# CHALLENGING THE GLASS CLIFF: A SURVIVAL ANALYSIS OF BOARD MEMBER TENURE IN THE POLISH CAPITAL MARKET

Tomasz Sosnowski[1], Anna Wawryszuk-Misztal[2]


[1]*University of Lodz, Faculty of Economics and Sociology,*

*Department of International Investments and Finance,*

*ul. Rewolucji 1905 r. 41, 90-214 Lodz, Poland;*

*tomasz.sosnowski@uni.lodz.pl*

*orcid.org/0000-0001-5610-0404*


[2] *Maria Curie-Sklodowska University in Lublin, Faculty of Economics,*

*Department of Corporate Finance and Accounting,*

*5 M. Curie-Skłodowskiej Square, 20-031 Lublin, Poland*

*anna.wawryszuk@umcs.pl*

*orcid.org/0000-0002-5016-9117*

***Abstract:***

This paper investigates the role of women in the corporate governance system within the Polish capital market, with a particular focus on the glass cliff phenomenon. The glass cliff theory posits that women are more likely to depart from corporate boards of companies experiencing poor financial performance. The study analyzes a sample of 355 companies listed on the Warsaw Stock Exchange, encompassing 11,223 observations of management and supervisory board members. Through survival analysis, our findings reveal no significant differences in board tenure or the risk of leaving corporate boards between men and women. Notably, the results suggest that women are less influenced by a company's financial condition when deciding to leave or remain on the board, potentially indicating gender-based differences in risk attitudes. Specifically, the financial condition of a company has a lower impact on women's hazard of board departure compared to men, challenging the glass cliff theory. Additionally, the study highlights the importance of other factors, such as regulatory frameworks, company size, and type of owner, which may affect board tenure duration.

***Keywords*:** *glass cliff, women on boards, tenure, two-tier model, financial misconduct.*

## INTRODUCTION

The problem of low representation of female directors is present in both public debate, and the literature (see Ciappei et al., 2023). The women's appointment to management positions attracts the attention of researchers and institutions promoting gender balance in top positions. Some phenomena explain the presence of females in management positions. For example, the glass ceiling is used to illustrate the social barrier that prevents women from being appointed to management positions (Dozier, 1988).

Apart from the glass ceiling, which shows the obstacles for female leaders, there is another phenomenon called the glass cliff. It explains under which circumstances companies are more likely to diversify their boards in terms of gender. According to glass cliff, financial misconduct, risky situations, and decreasing performance increase the willingness to appoint women for leadership positions (e.g. Ryan & Haslam, 2005, 2007, 2009). In other words, the risky situations create new opportunities for women to take leadership positions, but the female directors are hired in more risky positions. The literature explains that the appointment of female leaders in crisis is visible to stakeholders, and has symbolic value. The hiring of women by companies facing poor performance signals a change to the stakeholders (Ryan & Haslam, 2007; Kulich et al., 2021; Reinwald et al., 2023).

The glass cliff phenomenon for female CEO appointments is confirmed for North American companies by Elsaid and Ursel (2018), Reinwald et al. (2023), Bonner et al. (2023). Researchers analyzing the glass cliff usually take the perspective of the company who appoints women to aboard. However, some academics take the perspective of a woman applying for management positions. They point out that risk-averse women accept precarious leadership positions. This situation is called the glass cliff paradox and is explained by psychological factors (Darouei & Pluut, 2018). However, others (Cook & Glass, 2014) find no evidence for a glass cliff in the attainment of leadership positions.

The glass cliff phenomenon is also used to explain the reasons for the earlier exit of female directors (Elsaid & Ursel, 2018). According to that if female directors are appointed in precarious situations and financial losses, the risk of their removal is greater than their male counterparts. Therefore the tenure of the female board members is shorter than their male counterparts. To verify the existence glass cliff phenomenon the variable reflecting the length of directors' tenure is applied in the studies (see Elsaid & Ursel, 2018). This assumption is confirmed by the results of Becker-Blease et al. (2016) for US companies and Saeed and Riaz (2023) for Chinese companies.

In the literature the glass cliff phenomenon is used to explain both the low presence of female directors (see Aluchna et al., 2023), and the increased likelihood of their dismissal (Becker-Bleaseet al. 2016; Elsaid & Ursel, 2018).

To broke the glass ceiling and overcome the gender bias some initiatives are taken by both international, and domestic institutions. For many years, soft regulations such as corporate governance codes were used to promote gender diversity on boards in European Union

countries. They are based on the "comply or explain" approach, which means that the company can decide if the selected rule or principle is applied. However, other countries (e.g. France, Germany, Italy, Belgium, and Spain) implemented hard regulations that require some companies to appoint women to governing bodies and thus achieve the expected level of gender diversity. Nevertheless, the inequality between women and men in leadership positions was still observed in many EU countries. To facilitate the appointment of top management positions by female experts, the Directive (EU) 2022/2381 of the European Parliament and of the Council of 23 November 2022 on improving the gender balance among directors of listed companies and related measures was adopted. Following that, all the EU countries have to implement the gender quotas into their domestic regulations before 28 December 2024. However, Poland is still using soft law through the corporate governance codes. According to the last regulation – Best Practice for GPW Listed Companies 2021 (Best, 2021), the percentage of under-represented gender must account for 30% for both management and supervisory boards. However, there are no sanctions for not achieving this level of gender diversity. Nevertheless, the previous corporate governance code, which was introduced in 2016 (Best, 2016) was a trigger for the promotion of the diversity policy in governing bodies. It required all public companies quoted on the Warsaw Stock Exchange to reveal information on diversity policy, but if it was not implemented, to explain the reasons for that decision. Thus, in our opinion, it played an important role in reinforcing the awareness of the role of women in leadership positions.

This study aims to investigate the glass cliff phenomenon within the Polish capital market, specifically examining whether poor financial performance increases the risk of departure for female board members. The central research question addresses the differences in how a company's financial condition impacts the decision to leave the board for women compared to men, and how these findings relate to the glass cliff theory. Our research offers a deeper understanding of the challenges women face in attaining top positions within corporate governance structures, despite their qualifications. This understanding may help to identify factors that increase the likelihood of women exiting management and supervisory boards, particularly during periods of financial difficulty. While previous analyses of the glass cliff phenomenon have predominantly focused on the U.S., UK or Chinese markets, our examination of the Polish capital market enables us to assess the applicability of this hypothesis within the context of the Polish economy. The insights gained from this study could be instrumental in developing strategies to support women in advancing to and remaining in top-level positions.

Additionally, our findings may contribute to the promotion of gender equality and the creation of a more inclusive working environment.

The motivation to conduct our research is derived from two reasons. First, the context of Poland might be interesting because Polish companies suffer from low representation of females in governing bodies, both management and supervisory board (see Gender Equality Index 2023, p. 174; Olszewska-Miszuris et al., 2021). To increase the gender balance in public companies, soft regulations (i. e. Corporate Governance Codes - Best Practice for GPW Listed Companies) were introduced in 2016 and 2022. In addition, the research of Sosnowski and Wawryszuk-Misztal (2023) shows that companies' attitudes towards board gender diversity in Poland are gradually changing. But there is still a shortage of women in leadership positions. It suggests the gender bias towards women in leadership positions. Thus, it is interesting if the institutional environment enhancing the appointment of women to leadership positions affects the evaluation of their work, and thus their tenure. Second, existing research on the glass cliff phenomenon is very limited, especially for a two-tier board structure consisting of the management and the supervisory board. Extant studies for Polish directors usually analyze the tenure or turnover of CEO (Urbanek, 2010; Bohdanowicz, 2019; Byrka-Kita et al., 2020), whereas our research includes the tenure of all governing bodies.

Using survival analysis on a sample of 355 Polish stock companies and 11,223 observations of corporate board members, our study finds no evidence supporting the glass cliff phenomenon. The analysis reveals no significant differences in board tenure or the likelihood of departing from corporate boards between men and women. However, the findings indicate that women are less influenced by a company's financial performance when deciding whether to stay on or leave the board. Specifically, the financial condition of a company has a smaller effect on the likelihood of women exiting their board positions compared to men, which aligns with the immunity perspective.

This research contributes to the literature on corporate governance and gender dynamics in several significant ways. First, it provides valuable insights into the Polish capital market, thereby expanding the geographical scope of corporate governance research. Specifically, the paper addresses gaps related to governance in two-tier systems, characterized by separate management and supervisory boards. It is a relatively underexplored area, particularly in relation to the glass cliff phenomenon and board dynamics within such systems. Moreover, in contrast to much of the existing literature that predominantly focuses on CEO tenure, this study examines the entire composition of both management and supervisory boards. This broader

scope offers a more comprehensive view of board dynamics and governance issues, moving beyond the narrower focus on CEO roles. Additionally, the study employs survival analysis techniques, including the Kaplan-Meier estimator and the Cox proportional hazards model, to assess board tenure. This methodological approach allows for a nuanced examination by accounting for both board departures and the status of current board members. As a result, the analysis captures both completed and ongoing board tenures, providing a more thorough understanding of board dynamics and tenure patterns.

The remainder of this paper is organized as follows. The next section contains the literature review and hypotheses. The sample construction and research design are described in section 3. Section4 presents the results of our research and discusses the results. The last section is devoted to conclusions.

**LITERATURE REVIEW**

The literature presents two contrasting explanations for the tenure of women in management positions (Hill et al. 2015; Elsaid & Ursel, 2018; Buchwald & Hottenrott, 2019; Saeed & Riaz, 2023). The first approach, known as the susceptibility perspective based on role congruity theory, suggests that female leaders have a higher turnover likelihood than their male counterparts, based on the role congruity theory of Eagly and Karau (2002). They state that gender roles and leadership roles are the source of two types of prejudice (Eagly & Karau, 2002). Firstly, since leadership ability is stereotypically attributed to men, women's potential for leadership suffers from less favorable evaluation. Secondly, the women taking leadership positions are less favorably evaluated than their male counterparts because leadership behavior is rather expected from men (Eagly & Karau, 2002). Following that, the incongruity between stereotyped expectations towards female directors and their behaviors leads to the dismissal of women (Jiang et al., 2024). If the susceptibility perspective is documented by the researchers, the existence of glass cliff phenomena is confirmed.

The second approach explaining the length of tenure, supported by resource dependence theory (RDT) and the immunity perspective (Saeed & Riaz, 2023), argues that minorities like female directors receive more favorable treatment, resulting in longer tenures. The RDT states that the company has to obtain unique and inimitable resources from the environment, thus the special role is played by directors who provide it to the company. Diversity in terms of demographic characteristics of board directors (i.e. gender, ethnicity, age, education, experience) increases the availability of rare and inimitable resources. Following the resource-

5

based arguments Hill et al. (2015) explain that minorities (i.e. female directors, and ethnic minorities) might receive more favorable treatment which leads to higher tenure of female directors in comparison with their male counterparts. The resourced-based arguments are also rooted in institutional theory (DiMaggio & Powell, 1983), where companies seek legitimacy by addressing societal pressures to reduce gender inequalities. Removing women from management positions risks social dissatisfaction, negative publicity, and loss of legitimacy (Saeed & Riaz, 2023).

This assumption is also supported by the immunity perspective (Saeed & Riaz, 2023), which stems from the institutional theory (DiMaggio & Powell, 1983). If the company aims to survive, it must gain legitimacy, which is possible by answering to societal pressure to decrease gender inequalities. Removing women from management positions might cause social dissatisfaction, negative publicity, and loss of legitimacy. Thus, a lower turnover of female directors or longer tenure of women in leadership positions is expected (Saeed & Riaz, 2023). The investigations that document the immunity perspective, provide evidence for the lack of glass cliff.

We can conclude that investigations confirming the appearance of the glass cliff phenomena point that the risk of dismissal of female directors is greater than their male counterparts when the company faces a risky situation, i.e. poor performance decreases the length of the tenure of female directors more than male directors, or increases the risk of dismissal women more than for men taking a similar position.

Existing research on female director turnover provides inconclusive results. Some researchers give evidence for the appearance of the glass cliff and confirm the congruity theory. This research by Becker-Blease et al. (2016) for 1500 S&P companies shows that the likelihood of leaving the board is greater for female executives than for their male counterparts. They also report that the probability of dismissal is higher for women than for men if the firm performance measured by accounting and market measures is lower (Becker-Blease et al., 2016). This evidence supports the glass cliff phenomenon. The congruity theory is also supported by the research for Chinese firms. The investigation of Saeed and Riaz (2023) reports that a higher turnover of female directors is observed in companies accused of financial misrepresentation between 2011-2019. The study of Jiang et al. (2024) for public Chinese companies documents that risk-taking behaviors of new female CEOs increase their dismissal during the post-succession period. The results document that risky situations lead to more severe evaluation of female directors and thus their dismissal.

Hill et al. (2015) investigated if ethnic minorities and female CEOs suffer from discrimination against gender and ethnicity or receive more favorable treatment with respect to their compensation and their risk of removing from the CEO position. They document that both minority groups of CFOs benefit from their minority status because their compensation is higher in comparison with other CEOs. This result supports the resource-based approach and the immunity perspective. It leads to the conclusion that unique resources offered by minorities are highly reworded. However, with respect to the likelihood of a CEO job exit, the results are inconsistent. Ethnic minorities suffer from a higher risk of removal, which supports the biases and stereotypes approach. Nevertheless, the resource-based arguments are also supported because the effect of female CEOs on the likelihood of job exit is negative. It means that the women taking the position of CEO benefit from minority status, which shows the lack of a glass cliff as regards female directors. At the same time, they report that the risk of CEO exit increases with the decrease in firm performance measured (Hill et al., 2015).

There is also research that provides mixed results as regards the glass cliff phenomenon. Arguments supporting both the congruity perspective and immunity perspective results are reported by Elsaid and Ursel (2018). Their investigation which includes 193 female CEOs and 193 male CEOs between 1992 and 2014 in North American companies documents that in comparison with male CEOs, female CEOs are appointed when their companies are in less stable situations. It shows the appearance of the glass cliff. However, the risk of turnover of female CEOs is lower than male CEOs. It means that the tenure of female CEOs is longer than their male counterparts, which gives support for the immunity perspective and resource-based arguments and is not in line with the glass cliff phenomena for female directors. What is more, they report that the risk of CEO turnover is not affected by firm performance (Elsaid & Ursel, 2018). Other research for large US public companies reveals that the firm performance has no influence on the risk of dismissal of the female CEOs, but if the company is well-performing, the rate of dismissal for male CEO is lower than for female CEOs (Gupta at al., 2020).

Another strand of literature points out that the gender of executives or firm performance might affect the length of the director's tenure, but it does not appeal to the glass cliff phenomenon or confirm the existence of this phenomenon.

The firm performance is expected to have a positive impact on the length of the executive tenure or a negative relationship with CEO or executive turnover. For example, Buchwald and Hottenrott (2019) do not find a direct link between executive turnover and the return on assets for companies from 15 European countries. However, they reveal that in

companies facing low performance (i.e. the ROA is lower than average industry-adjusted ROA) the risk of executive turnover is higher. Also, Bohdanowicz (2019) reports the negative association between firm performance and CEO turnover for Polish companies, but the lack of this relationship is documented by Urbanek (2010).

Buchwald and Hottenrott (2019) report that the risk of dismissal is not higher for female executives than for male executives. It means that companies facing poor performance are more likely to dismiss members of the board, regardless of their gender.

Main and Gregory-Smith (2018) report for UK companies that female executives and non-executives have shorter tenure than their male counterparts, and the risk of dismissal for female non-executives is much larger nine years after their appointment. Main and Gregory-Smith (2018) report that better performance positively affects the length of the tenure of all directors. However, they conclude that the shorter tenure of women cannot be explained by the glass cliff effect on appointment. They state that women are appointed to non-executive positions for symbolic reasons, but they are dismissed nine years later because according to the UK Corporate Governance Code, the female members lose their independence.

Later research by Schmid & Mitterreiter (2021) for UK FT100 companies reports the positive effect of performance on the length of the tenure of executives, however, contrary to the research of Main and Gregory-Smith (2018) they do not observe a significant relationship between gender of executives and their tenure.

Also, the negative link between CEO turnover and financial performance is documented for family-owned Taiwanese public companies (Li, 2018) and Chinese public non-state-controlled firms (Lin & Su, 2009). Nevertheless, none of these two studies analyses the role of the director's gender in its risk of dismissal. Similarly, also other academics analyzing the factors affecting tenure find a positive impact of performance on tenure or a negative relationship with executive or CEO turnover (Jenter & Kanaan, 2015; Kaplan & Minton, 2012), but they do not include the gender variable.

The study of the glass cliff phenomena fits into the broader context of research about determinants of board duration. There are two groups of factors affecting the length of a board member's tenure: board-specific characteristics and firm-specific characteristics (see Sun & Bhuiyan, 2020). For example, board-specific characteristics are the director age, ownership, committee memberships, gender, career variety, and others. The firm-specific characteristics include the company size, performance, leverage, shareholder structure, and others (see Sun &

Bhuiyan, 2020). Director age is one of the features that negatively affects the tenure of board directors. The older directors have shorter tenure in boards in comparison with the younger managers (Schmid & Mitterreiter, 2021). The positive link between director's ownership and the board tenure is explained by agency theory. It states that board ownership reduces the agency problems because such directors become "watching agents", and thus they fulfill their duties better (Vafeas, 2003; Sun & Bhuiyan, 2020). The research for US firms provides evidence that director ownership or CEO ownership has a positive effect on the length of tenure (Jenter & Kanaan, 2015; Jia, 2017). Being an owner of the company increases the director or CEO's power and reduces the probability of dismissal in a crisis situation (Jentner & Kanaan, 2015). Among other factors, the career variety of executives is reported as another factor negatively affecting the executives' tenure in UK listed companies (Schmid & Mitterreiter, 2021). Another group of antecedents of board tenure includes firm-specific characteristics such as firm size, firm leverage, and others (Sun & Bhuiyan, 2020). Extant studies report that the tenure is longer or the probability of exit is smaller if the company size is larger (Jia, 2017; Buchwald & Hottenrott, 2019), and the leverage is lower (Jia, 2017). Regarding the ownership structure, Visintin et al. (2017) explain the role of family ownership in decisions on CEO turnover, and the research of Bohdanowicz (2019) for Polish companies reveals the negative impact of managerial ownership on CEO turnover. In turn, Shein and Lin (2009) conclude that state ownership negatively impacts top management turnover for Chinese listed companies if their performance is lower than expected.

The literature review leads to the conclusion that determinants of board tenure or the risk of director exit are not extensively studied. However, a strong part of the studies is devoted to the glass cliff phenomenon. In the Polish context, where the low female representation on management and supervisory boards is observed, and there are no mandatory board gender quotas, we can expect that gender biases exist, we can formulate two following hypotheses:

H1: Men have a longer board tenure compared to women in similar positions, indicating that women experience a higher risk of early dismissal from corporate boards.

H2: When a company experiences poor performance, female board members face a higher risk of dismissal compared to their male counterparts, indicating the presence of the glass cliff phenomenon in the Polish capital market.

**RESEARCH DESIGN: SAMPLE AND METHODOLOGY**

The empirical study investigates the tenure of individuals serving on the management or supervisory boards of publicly listed companies and examines the factors influencing this tenure. To test the research hypothesis, we analyzed data related to the corporate governance bodies of companies listed on the main market of the Warsaw Stock Exchange (WSE), the leading stock market in Central and Eastern Europe. In the initial phase, the sample included all 415 companies whose shares were traded on the regulated market at the end of 2022. To mitigate the impact of institutional heterogeneity on board composition, we excluded 44 foreign companies listed on the WSE. Additionally, 11 banks and 3 insurance companies were removed due to the distinct nature of financial reporting in these sectors. Furthermore, 2 companies were excluded due to substantial deficiencies in reporting the composition of their management and supervisory boards. The final research sample comprised 355 companies listed on the main market of the WSE as of the end of 2022.

In the subsequent phase of structuring the research sample, we gathered detailed information on the composition of the management and supervisory boards of the companies identified in the first phase. The data was sourced from the publicly accessible internet portal Bankier.pl, which aggregates information that listed companies are required to report through the Electronic System for Information Transmission (ESPI). ESPI is the system used by issuers listed on the WSE to communicate announcements mandated by regulations and laws. We hand-collected data on the appointment and departure dates of board members by conducting a comprehensive analysis of both current and historical compositions of the companies' boards.

This information pertains to past tenures and the current composition of corporate boards as of December 31, 2023. The upper limit was set at 2023 because it was the most recent year for which other company characteristics, particularly financial data, were available for the empirical study. In cases where errors or missing information were identified, the corresponding dataset was excluded from the analysis.

Ultimately, the dataset consisted of 11,223 board member-company observations. Of these, 3,639 were individual observations of management board members, with 1,003 serving as active board members as of December 31, 2023. Additionally, there were 7,585 observations of supervisory board members, of whom 2,002 were still serving as of December 31, 2023.

Table 1 provides a detailed breakdown of the final study sample, organized by the type of corporate board and the industries covered.

Table 1. Industry distribution of board member-company observations in the sample

| Sectoral classification | Management Board | | Supervisory Board | | Management and Supervisory Board | |
|---|---|---|---|---|---|---|
| | Share | N | Share | N | Share | N |
| Finances (I_1XX) | 0.1701 | 619 | 0.2016 | 1529 | 0.1914 | 2148 |
| Fuels & Energy (I_2XX) | 0.0767 | 279 | 0.0651 | 494 | 0.0689 | 773 |
| Chemicals and raw materials (I_3XX) | 0.1055 | 384 | 0.1010 | 766 | 0.1025 | 1150 |
| Industrial and construction production (I_4XX) | 0.2569 | 935 | 0.2612 | 1981 | 0.2597 | 2915 |
| Consumer goods (I_5XX) | 0.1088 | 396 | 0.1023 | 776 | 0.1044 | 1172 |
| Trade and services (I_6XX) | 0.1198 | 436 | 0.1158 | 878 | 0.1171 | 1314 |
| Health care (I_7XX) | 0.0580 | 211 | 0.0592 | 449 | 0.0588 | 660 |
| Technologies (I_8XX) | 0.1041 | 379 | 0.0939 | 712 | 0.0972 | 1091 |
| Total | 1.0000 | 3639 | 1.0000 | 7585 | 1.0000 | 11223 |

This study focuses on the duration of tenure, specifically measuring the number of days each individual has served on management and supervisory boards. The primary research method employed is survival analysis, a set of statistical techniques initially developed in the biological and medical sciences and now applied in corporate governance research. Survival analysis allows for the estimation of lifespan distributions within specific populations and examines the dependence of survival functions on explanatory variables. This method is particularly robust as it accounts for truncated observations, including both individuals who have completed their tenure and those who are currently in office, making it a more comprehensive approach compared to traditional regression analysis. Consequently, the survival analysis framework is highly valuable in studying the tenure of management and supervisory board members (Brookman & Thistle, 2009; Becker-Blease et al., 2016; Elsaid & Ursel, 2018; Buchwald & Hottenrott, 2019).

Initially, we applied one of the most widely used methods for describing and estimating survival probability in right-censored data: the nonparametric Kaplan-Meier estimator. This method was employed to assess tenure and identify potential differences between specific groups of board members. The Kaplan-Meier estimator $\hat{S}(t)$), which determines the probability that the tenure will extend beyond a specified time t, is expressed as follows:

$$\hat{S}(t) = \prod_{t_i \leq t} \left(1 - \frac{d_i}{r_i}\right)$$

where $r_i$ represents the number of individuals at risk (i.e., those still serving on the board and not yet censored) just before time $t_j$, and $d_i$ denotes the number of individuals whose tenure ends at time $t_j$.

Following the Kaplan-Meier analysis, a semi-parametric Cox proportional hazards model was employed to identify the risk factors influencing tenure. In this model, the event of interest was defined as the departure from a management or supervisory board position. The hazard function $h(t|x_1, \dots, x_p)$, which represents the marginal probability of an event occurring within an infinitesimally short time interval (given that the event has not yet occurred), is expressed as follows:

$$h(t|x_1, \dots, x_p) = h_0(t)e^{\eta_i}$$
$$\eta_i = \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p$$

In this model, the baseline hazard function $h_0(t)$ corresponds to the probability of the event occurring when all explanatory variables are omitted, serving as a reference point. The function $e^{\eta_i}$ represents the vector of explanatory variable values. The coefficients $\beta_{1,\dots,p}$ assigned to each variable $x_{1,\dots,p}$ quantify the effect of each factor on the hazard rate, reflecting how the presence or absence of each variable influences the likelihood of the event occurring.

To conduct our analysis, we utilized a specific set of variables. The explanatory variable TENURE represents the number of days a given member has served on the board. Additionally, three key explanatory variables were used to test the formulated research hypothesis. GENDER is a dummy variable that takes the value of 1 if the board member is a woman, and 0 otherwise. To assess the financial standing of the company, we used the variable Z-SCORE, which is Altman's Z-Score (Reinwald et al., 2023). This metric synthesizes the company's financial condition at a specific point in time based on financial statement data. The primary focus of our analysis is on the interaction term CLIFF, defined as GENDER × Z-SCORE. If the parameter for this variable is statistically significant, it indicates that the gender of the corporate board member modulates the effect of the company's financial standing on tenure. Specifically, if the coefficient for this interaction term is negative, it supports Hypothesis 2, suggesting that when a company's financial condition deteriorates, the hazard of a woman's tenure ending on the board is reduced compared to when these variables are not linked.

Following previous studies on corporate board tenure (Becker-Blease et al., 2016; Schmid & Mitterreiter, 2021; Jenter & Kanaan, 2015; Jia, 2017; Buchwald & Hottenrott, 2019), we included a set of control variables in the model to account for company characteristics,

ownership structure, and selected institutional conditions relevant to the research sample. STATE is a dummy variable with a value of 1 if the State Treasury is an indirect or direct shareholder of the company, and 0 otherwise. FAMILY is a dummy variable that takes the value of 1 if the company is classified as a family business by the WSE, and 0 otherwise. CODE is a dummy variable that takes the value of 1 if the board membership ended in 2016 or later, coinciding with the implementation of the 2016 Corporate Governance Code at the WSE. SIZE is the natural logarithm of total assets at the end of the year in which an individual's board tenure ended. DEBT represents the debt ratio of the company during the corresponding period.

All financial data was obtained from the Notoria Serwis database, which provides standardized financial information for all companies listed on the WSE. Additionally, industry dummy variables I_1XX to I_8XX (as detailed in Table 1) were included in accordance with the sectoral classification of companies on the WSE.

**RESULTS**

The issue of tenure on corporate governance bodies remains relatively underexplored, and the range of factors influencing the length of time individuals hold specific positions is broad. Statistical data on tenure within the management and supervisory boards of stock companies offer valuable insights into the various factors that can impact this duration. Table 2 provides descriptive statistics of the variables used in the empirical study, categorized into three groups: Management Board (Panel A), Supervisory Board (Panel B), and a combined analysis of both bodies (Panel C). The joint examination of the Management and Supervisory Boards may serve as a reference to studies conducted in markets with a one-tier corporate governance system.

Table 2. Descriptive statistics

| Panel A. Management Board | | | | | | |
|---|---|---|---|---|---|---|
| Variable | Mean | Std. Dev. | Q1 | Median | Q3 | N |
| TENURE | 1635 | 1804 | 399 | 967 | 2181 | 3639 |
| GENDER | 0.1107 | 0.3139 | 0.0000 | 0.0000 | 0.0000 | 3639 |
| Z-SCORE | 5.0595 | 97.7095 | 3.9764 | 5.8831 | 7.9680 | 3227 |
| DEBT | 0.6434 | 2.5963 | 0.3519 | 0.4891 | 0.6406 | 3215 |
| FAMILY | 0.3493 | 0.4768 | 0.0000 | 0.0000 | 0.0000 | 3639 |
| STATE | 0.1572 | 0.3640 | 0.0000 | 0.0000 | 0.0000 | 3639 |
| CODE | 0.6579 | 0.4745 | 0.0000 | 1.0000 | 1.0000 | 3639 |
| SIZE | 13.1225 | 2.1792 | 11.6217 | 12.9972 | 14.4955 | 3226 |
| Panel B. Supervisory Board | | | | | | |
| Variable | Mean | Std. Dev. | Q1 | Median | Q3 | N |
| TENURE | 1432 | 1419 | 395 | 942 | 2013 | 7585 |
| GENDER | 0.1533 | 0.3603 | 0.0000 | 0.0000 | 0.0000 | 7585 |
| Z-SCORE | 2.0053 | 115.6234 | 4.2621 | 6.0819 | 8.3264 | 6592 |
| DEBT | 0.7758 | 6.2031 | 0.3236 | 0.4743 | 0.6208 | 6560 |
| FAMILY | 0.3591 | 0.4798 | 0.0000 | 0.0000 | 0.0000 | 7585 |
| STATE | 0.1303 | 0.3366 | 0.0000 | 0.0000 | 0.0000 | 7585 |
| CODE | 0.6295 | 0.4830 | 0.0000 | 1.0000 | 1.0000 | 7585 |
| SIZE | 12.7171 | 2.1749 | 11.2729 | 12.4392 | 14.0742 | 6591 |
| Panel C. Management and Supervisory Board | | | | | | |
| Variable | Mean | Std. Dev. | Q1 | Median | Q3 | N |
| TENURE | 1498 | 1557 | 397 | 948 | 2033 | 11223 |
| GENDER | 0.1395 | 0.3465 | 0.0000 | 0.0000 | 0.0000 | 11223 |
| Z-SCORE | 3.0091 | 110.0625 | 4.1704 | 6.0393 | 8.2156 | 9819 |
| DEBT | 0.7323 | 5.2954 | 0.3346 | 0.4808 | 0.6282 | 9775 |
| FAMILY | 0.3560 | 0.4788 | 0.0000 | 0.0000 | 1.0000 | 11223 |
| STATE | 0.1390 | 0.3460 | 0.0000 | 0.0000 | 0.0000 | 11223 |
| CODE | 0.6387 | 0.4804 | 0.0000 | 1.0000 | 1.0000 | 11223 |
| SIZE | 12.8503 | 2.1846 | 11.3799 | 12.6158 | 14.1921 | 9817 |

Our study of the tenure of individuals serving on corporate governance bodies found that the average duration of service for Management Board members is 1,635 days, with a standard deviation of 1,804 days, indicating significant variability. The median tenure is 967 days, with the first (Q1) and third quartile (Q3) values at 399 and 2,181 days, respectively, suggesting that most board members serve shorter terms. For the Supervisory Board, the average tenure is slightly shorter, at 1,432 days, with a standard deviation of 1,419 days, also reflecting high variability. The median tenure is 942 days. Overall, when analyzing both corporate governance bodies together, the average observed tenure is 1,498 days, with a median of 948 days.

In our sample, women were clearly underrepresented in corporate governance bodies, indicating a male-dominated governance structure in companies listed on the WSE. On average,

women accounted for less than 14% of all tenures. Specifically, only about 11% of positions on the Management Board were held by women. The representation was slightly higher on the Supervisory Boards, where women held approximately 15% of the positions, but they still constituted a notable minority. Disparity between female and male directors is also detected by other researchers analyzing the board tenure. For example, the research which includes 979 UK public companies between 1996-2010 reveals that only 1,453 directors are women, whereas 23,134 directors are men (Main & Gregory-Smith, 2018).

The vast majority of observed tenures either concluded or continue under the regulations introduced by the 2016 Corporate Code. Approximately 35% of the observations pertain to companies classified as family-owned. Additionally, the State Treasury plays a significant role on the WSE. In our sample, an average of 15.72% of Management Board members' tenures occurred in companies in which the State Treasury held a stake, and for Supervisory Board members, the percentage was 13.03%.

In the subsample analyzing Management Board members' tenure, the average debt ratio was 0.6434 (median 0.4891), with a substantial standard deviation of 2.5963, indicating considerable variation in indebtedness among the companies. For the Supervisory Board subsample, the debt ratio averaged 0.7758 (median 0.4743), with a much larger standard deviation of 6.2031, reflecting even greater variability in debt levels. The mean value of the companies' assets at the end of the tenure was approximately 13.00 (logarithm of assets).

Altman's Z-score for Management Board subsample averaged 5.0595, while for those companies associated with Supervisory Board members, it was significantly lower, with a mean value of 2.0053. This difference suggests that the tenures of Supervisory Board members often concluded during periods of financial difficulty. Although the location measures also indicate lower values for Supervisory Boards, the difference between the two boards is less pronounced.

Table 3 displays the potential differences in the values of the variables by gender.

Table 3. Tests for Equality of Means and Medians by Gender

| Panel A. Management Board | | | | | | | |
|---|---|---|---|---|---|---|---|
| Variable | Mean | | t-test | | Median | | Wilcoxon/Mann-Whitney | |
| | Male | Female | Value | p-value | Male | Female | Value | p-value |
| TENURE | 1641 | 1583 | 0.6147 | 0.5388 | 974 | 958 | 0.1000 | 0.9203 |
| Z-SCORE | 4.8524 | 6.7454 | -0.3435 | 0.7313 | 5.8708 | 5.9714 | 1.0743 | 0.2827 |
| DEBT | 0.6557 | 0.5433 | 0.7660 | 0.4438 | 0.4921 | 0.4744 | 2.2400 | 0.0251 |
| FAMILY | 0.3409 | 0.4169 | -3.0216 | 0.0025 | 0.0000 | 0.0000 | 2.4923 | 0.0127 |
| STATE | 0.1588 | 0.1439 | 0.7757 | 0.4380 | 0.0000 | 0.0000 | 0.4890 | 0.6248 |
| CODE | 0.6530 | 0.6973 | -1.7681 | 0.0771 | 1.0000 | 1.0000 | 1.4524 | 0.1464 |
| SIZE | 13.1425 | 12.9596 | 1.4884 | 0.1367 | 13.0053 | 12.9237 | 1.4226 | 0.1548 |
| Panel B. Supervisory Board | | | | | | | |
| Variable | Mean | | t-test | | Median | | Wilcoxon/Mann-Whitney | |
| | Male | Female | Value | p-value | Male | Female | Value | p-value |
| TENURE | 1436 | 1410 | 0.5834 | 0.5596 | 939 | 952 | 0.2799 | 0.7795 |
| Z-SCORE | 3.8880 | -8.5974 | 3.1394 | 0.0017 | 6.0819 | 6.0803 | 0.0204 | 0.9837 |
| DEBT | 0.7164 | 1.1101 | -1.8404 | 0.0658 | 0.4751 | 0.4725 | 0.7724 | 0.4399 |
| FAMILY | 0.3530 | 0.3929 | -2.6135 | 0.0090 | 0.0000 | 0.0000 | 2.1708 | 0.0299 |
| STATE | 0.1300 | 0.1316 | -0.1430 | 0.8863 | 0.0000 | 0.0000 | 0.0834 | 0.9335 |
| CODE | 0.6185 | 0.6905 | -4.6817 | 0.0000 | 1.0000 | 1.0000 | 3.9107 | 0.0001 |
| SIZE | 12.7499 | 12.5322 | 2.9097 | 0.0036 | 12.4856 | 12.2284 | 2.9723 | 0.0030 |
| Panel C. Management and Supervisory Board | | | | | | | |
| Variable | Mean | | t-test | | Median | | Wilcoxon/Mann-Whitney | |
| | Male | Female | Value | p-value | Male | Female | Value | p-value |
| TENURE | 1505 | 1455 | 1.1964 | 0.2316 | 947 | 954 | 0.1951 | 0.8453 |
| Z-SCORE | 4.2151 | -4.5766 | 2.7241 | 0.0065 | 6.0268 | 6.0642 | 0.8036 | 0.4216 |
| DEBT | 0.6958 | 0.9614 | -1.7071 | 0.0878 | 0.4822 | 0.4728 | 2.0363 | 0.0417 |
| FAMILY | 0.3490 | 0.3991 | -3.8460 | 0.0001 | 0.0000 | 0.0000 | 3.1875 | 0.0014 |
| STATE | 0.1397 | 0.1347 | 0.5255 | 0.5992 | 0.0000 | 0.0000 | 0.3149 | 0.7528 |
| CODE | 0.6300 | 0.6922 | -4.7574 | 0.0000 | 1.0000 | 1.0000 | 3.9545 | 0.0001 |
| SIZE | 12.8831 | 12.6442 | 3.7300 | 0.0002 | 12.6592 | 12.3679 | 3.6590 | 0.0003 |

An analysis of tenure on corporate boards revealed that the average tenure for Management Board members was 1,641 days for men and 1,583 days for women, while on Supervisory Boards, the averages were 1,436 days for men and 1,410 days for women. Although men tend to spend slightly more time in these positions, statistical tests indicated that these differences are not significant. The median tenures were also quite similar for both genders. Overall, the results suggest no significant gender-based differences in the length of time served on corporate governance bodies.

These findings contrast with results from a study of UK public companies, which reported a significant difference in mean tenure between female and male directors, with tenures

of 4.61 years for women and 6.75 years for men (Main & Gregory-Smith, 2018). Conversely, Elsaid and Ursel (2018) found the opposite trend, reporting a mean tenure of 4.31 years for female CEOs compared to 3.44 years for male CEOs.

An analysis of the debt ratio revealed some gender differences. Companies managed by men on the Management Board had higher average debt ratios compared to those managed by women, with a statistically significant difference observed for the median (p-value < 0.05). On Supervisory Boards, the pattern was reversed - companies associated with women had higher average debt ratios than those associated with men, with a statistically significant difference at p-value = 0.0658. However, the median debt ratios for both genders were similar, showing no significant differences. These findings suggest significant differences in the debt levels of companies managed by men and women on Management Boards, while on Supervisory Boards, the differences are less pronounced.

The data on the association with family businesses reveals significant gender differences. Women are more frequently associated with family businesses on both Management and Supervisory Boards. On Management Boards, the average index of association with family firms is 0.4169 for women and 0.3409 for men, suggesting that women are more likely to be part of the management teams in family firms. A similar pattern is observed on Supervisory Boards, where the index is 0.3929 for women and 0.3530 for men.

In the group of individuals serving on Management Boards, no significant differences were found in other variables, indicating that other aspects of the analysis are homogeneous between genders. However, in the case of Supervisory Boards, the analysis revealed significant differences. Hence, the variable CODE, which pertains to the applicability of the 2016 Corporate Code, shows significant gender differences. Additionally, variable SIZE, related to company size, revealed significant differences (p-value = 0.0036), indicating that men are more likely to oversee companies with larger assets. Conversely, the difference in the mean value of variable Z-SCORE, related to a company's financial stability, suggests that women are more often involved in the supervision of companies with less stable financial conditions.

To further analyze tenure on corporate governance bodies, we employed survival analysis using the Kaplan-Meier method to estimate the length of tenure. Figure 1 presents three Kaplan-Meier survival plots, showing estimates for men and women separately for the Management Board, the Supervisory Board, and both corporate bodies combined.

Figure 1. Kaplan-Meier survival function estimates



Management Board



Supervisory Board



Management and Supervisory Board
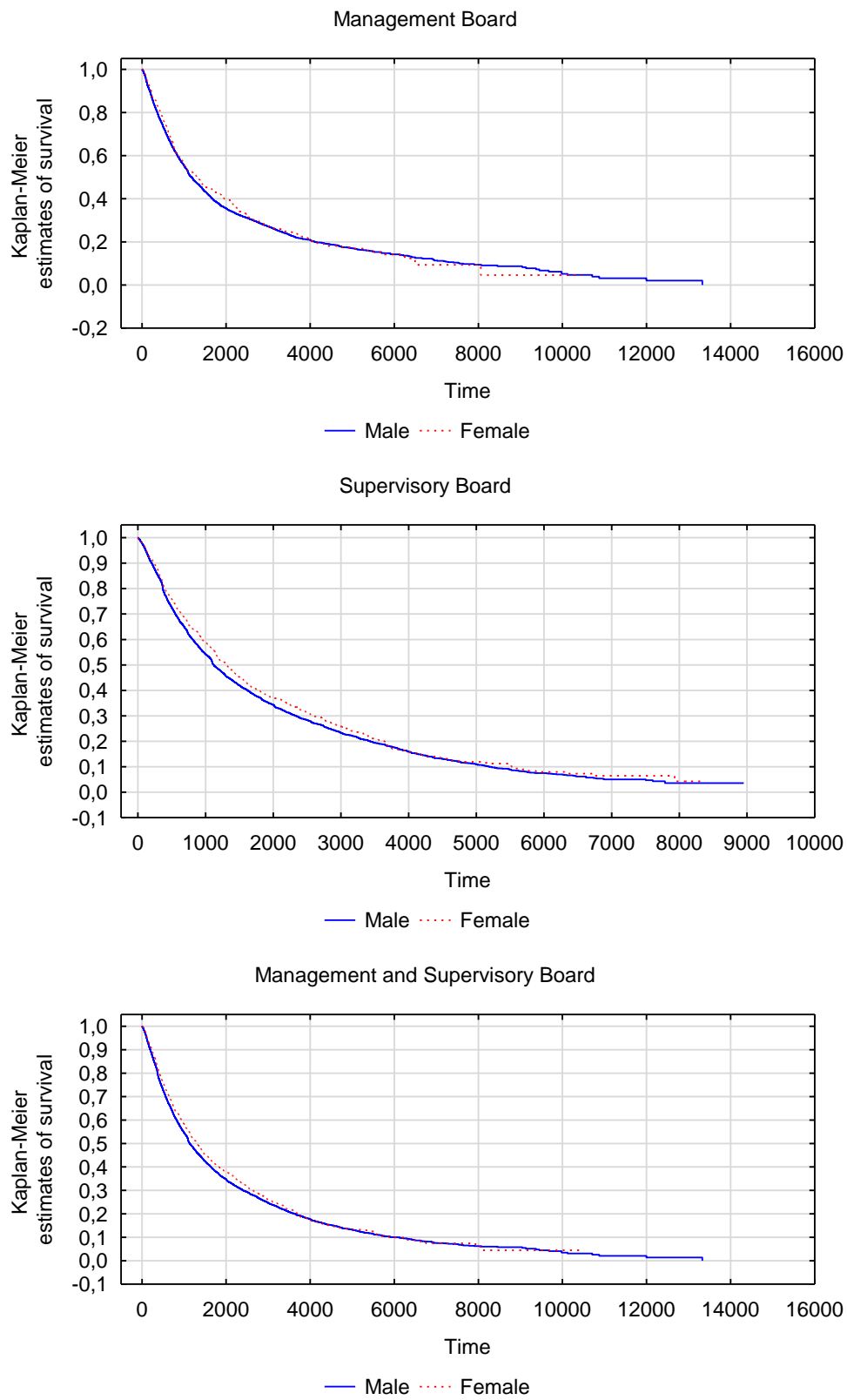
The first plot shows survival estimates for Management Board members over time. As time progresses, both survival curves decrease, reflecting a reduction in the number of individuals remaining in their positions. When gender is considered, the proximity of the lines for men and women suggests no significant differences in tenure between genders within this subsample.

The second plot pertains to Supervisory Board members. Similar to the Management Board, the survival curves for men and women are close, indicating that gender generally does not play a significant role in board tenure. However, in the first half of the chart, the line for women is slightly above that for men, suggesting that women may be somewhat more likely to remain on the board during this period. This could imply that women are less likely to resign or be dismissed from these roles. Several factors could explain this observation. Women who attain such positions might be more determined to retain them, or they may benefit from better organizational support, enabling them to remain in the role longer. Additionally, some companies are implementing policies or fostering organizational cultures that promote longer retention of women in key positions, potentially contributing to higher board survival estimates for women. Although the difference is small, it may indicate subtle variations in career dynamics between genders.

The third plot presents the survival estimates for the combined tenure of Management and Supervisory Board members. The pattern observed is analogous to the previous plots, with minimal gender differences.

All three charts indicate that the differences in survival estimates between men and women are minimal, suggesting that gender is unlikely to be a significant factor in determining tenure on corporate boards within the Polish stock market environment. The decline in the survival curves over time is gradual, reflecting a staggered departure from these roles by both male and female board members rather than abrupt exits. The lack of pronounced gender differences suggests that persistence in corporate governance structures is similar for both genders.

Table 4 presents the results of the next analytical step, where we apply the Cox proportional hazards model to assess potential determinants of tenure on corporate boards and to explore certain interactions between variables.

Table 4. Cox proportional hazards model estimates: Management Board and Supervisory Board

| Variable | Management Board | | | Supervisory Board | | |
|---|---|---|---|---|---|---|
| | Coeficient | Standard Error | p-value | Coeficient | Standard Error | p-value |
| GENDER | -0.0515 | 0.0661 | 0.4356 | -0.0552 | 0.0397 | 0.1638 |
| Z-SCORE | 0.0005 | 0.0003 | 0.0859 | 0.0003 | 0.0002 | 0.0959 |
| CLIFF | -0.0075 | 0.0037 | 0.0446 | -0.0004 | 0.0002 | 0.0806 |
| DEBT | 0.0145 | 0.0055 | 0.0081 | 0.0061 | 0.0024 | 0.0112 |
| SIZE | -0.0804 | 0.0120 | 0.0000 | -0.0865 | 0.0082 | 0.0000 |
| FAMILY | -0.1410 | 0.0452 | 0.0018 | -0.1290 | 0.0310 | 0.0000 |
| STATE | 0.4786 | 0.0761 | 0.0000 | 0.3682 | 0.0538 | 0.0000 |
| CODE | -0.8693 | 0.0417 | 0.0000 | -1.0760 | 0.0294 | 0.0000 |
| I_2XX | 0.0480 | 0.0998 | 0.6304 | -0.0071 | 0.0686 | 0.9171 |
| I_3XX | 0.0122 | 0.0806 | 0.8794 | 0.0148 | 0.0540 | 0.7843 |
| I_4XX | -0.1198 | 0.0646 | 0.0639 | -0.1194 | 0.0421 | 0.0046 |
| I_5XX | 0.0259 | 0.0799 | 0.7459 | -0.0499 | 0.0546 | 0.3602 |
| I_6XX | -0.0797 | 0.0792 | 0.3142 | -0.0857 | 0.0534 | 0.1087 |
| I_7XX | -0.1790 | 0.1012 | 0.0770 | -0.1964 | 0.0674 | 0.0036 |
| I_8XX | -0.2928 | 0.0823 | 0.0004 | -0.1346 | 0.0559 | 0.0160 |
| Likelihood ratio test | | 605.1 | 0.0000 | | 1617 | 0.0000 |
| Wald test | | 622.2 | 0.0000 | | 1644 | 0.0000 |
| Score (logrank) test | | 657 | 0.0000 | | 1781 | 0.0000 |
| R-squared Cox-Snell | | | 0.1532 | | | 0.1920 |
| Concordance | | | 0.6410 | | | 0.6590 |
| Number of observations | | | 3215 | | | 6560 |

The results indicate that gender is not a significant factor influencing the duration of tenure on the management board. The p-value for the variable GENDER is 0.4356, suggesting that there are no statistically significant differences between men and women in terms of the hazard of exiting the board. Hence, we do not find support for Hypothesis 1. This implies that gender does not have a significant impact on board tenure, with other factors, such as experience, competence, or organizational structure, potentially playing a more decisive role. This insignificance of director gender on tenure is also reported by Schmid & Mitterreiter (2021) for UK executives. Moreover, the coefficient for Z-SCORE, with a value of 0.0005 and a p-value of 0.0859, suggests that a higher Altman Z-Score is associated with a slightly increased hazard of leaving the board. Crucially, the interaction between gender and the company's financial situation, plays a significant role in the verification of the research hypothesis. The coefficient for CLIFF is -0.0075, indicating that the effect of financial standing on the hazard of leaving the management board varies by gender. The p-value for this interaction is 0.0446, signifying a statistically significant effect. Specifically, the results suggest

that women may be less responsive to changes in a company's financial condition when deciding whether to leave or remain on the board. This finding could reflect gender differences in risk attitudes or management strategies. In practice, due to varying motivations, values, or management strategies, women may be more likely to remain on the board even when the company's financial standing deteriorates. Prior research confirms the role of psychological factors in female directors' decisions to take risky positions (Darouei & Pluut, 2018).

The analysis of control variables also reveals significant relationships. The coefficient for DEBT, which is 0.0145, indicates that a higher level of debt is associated with an increased risk of leaving the board, and this effect is statistically significant (p-value = 0.0081). This finding suggests that companies with higher debt levels are more likely to terminate management board members early, potentially due to the greater financial and operational risks associated with elevated debt. Our result is in line with the research of Jia (2017) for US companies. Additionally, the presence of the State Treasury as a shareholder exerts a significant impact on the hazard of exiting the board. The coefficient is 0.4786, with a p-value of 0.0000, indicating a higher hazard of board turnover in companies with State Treasury participation. This result may suggest the existence of specific pressures or conflicts related to State involvement that affect the stability of management board tenure. The special role of State Treasury in the decision on top managers' dismissal is also observed for Chinese companies (Shen & Lin, 2009), where State Treasury fulfills the role of "Strict Judge".

Then, an opposite relationship was observed for family businesses. The coefficient FAMILY is -0.1410, and is statistically significant (p-value = 0.0018). This suggests that association with a family business significantly reduces the risk of exiting the board. It appears that family ties and strong interpersonal relationships contribute to longer board tenure. Similarly, the study of Bohdanowicz (2019) for Polish CEOs reveals the negative relationship between managerial ownership (fraction of shares owned by all the management board members) and CEO turnover. Although the variables FAMILY and managerial ownership are not measured in the same way, their negative impact on directors turnover might be explained by the same mechanism based on the agency theory.

Moreover, companies with larger assets tend to exhibit a lower hazard of management board members leaving, indicating that larger company size provides greater board stability. This result is consistent with findings of Bohdanowicz (2019). Additionally, the coefficient for CODE is -0.8693 (p-value = 0.0000), indicating that tenures after 2016 are associated with longer board service. Panel A also shows that a company's industry (variables I_4XX, I_7XX,

I_8XX) may contribute to a reduction in the hazard of leaving the board, which could be related to various industry-specific characteristics.

The Cox proportional hazards model applied to the management board subsample demonstrates a moderate level of predictive accuracy. The Cox-Snell R-square coefficient indicates that approximately 15.32% of the variation in hazards can be explained by the model. Furthermore, the concordance index of 0.6410 reflects a moderate level of predictive accuracy, suggesting that the model is reasonably effective in differentiating between higher and lower risks of board termination.

Table 4 also presents also the results of the Cox proportional hazards model for the supervisory board, based on a sample of 6,560 observations. Similar to the findings for the management board, gender does not appear to be a significant factor influencing board tenure under Polish capital market conditions. The p-value for the variable GENDER is 0.1638, indicating that there are no statistically significant differences in the hazards of leaving the supervisory board based on gender. In contrast, the Altman Z-Score coefficient, with a value of 0.0003 and a p-value of 0.0959, suggests that a company's financial condition may have some influence on the duration of board tenure. A positive coefficient indicates that an improvement in the company's financial condition is associated with a slightly higher risk of leaving the board. The coefficient for the interaction term GENDER × Z-SCORE: CLIFF, which directly relates to the research hypothesis, is negative and amounts to -0.0004. This suggests that for women, a higher Altman Z-Score may have a smaller impact on the hazard of leaving the board compared to men. The p-value for this interaction is 0.0806, indicating a statistically significant effect. In practice, this finding may imply that women on supervisory boards have different priorities, values, or motivations compared to their male counterparts, which in turn influences their decisions to stay on or leave the board.

In assessing the hazard of supervisory board tenure, several control variables are found to be significant. A positive and statistically significant coefficient for DEBT suggests that a higher debt ratio is associated with an increased hazard of leaving the board. This implies that a company's debt level may influence board members' decisions to resign or lead to their resignation. Additionally, the presence of the State Treasury as a shareholder significantly increases the hazard of leaving the board, reflecting the unique risks associated with corporate governance in companies with State participation. The estimated coefficient is 0.3682, with a p-value of 0.0000, underscoring the strong impact of State ownership on board turnover. Conversely, the variables FAMILY, CODE, and SIZE have negative and statistically significant

coefficients. Thus, family ties, being on the board since the 2016 Corporate Governance Code took effect, and the company's larger total assets are associated with greater board stability and a reduced hazard of changes in board composition. Industry variables also exhibit some influence. Board members in industries Industrial and construction production, Health care, and Technologies show a lower hazard of exiting the board, suggesting greater stability in these sectors.

Overall, our model explains approximately 19.2% of the variability in survival time, or the hazard of leaving the Supervisory Board. The values of the Likelihood Ratio Test, Wald Test, and Score Test confirm that the variables used in the model are significant within the context of the study. The concordance index of 0.6590 indicates a moderate ability of the model to predict which observations have a higher hazard. Therefore, it can be concluded that the model is efficient and well-suited to our data.

To further analyze the factors influencing the hazard of ending tenure as an executive or board member, we conducted a combined analysis using all observations. Table 5 presents the results based on 9,775 observations.

Table 5. Cox proportional hazards model estimates for combined Management and Supervisory Board

| Variable | Coeficient | Standard Error | p-value |
|---|---|---|---|
| GENDER | -0.0520 | 0.0339 | 0.1251 |
| Z-SCORE | 0.0004 | 0.0002 | 0.0203 |
| CLIFF | -0.0004 | 0.0002 | 0.0496 |
| DEBT | 0.0072 | 0.0022 | 0.0009 |
| SIZE | -0.0856 | 0.0068 | 0.0000 |
| FAMILY | -0.1359 | 0.0255 | 0.0000 |
| STATE | 0.4136 | 0.0438 | 0.0000 |
| CODE | -0.9952 | 0.0239 | 0.0000 |
| I_2XX | 0.0145 | 0.0564 | 0.7976 |
| I_3XX | 0.0141 | 0.0448 | 0.7532 |
| I_4XX | -0.1150 | 0.0353 | 0.0011 |
| I_5XX | -0.0232 | 0.0450 | 0.6064 |
| I_6XX | -0.0894 | 0.0442 | 0.0432 |
| I_7XX | -0.1871 | 0.0560 | 0.0008 |
| I_8XX | -0.2006 | 0.0462 | 0.0000 |
| Likelihood ratio test | | 2173 | 0.0000 |
| Wald test | | 2225 | 0.0000 |
| Score (logrank) test | | 2383 | 0.0000 |
| R-squared Cox-Snell | | | 0.1760 |
| Concordance | | | 0.6530 |
| Number of observations | | | 9775 |

The findings are consistent with our previous analyses. The gender of board members in companies listed on the Polish stock exchange does not have a significant impact on their decision to continue or leave the board. However, the financial condition of a company does play a significant role. A better financial condition may lead to greater confidence in decision-making, which can influence board members' decisions to stay or leave the board. Additionally, the interaction between gender and the Altman index indicates that financial standing impacts decisions to continue on a corporate board differently depending on gender.

Our previous analyses highlighted that certain industries, specifically Industrial and construction production, Health care, and Technologies, exhibit different hazards of leaving the corporate board, suggesting greater stability in these sectors. To account for these differences, we conducted an additional analysis with stratification by industry affiliation for each company. This approach provided a clearer picture of how the variables of interest affect the hazard of exiting the corporate board within each sector, helping to eliminate potential distortions due to differences in baseline hazard between industries. The results of this stratified analysis are summarized in Table 6.

Table 6. Cox proportional hazards model estimates with stratification by sector

| Variable | Management Board | | | Supervisory Board | | | Management and Supervisory Board | | |
|---|---|---|---|---|---|---|---|---|---|
| | Coeficient | Standard Error | p-value | Coeficient | Standard Error | p-value | Coeficient | Standard Error | p-value |
| GENDER | -0.0705 | 0.0667 | 0.2905 | -0.0579 | 0.0398 | 0.1459 | -0.0586 | 0.0340 | 0.0846 |
| Z-SCORE | 0.0005 | 0.0003 | 0.0825 | 0.0003 | 0.0002 | 0.1071 | 0.0004 | 0.0002 | 0.0219 |
| CLIFF | -0.0072 | 0.0038 | 0.0559 | -0.0004 | 0.0002 | 0.0846 | -0.0004 | 0.0002 | 0.0556 |
| DEBT | 0.0144 | 0.0055 | 0.0087 | 0.0060 | 0.0024 | 0.0126 | 0.0070 | 0.0022 | 0.0013 |
| SIZE | -0.0813 | 0.0121 | 0.0000 | -0.0877 | 0.0083 | 0.0000 | -0.0868 | 0.0068 | 0.0000 |
| FAMILY | -0.1524 | 0.0455 | 0.0008 | -0.1335 | 0.0310 | 0.0000 | -0.1438 | 0.0256 | 0.0000 |
| STATE | 0.4914 | 0.0770 | 0.0000 | 0.3739 | 0.0541 | 0.0000 | 0.4196 | 0.0441 | 0.0000 |
| CODE | -0.8612 | 0.0419 | 0.0000 | -1.0769 | 0.0295 | 0.0000 | -0.9916 | 0.0239 | 0.0000 |
| Likelihood ratio test | 536.9 | 0.0000 | | 1575 | 0.0000 | | 2071 | 0.0000 | |
| Wald test | 547.8 | 0.0000 | | 1593 | 0.0000 | | 2111 | 0.0000 | |
| Score (logrank) test | 577.8 | 0.0000 | | 1731 | 0.0000 | | 2264 | 0.0000 | |
| R-squared Cox-Snell | | 0.1372 | | | 0.1875 | | | 0.1685 | |
| Concordance | | 0.6270 | | | 0.656 | | | 0.646 | |

In the context of tenure analysis of management and supervisory boards, the estimated coefficients indicate that gender does not appear to be a significant decision-making factor, as they are not statistically significant. However, for combined boards, a p-value of 0.0846 suggests that with a larger sample size, the effect of gender could become more pronounced.

As the number of women in executive positions and other board roles increases, their influence on the dynamics of these bodies may change, which is worth tracking in future studies. This could be the subject of further research to better understand the reasons for this difference and its relevance in the context of long-term governance and gender equality in board structures. Moreover, the company's financial condition is associated with a slightly higher hazard of leaving the management board. For the supervisory board, this relationship is no longer statistically significant. However, when considering the two boards together, the results indicate a significant effect on the hazard of exiting the company's corporate boards. Furthermore, an assessment of the combined impact of gender and the company's financial condition reveals that the hazard of leaving the management board, supervisory board, or both varies by gender. Specifically, women's decisions to stay or leave the board may be less sensitive to changes in the company's financial condition. The coefficients for other control variables remained largely unchanged, leading to similar conclusions.

**CONCLUSIONS**

This paper presents empirical evidence on the factors influencing the tenure of corporate board members in Poland. Our research shows that there are no notable disparities in board tenure or the likelihood of departing from corporate boards based on gender. However, our results indicate that women seem to be less influenced by a company's financial standing when deciding whether to remain on or leave the board. This suggests potential gender-based differences in risk perception, as the financial status of a company appears to have a reduced effect on women's likelihood of board departure compared to their male counterparts, which calls into question the glass cliff theory. However, our study identifies other significant factors influencing board tenure, such as regulations, company size, and shareholder ownership. These findings suggest that while the glass cliff phenomenon may not be present in the Polish capital market, the dynamics of board member tenure are complex and influenced by a variety of factors, necessitating further research to understand these mechanisms.

Our research has several important limitations. First, the sample consists solely of observations from Polish companies, which may limit the generalizability of the findings to an international context. Additionally, our analysis did not account for factors such as board culture, leadership style, or interpersonal relationships, all of which could significantly influence board tenure. We also did not examine individual characteristics of board members, such as education, age, work experience, or specific roles held on the board. Furthermore, the

study does not explore the circumstances surrounding board members' departures from corporate governance boards. While these limitations may affect the results and their interpretation, they also highlight appealing areas for future research.

REFERENCES

1. Becker-Blease, J., Elkinawy, S., Hoag, C., & Stater, M. (2016). The Effects of Executive, Firm, and Board Characteristics on Executive Exit. *Financial Review*, 51, 527-557. https://doi.org/10.1111/fire.12106

2. Bohdanowicz, L. (2019). The Effect of Managerial Ownership and Company Performance on CEO Turnover: Evidence from the Polish Two-Tier Board Model. In: B. Nogalski, & P. Buła (Eds.), *The Future of Management: Volume One: Entrepreneurship, Change and Flexibility* (pp. 50-69). Jagiellonian University Press.

3. Bonner, R. L., Hyde, S. J., & Faile, K. (2023). Examining strategic antecedents of the appointment of women to top management teams. *Equality, Diversity and Inclusion*, 42(2), 266-284. https://doi.org/10.1108/EDI-09-2021-0245

4. Brookman, J., & Thistle, P. D. (2009). CEO tenure, the risk of termination and firm value. *Journal of Corporate Finance, Elsevier*, 15(3), 331-344. https://doi.org/10.1016/j.jcorpfin.2009.01.002

5. Buchwald, A, & Hottenrott, H. (2019).Women on the board and executive tenure. *Managerial and Decision Economics*, 40(7), 741–760. https://doi.org/10.1002/mde.3028

6. Byrka-Kita, K., Czerwinski, M., Ferris, S. P., Pres-Perepeczo, A., & Wisniewski, T. (2020). Should They Stay or Should They Go? CEO Appointments and Performance in a Transitional Economy, *Czech Journal of Economics and Finance (Finance a uver)*, 70 (2), 145-171.

7. Ciappei, C., Liberatore, G., & Manetti, G. (2023). A systematic literature review of studies on women at the top of firm hierarchies: critique, gap analysis and future research directions. *Sustainability Accounting, Management and Policy Journal*, 14(7), 202-231. https://doi.org/10.1108/SAMPJ-10-2022-0557

8. Cook, A., & Glass, C. (2014). Above the glass ceiling: when are women and racial/ethnic minorities promoted to CEO? *Strategic Management Journal*, 35(7), 1080-1089. https://doi.org/10.1002/smj.2161

9. DiMaggio, P.J., & Powell, W.W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48(2), 147–160.

10. DIRECTIVE 2014/95/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. Text with EEA relevance. (Official Journal of the European Union L330/1).

11. Dozier, D.M. (1988). Breaking public relations' glass ceiling. *Public Relations Review*, 14(3), 6-14.

12. Eagly, A., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109(3), 573–598. https://doi.org/10.1037//0033-295X.109.3.573

13. EIGE. (2023). *Gender Equality Index 2023. Towards a green transition in transport and energy*, Publication Office of the European Union. https://eige.europa.eu/publications-

resources/publications/gender-equality-index-2023-towards-green-transition-transport-and-energy?language_content_entity=en

14. Elsaid, E., & Ursel, N. D. (2018). Re-examining the glass cliff hypothesis using survival analysis: the case of female CEO tenure. *British Journal of Management*, 29(1), 156-170, https://doi.org/10.1111/1467-8551.12241

15. GPW. (2016). Best Practice of GPW Listed Companies. https://www.gpw.pl/pub/GPW/o-nas/DPSN2016_EN.pdf

16. GPW. (2021). Best Practice of GPW Listed Companies. https://www.gpw.pl/pub/GPW/files/PDF/dobre_praktyki/en/DPSN2021_EN.pdf

17. Gupta, V. K., Mortal, S. C., Silveri, S., Sun, M., & Turban, D. B. (2020). You're Fired! Gender Disparities in CEO Dismissal. *Journal of Management*, 46(4), 560-582. https://doi.org/10.1177/0149206318810415

18. Hill, A., Upadhyay A., & Beekun R. (2015). Do females and ethnically diverse executives endure inequity in the CEO position or do they benefit from their minority status? An empirical examination. *Strategic Management Journal*, 36(8), 1115−1134. https://doi.org/10.1002/smj.2274

19. Jia, N. (2017). Should directors have term limits?—Evidence from corporate innovation. *The European Accounting Review*, 26(4), 755–785. https://doi.org/10.1080/09638180.2016.1199321

20. Jiang, Y., Cheng, W., & Xie, X. (2024). The Dismissal of New Female CEOs: A Role Congruity Perspective. *Journal of Business Ethics*, (forthcoming) https://doi.org/10.1007/s10551-024-05630-1

21. Kaplan, S.N., & Minton, B.A. (2012). How Has CEO Turnover Changed? *International Review of Finance*, 12(1), 57-87. https://doi.org/10.1111/j.1468-2443.2011.01135.x

22. Li, S. (2018). Increased non-family ownership in family-owned firms: How does it affect CEO turnover-performance sensitivity? *Strategic Management Journal*, 39, 3434–3457. https://doi.org/10.1002/smj.2955

23. Lin, C., & Su, D. (2009). Does state control affect managerial incentives? Evidence from China's publicly listed firms. *Journal of Business Economics and Management*, 10(4), 291-311. https://doi.org/10.3846/1611-1699.2009.10.291-311

24. Olszewska-Miszuris, M., Golec, A., Włodarczyk, A., Opolska, I.(2021). *Women On Boards And Company Performance*. Report. CFA Society in Poland. Retrieved June 15, 2024, from https://30percentclub.org/wp-content/uploads/2021/12/CFA-Women-on-boards-and-company-performance-report.pdf

25. Ryan, M. K., & Haslam, S. A. (2005). The glass cliff: Evidence that women are over-represented in precarious leadership positions. *British Journal of Management*, 16, 81-90. https://doi.org/10.1111/j.1467-8551.2005.00433.x

26. Ryan, M. K., & Haslam, S. A. (2007). The glass cliff: Exploring the dynamics surrounding women's appointment to precarious leadership positions. *Academy of Management Review*, 32(2), 549-572. https://doi.org/10.5465/amr.2007.24351856

27. Ryan, M. K., & Haslam, S. A. (2009). Glass cliffs are not so easily scaled: On the precariousness of female CEOs' positions. *British Journal of Management*, 20(1), 13–16. https://doi.org/10.1111/j.1467-8551.2008.00598.x

28. Saeed, A. & Riaz, H. (2023). Women Directors' Turnover Following Financial Misconduct: What's Social Environment Got to Do with It? *British Journal of Managment*, 34, 805-830. https://doi.org/10.1111/1467-8551.12639

29. Schmid, S., & Mitterreiter, S. (2021). Understanding top managers' careers: How does career variety impact tenure on the board? *European Management Journal, Elsevier,* 39(5), 617-632. https://doi.org/10.1016/j.emj.2020.12.002

30. Shen, W., & Lin, C. (2009). Firm Profitability, State Ownership, and Top Management Turnover at the Listed Firms in China: A Behavioral Perspective. *Corporate Governance: An International Review*, 17(4), 443-456. https://doi.org/10.1111/j.1467-8683.2009.00725.x

31. Sun, X. S., & Bhuiyan, M. B. U. (2020). Board tenure: A review. *Journal of Corporate Accounting & Finance*, 31(4), 178–196. https://doi.org/10.1002/jcaf.22464

32. Urbanek, P. (2010). Management Reshuffles in Poland's Publicly Traded Companies at a Time of Economic Crisis. Gospodarka Narodowa. *The Polish Journal of Economics*, 237(1-2), 19-34. https://doi.org/10.33119/GN/101146

33. Visintin, F, Pittino, D, & Minichilli, A. (2017). Financial performance and non-family CEO turnover in private family firms under different conditions of ownership and governance. *Corporate Governance: An International Review*, 25(5), 312–337. https://doi.org/10.1111/corg.12201