

Do women on boards break the glass ceiling or face the glass cliff?

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Abstract

Purpose – This paper aims to appraise the effectiveness of gender quotas in breaking the glass ceiling for women on boards (WoBs) in companies that are legally obliged to comply with quotas (listed companies and state-owned companies, LP) and in those that are not (unlisted companies and nonstate-owned companies, NLNP). Furthermore, it investigates the glass cliff phenomenon, according to which women are more likely to be appointed to apical positions in underperforming companies.

Design/methodology/approach – A balanced panel data of the top 116 Italian companies by total assets, which are present in both 2010 and 2017, is used for estimating ANOVA tests across sectors and fixed-effects panel regression models.

Findings – WoBs significantly increased in both the LP and the NLNP companies, and this increase was greater in the financial sector. Furthermore, the relationship between the percentage of WoBs and firm performance is not linear but depends on the financial corporate health. Specifically, the situation in which a woman ascends to a leadership position in challenging circumstances where the risk of failure is high (glass cliff phenomenon) is only present in companies with the lowest performance in the sample, in other words, when negative values of Roe and negative or zero values of Roa occur together.

Practical implications – These findings have relevant policy implications that encourage the adoption of gender quotas even in specific top positions, such as CEO or president, as this could lead to a “double spillover effect” both vertically, that is, in other job positions, and horizontally, toward other companies not targeted by quotas. Practical interventions to support women in glass cliff positions, on the other hand, relate to the extent of supervisor mentoring and support to prevent women from leaving director roles and strengthen their chances for career advancement.

Originality/value – The authors explore the ability of gender quotas to break through the glass ceiling in companies that are not legally obliged to do so, and to the best of the authors' knowledge, for the first time, the glass cliff phenomenon in the Italian context.

Keywords Gender quotas, Women on boards, Woman executives, Glass cliff, Spillover effects

Paper type Research paper

1. Introduction

In recent decades, gender equality in decision-making positions has been an urgent and debated issue around the world. According to the Index of Gender Equality (IGE), the under-representation of women in leadership roles has always been one of the worst dimensions of the gender gap: the IGE index referring to the European average and measured in 2022 registers a score of 57.2 out of 100 for the domain of power, that is the representation of women in decision-making positions across the political, economic and social spheres (Eige, 2022).

This phenomenon is identified by the term “glass ceiling”, often adopted to describe the presence of gender barriers in top positions that cause vertical gender segregation, particularly in certain types of sectors and in organizations with a male-dominated culture, such as the financial and banking sector. For instance, the only 8% of the CEOs of European credit and investment institutions and 20% of the positions in the governing

bodies of the largest European banks are occupied by women, moreover women on management boards of most institutions also continue to be paid less ([European Banking Authority, 2020](#); [Knights and Tulberg, 2013](#)).

Several studies explore the multiple nuances related to the concept of the glass ceiling, identifying more subtle forms of gender barriers that persist even when women reach top positions. Some authors refer to these barriers as the “second glass ceiling,” in relation to the thesis that even when women access leadership roles, they continue to face invisible barriers that prevent them from fully influencing strategic decision-making processes ([Wearing and Wearing, 2004](#); [Field et al., 2020](#)). The glass cliff represents another phenomenon in which gender barriers persist even when women reach higher positions, as documented by [Ryan and Haslam \(2005\)](#). These authors point out that once glass ceiling barriers appear to be reduced, women may continue to experience difficulties in career progression, as they are more likely to be appointed to senior positions in underperforming companies.

Governments and international organizations have taken various actions to address these problems. For instances, the European Union considers the gender equality as one of the founding principles of the European Pillars of Social Rights and, moreover, its Gender Equality Strategy prioritizes the participation of women in senior management positions, recognizing that the women’s access to the boards of directors and decision-making roles is one of the most important goals for pursuing overall gender equality. International pressures to improve gender equality have led to the adoption of mandatory quotas on company boards in various countries. Norway was the first to introduce mandatory gender quotas in 2003, followed by different western countries such as Belgium, Denmark, France, Italy, Iceland, Austria, Germany, Ireland, Germany.

Italy, therefore, despite being historically characterized by low levels of female participation in the labor market and management positions, was one of the first EU nations to introduce mandatory gender quotas for company boards. This happened with the enactment of Law 120/2011, known as the “Golfo-Mosca” Law (henceforth GM law), by the name of its two main parliamentary proponents, Lella Golfo and Alessia Mosca.

Since the implementation of quotas, studies on the presence of women on boards (WoBs) have seen a cascade of contributions focusing on the positive effects that a greater presence of WoBs has on corporate performance ([Terjesen and Sealy, 2016](#)). A minority strand of literature, in which our contribution also fits, focuses on the effect that gender quotas have on career advancement opportunities in top management positions and how these increased opportunities spread to companies not necessarily affected by quotas through forms of spillover. Furthermore, our focus will be on the study of the performance characteristics of companies as determinants of the probability of occupying top management positions in the company.

Spillover effects relate to the influence of gender quotas on gender diversity, vertically, that is in other job positions, or horizontally, toward other states or companies not targeted by quotas. The analysis of these effects focuses mostly on the presence of vertical spillovers, i. e. the effect of quota laws on gender diversity in other managerial positions, while horizontal spillover effects are little investigated.

Empirical works carried out in Norway and the USA have found that gender quotas facilitate women’s access to CEO or top management positions ([Wang and Kelan, 2013](#); [Matsa and Miller, 2011](#)). In the case of Italy, studies on vertical spillover effects find no significant evidence ([Maida and Weber, 2022](#); [Bennouri et al., 2020](#)). Conversely, horizontal spillover effects have been only studied marginally by [Ahern and Dittmar \(2012\)](#), who found an *horizontal spillover effect* from gender quotas in Norway to the boards of companies in Denmark, Finland and Sweden, which, although not subject to gender quotas, also increase women’s representation on boards.

To the best of our knowledge, there are only two other contributions investigating horizontal spillovers but focusing only on the banking sector (Bongiovanni *et al.*, 2022; Del Prete and Stefani, 2022). The present paper fills a gap by investigating whether gender quotas in Italy have produced horizontal spillover effects on companies not directly affected by the law by extending the analysis to all sectors, and, thus, generalizing the already existing contributions that focus only on the banking sector (Bongiovanni *et al.*, 2022; Del Prete and Stefani, 2022).

To this aim, we first analyze the ability of the GM law to break the glass ceiling for women on the boards of companies that are legally obliged to comply with quotas, i.e. listed companies and state-owned companies (LP) and those that are not, unlisted companies and nonstate-owned companies (NLNP). Particular attention is paid on the financial sector, a typically male-dominated industry in which women face greater difficulties in advancing their careers and reaching higher positions (Knights and Tulberg, 2013; Kinateder *et al.*, 2021).

Another novelty of our work is that it applied a multitheoretical perspective to evaluate gender quota mechanisms on women's appointments to boards. Spillover effects are analyzed by adopting neo-institutional and legitimacy theories, which are little considered in quota studies. These theories focus on whether organizations, voluntarily or involuntarily, imitate other actors in their own environment to gain institutional legitimacy or as a result of informal pressures that lead to mimetic isomorphism behaviors (Ashforth and Gibbs, 1990; Bongiovanni *et al.*, 2022; Di Maggio and Powell, 1983, 1991).

Along with these theories, we also apply glass cliff theory, to study the presence of different mechanisms that may lead women to increase more on corporate boards under precarious and crisis conditions (Nguyen *et al.*, 2020; Ryan and Haslam, 2005).

In fact, according to recent literature reviews, studies on gender quotas should apply more theories to assess this phenomenon to better understand the mechanisms beyond the appointment of women to boards after quota reform (Nguyen *et al.*, 2020; Terjesen and Sealy, 2016).

In particular, Terjesen and Sealy (2016) suggest that future avenues of research should consider whether WoBs are still intentionally or inadvertently placed in post-quota glass cliff positions, yet there are no studies that apply glass cliff theory to the study of gender quotas. Moreover, the glass cliff has been studied mainly in the UK and the USA, while no studies analyze it in southern European countries, yet it has been pointed out that this phenomenon is closely related to the cultural and social values of the countries (Morgenroth *et al.*, 2020).

In synthesis, this research enhances our understanding of gender disparities in leadership roles and the effectiveness of gender quotas, contributing to existing literature in a variety of ways. Specifically, it offers novel evidence of horizontal spillover effects across various sectors of Italian companies unaffected by the law, with a particularly pronounced spillover effect observed in the financial sector. Furthermore, it enriches the "glass cliff" debate by applying this perspective to the study of gender quotas and gender diversity in boards of directors. In this regard, this study's contributions lie in investigating the glass cliff phenomenon in the context of post-quota reforms (Terjesen and Sealy, 2016), particularly in Italy where studies on the glass cliff are unprecedented (Morgenroth *et al.*, 2020). Most studies on the glass cliff focus on Anglo-Saxon countries, while there is no research on southern European cultures, such as Italy, although the country-dependent cultural influence on this phenomenon is significant. It is, therefore, important to examine it in a culturally distinct environment.

Our empirical analysis is based on balanced panel data of the top 116 companies by total assets, which are present in both 2010 and 2017. We chose these two benchmark years because 2010 represents the year immediately preceding the enactment of the Golfo–Mosca law (GM law) and 2017 is the year in which the GM law has been fully

implemented. The sample comprises both LP companies, which were targeted by the gender quotas, and NLNP firms, which were not targeted by the quota requirements.

The article is structured as follows: in Section 1, we describe the entry into force of the GM law and the implementation of gender quotas in Italy. Section 2 provides the theoretical literature review, while Section 3 presents the empirical literature review and outlines the research hypothesis. Section 4 discusses the research design of this study, while Section 5 leads to the empirical results. Section 6 reports some robustness results. Discussions and conclusions, including limitations and avenues for future researches are presented in Section 7.

2. Background

Several European states decided to introduce gender quotas in the corporate sector to improve the gender representation in strategic decision-making positions. Norway was the first country to introduce mandatory gender quotas for boards of listed companies in 2003, followed by France and Italy in 2011 and, in more recent years, also Belgium, The Netherlands, Germany and Portugal. Other countries, such as Spain and the UK, have introduced voluntary gender quotas.

Italy introduced gender quotas for the members of boards of listed and state-participated firms with the “Golfo-Mosca Law” (Law 120/2011) that came into effect in August 2012. Henceforth, we will abbreviate the law as “GM law”.

Different from other countries that have adopted voluntary “soft” quotas, in Italy the GM law is mandatory and gradual. Furthermore, the GM law targets only LP. It specifically requires boards of these companies to achieve at least one-fifth of board seats by the least represented gender for the first board renewal and to increase this quota to one-third by the third appointment of directors.

The regulatory body of the Italian Stock Exchange (CONSOB) has the function of monitoring and supervising the compliance to the GM law. Specifically, in case of noncompliance, CONSOB warns the company, which has four months to comply. If noncompliance persists, any elected board member loses legitimacy, and the appointment of members is invalidated.

Prior to the implementation of gender quotas, Italy exhibited significant gender disparities in top positions with respect to other countries in Europe. For example, in 2010, the European Institute for Gender Equality’s gender equality index for power and gender representation in decision-making was just 25.2 out of 100 in Italy, compared to the European average of 41.9 in the same year (European Institute for Gender Equality). In other words, before the introduction of gender quotas, Italy had a notably higher underrepresentation of women in top roles compared to other European countries.

For this reason, we believe it may be more interesting to study the effect of gender quotas on a context like Italy, where the gender equality gap is higher than in other states and the gender quota instrument may be more powerful. Moreover, it is interesting to study the Italian case because, together with France, they seem to be the states in Europe with the largest increase of WoBs after the introduction of quota legislation (Cerved, 2018; Bongiovanni *et al.*, 2022).

Another interesting aspect of the Italian context is its relevance to the study of the glass cliff phenomenon. Regarding this issue, the glass cliff is influenced by various structural and psychological mechanisms that can differ in diverse cultural contexts. A meta-analysis conducted by Morgenroth *et al.* (2020) indicates that the glass cliff phenomenon is context-dependent and that specific contexts and domains warrant further research. Given the absence of studies on the glass cliff in Italy and other southern European countries, we consider it valuable to explore its existence in a distinct cultural context.

3. Theoretical framework

Regulatory actions, such as gender quotas, may prove to be important policy instruments to promote the representation of WoBs, especially when they generate spillover effects among organizations. This allows to enhance a cultural change that goes beyond the effect on companies directly affected by quota requirements but spreads broadly to other companies and job positions. Spillover effects are supported by neo-institutional theory, according to which organizations seek to gain legitimacy from actors in the same environment by adopting behaviors that result from *isomorphic pressures* (i.e. pressures exerted by other institutions and organizations in the same system). While firms directly targeted by quotas have been subjected to a form of *coercive isomorphism*, gender quotas may also lead to forms of *mimetic isomorphism* to nontarget firms, which may adopt similar behaviors to increase institutional and stakeholder acceptance and gain legitimacy. The literature suggests that mimetic isomorphism occurs more in sectors affected by economic and financial crises or instability. Firms in the financial and banking sector, which were deeply affected by the 2008 crisis and inherently characterized by greater uncertainty and risk, may, therefore, adopt more mimetic isomorphism behaviors than firms not affected by the GM law in other sectors (Bongiovanni *et al.*, 2022; Di Maggio and Powell, 1983, 1991). A similar perspective is adopted by the legitimacy theory, according to which companies and organizations tend to adopt behaviors that are consistent with the value system of the environment in which they operate. According to these theories, gender quotas may reinforce a widespread value system that promotes greater equality within the board of directors, with positive effects for all companies and organizations that share the same environment and value system, even if they are not directly affected by the quota law (Suchman, 1995; Ashforth and Gibbs, 1990).

Focusing on the socio-cultural environment of organizations and the psychological factors that prevent women from advancing to top positions, social role theory (identified by the acronym *SRT*, Eagly, 1987; Eagly *et al.*, 2000) points out that there are different expectations with respect to behaviors and personal traits associated with men and women. Gender expectations are both descriptive and prescriptive, which means that individuals who break them may face social sanctions for violating these prescriptive norms. According to *SRT*, some agentic traits associated with the male gender concern being aggressive, ambitious, self-confident and dominant. On the other hand, women are attributed personality traits related to being kind, affectionate, helpful and sensitive. Interestingly, role congruence theory (*RCT*), based on *SRT*, also focuses on the gender characteristics attributed to the ideal leader and argues that the female role is perceived as incompatible with leadership positions because the expectations individuals have for leadership roles are identified primarily through agentic traits attributed to men (Schein, 1973; Eagly and Karau, 2002). These psycho-sociological processes lead to the underrepresentation of women in top positions, but they can also support other less visible gender barriers, as the case of the glass cliff. The glass cliff was first described by Ryan and Haslam (2005) and develops the glass ceiling metaphor: once the glass ceiling is broken, women are more likely than men to be on a glass cliff. While traditional *SRT* and *RCT* emphasize the “*Think Manager, Think Man*” stereotype, the glass cliff replaces this concept with “*Think Crisis, Think Woman*”: women are more likely to be appointed to precarious positions, although the antecedents of this phenomenon are not clearly defined (Ryan *et al.*, 2011). Specifically, the stereotypical qualities associated to a good leader during a situation of crisis change, because in these cases are more requested other characteristics, identified with a charismatic leadership, such as emotional sensitivity and interpersonal abilities, which serve for making difficult personal decisions (Cook and Glass, 2014; Ryan and Haslam, 2007; Ryan *et al.*, 2010). Women, associated with communal traits, are perceived as more suitable in these situations of crisis and instability (Eagly and Carli, 2003). A different perspective comes from the meta-analysis of Morgenroth *et al.*'s (2020), which shows that also other disadvantaged groups, for which female stereotypes do not exist, (e.g. Black and Asian Americans) are

appointed into class cliff, supporting that there are also other reasons for the glass cliff, which go beyond the stereotyping argument associated with agentic and communal traits. One of these alternative approaches relates the inter- and intra-groups conflicts. In particular in organizations in which there is a strong legitimated socio-political system, the appointment of women to the upper echelons in situation of crisis serve for avoiding social change and keep the present status-quo: the higher probability of failure related to glass cliff positions can, in fact, prevent women progress and set back their status (Tajfel and Turner, 1979; Brown *et al.*, 2011). Finally, another explanation for the glass cliff is the attempt to gain visibility in a time of crisis by appointing “visible outsiders” to the board, for example, women at the top who represent a minority (Bruckmüller and Branscombe, 2010). The entry of WoBs of directors and their appointment to glass cliff positions is, thus, more likely in typically male sectors and industries with greater presence of gender barriers and forms of segregation (Acker, 1990).

4. Empirical literature review and hypothesis development

Empirical works investigating the effects of gender quotas and increased presence of WoBs of directors mainly focus on the relationship between gender diversity and firm performance (Mazzotta and Ferraro, 2020; Sarhan *et al.*, 2019; Yu and Madison, 2021). Other works focus on the relationship between WoBs and the ethical and sustainability performance of companies, such as reducing managerial opportunism, disclosing social responsibility, reducing financial misconduct (Arnaboldi *et al.*, 2021; Ullah *et al.*, 2022; Zalata *et al.*, 2022, 2019). Most contributions, therefore, focus on the economic benefits associated with the introduction of quotas, while few articles study the spillover effects that this policy has on boards of directors not directly affected by gender quotas (Bongiovanni *et al.*, 2022). Moreover, those investigating the role of spillover effects focus mainly on the presence of vertical spillovers, i.e. the effect of the quota law on gender diversity in other managerial positions. Studies in Norway and the USA have found that gender quotas facilitate women’s access to CEO or top management positions (Wang and Kelan, 2013; Matsa and Miller, 2011). Different seems to be the case of Italy, where the empirical studies on vertical spillover effects do not find any evidence of them (Bennouri *et al.*, 2020; Maida and Weber, 2022).

If gender quotas are indeed able to produce a change in the value system of the countries that introduce them, then even companies that are not directly targeted by the law should be oriented to follow the behavior of companies affected by quotas, as a result of external pressure and to gain legitimacy from organizations and stakeholders in their own environment (Ashforth and Gibbs, 1990; Di Maggio and Powell, 1983). Although this topic seems very relevant to us, it is very difficult to find studies analyzing the presence of horizontal spillover effects related to the effect of gender quotas on gender diversity in the boards of directors of companies that are not legally obliged to follow quotas.

In particular, horizontal spillover effects have been studied marginally by Ahern and Dittmar (2012), who found a “horizontal spillover effect” from gender quotas in Norway to the boards of companies in Denmark, Finland and Sweden, which, although not subject to gender quotas, also increase women’s representation on boards. Only two other studies have investigated horizontal spillover effects, focusing only on the banking sector (Bongiovanni *et al.*, 2022; Del Prete and Stefani, 2022). Among these, only the article of Bongiovanni *et al.* (2022) finds that, after the introduction of the GM law, also the unlisted banks, not targeted by GM law, significantly increase the presence of WoBs, though, it supports the presence of horizontal spillover effects in the banking sector.

The conservative Italian gender culture and the scarce amount of studies on horizontal spillover effects generated by gender quotas make the case of Italy particularly interestingly for evaluating the ability of gender quotas to produce pressures on firms not targeted by them (Ashforth and Gibbs, 1990; Di Maggio and Powell, 1983).

Our work deepens the presence of horizontal spillovers in a sample of Italian companies belonging to different sectors, thus, extending the analysis of [Bongiovanni et al. \(2022\)](#) and [Del Prete and Stefani \(2022\)](#) focused only on the banking sector.

On the basis of these arguments, we proposed the following hypothesis:

H1. The GML has produced a reduction of the glass ceiling through a significant increase of WoBs from 2010 to 2017 in both firms directly involved by the law than in those which were not (i.e. “horizontal spillover effects”).

It seems particularly relevant to us to focus on the presence of spillover effects in the financial sector, as it was particularly affected by the 2008 crisis and, thus, probably subject to mimetic isomorphism characterizing the riskier companies as we mentioned earlier ([Di Maggio and Powell, 1983](#)). Therefore, we expect that this industry has experienced a greater increase of women on the boards of companies not obligated directly affected by the law.

While the majority of empirical papers on gender quotas in the financial sector are mainly addressed toward the effects on firms financial performance ([Cardillo et al., 2021](#); [Kinateder et al., 2021](#); [Mateos de Cabo et al., 2012](#)). We mention only those of [Del Prete and Stefani \(2022\)](#) and [Bongiovanni et al. \(2022\)](#) that analyze the presence of horizontal spillover effects in the banking sector. Furthermore, the analysis of changes in the percentage of WoBs in the financial industry provides us with some insights into the size of the effects of the law in a particular and relevant sector, which is characterized by a strong masculine culture and increased instability and riskiness, manifested especially after the financial crisis.

On the basis of these arguments, we proposed a second hypothesis:

H2. The increase of WoBs in the financial and banking sector, a male dominated industry, where women were under-represented, was greater than in other sectors, both in companies directly affected by the law and in those that were not.

The glass cliff phenomenon dates back to the work of [Ryan and Haslam \(2005\)](#), although the idea has also been noted in less recent empirical work ([Haslam et al., 1996](#); [McGarty et al., 1993](#)). Nonetheless, the merit of the work by Ryan and Haslam was to show that the share price performance of their selected companies was lower *before* women appointment and that there was no difference of the performance levels *after* the appointment of a woman or a man ([Ryan and Haslam, 2005, 2007](#)). Specifically, these authors propose the metaphor of the “glass cliff,” meaning that once the glass ceiling seems to have been broken down, women continue to face barriers that increase their likelihood of “falling.”

Although several studies find evidence for the existence of the glass cliff, it has been clearly pointed out that the glass cliff is not a universal phenomenon, but rather is determined by the socio-psychological and cultural characteristics of companies and organizations. In other words, it remains to be clarified precisely *when and why* the glass cliff occurs ([Haslam et al., 2010](#); [Ryan et al., 2016](#)).

The “*when*” of the glass cliff concerns the factors and conditions under which this phenomenon occurs. As reported by the meta-analysis of [Morgenroth et al. \(2020\)](#), the magnitude of the glass cliff depends on multiple factors, including the level of gender inequality of countries. Nonetheless, this meta-analysis points out that studies on the glass cliff have been conducted mainly in the USA, the UK and Germany, while there are no studies developed in southern Europe, where gender inequality is greater and, therefore, the phenomenon may be stronger. The organization’s leadership history seems to be another relevant dimension, as when companies are characterized by mixed gender leadership the glass cliff seems not to arise, perhaps as a result of a culture that is gender-neutral and, thus, not characterized by structures, relationships and value systems that reinforce episodes of gender discrimination and stereotyping ([Acker, 1990](#); [Bruckmüller and Branscombe, 2010](#); [Morgenroth et al., 2020](#)). Finally, other studies focusing on the

“when” of the glass cliff have adopted various moderators, which influence the presence of this phenomenon, such as the appointment type and the severity of company loss (Mulcahy and Linehan, 2014; Reinwald *et al.*, 2022).

To answer “why” the glass cliff occurs, the literature documents several reasons and processes behind it. These reasons range from the characteristics of gender stereotypes that make women more attractive in precarious roles to the presence of structural barriers to advancement that make it necessary for women to take greater career risks (Mulcahy and Linehan, 2014). Among these theories and mechanisms, the most cited relate to perceived leadership qualities typically attributed to women and perceived as more suitable in times of crisis (Eagly and Karau, 2002; Schein, 1973). This has been supported by Haslam and Ryan (2008), where, among processes contributing to glass cliff, the belief that glass cliff positions provide better opportunities for women than for men is one of the main determinants of this phenomenon. Other reasons supporting the glass cliff relate to group dynamics and processes aimed at protecting the current status quo by the majority group (Tajfel and Turner, 1979; Branscombe and Ellemers, 1998). Specifically, there are studies which found evidence of it also with other minority groups, suggesting that stereotypes arguments are not the only driver of the glass cliff. Conflicts between majority and minority groups and desire to maintain the present status quo in presence of cultural changes, or situations in which the majority groups perceive a threat from part of the minority groups (Tajfel and Turner, 1979).

The empirical difficulties in detecting the glass cliff are also determined by the type of performance indicator considered. Most studies on the glass cliff find evidence of it only with subjective performance measures related to investor perceptions and behaviors, while work adopting objective accounting-based measures finds no significant effect of the glass cliff (Adams *et al.*, 2009; Elsaid and Ursel, 2011; Haslam *et al.*, 2010). A possible reason for this lack of evidence is that objective accounting measures (e.g. Roe and Roa) may require a longer time to be perceived as a signal of crisis by the firms and the consequent appointment of women occurs only when the crisis is imminent. Subjective and market-based measures, e.g. the Tobin-q, better reflect the short-time reactions of the market and investors by implying an immediate choice of firms in hiring WoBs and top positions (Haslam *et al.*, 2010). Furthermore, indicators of poor performance should also include dimensions relating to the perceptions of precariousness and risk. Glass cliff is, in fact, linked to social, organizational and psychological processes relating the company’s history of failure and the risk of criticism (Haslam and Ryan, 2008).

Since in this paper we adopt a large timespan, we focus on the accounting-based measures of Roe and Roa to test the presence of the glass cliff in Italy, a country with an historical low level of gender equality, which has never been considered among the studies on the glass cliff.

We, therefore, proposed the following hypothesis:

- H3.* The increase of WoB is stronger on those firms which perform worse, as demonstrated by the presence of lower levels of financial performance, according to the glass cliff phenomenon.

5. Research design

The source we used in this paper to identify the companies of interest, observed in the benchmark years 2010 and 2017, is “Le principali società italiane,” an annual report on the balance sheets of major Italian companies edited by R&S Mediobanca, the studies office of Mediobanca, Italy’s largest investment bank. The two reference years were chosen because 2010 represents the year immediately preceding the enactment of the GM law and 2017 is the year in which the GM law had been fully implemented.

From the balance-sheet information provided by R&S Mediobanca, we considered the total assets to proxy the size of the company. Specifically, we considered the 250 top companies

by total assets as in [Rinaldi and Tagliazucchi \(2022\)](#) to use the information these authors originally derived on WoBs of directors. These authors kindly provided us with information on the gender composition of boards of directors for 2010, which they extracted for their study from Infocamere, a large data set of Unioncamere, the association of Italian chambers of commerce, which contains information on companies (corporate and noncorporate) registered with any Italian chamber of commerce. For 2017, the names of the directors were from AIDA, the database of the Italian joint-stock companies of Bureau Van Dijk.

To estimate a balanced panel, we only focused on 116 of the 250 firms used by [Rinaldi and Tagliazucchi \(2022\)](#), i.e. those that were present in both 2010 and 2017 and did not change the characteristic of belonging to the LP or NLNP group. The firms present in 2010 that are no longer present in 2017 (134 firms) may have changed name and/or company name, gone bankrupt or are no longer in the top 250 due to a reduction in total assets. [Table 1](#) summarizes the sample selection process.

We synthesize in [Table 2](#) the dependent, independent and control variables used and the data source.

The empirical strategy used is as follows. First, we provide descriptive statistics and ANOVA tests to assess some sample characteristics such as the presence of significant differences in the presence of WoBs of directors and financial performance (Roe, Roa) among different companies in the five target industries in 2010 and 2017. Second, *H1*, *H2* and *H3* are tested for both the total sample and the group of NLNP companies using panel regressions with *fixed effects* to reduce potential omitted variables bias, that represent a source of endogeneity ([Wintoki et al., 2012](#)).

Specifically, we test the following specifications with dependent variable WoBs of directors:

$$(1) WoBs_{it} = \beta_1 Wom_executive_{it} + \beta_2 Law_t + \beta_3 Board\ size_{i,t} + \beta_4 Firm\ size_{i,t} + \alpha_i$$

$$(2) WoBs_{it} = \beta_1 Wom_executive_{it} + \beta_2 Law_t + \beta_3 Board\ size_{it} + \beta_4 Firm\ size_{i,t} + \beta_5 Financial \times Law_{it} + \alpha_i$$

$$(3) WoBs_{it} = \beta_1 Wom_executive_{it} + \beta_2 Law_t + \beta_3 Board\ size_{i,t} + \beta_4 Firm\ size_{i,t} + \beta_5 Roe_{it} + \alpha_i$$

$$(4) WoBs_{it} = \beta_1 Wom_executive_{it} + \beta_2 Law_t + \beta_3 Board\ size_{it} + \beta_4 Firm\ size_{i,t} + \beta_5 Roe_{it} + \beta_6 Roe_{it}^2 + \alpha_i$$

Where α_i represents the fixed effects, while the definition of the variables is in [Table 2](#). Models 3–4 are also estimated using the bad performance variable and the quadratic polynomial with Roa instead of Roe, with the aim of assessing the presence of the glass cliff

Table 1 Sample selection

<i>Selection process description</i>	<i>Total</i>	<i>Listed or state-participated</i>	<i>Unlisted and nonstate participated</i>
Top 250 companies by total asset selected from "Le principali Società Italiane", R&S Mediobanca for the years 2010 and 2017	250 companies	100 (40%)	150 (60%)
Companies not appearing in both years 2010 and 2017	134 companies	43 (32%)	91 (68%)
Final sample (Companies that ranked in the top 250 in both 2010 and 2017)	116 companies	57 (49%)	59 (51%)
Company year observation	232		

Source: Authors' own creation

Table 2 Variables, definition and source

Name	Definition	Source	Measure
<i>Dependent variable</i>			
Percentage of women on board (WoBs)	Ratio of female directors to total directors	AIDA for the 2017 Infocamere for the 2010	Percentage
<i>Independent variables</i>			
Roe	Net income divided by stockholders' equity	AIDA	Percentage
Roa	Net income divided by total assets	AIDA	Percentage
Bad performance	Dummy = 1 when jointly negative or equal to zero Roe and Roa	Self-produced	Binary value (0,1)
Financial (moderator)	Dummy = 1 for companies in the financial sector	Self-produced	Binary value (0,1)
<i>Control variables</i>			
Firm size	Total assets (in logs)	R&S Mediobanca	Natural logarithm
Women executives	Dummy = 1 when the companies have, at least, one woman holding a top position (president or CEO) in the board	AIDA for the 2017 Infocamere for the 2010	Binary value (0,1)
Board size	Total number of directors in the board	AIDA for the 2017 Infocamere for the 2010	Number of board members
<i>Variable used for the subgroup of NLNP</i>			
NLNP	Dummy = 1 when NLNP companies	Self-produced	Binary value (0,1)

Source: Authors' own creation

with other performance proxies as well. The rationale behind the choice of baseline Models 1–4 rests on a testing strategy detailed in the Supplementary Materials (Table A), which led us to select panel regression models instead of pooled specifications.

Note that further estimates are presented in the Robustness section, where we present the same models with random effects instead of fixed effects. Furthermore, to mitigate potential endogeneity due to reverse causality, we also estimate fixed effects panel regression using two-stage least-squares regression (2SLS) to assess the causal relationship between WoBs of directors and the endogenous variables Roe, Roa and bad performance, used in alternative models.

This method requires finding instruments that are exogenous to the error term, i.e. correlated with the potential endogenous independent variable and uncorrelated with the dependent variable, which favors unbiased parameters estimates. For this purpose, we use the asset-to-equity ratio instrument, i.e. the ratio of total assets to shareholders' equity, as this variable is assumed to fulfil the above-mentioned characteristics.

6. Empirical findings

Table 3 shows descriptive statistics of our sample. Specifically, it shows that the two groups NLNP and LP are almost equally represented across the 116 enterprises, (NLNP = 59; LP = 57 per year). No significant disparities exist between the two groups of companies regarding their sector distribution in the two benchmark years. The LP group is primarily concentrated in public utilities, service and financial industries, while the NLNP group is predominantly found in manufacturing, public utilities and financial sectors. This initial analysis is essential as we intend to investigate variations in women representation and performance within these two company groups, with sectors potentially exerting a substantial influence on these aspects.

Table 4 depicts differences in gender representation and performance levels across sectors and types of companies in 2010 and 2017. The main results show that the financial

Table 3 Sectoral representation of the total sample and Sub-samples of LP and NLNP companies

Companies' sectors	Total		NLNP		LP	
	N	%	N	%	N	%
2010						
Manufacturing	28	24	19	32	9	16
Financial	23	20	11	19	12	21
Public utilities	34	29	14	24	20	35
Service	19	17	6	10	13	23
Other	12	10	9	15	3	5
N	116		59		57	
2017						
Manufacturing	28	24	18	30	10	18
Financial	23	20	10	17	13	22
Public utilities	27	23	16	28	11	19
Service	27	23	7	11	21	36
Other	11	10	8	14	3	5
N	116		59		57	

Source: Authors' own creation

Table 4 One-way ANOVA on women representation and firm performance across sectors

	Total sample					F-test	Levene test	Welch test
	Financial	Public utilities	Manufacturing	Services	Other			
2010								
WoBs	0.03 (0.054)	0.04 (0.097)	0.06 (0.083)	0.07 (0.098)	0.12 (0.111)	2.311	0.085	0.105
Roa	0.004 (0.110)	0.02 (0.040)	0.03 (0.041)	0.02 (0.029)	0.04 (0.036)	1.110	0.000	0.340
Roe	0.05 (0.046)	0.04 (0.164)	0.11 (0.191)	0.07 (0.114)	0.09 (0.117)	2.772	0.005	0.000
N	23	19	28	35	11	TOT. 116		
2017								
WoBs	0.26 (0.161)	0.26 (0.151)	0.18 (0.145)	0.23 (0.162)	0.19 (0.147)	1.413	0.850	0.239
Roa	0.003 (0.014)	0.037 (0.032)	0.02 (0.043)	0.02 (0.036)	0.05 (0.037)	4.211	0.025	0.000
Roe	0.01 (0.169)	0.14 (0.130)	0.06 (0.140)	0.10 (0.165)	0.10 (0.074)	2.467	0.672	0.070
N	23	27	28	27	11	TOT. 116		
Subsample of NLNP companies								
2010								
WoBs	0.03 (0.057)	0.05 (0.093)	0.04 (0.064)	0.10 (0.126)	0.15 (0.111)	2.765	0.013	0.054
Roa	0.002 (0.059)	0.031 (0.044)	0.014 (0.035)	0.025 (0.024)	0.040 (0.042)	1.923	0.000	0.003
Roe	0.06 (0.059)	0.10 (0.168)	0.01 (0.270)	0.08 (0.098)	0.08 (0.132)	0.483	0.040	0.817
N	11	6	19	15	8	TOT. 59		
2017								
WoBs	0.155 (0.148)	0.108 (0.123)	0.112 (0.089)	0.163 (0.166)	0.142 (0.133)	0.428	0.313	0.798
Roa	0.001 (0.009)	0.033 (0.043)	0.040 (0.025)	0.018 (0.045)	0.050 (0.041)	2.331	0.062	0.002
Roe	0.017 (0.195)	0.095 (0.142)	0.183 (0.197)	0.102 (0.211)	0.092 (0.079)	0.890	0.580	0.644
N	11	6	18	16	8	TOT. 59		

Notes: The Welch test is the robust test of equality of means. Levene test is the test of homogeneity of variance. Standard deviations are in parenthesis

Source: Authors' own creation

sector is the one with the lowest average percentage of WoBs in 2010 on both the total sample ($F\text{-test}_{4,116} = 2.311$) and in the subgroup of NLNP ($F_{4,59} = 2.765$): in both these cases the average percentage of women is equal to 3%, confirming that women were particularly under-represented in the financial industry. This result is consistent with the literature, which finds that the financial sector is typically characterized by a male culture and gender barriers; in these cases, the few WoBs are also more likely to have an “outsider” status (Mateos de Cabo *et al.*, 2012).

Surprisingly, in 2017 the financial sector results to be one of those sectors with the highest average of WoBs on both the total sample, in which it reaches an average of 26% and in the group of NLNP, in which, although firms were not subject to the GM law, the financial significantly increase the representation of WoBs, reaching an average of 16%.

Finally, in terms of performance levels, the presence of significant difference across sectors is mixed: Roe differs significantly in the total sample in both 2010 ($F_{4,116} = 2.775$) and 2017 ($F_{4,116} = 2.467$) years, with the financial that accounts the lower level of performance. In the NLNP group Roe is not significantly different across sectors, even if the financial is still the one with lower average values. With respect to Roa, it seems to have significant different values in the NLNP group on both 2010 and 2017, but not in the total sample, in which it is significantly differs across industries only in 2017 ($F_{4,116} = 4.221$): financial is still the sector which accounts the lower values of performance, also in terms of Roa.

Next, we focus more on this higher increase in WoBs in the financial sector and the mechanisms behind it, which could be related to the Glass Cliff behaviors that occur when firms are in crisis and have low performance levels.

The fixed effects panel regressions models in Table 5 are estimated on the total sample of companies (Models 1 and 2) and in the group of NLNP (Models 3 and 4). All these models are well-specified with the R-squared ranging from 0.32 to 0.57.

Model 1 shows that the percentage of WoBs of directors is positively and significantly related to the regressors law and women executives (1% significance level). Specifically, the percentage of WoBs in companies with at least one woman in an executive position, is 15% higher than in companies without women in these roles. A similar result is also confirmed in the NLNP group, where companies with at least a woman in executive positions have, on average, 13% more WoBs (Models 3 and 4, Table 5). Different empirical works identify the role of women executives as a significant determinant of higher WoBs (Gould *et al.*, 2018; Gupta and Raman, 2014; Tinsley *et al.*, 2017; Nguyen *et al.*, 2020). Indeed, women executives play a more influential role in board decisions, and because they are likely to perceive other women as part of the same social group, they may adopt behaviors such as cooperation, altruism and empathy, thus, facilitating other women's access to the board (Fiske, 1998; Turner *et al.*, 1987).

Model 3 estimates the same specification of Model 1, but on the sub-sample of NLNP companies.

Law still correlates positively and significantly (1%) with the percentage of WoBs. In particular, Model 3 suggests that the percentage of women in the NLNP is five points higher in 2017 than in 2010.

Hence, the presence of WoBs increased in both LP and NLNP companies, although to a lesser extent in the latter. Finding horizontal spillover effects for all sectors reinforces Bongiovanni's result that only documented it for the banking sector.

Table 5 Gender quotas and glass ceiling: fixed effects panel regression models

Variables	Total sample		Nonlisted nonparticipated group	
	(1) β (se)	(2) β (se)	(3) β (se)	(4) β (se)
Board size	-0.002 (0.004)	-0.001 (0.004)	-0.01** (0.005)	-0.01** (0.004)
Firm size	0.02 (0.033)	0.05 (0.033)	0.02 (0.032)	0.04* (0.035)
Law	0.15*** (0.018)	0.13*** (0.019)	0.05*** (0.017)	0.03* (0.018)
Women executives	0.15*** (0.037)	0.14*** (0.034)	0.13** (0.052)	0.13** (0.052)
Financial \times law		0.091** (0.039)		0.07* (0.043)
R-squared within	0.551	0.570	0.407	0.433
N	232	232	116	116

Notes: robust standard errors are in parenthesis. *** $p \leq 0.01$; ** $p \leq 0.05$; * $p \leq 0.1$

Source: Authors' own creation

The behavior of NLNP companies may stem from their need to gain legitimacy from other organizations in the same environment. In light of this, quotas could influence the shared value system and make companies more motivated to achieve gender-balanced boards as suggested by [Suchman, \(1995\)](#) and [Ashforth and Gibbs \(1990\)](#).

In Model 2, the interaction Financial \times Law indicates that women, from 2010 to 2017, increased 9% more in the financial sector than in other sectors (5% significance level). The same outcome is also found on the subsample of NLNP (Model 4). This greater increase of WoBs in the financial sector is supported by the neo-institutional theory, according to which sectors characterized by greater riskiness and uncertainty, such as finance, may adopt imitative behavior to a greater extent than other sectors ([Bongiovanni et al., 2022](#)).

The results obtained confirm that the GM law has reduced the glass ceiling in different ways: it increases the gender representation on board of LP companies, obliged by the mandatory requirements of the law, as well as in the NLNP through a spillover effect. Moreover, gender quotas have had a beneficial effect also in the financial sector, typically characterized by higher glass ceilings. In sum, gender quotas may have produced pressures and changes in the value system, leading also other organizations, not directly affected by the GM law, to increase the gender representation on boards ([Di Maggio and Powell, 1983, 1991](#); [Suchman, 1995](#); [Ashforth and Gibbs, 1990](#)).

After analyzing the impact of GM law on gender representation on the total sample and on the NLNP group, we test $H3$ on the glass cliff phenomenon, according to which, once glass ceiling barriers are overcome, women are more likely to be appointed in precarious positions and in poor-performing societies. To this aim, we estimate panel models including financial indicators on the total sample and on the subsample of NLNP.

There is not a significant correlation between the percentage of WoBs and the Roe, in both the total sample (Model 1, [Table 6](#)) and in the NLNP group (Model 2, [Table 6](#)). However, a significant link emerges when considering a nonlinear specification of Roe (quadratic polynomial specification) that accounts for the fact that the presence of WoBs depends on the level of corporate performance.

This result is consistent with that of [Mulcahy and Linehan \(2014\)](#), who show that the glass cliff occurs in the presence of particularly negative performance conditions, thus, in cases where performance indicators are significantly low, as in our case. Indeed, the nonlinearity found confirms that worsening in Roe values is associated with greater increase in WoBs. This result is also reinforced by Models 3 and 8, displayed in [Table 5](#), in which the dummy variable bad performance is significant and with a positive sign, indicating that women increase more in firms that have jointly negative or zero values of Roe and Roa, both in the total sample (Model 3) and in the NLNP group (Model 8). Our results also highlight a group of companies where very high levels of Roe are associated with higher WoBs. It is possible that this group of companies, which appears to act in the opposite manner from those that exhibit glass cliff behavior, is characterized by a gender-neutral culture and fewer gender stereotypes and barriers ([Acker, 1990](#); [Ryan et al., 2016](#); [Morgenroth et al., 2020](#)).

As a robustness analysis, we use Roa instead of the variable Roe. Again, the nonlinear relationship is confirmed, and the sign of the coefficients is the same as in the estimates where Roe is used, although statistical significance is only present in the overall sample (Model 5, [Table 6](#)).

[Figure 1](#) shows the marginal effects derived from Models 2 and 5 in [Table 6](#). The x-axis is represented by the Roe values, while the y-axis is represented by the percentage of WoBs. The plot draws a nonlinear relationship between WoBs and performance for both the LP and NLNP companies. The glass cliff occurs only for firms with Roe's values at or below turning points of 0.17 for the total sample and 0.09 for the NLNP.

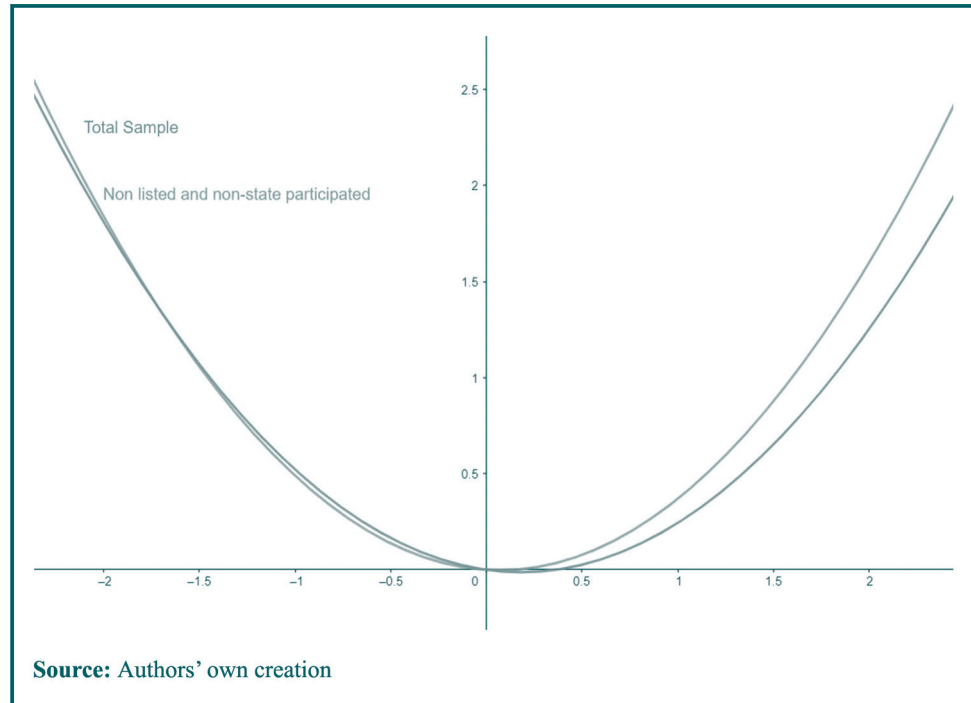
Table 6 Glass cliff and WoBs: fixed effects panel regression models

Variables	Total sample			Nonlisted and nonstate-participated						
	(1) β (se)	(2) β (se)	(3) β (se)	(4) β (se)	(5) β (se)	(6) β (se)	(7) β (se)	(8) β (se)	(9) β (se)	(10) β (se)
Board size	-0.003 (0.004)	-0.002 (0.004)	0.005*** (0.000)	-0.002 (0.004)	-0.002 (0.004)	-0.01** (0.004)	-0.01*** (0.004)	0.006*** (0.000)	-0.01** (0.006)	-0.01* (0.002)
Firm size	0.02 (0.031)	0.03 (0.029)	-0.002 (0.010)	0.02 (0.058)	0.02 (0.057)	0.02 (0.033)	0.03 (0.032)	-0.013 (0.012)	0.02 (0.030)	0.02 (0.030)
Law	0.14*** (0.017)	0.14*** (0.017)	0.16*** (0.000)	0.15** (0.007)	0.15** (0.005)	0.04*** (0.018)	0.04** (0.018)	0.07*** (0.010)	0.04 (0.008)	0.04 (0.015)
Women executives	0.58*** (0.038)	0.15*** (0.036)	0.13*** (0.029)	0.15* (0.019)	0.15* (0.017)	0.14** (0.055)	0.12** (0.056)	0.14*** (0.033)	0.13 (0.054)	0.13 (0.043)
Roe	0.08 (0.072)	-0.13* (0.077)				-0.02 (0.080)	-0.03 (0.080)			
Roe ²		0.38** (0.168)					0.341 (0.212)			
Bad performance			0.01*** (0.000)					0.02*** (0.006)		
Roa				-0.21 (0.183)	-0.34 (0.245)				0.15 (0.276)	-0.03 (0.108)
Roa ²					2.44* (0.302)					7.61 (2.614)
R-squared within	0.557	0.568	0.539	0.553	0.554	0.408	0.436	0.290	0.409	0.428
N	232	232	232	232	232	116	116	116	116	116

Notes: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. *Models 3 and 10 are without fixed effects for high collinearity. ¹Significance level = 12%

Source: Authors' own creation

Figure 1 Percentage of women on boards (Y) and Roe (X)



For Roe values less than or close to zero, i.e. for worse performing companies, the percentage of WoBs increases more than proportionally to the worsening performance in total and NLNP sample. For Roe values greater than zero, the percentage of WoBs again increases more than proportionally to the improvement in performance in the total and NLNP samples. Therefore, we partially support *H3*, confirming that the increasing presence of women on the boards of underperforming firms occurs only when they have particularly severe bad performance, as similarly found by [Mulcahy and Linehan \(2014\)](#).

Badly performing firms are more easily depicted when they have jointly negative Roe and negative or close to zero values of Roa, as evidenced by the bad performance variable, which is positive and significant for both the total sample and the NLNP at 1% significance level (Models 3, 8, [Table 6](#)). For robustness, similar turning points are also calculated for Roa. In particular, in this case the glass cliff occurs when Roa is equal or lower than 0.003 for NLNP and 0.07 for the total sample (Models 5 and 10, [Table 6](#)).

In summary, the results presented in [Table 6](#) and depicted in [Figure 1](#) reveal that the glass cliff phenomenon occur even when objective accounting measures such as Roe and Roa are used, particularly they differ in the severity of performance levels ([Haslam et al., 2010](#); [Adams et al., 2009](#); [Mulcahy and Linehan, 2014](#)).

7. Robustness

In this section, we offer further insights into the robustness of our results not only in relation to the use of alternative performance indicators, but also in relation to the different specifications of panel regression models with random effects and the resolution of endogeneity through reverse causality using 2SLS.

First, Hausmann's test suggests that random-effects panel regressions are more appropriate when the total sample of firms is considered, while the fixed-effects specification is preferred for the NLNP subsample of firms (1% significance level). In

addition, Ramsey's RESET test and Chow's test suggest that pooled specification is not appropriate (1% significance level). For details on testing to select a panel structure with fixed or random effects instead of a pooled specification see the Supplementary Materials (Table A).

The panel regressions with random-effects in Table 7 confirm the presence of a spillover effect on the NLNP group, where women significantly increase from 2010 to 2017, as suggested by the variable law (Models 3 and 4). This strengthens our evidence on the presence of horizontal spillover effects, confirming (H1).

Women executives is significantly and positively correlated with increased WoBs both in the total sample and in the NLNP group (1% significance level), confirming the results obtained from the fixed-effects models. Women in president or CEO are a significant determinant that induces a higher percentage of WoB also in the NLNP group, thus, strengthening our results (Models 1–4, Table 7; Models 1–10 Table 8).

We find a positive, but not significant correlation between the Financial × Law interaction and WoBs. Women directors, from 2010 to 2017, increased the most in the financial sector, although this increase is not statistically significant, unlike the results from fixed effects panel models (Models 2 and 4, Table 7).

In the total sample, we find evidence of the glass cliff using Roe, Roa and bad performance (Models 1–5, Table 8). Furthermore, we find evidence of a nonlinear relationship between the presence of WoBs and the Roa, confirming the inverted U-shaped relationship we also find with Roe in the panel regressions with fixed effects at the 5% significance level (Model 5, Table 8).

A similar nonlinear relationship between WoBs and Roe is also found in the NLNP subsample at the 1% significance level (Model 7, Table 8). While we do not find a significant relationship between Roa and WoBs in the subsample of NLNP.

The glass cliff is also confirmed by the dummy Bad Performance, which is positively and significantly correlated with the percentage of WoBs, both in the total sample and in the NLNP subsample at 1% of significance level (Models 3 and 8, Table 8). These results confirm that women increase more in companies in critical financial condition, which recorded both negative or equal to zero values of Roe and Roa jointly. Thus, random-effects panel regression models confirm (H3), reinforcing the results obtained with fixed effects.

Second, to address reverse causality issues between WoBs and firm performance variables, we chose 2SLS, that is a method used to address reverse causality by using instrumental variables to isolate the variation of the independent endogenous variable that is not affected by the error term, allowing for more reliable parameter estimates. Note that

Table 7 Robustness check: Gender quotas and glass ceiling: *random effects* panel regression models

Variables	Total sample		Nonlisted and nonstate participated	
	(1) β (se)	(2) β (se)	(3) β (se)	(4) β (se)
Board size	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)
Firm size	−0.001 (0.010)	−0.004 (0.004)	−0.01 (0.011)	−0.02*** (0.004)
Law	0.16*** (0.001)	0.16*** (0.012)	0.08*** (0.015)	0.06** (0.027)
Women executives	0.14*** (0.030)	0.14*** (0.031)	0.14*** (0.030)	0.14*** (0.034)
Law × financial		0.04 (0.058)		0.07 (0.075)
R-squared within	0.539	0.550	0.539	0.550
N	232	232	116	116

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own creation

Table 8 Robustness check: gender quotas and glass cliff: *random effects* panel regression models

Variables	Total sample			Nonlisted and nonstate participated						
	(1) β (se)	(2) β (se)	(3) β (se)	(4) β (se)	(5) β (se)	(6) β (se)	(7) β (se)	(8) β (se)	(9) β (se)	(10) β (se)
Board size	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)	0.01*** (0.000)
Firm size	-0.002 (0.010)	-0.002 (0.010)	-0.002 (0.010)	-0.002 (0.010)	-0.002 (0.011)	-0.01 (0.012)	-0.01 (0.012)	-0.01 (0.012)	-0.01 (0.010)	-0.01 (0.010)
Law	0.16*** (0.001)	0.16*** (0.001)	0.16*** (0.001)	0.16*** (0.000)	0.16*** (0.001)	0.08*** (0.013)	0.07*** (0.016)	0.08*** (0.015)	0.08*** (0.015)	0.07*** (0.015)
Women executives	0.14*** (0.026)	0.14*** (0.024)	0.14*** (0.029)	0.14*** (0.030)	0.14*** (0.029)	0.13*** (0.033)	0.13*** (0.033)	0.14*** (0.033)	0.14*** (0.030)	0.14*** (0.028)
Roe	-0.10*** (0.011)					-0.04 (0.066)	-0.05*** (0.000)			
Roe ²		0.12 (0.078)					0.26*** (0.037)			
Bad performance			0.01*** (0.001)					0.02*** (0.006)		
Roa				-0.16* (0.0853)	-0.24** (0.0929)				0.07 (0.071)	0.02 (0.176)
Roa ²					1.31** (0.606)					0.91 (3.410)
R-squared within	0.543	0.549	0.539	0.540	0.540	0.542	0.548	0.548	0.539	0.540
N	232	232	232	232	232	116	116	116	116	116

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own creation

we use this technique for the potential endogenous variables Roe, Roa and bad performance, considered alternatively in three different models, as shown in [Table 9](#).

As an instrument, we chose the asset-to-equity ratio, i.e. the ratio of total assets to equity, as it satisfies the conditions of (i) relevance: the instrument is assumed to be correlated with the endogenous firm performance variables, (ii) exogeneity: it should not be directly correlated with the dependent variable, the percentage of women on the board, so it should not be correlated with the error term, (iii) exclusivity: it should only influence the percentage of women on the board through its impact on the firm performance variables. Furthermore, the Sanderson–Windmeijer *F*-test of the excluded instruments for the asset-to-equity relationship supports the validity of this instrument for the variables Roe (Model 1, [Table 9](#)), Roa (Model 2, [Table 9](#)) and bad performance (Model 3, [Table 9](#)).

As can be seen from the results of Models 1–3 in [Table 9](#), all alternative corporate performance variables are significantly correlated with the presence of WoBs, even when we instrumented to control for reverse causality. Specifically, Roe (Model 1) and Roa (Model 2) are both significantly and negatively correlated with the percentage of WoBs, suggesting that women are more likely to be appointed when companies experience lower levels of corporate performance. Similarly, the Bad performance variable (Model 3) is significantly and positively correlated with the percentage of WoBs, suggesting that women are more likely to be appointed in companies with negative Roe and Roa values.

In summary, the 2SLS estimation confirms that the glass cliff also occurs even when considering endogeneity due to reverse causality.

Note that another appropriate technique for dealing with endogeneity is estimation using the generalized method of moments (GMM), which would require a longer period of time than in our case ([Wintoki et al., 2012](#)).

8. Discussion, conclusion and practical implications

This paper documents that the presence of WoBs has increased significantly in both LP and NLNP companies, (*H1* is confirmed) in all sectors; the financial sector has registered a higher increase of WoBs with respect to the other sectors, also in the NLNP group (*H2* is confirmed). Furthermore, this study shows that the appointment of women in poor-performing firms, i.e. the glass cliff, represents a further barrier which is less visible, but still important to be considered, since it reduces women opportunities to advance in their careers. In this regard, we find that the increasing presence of women on the boards of underperforming firms occurs only when they have particularly severe bad performance (*H3* is only partially supported).

Our first contribution provides evidence of the existence of horizontal spillovers, that is gender quotas are an important tool both for increasing the presence of women on the boards of Italian companies subject to the law and for the positive effect they have on companies not directly affected by quota requirements in all sectors and particularly in financial one, reinforcing the outcome of previous studies ([Ahern and Dittmar, 2012](#); [Bongiovanni et al., 2022](#)).

Another contribution of our work is to investigate the link between the appointment of WoBs after the gender quota reform and the glass cliff, specifying under which conditions this phenomenon occurs ([Ryan and Haslam, 2005, 2007](#); [Terjesen and Sealy, 2016](#)). Indeed, one element that characterizes the presence of the glass cliff concerns the severity of economic loss. In this regard, our results show that it can be documented even when objective accounting measures, such as Roe and Roa, are used, and especially when particularly bad performance levels are considered. ([Mulcahy and Linehan, 2014](#)).

Table 9 Robustness checks: gender quotas and glass cliff: fixed effects panel regression models (2SLS)

Variables	Model 1 Roe as endogenous variable		Model 2 Roa as endogenous variable		Model 3 Bad performance as endogenous variable	
	First stage Y = Roe	Second stage Y = WoBs	First stage Y = Roa	Second stage Y = WoBs	First stage Y = Bad performance	Second stage Y = WoBs
Board size	-0.01 (0.021)	-0.01 (0.008)	-0.001 (0.001)	-0.02 (0.015)	0.01 (0.016)	-0.01 (0.008)
Firm size	0.03 (0.046)	0.10 (0.071)	-0.003 (0.008)	-0.003 (0.113)	-0.132 (0.100)	0.13* (0.062)
Law	-0.01 (0.021)	0.13*** (0.036)	-0.00 (0.004)	0.14** (0.073)	0.02 (0.051)	0.13*** (0.032)
Women executives	0.08* (0.048)	0.26*** (0.082)	0.01 (0.008)	0.26** (0.142)	-0.06 (0.113)	0.18*** (0.066)
Roe		-1.48*** (0.333)				
Bad performance						0.55*** (0.100)
Roa						
Asset-to-equity ratio	0.00*** (0.000)		0.00*** (0.000)	-15.99** (6.862)	-0.00*** (0.000)	
Sanderson–Windmeijer F test of excluded instruments	F(1,111) = 16.42; Prob > F = 0.0001		F(1,111) = 4.92; Prob > F = 0.028		F(1,111) = 30.58; Prob > F = 0.000	
Observations	232	232	232	232	232	232
F – test; Prob > F		F(5, 111) = 17.18; p = 0.000		F(5, 111) = 26.12; p = 0.000		F(5, 111) = 55.33; p = 0.000

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own creation

Finally, we also depict that the presence of women executives is also relevant to increase the presence of WoBs, suggesting that there are also other dimensions, in addition to the gender quota law, that may facilitate the increase of gender balance on the board.

Evidence provided also yields some practical, managerial and regulatory implications. From a regulatory perspective, tools such as quotas should also be targeted at roles with greater influence in decision-making processes, such as executive positions, as this could lead to a “double” spillover effect: on the one hand, it could generate horizontal spillover effects on the same job positions in companies not targeted by these measures, and, on the other hand, it could generate “vertical spillover effects” on other job positions of the company, as women executives favor greater gender representation across the board (Matsa and Miller, 2011; Wang and Kelan, 2013). In addition, mandatory or voluntary quotas can be an effective instrument for increasing the presence of other minority groups in leadership positions or corporate boardrooms, e.g. ethnic minorities, individuals discriminated against because of age, disability or nationality.

The practical and managerial implications concern interventions to support women in “glass cliff” positions, the provision of mentoring and support by supervisors to prevent women from leaving management roles and to enhance their career advancement possibilities. Career advancement possibilities for women can also be improved through social activities organized by companies to increase women’s social networking, since gender segregation in specific positions can also be linked to differences in networking. Moreover, initiatives to increase networking can also be an opportunity to obtain a greater source of support and help. Finally, the glass cliff is a cultural phenomenon that can be reduced through real cultural change within the company. In this sense, both regulatory instruments, such as gender quotas, and company policies that help reduce gender barriers, such as providing support, increasing group and networking activities and providing employees with training courses that raise awareness of stereotyping processes, strengthening an overall inclusive organizational culture toward women, ethnic minorities or other marginalized groups, can also help reduce the phenomenon of stereotypes such as the glass cliff. The theoretical implications concern, on the one hand, further analysis of the mechanisms that can lead to horizontal spillover effects between companies, sectors or countries not directly affected by gender quotas. Evidence on this issue is still scarce and future studies should seek to better understand how spillover effects are generated. Another theoretical implication concerns the study of the glass cliff, which according to our results seems to occur only in the presence of particularly negative performance conditions. In this case, it is also important to evaluate this phenomenon in other contexts and countries and with alternative performance indicators.

9. Limitations and prospects for future research

One indication for future research on the glass cliff emerges from our work, that is of focusing more on the type of performance indicator adopted. Objective accounting indicators of poor performance may take longer to be perceived as a crisis signal by companies, whereas subjective, market-based measures better reflect short-term market and investor reactions (Haslam *et al.*, 2010). It is, therefore, necessary to better clarify how objective accounting measures are able to capture the glass cliff phenomenon.

An important limitation of our study is the narrow two-year time frame, which may benefit from a broader time span for a more comprehensive analysis and the application of advanced techniques like GMM to address endogeneity concerns (Wintoki *et al.*, 2012).

Future studies should consider the incorporation of corporate governance variables, such as variables related to monitoring quality, the average number of board meetings and the financial leverage of the company, as additional control variables.

Another shortcoming is that we pay little attention to the organizational and subjective dimensions that may be related to both the presence of spillover effects and the presence of the glass cliff. Our future research will be more focused on understanding those organizational elements that can promote gender representation on corporate boards, even if not targeted by mandatory actions such as quotas, and second, that limit the likelihood of glass cliff episodes. Indeed, this article highlights a group of companies with good performance levels that increase gender representation and the study of the organizational traits that characterize these companies will, therefore, be the subject of future research. To this end, the adoption of qualitative approaches, such as semistructured interviews or focus groups with WoBs of directors, can be helpful in understanding more nuanced elements that characterize the causes of glass cliff and, on the other hand, situations in which women perceive themselves as truly part of companies without any form of stereotype or barrier.

References

- Acker, J. (1990), "Hierarchies, jobs, bodies: a theory of gendered organizations", *Gender & Society*, Vol. 4 No. 2, pp. 139-158.
- Adams, S.M., Gupta, A. and Leeth, J.D. (2009), "Are female executives over-represented in precarious leadership positions?", *British Journal of Management*, Vol. 20 No. 1, pp. 1-12, doi: [10.1111/j.1467-8551.2007.00549.x](https://doi.org/10.1111/j.1467-8551.2007.00549.x).
- Ahern, K.R. and Dittmar, A.K. (2012), "The changing of the boards: the impact on firm valuation of mandated female board representation", *The Quarterly Journal of Economics*, Vol. 127 No. 1, pp. 137-197, doi: [10.1093/qje/qjr049](https://doi.org/10.1093/qje/qjr049).
- Arnaboldi, F., Casu, B., Gallo, A., Kalotychou, E. and Sarkisyan, A. (2021), "Gender diversity and bank misconduct", *Journal of Corporate Finance*, Vol. 71, pp. 101-834, doi: [10.1016/j.jcorpfin.2020.101834](https://doi.org/10.1016/j.jcorpfin.2020.101834).
- Ashforth, B.E. and Gibbs, B.W. (1990), "The double-edge of organizational legitimation", *Organization Science*, Vol. 1 No. 2, pp. 177-194, doi: [10.1287/orsc.1.2.177](https://doi.org/10.1287/orsc.1.2.177).
- Bennouri, M., De Amicis, C. and Falconieri, S. (2020), "Welcome on board: a note on gender quotas regulation in Europe", *Economics Letters*, Vol. 190, pp. 109-255, doi: [10.1016/j.econlet.2020.109055](https://doi.org/10.1016/j.econlet.2020.109055).
- Bongiovanni, A., De Vincentiis, P., Guariglia, A., Isaia, E. and Rossi, M. (2022), "Do board gender quotas generate horizontal spillovers?", *British Journal of Management*, Vol. 34 No. 4, pp. 1851-1868, doi: [10.1111/1467-8551.12667](https://doi.org/10.1111/1467-8551.12667).
- Branscombe, N.R. and Ellemers, N. (1998), "Coping with group-based discrimination: individualistic versus group-level strategies", in Swim, J.K. and Stangor, C. (Eds), *Prejudice: The Target's Perspective*, Academic Press, MA, pp. 243-266, doi: [10.1016/B978-012679130-3/50046-6](https://doi.org/10.1016/B978-012679130-3/50046-6).
- Brown, E.R., Diekmann, A.B. and Schneider, M.C. (2011), "A change will do us good: threats diminish typical preferences for male leaders", *Personality and Social Psychology Bulletin*, Vol. 37 No. 7, pp. 930-941, doi: [10.1177/0146167211403322](https://doi.org/10.1177/0146167211403322).
- Bruckmüller, S. and Branscombe, N.R. (2010), "The glass cliff: when and why women are selected as leaders in crisis contexts", *British Journal of Social Psychology*, Vol. 49 No. 3, pp. 433-451, doi: [10.1348/014466609X466594](https://doi.org/10.1348/014466609X466594).
- Cardillo, G., Onali, E. and Torluccio, G. (2021), "Does gender diversity on banks' boards matter? evidence from public bailouts", *Journal of Corporate Finance*, Vol. 71, pp. 101-560, doi: [10.1016/j.jcorpfin.2020.101560](https://doi.org/10.1016/j.jcorpfin.2020.101560).
- Cerved (2018), "Le donne al vertice delle società italiane", Cerved Working Paper.
- Cook, A. and Glass, C. (2014), "Women and top leadership positions: towards an institutional analysis: women and leadership", *Gender, Work & Organization*, Vol. 21 No. 1, pp. 91-103, doi: [10.1111/gwao.12018](https://doi.org/10.1111/gwao.12018).
- Del Prete, S. and Stefani, M.L. (2022), "Women as 'gold dust': gender diversity in top boards and the performance of Italian banks", *Economic Notes*, Vol. 50 No. 2, p. e12183, doi: [10.1111/ecno.12183](https://doi.org/10.1111/ecno.12183).
- Di Maggio, P.J. and Powell, W.W. (1983), "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, Vol. 48 No. 2, pp. 147-160.

- Di Maggio, P.J. and Powell, W.W. (1991), *The New Institutionalism in Organizational Analysis*, vol. 17, University of Chicago Press, Chicago, IL.
- Eagly, A.H. (1987), *Sex Differences in Social Behavior: A Social-Role Interpretation*, Lawrence Erlbaum Associates, NJ.
- Eagly, A.H. and Carli, L.L. (2003), "The female leadership advantage: an evaluation of the evidence", *The Leadership Quarterly*, Vol. 14 No. 6, pp. 807-834, doi: [10.1016/j.leaqua.2003.09.004](https://doi.org/10.1016/j.leaqua.2003.09.004).
- Eagly, A.H. and Karau, S.J. (2002), "Role congruity theory of prejudice toward female leaders", *Psychological Review*, Vol. 109 No. 3, pp. 573-598, doi: [10.1037/0033-295X.109.3.573](https://doi.org/10.1037/0033-295X.109.3.573).
- Eagly, A.H., Wood, W. and Diekmann, A.B. (2000), "Social role theory of sex differences and similarities: a current appraisal", in Eckes, T. and Trautner, H.M. (Eds), *The Developmental Social Psychology of Gender*, Lawrence Erlbaum Associates Publishers, NJ, pp. 123-174.
- Elsaid, E. and Ursel, N.D. (2011), "CEO succession, gender and risk taking", *Gender in Management: An International Journal*, Vol. 26 No. 7, pp. 499-512, doi: [10.1108/17542411111175478](https://doi.org/10.1108/17542411111175478).
- European Banking Authority (2020), "Benchmarking report on diversity practices in credit institutions and investment firms", Paris, France.
- European Institute for Gender Equality (2022), "Gender equality index", available at: <https://eige.europa.eu/gender-equality-index/2022/IT> (accessed: 10 December 2022).
- Field, L.C., Souther, M.E. and Yore, A.S. (2020), "At the table but can not break through the glass ceiling: board leadership positions elude diverse directors", *Journal of Financial Economics*, Vol. 137 No. 3, pp. 787-814, doi: [10.1016/j.jfineco.2020.04.001](https://doi.org/10.1016/j.jfineco.2020.04.001).
- Fiske, S.T. (1998), "Stereotyping, prejudice, and discrimination", in Gilbert, D.T., Fiske, S.T. and Lindzey, G. (Eds), *The Handbook of Social Psychology*, McGraw-Hill, New York, NY, pp. 357-411.
- Gould, J.A., Kulik, C.T. and Sardeshmukh, S.R. (2018), "Trickle-down effect: the impact of female board members on executive gender diversity", *Human Resource Management*, Vol. 57 No. 4, pp. 931-945, doi: [10.1002/hrm.21907](https://doi.org/10.1002/hrm.21907).
- Gupta, A. and Raman, K. (2014), "Board diversity and CEO selection", *Journal of Financial Research*, Vol. 37 No. 4, pp. 495-518, doi: [10.1111/jfir.12044](https://doi.org/10.1111/jfir.12044).
- Haslam, S.A. and Ryan, M.K. (2008), "The road to the glass cliff: differences in the perceived suitability of men and women for leadership positions in succeeding and failing organizations", *The Leadership Quarterly*, Vol. 19 No. 5, pp. 530-546, doi: [10.1016/j.leaqua.2008.07.011](https://doi.org/10.1016/j.leaqua.2008.07.011).
- Haslam, S.A., McGarty, C. and Brown, P.M. (1996), "The search for differentiated meaning is a precursor to illusory correlation", *Personality and Social Psychology Bulletin*, Vol. 22 No. 6, pp. 611-619, doi: [10.1177/0146167296226006](https://doi.org/10.1177/0146167296226006).
- Haslam, S.A., Ryan, M.K., Kulich, C., Trojanowski, G. and Atkins, C. (2010), "Investing with prejudice: the relationship between women's presence on company boards and objective and subjective measures of company performance", *British Journal of Management*, Vol. 21 No. 2, pp. 484-497, doi: [10.1111/j.1467-8551.2009.00670.x](https://doi.org/10.1111/j.1467-8551.2009.00670.x).
- Kinateder, H., Choudhury, T., Zaman, R., Scagnelli, S.D. and Sohel, N. (2021), "Does boardroom gender diversity decrease credit risk in the financial sector? Worldwide evidence", *Journal of International Financial Markets, Institutions and Money*, Vol. 73, p. 101347, doi: [10.1016/j.intfin.2021.101347](https://doi.org/10.1016/j.intfin.2021.101347).
- Knights, D. and Tulberg, M. (2013), *Masculinity in the Financial Sector*, Oxford University Press, Oxford, doi: [10.1093/oxfordhb/9780199658213.013.023](https://doi.org/10.1093/oxfordhb/9780199658213.013.023).
- McGarty, C., Haslam, S.A., Turner, J.C. and Oakes, P.J. (1993), "Illusory correlation as accentuation of actual intercategory difference: evidence for the effect with minimal stimulus information", *European Journal of Social Psychology*, Vol. 23 No. 4, pp. 391-410, doi: [10.1002/ejsp.2420230406](https://doi.org/10.1002/ejsp.2420230406).
- Maida, A. and Weber, A. (2022), "Female leadership and gender gap within firms: evidence from an Italian board reform", *ILR Review*, Vol. 75 No. 2, pp. 488-515.
- Mateos de Cabo, R., Gimeno, R. and Nieto, M.J. (2012), "Gender diversity on European banks' boards of directors", *Journal of Business Ethics*, Vol. 109 No. 2, pp. 145-162, doi: [10.1007/s10551-011-1112-6](https://doi.org/10.1007/s10551-011-1112-6).
- Matsa, D.A. and Miller, A.R. (2011), "Chipping away at the glass ceiling: gender spillovers in corporate leadership", *American Economic Review*, Vol. 101 No. 3, pp. 635-639.

- Mazzotta, R. and Ferraro, O. (2020), "Does the gender quota law affect bank performances? Evidence from Italy", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 6, pp. 1135-1158, doi: [10.1108/CG-08-2019-0252](https://doi.org/10.1108/CG-08-2019-0252).
- Morgenroth, T., Kirby, T.A., Ryan, M.K. and Sudkämper, A. (2020), "The who, when, and why of the glass cliff phenomenon: a meta-analysis of appointments to precarious leadership positions", *Psychological Bulletin*, Vol. 146 No. 9, pp. 797-829, doi: [10.1037/bul0000234](https://doi.org/10.1037/bul0000234).
- Mulcahy, M. and Linehan, C. (2014), "Females and precarious board positions: further evidence of the glass cliff: females and precarious board positions", *British Journal of Management*, Vol. 25 No. 3, pp. 425-438, doi: [10.1111/1467-8551.12046](https://doi.org/10.1111/1467-8551.12046).
- Nguyen, T.H.H., Ntim, C.G. and Malagila, J.K. (2020), "Women on corporate boards and corporate financial and non-financial performance: a systematic literature review and future research agenda", *International Review of Financial Analysis*, Vol. 71, pp. 101-554, doi: [10.1016/j.irfa.2020.101554](https://doi.org/10.1016/j.irfa.2020.101554).
- Reinwald, M., Zaia, J. and Kunze, F. (2022), "Shine bright like a diamond: when signaling creates glass cliffs for female executives", *Journal of Management*, Vol. 49 No. 3, p. 14920632110675, doi: [10.1177/01492063211067518](https://doi.org/10.1177/01492063211067518).
- Rinaldi, A. and Tagliazucchi, G. (2022), "Women directors in Italy: 1913–2017", *Business History*, pp. 1-25, doi: [10.1080/00076791.2021.2015332](https://doi.org/10.1080/00076791.2021.2015332).
- Ryan, M.K. and Haslam, S.A. (2005), "The glass cliff: evidence that women are over-Represented in precarious leadership positions", *British Journal of Management*, Vol. 16 No. 2, pp. 81-90, doi: [10.1111/j.1467-8551.2005.00433.x](https://doi.org/10.1111/j.1467-8551.2005.00433.x).
- Ryan, M.K. and Haslam, S.A. (2007), "The glass cliff: exploring the dynamics surrounding the appointment of women to precarious leadership positions", *Academy of Management Review*, Vol. 32 No. 2, pp. 549-572, available at: www.jstor.org/stable/20159315
- Ryan, M.K., Haslam, S.A., Hersby, M.D. and Bongiorno, R. (2011), "Think crisis–think female: the glass cliff and contextual variation in the think manager–think male stereotype", *Journal of Applied Psychology*, Vol. 96 No. 3, pp. 470-484, doi: [10.1037/a0022133](https://doi.org/10.1037/a0022133).
- Ryan, M.K., Haslam, S.A. and Kulich, C. (2010), "Politics and the glass cliff: evidence that women are preferentially selected to contest hard-to-Win seats", *Psychology of Women Quarterly*, Vol. 34 No. 1, pp. 56-64, doi: [10.1111/j.1471-6402.2009.01541.x](https://doi.org/10.1111/j.1471-6402.2009.01541.x).
- Ryan, M.K., Haslam, S.A., Morgenroth, T., Rink, F., Stoker, J. and Peters, K. (2016), "Getting on top of the glass cliff: reviewing a decade of evidence, explanations, and impact", *The Leadership Quarterly*, Vol. 27 No. 3, pp. 446-455, doi: [10.1016/j.leaqua.2015.10.008](https://doi.org/10.1016/j.leaqua.2015.10.008).
- Sarhan, A., Ntim, C.G. and Al-Najjar, B. (2019), "Board diversity, corporate governance, performance and executive pay", *International Journal of Finance & Economics*, Vol. 24 No. 2, doi: [10.2139/ssrn.3534932](https://doi.org/10.2139/ssrn.3534932).
- Schein, V.E. (1973), "The relationship between sex role stereotypes and requisite management characteristics", *Journal of Applied Psychology*, Vol. 57 No. 2, pp. 95-100, doi: [10.1037/h0037128](https://doi.org/10.1037/h0037128).
- Suchman, M.C. (1995), "Managing legitimacy: strategic and institutional approaches", *The Academy of Management Review*, Vol. 20 No. 3, pp. 571-610, doi: [10.2307/258788](https://doi.org/10.2307/258788).
- Tajfel, H. and Turner, J.C. (1979), "An integrative theory of intergroup conflict", in Austin, W.G. and Worchel, S. (Eds), *The Social Psychology of Intergroup Relations*, Brooks/Cole, Monterey, CA, pp. 33-37.
- Terjesen, S. and Sealy, R. (2016), "Board gender quotas: exploring ethical tensions from a multi-theoretical perspective", *Business Ethics Quarterly*, Vol. 26 No. 1, pp. 23-65, doi: [10.1017/beq.2016.7](https://doi.org/10.1017/beq.2016.7).
- Tinsley, C.H., Wade, J.B., Main, B.G.M. and O'Reilly, C.A. (2017), "Gender diversity on U.S. corporate boards: are we running in place?", *ILR Review*, Vol. 70 No. 1, pp. 160-189, doi: [10.1177/0019793916668356](https://doi.org/10.1177/0019793916668356).
- Turner, J.C., Hogg, M.A., Oakes, P.J., Reicher, S.D. and Wetherell, M.S. (1987), *Rediscovering the Social Group: A Self-Categorization Theory*, Basil Blackwell, Oxford.
- Ullah, F., Jiang, P., Ntim, C.G., Shahab, Y. and Jiang, X. (2022), "Female directors' foreign experience and environmental and sustainable performance", *Asia-Pacific Journal of Financial Studies*, Vol. 51 No. 2, pp. 169-193, doi: [10.1111/ajfs.12369](https://doi.org/10.1111/ajfs.12369).
- Wang, M. and Kelan, E. (2013), "The gender quota and female leadership: effects of the Norwegian gender quota on board chairs and CEOs", *Journal of Business Ethics*, Vol. 117 No. 3, pp. 449-466.

Wearing, C. and Wearing, B. (2004), "Between glass ceilings: female non-executive directors in UK quoted companies", *International Journal of Disclosure and Governance*, Vol. 1 No. 4, pp. 355-371, doi: [10.1057/palgrave.jdg.2040036](https://doi.org/10.1057/palgrave.jdg.2040036).

Wintoki, M.B., Linck, J.S. and Netter, J.M. (2012), "Endogeneity and the dynamics of internal corporate governance", *Journal of Financial Economics*, Vol. 105 No. 3, pages, pp. 581-606.

Yu, J.J. and Madison, G. (2021), "Gender quotas and company financial performance: a systematic review", *Economic Affairs*, Vol. 41 No. 3, pp. 377-390, doi: [10.1111/ecaf.12487](https://doi.org/10.1111/ecaf.12487).

Zalata, A.M., Ntim, C.G., Alsohagy, M.H. and Malagila, J. (2022), "Gender diversity and earnings management: the case of female directors with financial background", *Review of Quantitative Finance and Accounting*, Vol. 58 No. 1, pp. 101-136, doi: [10.1007/s11156-021-00991-4](https://doi.org/10.1007/s11156-021-00991-4).

Zalata, A.M., Ntim, C.G., Choudhry, T., Hassanein, A. and Elzahar, H. (2019), "Female directors and managerial opportunism: monitoring versus advisory female directors", *The Leadership Quarterly*, Vol. 30 No. 5, pp. 101-309, doi: [10.1016/j.leaqua.2019.101309](https://doi.org/10.1016/j.leaqua.2019.101309).

Supplementary material

The supplementary material for this article can be found online.

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