT	0.018***	0.013***	0.012***	0.013***	0.013***
	(3.89)	(3.87)	(3.88)	(3.78)	(3.87)
INTERLOCKS	**0.049****				
	(2.46)				
FORINTERLOCKS		**0.022**			
		(0.54)			
INTEXPERTSLOSS			**–0.191****		
			(–12.57)		
INDEXPERTS				**0.021***	
				(1.58)	
IND					**–0.019****
					(–2.39)
Constant	–0.036***	–0.033**	–0.017	–0.036**	–0.019*
	(–2.36)	(–2.17)	(–1.17)	(–2.34)	(–1.18)
R-squared	0.128	0.126	0.204	0.128	0.130
Observations	1536	1536	1536	1536	1536

Note: *Table 5.2 presents static panel GLS regression model with a random effect. Table presents the results of empirical tests for the impact on the dependent explanatory variable (ROA) of the following independent explanatory variables: the fraction of international experts with domiciled and foreign interlocks (INTERLOCKS and FORINTERLOCKS) and the fraction of supervisory board members who are independent international experts (INDEXPERTS). The international experts-, board- and firm-related control variables are included in the analysis: the dummy variable that indicates the relationship between the presence of international experts on the supervisory board and reported loss in a company (INDEXPERTLOSS), the fraction of independent members in the supervisory board (IND), the dummy variable that indicates the firm's age (AGE), the ratio of fixed assets to assets (FIXA), the ratio of short-term receivables to assets (REC), the ratio of equity capital to assets (EQ) and the ratio of sales to assets (TAT). The t-statistics are presented beneath the respective regression coefficients. Statistical significance at the 1%, 5%, and 10% levels are denoted with ***, **, and *, respectively. All models include time and industry fixed effects.*

Source: own elaboration.

Table 6.1. Empirical relationship between international
expert characteristics and firm's contemporaneous ROS

Explained Variable	ROS (1)	ROS (2)	ROS (3)	ROS (4)	ROS (5)
AGE	0.216	0.259*	0.212	0.242	0.229
	(1.41)	(1.69)	(1.38)	(1.59)	(1.49)
FIXA	0.345	0.385	0.349	0.358	0.343
	(0.89)	(0.99)	(0.90)	(0.93)	(0.89)
REC	1.101**	0.996*	1.093**	1.083**	1.137**
	(2.12)	(1.92)	(2.11)	(2.08)	(2.18)
EQ	0.993***	0.891**	1.009***	0.992***	1.012***
	(2.80)	(2.52)	(2.85)	(2.79)	(2.85)
TAT	0.221**	0.230**	0.237***	0.223**	0.220**
	(2.42)	(2.50)	(2.59)	(2.44)	(2.40)
EXPERTS	**0.643****				
	(2.38)				
WOEXPERTS		**1.213****			
		(0.70)			
EXPERIENCE			**1.133*****		
			(2.72)		
FINEXPERTS				**0.712****	
				(2.09)	
EDUCATION					**1.111*****
					(2.60)
Constant	−1.443***	−1.284***	−1.451****	−1.418***	−1.430***
	(−3.28)	(−2.94)	(−3.31)	(−3.22)	(−3.26)
R-squared	0.023	0.020	0.025	0.023	0.023
Observations	1536	1536	1536	1536	1536

Note: *Table 6.1 presents a static panel GLS regression model with a random effect. The table presents the results of empirical tests for the impact on the dependent explanatory variable (ROS) of the following independent explanatory variables: the fraction of supervisory board members with foreign experience (EXPERTS), the fraction of women with foreign experience (WOEXPERTS), the fraction of supervisors with industry experience (EXPERIECE), the fraction of supervisors with financial and accounting experience (FINEXPERTS) and the fraction of members with education in finance or accounting (EDUCATION). The following firm-related control variables are included in the analysis: the dummy variable that indicates the firm's age (AGE), the ratio of fixed assets to assets (FIXA), the ratio of short-term receivables to assets (REC), the ratio of equity capital to assets (EQ) and the ratio of sales to assets (TAT). t-statistics are presented beneath respective regression coefficients. Statistical significance at the 1%, 5%, and 10% levels are denoted with ***, **, and *, respectively. All models include time and industry fixed effects.*

Source: own elaboration.

Table 6.2. Empirical relationship between international
expert characteristics and firm's contemporaneous ROS

Explained Variable	ROS (6)	ROS (7)	ROS (8)	ROS (9)	ROS (10)
AGE	0.257*	0.258*	0.273*	0.251	0.238
	(1.68)	(1.69)	(1.78)	(1.64)	(1.55)
FIXA	0.341	0.370	0.397	0.366	0.386
	(0.87)	(0.95)	(1.02)	(0.94)	(1.00)
REC	0.992*	0.982*	0.893*	1.010*	1.015**
	(1.91)	(1.89)	(1.72)	(1.94)	(1.96)
EQ	0.920***	0.883**	0.766**	0.906**	0.885**
	(2.60)	(2.50)	(2.15)	(2.56)	(2.51)
TAT	0.228**	0.227**	0.222**	0.223**	0.227**
	(2.48)	(2.47)	(2.41)	(2.41)	(2.47)
INTERLOCKS	**0.725*****				
	(1.06)				
FORINTERLOCKS		**0.284**			
		(0.27)			
INTEXPERTSLOSS			**−1.217****		
			(−2.35)		
INDEXPERTS				**0.260**	
				(0.72)	
IND					**−0.315**
					(−1.45)
Constant	−1.302***	−1.256***	−1.148***	−1.298***	−1.037**
	(−2.98)	(−2.89)	(−2.63)	(−2.96)	(−2.26)
R-squared	0.019	0.019	0.019	0.019	0.021
Observations	1536	1536	1536	1536	1536

Note: *Table 6.2 presents static panel GLS regression model with a random effect. Table presents the results of empirical tests for the impact on the dependent explanatory variable (ROS) of the following independent explanatory variables: the fraction of international experts with domiciled and foreign interlocks (INTERLOCKS and FORINTERLOCKS) and the fraction of supervisory board members who are independent international experts (INDEXPERTS). The international experts-, board- and firm-related control variables are included in the analysis: the dummy variable that indicates the relationship between the presence of international experts on the supervisory board and reported loss in a company (INDEXPERTLOSS), the fraction of independent members in the supervisory board (IND), the dummy variable that indicates the firm's age (AGE), the ratio of fixed assets to assets (FIXA), the ratio of short-term receivables to assets (REC), the ratio of equity capital to assets (EQ) and the ratio of sales to assets (TAT). The t-statistics are presented beneath the respective regression coefficients. Statistical significance at the 1%, 5%, and 10% levels are denoted with ***, **, and *, respectively. All models include time and industry fixed effects.*

Source: own elaboration.

The fraction of supervisory board members with foreign experience

The regression coefficient at the **EXPERTS** variable is statistically significant at the 5% level. The magnitude of the coefficient suggests that a one percentage point increase in the fraction of supervisory board members with experience in foreign entities is associated with an increase of **ROA** by 0.021 percentage points and 0.643 of **ROS**. Thus, **hypothesis 1** was verified, showing the moderate positive effect of international experts on the company's performance. Choi et al. (2007) and Tornyeva and Wereko (2012) documented similar results, confirming the link between board members with foreign experience and firm performance. The explanation behind the positive effect is that international experts have multicultural experience working for foreign firms that adopt best practices. That suggests that board members with foreign experience can bring specific knowledge to the organization and improve the quality of corporate governance. Also, the results are in line with Hahn and Lasfer (2016), who argue that "foreign non-executive directors may help companies gain more expertise, and bring new breadth and culture to local boards".

In the context of the regression results of the present study, it can be stated that the fraction of international experts increases firm value and improves productivity with profitability (Giannetti et al., 2012). Moreover, from this perspective, one may conclude that experts with international experience are a resource of intellectual capital, which is an intangible asset and, consequently, they may be used to generate future economic benefits (Berezinets et al., 2016).

An additional explanatory variable is created for an in-depth exploration of the impact that supervisory board members with foreign experience have on company performance. To eliminate the association of the presence of international experts with reported losses for the given year, the interaction term **INEXPERTSLOSS** is built. The results confirm that LOSS is not affected by the presence of international experts on supervisory boards.

The fraction of women with foreign experience

Hypothesis 2 is confirmed with the findings of the current empirical study, which determined the positive aspects of the presence of women with foreign experience on the supervisory board. In the case of Return on Sales as a dependent variable, the ***WOEXPERT*** variable coefficient is positive and statistically significant at 5%. The additional interpretation of the impact is that an increase in the fraction of women with foreign experience on the supervisory board by one percentage point enhances firm performance by 1.213 percentage points. In the context of human capital, the female impact on firm financial performance shows the advantage of having women director members (Adams, Ferreira, 2009). On the one hand, this effect can be confirmed as those female directors are not part of an "old boys network," making them more independent. On the other hand, the education of women directors improves board functioning (Joecks et al., 2013).

The data results are consistent with prior findings presented by Carter et al. (2010) and Mateos de Cabo et al. (2012), who are the proponents of a greater share

of gender diversity in the boardroom. In that light, the presented results are additionally confirmed by Carter et al. (2010), who discovered that gender diversity positively impacts the board's monitoring role. Furthermore, a positive link between female board members and company performance was identified in several studies, e.g., Abdelzaher and Abdelzaher (2019) and Moreno-Gómez and Calleja--Blanco (2018).

<u>The fraction of members with industry experience</u>

The current analysis shows a competitive advantage for companies whose board members have industry experience (Aharoni et al., 2011). Consequently, a positive effect was noticed between the fraction of international experts with industry experience (***EXPERIENCE***) and Return on Sales. The statistical significance at the 1% level demonstrates that an increase by one percentage point of members with specific industry knowledge or information makes ROS 1.133 times greater. The findings of Carpenter and Westphal (2001) and Pearce and Zahra (1992) confirmed the competitive advantage of outside board member's industry experience for the company thanks to access to information, links with main industry players, and industry resource network.

The findings of the present study are corroborated by the fact that knowledge about industry conditions allows board members to properly analyze, understand market dynamics, and formulate firm strategies. The main idea is that the supervisor's industry experience may improve the quality of performed functions, namely, monitoring and advising (Forbes, Milliken, 1999). Furthermore, the industry-specific experience makes it possible to evaluate the firm strategy for the industry in which an entity operates (Porter, 1996). Therefore, the conclusion can be drawn that the directors' business experience enables them to identify potential market opportunities and threats. Moreover, they can provide necessary resources and new entrepreneurial cooperation for the firm (Certo et al., 2001). Consequently, the results lend support to **hypothesis 4**, which states that Polish listed companies have better financial performance thanks to the presence of international experts with industry experience on the supervisory board.

<u>The fraction of members with education and experience in finance or accounting</u>

The data analysis indicates positive and statistically significant results at the 5% (**ROA)** and 1% (**ROS**) level for the **EDUCATION** variable, the coefficient of which shows that a one percentage point increase in the fraction of supervisory board members with education in finance or accounting leads to an increase in the **ROA** and **ROS** dependent variables by 0.031 and 1.111 percentage points, respectively. The results are consistent with the literature, which shows that there is a positive link between board members' educational qualifications and firm financial performance (Darmadi, 2013; Kagzi, Guha, 2018). Moreover, according to upper-echelon theory, higher education is positively linked to the financial situation of the company. That relationship has been documented by Jalbert et al. (2002).

Returning to the results of the present study, the following can be noted: the financial expertise of international supervisors may be a huge advantage for the financial management of a firm and help produce high-quality corporate financial reports (Jeanjean, Stolowy, 2009). What is more, the estimation results demonstrate a positive and significant relationship between experience in finance or accounting (variable **FINEXPERTS**) and Return on Sales. Taking into account this aspect of international expert diversity, it can be concluded that such experience in finance or accounting may be crucial in performing their responsibilities, such as monitoring the fulfillment of obligations assigned to management board members and overseeing the company (Lipton, Herzberg, 2006). In that light, the results suggest engaging members to the supervisory board with diverse educational backgrounds and experience, since various viewpoints may enhance the quality of the decision-making process (Bantel, 1993). Overall, **hypothesis 5** is supported by the results, and the following can be stated: Polish listed companies have better financial performance thanks to the presence of international experts with financial education and experience on the supervisory board.

The fraction of international experts with interlocks

When it comes to interlock presence on supervisory boards, the regression coefficient with the explanatory variable of companies' profitability (**INTERLOCKS**) was built to highlight the importance of the topic. The regression results documented a 5% and 1% level of statistical significance in the models where the dependent variables are **ROA** and **ROS**, respectively. According to the models, a one percentage point increase in the fraction of international experts with domiciled interlocks increases **ROA** by 0.049 percentage points and **ROS** by 0.725. The results follow the assumptions of resource dependence theory and agency theory and consistent with Horton et al. (2010), who documented the advantage of having timely access to information, which in the case of an intense social capital asset owned by the firm, enables better performance of board duties. These effects support the conclusion and argument of Zona et al. (2018), who concluded that the availability of resources might define the effect of interlocking directorates on firm performance.

The presented findings provide support for **hypothesis 6**, which states that international experts with interlocks positively affect firm performance. The board's connections positively affect company performance when those connections are linked to resource-rich counterparts. On that basis, a conclusion can be drawn that international experts who gained experience through holding supervisory board memberships on other WSE-listed companies operating within the same sector as the analyzed firm are expected to be valuable, as they can be transformed into an economic benefit for the firm (Haynes, Hillman, 2010).

The fraction of independent international experts

The statistical data confirm that international supervisors are more independent in monitoring and advising management teams that are more strongly

motivated to increase the company's profitability. The estimation results of the variable **INDEXPERTS** are statistically significant and lead to an increase in companies' profitability indicator (**ROA**) by 0.21 percentage points if the fraction of independent international experts increases by ten percentage points. The results confirm **hypothesis 3**, which states that independent international experts positively affect firm performance. The research highlights that international supervisory board member independence is seen as a strong instrument for preventing opportunistic actions and for monitoring manager performance. The estimation result is consistent with investigation of Liu et al. (2015) which also demonstrated a positive link between board members' independence and companies' financial efficiency (Uribe-Bohorquez et al., 2018). Moreover, some articles highlight a positive association between independent directors and firm accounting performance or firm value (Baysinger, Butler, 1985; Pearce, Zahara, 1992; Rosenstein, Wyatt, 1990). The positive impact of independent board members on entity value were also reported by Rashid et al. (2010) and Kumar and Singh (2013).

The results could also be justified by the financial and psychological independence from the management board, which allows them to perform their supervising and monitoring functions more effectively (Baysinger, Butler, 1985). Therefore, by implementing their business experience and performing an advisory role, it allows directors to increase their firm's financial transparency and reduce agency costs (Cuadrado-Ballesteros et al., 2015). Liu et al. (2015) found a positive effect of director independence on company performance, while Zhu et al. (2016) confirmed the positive effect of the greater fraction of independent directors on the board and firm value due to the monitoring role being performed better.

The fraction of independent supervisory board members

The present investigation documented a negative and statistically significant relationship between supervisory board member independence (**IND**) and firm performance indicators **ROA** and **ROS**. Similarly, Cho and Kim (2007), Koerniadi and Tourani-Rad (2012), and Terjesen et al. (2016) documented a negative relationship between director independence and financial performance. Koerniadi and Tourani-Rad (2012) also identified a negative link between independent boards and company value, while Klein et al. (2005) and Erickson et al. (2005) reported a negative link between highly concentrated ownership and the presence of independent directors and firm performance or value.

These results can be explained by the partial relationship of outside directors with the firm, which consequently leads to an insufficient understanding of the company's business activities (Bhagat, Black, 2001). Ineffective monitoring by an independent director can also be caused by the dominant share-holder strategy. From that point of view, the composition of the board of directors will be an expression of the company owner's vision (Gutierrez, Saez, 2013). Additionally, the lack of time and appropriate information do not allow independent directors to significantly contribute to the management process (Hart, 1983).

Control variables and firm profitability

According to the models built with the **ROA** dependent variable, among the control variables that have strong statistical significance at the 1% level are **FIXA**, **EQ** and **TAT**. The static models with a random effect show that return on assets tends to be higher when asset turnover is a faster and greater indicator of capital strength (**EQ**). On the other hand, for companies with a greater fraction of fixed assets (**FIXA**) frozen from the use as working capital, the return of asset ratio weakens. The effects of the set of presented control variables are also investigated on return on sales. The **ROS** increases due to higher **REC**, **EQ** and **TAT**. This suggests that a quick assets turnover ratio, a solid capital base, and large amounts of short-term receivables have a positive impact on the return on sales. It ought to be noted that the **AGE** variable is statistically significant only in the model where the dependent variable is **ROS**, and the results show that old companies tend to have a higher return on sales.

Conclusions

Studies on the impact that international experts have on firm performance are scarce. Generally, the literature is focused on developed markets and the one-tier corporate governance system. The presented research appears to be the first attempt to emphasize the topic in the Polish market, which is a developing economy where the two-tier governance model is adopted.

The findings strongly suggest that the presence of supervisory board members with an outside perspective and international experience may have a positive impact on the operational outcomes of companies listed on the WSE. This positive effect is likely to be driven by an improvement in corporate oversight and the alleviation of agency conflicts achieved through the inclusion of outsiders with an international business background to the supervisory board composition of the sampled firms.

The study contributes to the existing literature on the factors that affect company performance. What is more, great value is added to the research on supervisory board characteristics. They are crucial for effective monitoring and advisory roles, which enhance the quality of corporate governance. The research extends the understanding of the determinants and consequences of the presence of international experts on supervisory boards.

In conclusion, the results provide strong support for the hypotheses, which mainly suggest that the presence of international experts serves as a channel for the transmission of economically meaningful knowledge of countries with higher quality corporate governance. The following three implications can be drawn with regards to the view that firm-level corporate governance may be more important than country-level governance (Klapper, Love, 2004; Leuz et al., 2009):

1) international experts offer a conduit for higher quality corporate governance practices from country to country;

2) when an international expert's previous experience was obtained in a country with higher quality legal institutions, the firm that employs that kind of supervisory board member can benefit from the knowledge gained in foreign companies with stronger corporate governance (company to company);

3) the ex-post impact on companies' performance may vary from country to country due to the governance standards that are inherent in that country.

It should be acknowledged that the results might have been driven or affected by unobservable supervisory board member characteristics. It is highly possible that companies with weak governance decide to hire international experts in an attempt to improve the quality of corporate governance, which consequently results in an improvement of the financial position of the company (Iliev, Roth, 2018).

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