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WOMEN AND RISK: A LITERATURE REVIEW ON BANK BOARDS

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Purpose: Board gender diversity has attracted growing research interest, especially regarding women's roles on statutory bodies in financial and non-financial companies, with a focus on banks. Exploring the link between gender diversity and banks' risk-taking is vital due to the threat of credit risk. This article aims to review the literature on female directors and bank risk, summarising studies on women's participation and its link to bank risk, including psychological and regulatory aspects of risk aversion.
Design/methodology/approach: To achieve the objective of this paper, relevant literature has been analysed, and verbal description methods have been applied. The review primarily encompasses empirical studies from high-quality journals, introduced by an overview of the theoretical framework, with particular emphasis on the psychological and regulatory aspects.
Findings: The literature review highlights the psychological underpinnings of gender differences in risk aversion. It also outlines the regulatory frameworks influencing women's participation on statutory bodies. Empirical research findings on board gender diversity and bank risk-taking remain inconclusive, leaving the relationship between the gender composition of statutory body members and banks' risk-taking unclear.
Originality/value: This paper provides a comprehensive overview of gender differences in risk preferences and, consequently, board gender diversity in banks. It organises key findings regarding the relationship between women's participation and banks' propensity to take risk. Therefore, it serves as a valuable reference for bank executives, particularly credit risk committees, as well as policymakers and regulators involved in risk management processes.
Keywords: bank boards, credit risk, gender diversity.
Category of the paper: Literature review.

1. Introduction

The relationship between the gender of members serving on bank statutory bodies and the quality of loan portfolios has attracted growing interest among scholars in recent years. The theoretical basis for exploring the link between demographic characteristics - particularly gender - of board members in both financial and non-financial institutions and the level of risk can be traced to the Upper Echelons Theory (Marchewka, 2020, p. 7). Originally formulated by

Hambrick and Mason (1984), this theory posits that organisational outcomes are partially predicted by the characteristics of top executives. According to the theory, strategic decisions made by top management teams are shaped by the personal attributes of their members, including experiences, values, and personalities (Marchewka, 2020, p. 7). These individual-level traits influence how executives perceive and interpret complex situations, thereby playing a crucial role in shaping organisational behaviour and performance (Hambrick, 2007).

The Upper Echelons Theory posits that the individual characteristics and personal preferences of executive members are reflected in the business strategies, financial policies, and overall performance of companies (Palvia et al., 2020). In addition, particular attention should be given to the Upper Echelons Theory's emphasis on the superiority of teams over individuals as the primary decision-makers (Marchewka, 2020, p. 7). This emphasis is justified by its potential to provide more accurate explanations of decision-making processes and their impact on the company's situation. However, the theory does not mandate an exclusive focus on top management teams (TMTs); instead, it allows for the analysis of executive bodies, including CEOs or other individual members of senior leadership (Hambrick, 2007).

However, Hambrick and Mason (1984) emphasize the need to deepen and ground the Upper Echelons Theory by incorporating findings from related areas of research, particularly from the area of psychology. Therefore, this study refers not only to the Upper Echelons Theory - which highlights the significance of demographic characteristics of executive members - but also to research on gender-related risk propensity, as developed in the psychological literature and the field of behavioural finance.

Credit risk remains one of the most critical challenges in the banking sector, directly impacting the sound functioning and stability of the entire financial system (Anastasiou et al., 2016; European Commission, 2019; European Banking Authority, 2021; Ghosh, 2015). Understanding the factors that may influence risk-taking behaviours is essential for developing effective governance and regulatory frameworks. Board gender diversity may constitute one such factor and, consequently, have a significant association with risk management practices.

Psychological research has extensively examined gender differences in risk-taking behaviours. Evidence suggests that men generally exhibit lower risk aversion compared to women, who tend to make more cautious decisions (Byrnes et al., 1999; Croson, Gneezy, 2009). In this vein, women's representation on corporate boards may influence risk management practices, potentially leading to lower risk profiles for companies. The link between board gender diversity and risk-taking has been widely studied in non-financial institutions (Adams, Ferreira, 2009; Bennouri et al., 2018; Huang, Kisgen, 2013; Mohsni et al., 2021; Nguyen et al., 2020; Sila et al., 2016). Given the importance of this topic, a research question arises in the field of women’s presence on bank boards and its relationship with risk-taking behaviour. Addressing this question can provide valuable insights for policymakers, regulators, and banking institutions aiming to enhance corporate governance practices and ensure financial stability.

2. Psychological aspects of gender differences in risk preferences

The psychological literature offers extensive research on differences in risk preferences between men and women (Booth, Nolen, 2012; Byrnes et al., 1999; Eagly, 1995). Scholars have also focused on explaining the biological foundations of gender-based differences in risk aversion (Apicella et al., 2008; Sapienza et al., 2009). Prior to the emergence of studies examining female representation on corporate boards and its relationship with bank risk, researchers explored the connection between gender and:

- Risk-taking in investment decisions (Barber, Odean, 2001; Eckel, Grossman, 2002).
- General tendencies to take risks in the field of finance (Croson, Gneezy, 2009; Jianakoplos, Bernasek, 1998; Powell, Ansic, 1997).
- Risk-related behavior in various activity areas of non-financial firms (Adams, Ferreira, 2009; Bennouri et al., 2018; Huang, Kisgen, 2013; Mohsni et al., 2021; Nguyen et al., 2020; Sila et al., 2016).

The gender-related propensity to take risk has been the subject of substantial research in psychological literature. Studies provide evidence that lower risk aversion is typically associated with men, while women are generally perceived as making decisions more cautiously (Byrnes et al., 1999; Croson, Gneezy, 2009). The role of stereotypes in shaping gender-based differences in risk acceptance is examined by Booth and Nolen (2012). Their findings of an environmental experiment reveal that girls attending single-sex schools exhibit similar levels of risk aversion as boys, while girls from coeducational schools demonstrate higher risk aversion. This may suggest that gender differences in risk propensity arise from social learning and adaptation to societal norms, rather than from biologically determined traits attributed to each gender. Furthermore, Byrnes et al. (1999) investigate age-related differences in risk-taking behaviour, identifying variations in risk acceptance across different age groups.

Understanding the factors influencing gender-based risk-taking is crucial for analyses in this field (Eagly, 1995). Croson and Gneezy (2009) focus on social preferences and competitiveness when identifying the origins of divergent risk aversion between men and women. The authors pay particular attention to theories explaining gender differences in risk preferences, highlighting mechanisms such as emotions, overconfidence, and social role expectations. When considering social preferences, the authors emphasise the greater sensitivity of women to social behaviours. In their analysis of competitiveness, Croson and Gneezy (2009) refer to both innate and acquired tendencies and abilities that influence gender differences in the willingness to compete. Some researchers suggest that the roots of gender-based differences in risk aversion may lie in biological factors. One such factor is the level of testosterone, which is considered to influence the propensity to engage in risky behaviour (Apicella et al., 2008; Sapienza et al., 2009). Apicella et al. (2008) demonstrate a positive relationship between testosterone levels in men and risk-taking behaviour, as observed in investment games. Sapienza et al. (2009) confirm a similar pattern among women, showing that higher testosterone levels are associated with lower financial risk aversion. However, this relationship is not observed in men. Furthermore, Sapienza et al. (2009) note that individuals with higher testosterone levels and lower risk aversion are more likely to pursue careers in high-risk fields such as finance.

The propensity to take risks depending on gender is an important subject of a vast number of psychological studies. However, this topic also lies at the centre of interest for many authors examining the drivers of investment and financial decisions.

3. Behavioral aspects of gender differences in risk preferences

Special attention should be paid to the works of Barber and Odean (2001) as well as Eckel and Grossman (2002), which identify gender differences in risk-taking related to investment decisions. Barber and Odean (2001) highlight men's overconfidence, which is particularly evident in the financial domain. This overconfidence manifests as a greater willingness to invest, often resulting in poorer investment outcomes compared to the more cautious approach typically observed in women. According to the authors, this pattern stems from overestimating the accuracy of information by highly active investors, which in turn leads to unrealistic expectations of predictable returns. Barber and Odean (2001) emphasize that these differences are most pronounced among unmarried men and women.

Another study addressing acceptable levels of risk as influenced by gender is that of Eckel and Grossman (2002). The authors concentrate on situations involving potential losses, demonstrating that, on average, women exhibit higher risk aversion toward gambling compared to men. Their findings indicate that women are more likely than men to choose risk-free gambling options. Additionally, one-third of women opt for the lowest-risk gambling decisions. Eckel and Grossman (2002) also evaluate how risk aversion is perceived by each gender: they assess women's risk aversion as perceived by men, and men's risk aversion as perceived by women. This analysis shows that men and women tend to overestimate each other's willingness to take risks. However, this overestimation is significantly greater in the case of women evaluating men than vice versa. This suggests the presence of a stereotypical perception of women as having a lower tolerance for risk.

The level of financial risk taken by gender is a key topic in some research (Jianakoplos, Bernasek, 1998; Powell, Ansic, 1997). Women are perceived as holding less risky portfolio assets in their households compared to male-headed households (Jianakoplos, Bernasek, 1998). Unmarried women exhibit higher risk aversion in the field of finance than unmarried men, which is evident in the lower growth of risky assets in households headed by women compared to those headed by men. A study focusing on gender differences in risk tendencies related to financial decisions is that of Powell and Ansic (1997). The researchers highlight the different motivations between genders as a source of their decision-making. On the one hand, women, being more cautious, concentrate on strategies aimed at avoiding risky situations while ensuring safety. On the other hand, men, who are generally more willing to take risk, choose strategies characterised by the potential for higher returns, albeit accompanied by higher risk. Women with the same level of experience and education as men tend to attribute potential gains to luck and also display lower self-confidence.

Gender remains a significant area of research concerning the level of risk-taking in investments and financial decisions. Overall, the results of these analyses show that women tend to display higher risk aversion than men.

4. Tokenism and critical mass

The assessment of the proportion of women on statutory bodies is sometimes discussed in the context of tokenism. One woman on a board is often seen as a symbol, two as a presence, and three as a voice (Kristie, 2011). In her seminal sociological work on tokenism, Kanter (1977) identifies three key aspects of how this phenomenon is perceived. First is visibility - individuals who differ from the majority group are more noticeable, which can result in increased pressure on their performance. Second is polarization, referring to the heightened visibility and reinforcement of group boundaries. Third is assimilation, whereby individuals who differ from the group are pressured to conform, often altering their characteristics to align with the majority. Kanter (1977) also highlights the distorted perception of a woman in a high-ranking managerial role, who is often viewed through the lens of gendered traits rather than managerial competence. Due to gender stereotypes and the symbolic perception of women by stakeholders, the influence of female members on decisions made by statutory bodies is limited (Liu et al., 2014). As a result, women's roles in management and supervisory boards can be reduced to symbolic participation, lacking real decision-making power (Birindelli et al., 2020). Thus, the issue of tokenism frequently arises in studies examining women's participation in statutory bodies, both in non-financial firms (Liu et al., 2014; Torchia et al., 2011) and in banks (Birindelli et al., 2020; De Cabo et al., 2012; Fiador, Sarpong-Kumankoma, 2021).

One way to counteract tokenism is by achieving a certain number of women in statutory bodies - referred to as the critical mass - that enables them to have real decision-making power (Fiador, Sarpong-Kumankoma, 2021; Liu et al., 2014). Kramer et al. (2006) highlight the importance of increasing the number of women, noting the negative consequences of having only one woman in statutory bodies, such as exclusion from social integration and key discussions. In contrast, they emphasize several benefits associated with having two or more women on such bodies: the ability to adopt a shared strategy, increased willingness to raise controversial issues, more active participation through questioning, and most importantly, genuine co-creation of the board's work. The concept of critical mass is gaining prominence, as seen in studies identifying the factors that influence its formation. For example, Charles et al. (2015) found that companies with a critical mass - defined as at least three women in director positions - tend to be larger, have more members on their statutory bodies, are more likely to be led by a female CEO, and have a higher percentage of non-Caucasian directors. Notably, company profitability and the proportion of independent board members were not significant determinants of achieving a critical mass of women.

5. Gender quotas

One way to support a certain level of women's representation in management or supervisory positions is through legislative measures, such as the introduction of gender quotas, aimed at ensuring equal access for women to top executive roles. Gender quotas have already been implemented in several European countries. The first was Norway, which enacted a law in 2003 that mandated a 40% gender share in director positions; this law came into effect in 2008. France followed, introducing a legal requirement for gender representation in company statutory bodies - starting at 20% in 2014, based on the 2011 legislation, and increasing to 40% in 2017. In 2012, the European Commission proposed an initiative requiring a 40% gender share in non-executive positions in large listed European companies, or 33% across all director positions. This proposal underwent nearly a decade of public debate before it was formally adopted on June 7, 2022. Member States were given until 2024 to transpose the Gender Balance on Corporate Boards Directive into national law, and companies must meet the targets by June 30, 2026. In 2016, Germany introduced a 30% gender quota on supervisory boards for its 100 largest listed companies. Many other European countries, such as Austria, Belgium, Spain, the Netherlands, and Italy, have also established legal gender quotas for statutory bodies. Meanwhile, some countries continue to rely on "soft law" mechanisms - such as corporate governance codes - that recommend appropriate levels of gender representation in management and supervisory structures (e.g., Luxembourg, Sweden, and the United Kingdom) (Ginglinger, Raskopf, 2021).

The topic of gender quotas is reflected in empirical studies across both the business and banking sectors (Bertrand et al., 2019; Bøhren, Staubo, 2014; Ginglinger, Raskopf, 2021; Greene et al., 2020; Liao et al., 2019; Mazzotta, Ferraro, 2020). Researchers explore various relationships involving the representation of women in top management positions. For instance, Bertrand et al. (2019) examine the impact of gender quotas on women's position in the labour market and wage inequality. Bøhren and Staubo (2014) investigate how companies may change their organizational form to circumvent gender parity regulations. Ginglinger and Raskopf (2021) analyse the environmental and social performance of firms, while Greene et al. (2020) assess the effect of gender quotas on company value. In the banking sector, Liao et al. (2019) study the relationship between gender parity and risk in international banks, and Mazzotta and Ferraro (2020) explore the connection between gender parity and profitability in Italian banks.

Gender quotas are a regulatory tool that play an important role in addressing the glass ceiling phenomenon - a term used to describe the invisible barriers that often prevent women from advancing to higher-level positions. Adams and Kirchmaier (2015) focus on the structural barriers limiting women's access to statutory body membership, shifting attention away from women's individual characteristics as explanations for their underrepresentation in leadership roles. They highlight the significant influence of economic and cultural factors in creating these barriers, while also noting that women's lower inclination to work full-time may contribute to the issue. Meanwhile, Adams and Funk (2012) challenge the notion that there are inherent gender differences in risk appetite among those who have broken through the glass ceiling. They argue that, in order to reach top positions, women often need to display traits similar to those of men or adapt to a male-dominated environment, which may neutralize any natural differences in risk preferences.

Gender quotas, along with the accompanying legal and ethical pressures, are sometimes criticized as mechanisms that may lead to the appointment of underqualified women who lack the necessary skills or theoretical background. In such cases, an increasing share of women in directorship positions may be linked to heightened risk-taking by banks (Birindelli et al., 2020). Similarly, Fiador and Sarpong-Kumankoma (2021) highlight a decline in credit quality following the appointment of women to the statutory bodies of banks, attributing this to regulatory and societal pressure. According to these researchers, the push to appoint women to leadership roles can result in the selection of candidates with insufficient professional experience or reduced capacity for effective oversight.

The gender composition of statutory bodies encompasses a wide range of issues from tokenism and critical mass to gender parity and the glass ceiling phenomenon. These topics are the focus of ongoing debate not only in public discourse but also within academic circles and among regulators, as reflected in legislative efforts aimed at combating gender discrimination.

6. Women on boards: areas of empirical research and measurement

The presence of women in the statutory bodies of non-financial companies and its link to their activities is a topic widely explored by researchers. The area of empirical analysis covers the relationships between women serving on boards and various corporate activities, including mergers and acquisitions (Levi et al., 2014), cross-listing (Shoham et al., 2020), the value of the IPO (Rau et al., 2021), dividend payments (Ye et al., 2019; Saeed, Sameer, 2017), the cost of financing with debt capital (Mascia, Rossi, 2017), and the quality of financial statements (García Lara et al., 2017). Links between gender and profitability (Adams, Ferreira, 2009; Bennouri et al., 2018; Flabbi et al., 2019; Nguyen et al., 2020) or risk (Huang, Kisgen, 2013; Khaw et al., 2016; Mohsni et al., 2021; Sila et al., 2016) are also frequently analysed.

Gender diversity on boards is also studied in the context of Polish companies (Bohdanowicz, 2015; Szarzec et al., 2022). Additionally, researchers analyse the presence of women on supervisory boards (Aluchna et al., 2017; Dobija et al., 2021) and the gender of CEOs (Byrka-Kita et al., 2018).

Beyond the topic of women managing non-financial companies, growing attention is being paid to board gender diversity in banks. The presence of women on the statutory bodies of banks is measured using various indices.

The authors analysing gender diversity use several indicators to reflect the extent of women's representation in banks' statutory bodies. These indicators include the presence of women as CEOs (Cardillo et al., 2021; Palvia et al., 2020; Skała, Weill, 2018), women as chairpersons of supervisory boards (Andrieș et al., 2020; Arnaboldi et al., 2021; Palvia et al., 2015), or the number of women on boards. Among the indices often employed in empirical analyses are the percentage share of women in statutory bodies (Birindelli et al., 2020; Farag, Mallin, 2017; Mavrakana, Psillaki, 2019; Fiador, Sarpong-Kumankoma, 2021; Talavera et al., 2018), and a dummy variable indicating the presence of at least one woman on the board (Del Prete, Stefani, 2021; Ghosh, 2017; Gulamhussen, Santa, 2015; Lu, Boateng, 2018). Some authors use a variable indicating the presence of at least three women in a given statutory body (Birindelli et al., 2020; Díez-Esteban et al., 2022; Sghaier, Hamza, 2018). Moreover, Karavitis et al. (2021) and Stefanovic and Barjaktarovic (2020) analyse the number of women in both executive and non-executive bodies, as well as the number of women serving as members of boards of directors. Less frequently, researchers consider indices such as the Blau index (Andrieș et al., 2020; Owen, Temesvary, 2018) or the Shannon index (Andrieș et al., 2020; Proença et al., 2020).

Studies on women's share in statutory bodies are conducted across various areas of bank activity, such as profitability (García-Meca et al., 2015; Phatan, Faff, 2013; Setiyono, Tarazi, 2014; Stefanovic, Barjaktarovic, 2020), political connections (Proença et al., 2020), market reactions to mergers (Hagendorff, Keasey, 2012), the bank's functioning under competitive pressure in the sector (Amore, Garofalo, 2016), cost of borrowing (Karavitis et al., 2021), bank misconduct (Arnaboldi et al., 2021), or remuneration of management members (Fan et al., 2019).

7. Board gender diversity and bank risk-taking

An important body of research is devoted to defining the relationship between the gender of board members and the level of risk-taking by banks. Some authors, when measuring bank risk, use portfolio risk indicators such as the ratio of risk-weighted assets to total assets or the Herfindahl-Hirschman Index (HHI) to quantify the degree of credit portfolio concentration (Berger et al., 2014). Other researchers employ systemic risk indicators (Díez-Esteban et al., 2022; Sghaier, Hamza, 2018), focus on the probability of default assessed using the Z-score (Baselga-Pascual, Vähämaa, 2021; Ghosh, 2017; Gulamhussen, Santa, 2015; Setiyono, Tarazi, 2014), or determine the bank's capital position by the equity to total assets ratio (Baselga-Pascual, Vähämaa, 2021; De Cabo et al., 2012).

A separate area of research concerns the assessment of credit risk, which is carried out using indicators such as loan loss provisions (Gulamhussen, Santa, 2015), loan loss write-offs (Gulamhussen, Santa, 2015; Harkin et al., 2020), or the share of non-performing loans in the portfolio (Dong et al., 2014; Farag, Mallin, 2017; Fiador, Sarpong-Kumankoma, 2021).

Results on relationship between share of women on boards and bank risk are ambiguous. More gender-diverse boards are associated with higher portfolio risk (Berger et al., 2014). Regarding systemic risk, the presence of women on boards matters, but only for small banks (Díez-Esteban et al., 2022). A higher number of women is linked to increased systemic risk.

Links between board gender diversity and risk are also observed in acquiring banks (Sghaier, Hamza, 2018). An increasing share of women in statutory bodies is associated with lower bank risk. Moreover, having a woman serve as CEO, CFO, or chair of the board of directors reduces the level of risk taken by the bank. Similarly, there is a statistically significant and negative relationship between bank risk and a binary variable equal to one when at least three women are present on the board.

Another area of empirical analysis explores the relationship between female board members and the probability of bank default. Some authors find that the bank's default risk increases as the share of women on the supervisory board or board of directors rises (Baselga-Pascual, Vähämaa, 2021; Gulamhussen, Santa, 2015).

However, some studies show that women in top executive positions reduce bank risk (Setiyono, Tarazi, 2014). Additionally, there is research indicating no relationship between greater gender diversity in statutory bodies and measures such as the Z-score, return on assets, or Tobin's Q. Ghosh (2017) observes a lower probability of bank default when a woman holds a director-level position.

Bank risk is sometimes measured by considering its capital position. It has been shown that an increasing share of women on boards is associated with a lower level of equity relative to total assets (Baselga-Pascual, Vähämaa, 2021). Conversely, De Cabo et al. (2012) find that more gender-diverse boards are present in banks characterised by reduced financial leverage, as measured by the standard deviation of return on assets and the equity to total assets ratio. The authors attribute this phenomenon to the higher risk aversion typically exhibited by women, along with their growing caution in the decision-making process.

Several studies have examined the relationship between female representation on bank statutory bodies and the level of non-performing loans (Adams, Raghunathan, 2017; Dong et al., 2014; Farag, Mallin, 2017; Fiador, Sarpong-Kumankoma, 2021). The findings in this area are mixed. On the one hand, some authors find that a higher share of women on boards is associated with better loan quality (Andrieș et al., 2020; Dong et al., 2014; Farag, Mallin, 2017; Zigraiova, 2016), suggesting that banks with greater female representation in statutory bodies are less risky compared to those with less gender-diverse boards. On the other hand, there are studies indicating that banks with more women in top positions may be more risky (Fiador, Sarpong-Kumankoma, 2021; Mavrakana, Psillaki, 2019). Furthermore, some empirical analyses report no statistically significant relationship between the proportion of women in statutory bodies and the quality of the credit portfolio (Adams, Raghunathan, 2017; Birindelli et al., 2020; De Vita, Luo, 2018; Talavera et al., 2018). This suggests that the presence of women on boards does not necessarily influence the level of non-performing loans. In other words, more gender-diverse banks do not exhibit significantly different levels of credit risk compared to those with lower female representation.

8. Female CEOs and bank risk-taking

In banking, empirical studies focusing on the gender of the CEO are far less common than those examining board gender diversity. Existing research explores the relationship between CEO gender and bank performance (Stefanovic and Barjaktarovic, 2020) as well as bank misconduct (Arnaboldi et al., 2021). The findings suggest that a female CEO strengthens the positive relationship between the share of women on the management board and the bank's net income. Similarly, the presence of women as managing directors positively influences the net income of banks led by a female CEO (Stefanovic, Barjaktarovic, 2020). Arnaboldi et al. (2021), however, find no significant relationship between a female CEO and the number of fines received by a bank due to misconduct.

The next area of analysis addresses the relationship between CEO gender and bank risk (Farag, Dickinson, 2020; Palvia et al., 2015; Palvia et al., 2020; Sghaier, Hamza, 2018). Overall, the literature finds that banks led by female CEOs are generally less risky than those managed by male CEOs. This relationship is supported in the context of credit risk, as measured by charge-offs and non-accrual loans (Palvia et al., 2020). Additionally, banks with female CEOs tend to display stronger capital adequacy ratios and a lower probability of default during financial crises compared to banks with male CEOs during such turbulent periods (Palvia et al., 2015). Furthermore, having a woman serve as CEO, CFO, or chair of the board of directors is associated with a lower level of risk in acquiring banks. This suggests that women exhibit higher risk aversion and act more cautiously during mergers and acquisitions in the banking sector (Sghaier, Hamza, 2018). However, Farag and Dickinson (2020) find that banks with politically, regulatorily, or state-connected female CEOs are more risky than those led by similarly connected male CEOs.

Research on the relationship between CEO gender and the level of non-performing loans is scarce. Some authors report better loan quality in banks led by female CEOs compared to those led by male CEOs, as measured by loan loss provisions (Andrieș et al., 2020). However, other studies do not find a statistically significant association between CEO gender and the level of non-performing loans (Cardillo et al., 2021; Skała, Weill, 2018). However, banks with female CEOs tend to exhibit higher capital adequacy ratios and equity to assets ratios (Skała, Weill, 2018). These findings have been observed in Central European banks between 2005 and 2012 (Andrieș et al., 2020), European listed banks from 2005 to 2017 (Cardillo et al., 2021), and Polish cooperative banks from 2008 to 2012 (Skała, Weill, 2018).

The authors analyse the association between the presence of women in statutory bodies and bank profitability or stability during financial crises. Andrieș et al. (2020) find that banks with a higher proportion of female members, or those with a female CEO, are characterised by higher returns on assets and equity, as well as a lower probability of default, as measured by the Z-score, compared to their peers. The researchers also examine the relationship between board gender diversity and the likelihood of receiving State aid. They show that banks with greater female representation in statutory bodies are less likely to receive such aid and, when they do, the amount received is lower than that for male-dominated banks. Higher gender diversity is associated with better bank performance, as measured by return on assets, Tobin's Q, and the dividend payout ratio. These findings align with evidence suggesting that women display stronger monitoring skills than men (Cardillo et al., 2021).

9. Conclusions

To sum up, the analysis of the relationship between CEO gender and bank risk-taking is based on two key pillars. Firstly, the assumptions regarding the significant role that the gender of individuals in statutory bodies plays in credit risk management relate to Upper Echelons Theory (Hambrick, Mason, 1984). Secondly, relevant in this area are findings from psychological studies showing differences in risk-taking tendencies between genders (Booth, Nolen, 2012; Byrnes et al., 1999; Eagly, 1995), as well as analyses explaining discrepancies in risk aversion between women and men due to biological factors (Apicella et al., 2008; Sapienza et al., 2009). According to the main conclusion drawn from these studies, women exhibit higher risk aversion than men, which may influence the level of acceptable credit risk taken by female CEOs in banks.

However, the relationship between the gender of statutory body members and the risk-taking by banks remains unclear. Some studies report a negative link between the increasing percentage of women in management or supervisory boards and the acceptable level of risk (De Cabo et al., 2012; Setiyono, Tarazi, 2014; Sghaier, Hamza, 2018). In contrast, other studies find that bank risk increases with greater female participation (Baselga-Pascual, Vähämaa, 2021; Berger et al., 2014; Díez-Esteban et al., 2022; Gulamhussen, Santa, 2015), while some show no statistically significant relationship between board gender diversity and bank risk (Ghosh, 2017). Research on loan quality and CEO gender suggests that banks led by female CEOs have a lower share of non-performing loans compared to those led by male CEOs (Andrieș et al., 2020). However, other authors find no significant differences in credit risk based on the CEO's gender (Cardillo et al., 2021; Skała, Weill, 2018).

Research examining the relationship between board gender diversity and bank risk-taking reveals several limitations. Firstly, empirical findings are inconclusive. The discrepancies may stem from different methodologies, sample selections, and contextual factors. Secondly, geographical and cultural constraints also limit the generalizability of these studies. Many focus on specific countries or regions making it challenging to apply findings universally. Additionally, most research frequently examine the direct relationship between gender diversity and risk-taking without considering mediating factors like corporate environmental responsibility or the presence of sustainability committees, which could influence risk-related decisions.

To overcome the limitations identified in current research, future studies should adopt an approach that encompasses various areas of expertise. This would provide a more comprehensive understanding of how gender diversity influences risk-taking by banks. Moreover, an in-depth examination is necessary to explore the underlying mechanisms through which diversity impacts risk-taking. Investigating additional factors can offer deeper insights into how diverse boards contribute to banking practices. Finally, integrating qualitative methods like interviews or case studies can enrich the understanding of how gender dynamics affect decision-making processes within banks. Such approaches allow for an including the experiences and perspectives of board members, shedding light on the factors that quantitative methods might overlook.

Recognising the link between board gender diversity and bank risk-taking, this paper underscores its significance regarding practical implications. In terms of bank governance context, the presence of women on bank boards and, at the same time, incorporating diverse perspectives can enhance decision-making processes may lead to improved risk management processes. In addition, regulators might consider promoting gender diversity within bank boards as a strategic measure to mitigate systemic risk within the banking sector.

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