

## Article

# Corporate Social Responsibility in the European Banking Sector: Commitment to the 2030 Agenda and Its Relationship with Gender Diversity

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**Abstract:** This study examines the degree of corporate social responsibility (CSR) in the European banking sector in terms of commitment to the 2030 Agenda Sustainable Development Goals (SDGs). It also explores whether gender diversity on the board of directors can be used to differentiate between companies with different degrees of engagement with the SDGs. This question is important, given that achieving equal opportunities for women is a CSR priority for today's companies given stakeholders' demands. Descriptive and inferential statistical analyses are conducted using a sample of the 30 largest banks in Europe in terms of market capitalization as of 15 February 2019. Key conclusions are that most of the analyzed banks target at least one of the SDGs and that the banks that are most committed to Goals 11 (Sustainable Cities and Communities) and 13 (Climate Action) of the 2030 Agenda have greater gender diversity on their boards of directors.

**Keywords:** corporate social responsibility; sustainable development goals; gender diversity; board of directors; banking sector



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## 1. Introduction

The traditional approach to business is to seek to maximize shareholder profit [1]. Since the 1950s, however, corporate social responsibility (CSR) has been gaining ground in business models by including social considerations among strategic and organizational objectives [2]. This situation has led to the widespread acceptance of CSR because both shareholders and other stakeholders benefit from CSR implementation, although shareholders benefit to a lesser degree [3]. Consequently, many authors consider it essential for companies to have a positive social and environmental impact and to maintain a strong relationship with stakeholders, in addition to seeking their own economic gain [4]. As a result, many multinationals publish details of their community and environmental initiatives in their annual reports or in separate documents [5]. This increased disclosure supports CSR implementation and serves as a tool to monitor whether companies are adopting CSR [6].

As CSR has become increasingly relevant in the business world, the number of studies of this issue has also grown. These studies have either focused on the concept itself or have investigated the existence of relationships between CSR and other variables. Numerous definitions of CSR have been proposed, with the European Commission defining it as “the responsibility of enterprises for their impacts on society” [7] (p. 6). The variables that are commonly linked to CSR are profitability [8], business performance [9], and the characteristics of the board of directors—primarily, the independence of directors and gender diversity [10,11]. Gender diversity is an essential factor for CSR [12] because it increases the number of social actions carried out by companies, as well as the dissemination of

this information through reports such as the sustainability report [13]. Unsurprisingly, therefore, gender initiatives are increasingly found in companies' CSR programs [14]. At the same time, despite scholarly disagreement over the influence of gender diversity on overall CSR or on one of its pillars [15], many studies imply that companies with women in their management ranks are more socially and environmentally responsible [16] thanks to actions such as increased fundraising for social benefits [17]. Likewise, the presence of women on the board of directors leads to higher quality actions by making the board more interactive as a result of the increase in knowledge and the range of perspectives [18].

However, the presence of women in corporate management is generally scarce worldwide [19]. Europe offers an interesting case, given the efforts by the European Union to correct this imbalance. These efforts are reflected in the Directive of the European Parliament and Council, which sets a target of a 40% presence of the under-represented gender among the non-executive directors of large-listed companies by 2020 [20]. To meet this target, most European countries have enhanced their corporate governance codes by including initiatives to promote board gender diversity. Some countries (Norway, France, Belgium, Italy, Germany, Austria, and Portugal) have established mandatory gender quotas, with failure to comply resulting in sanctions. Others (Finland, Spain, Iceland, the Netherlands, and Switzerland) have established mandatory quotas for companies but without sanctions for non-compliance. Finally, other countries (Sweden, Denmark, Luxembourg, Poland, Ireland, United Kingdom, Greece, Romania, and Slovenia) have merely established recommendations for companies to follow [21]. Despite these measures and the differences between countries, the percentage of female managers of major listed companies in the European Union is still only 26.7% [22]. There is, therefore, still much to be done to achieve gender parity in corporate management.

Europe is also a region of interest for CSR studies following efforts by the European Commission to implement regulations, initiatives, and action plans that promote socially responsible practices and CSR reporting, a notable example being Directive 2014/95/EU [23]. Since the publication of the Green Paper in 2001, the European Commission has developed various policies to promote CSR. One example is the Europe 2020 Strategy for sustainable and inclusive growth [24], which has led to the approval of other initiatives such as the EU strategy 2011–2014 for Corporate Social Responsibility [7].

Crucially, analyses of the relationship between board gender diversity and CSR have primarily focused on non-financial organizations [25]. Accordingly, the study of this relationship has scarcely covered the financial sector [26]. Therefore, there is a need for research to further explore the relationship between gender diversity and CSR in the banking sector [27]. Despite the scarcity of research on the banking industry, this sector is characterized by its prominent role in economic development [28], providing capital for innovation and infrastructure and creating jobs and general prosperity [29]. The highly opaque nature of the banking industry further necessitates the study of the role of the board of directors in the performance of banks [30]. Notably, banks are increasingly orienting their activities toward social responsibility in an attempt to meet stakeholder expectations, accomplish their own targets, and comply with the pertinent regulations [31,32]. According to Forcadell and Arcil [33], an increase in CSR practices improves the reputation of the institutions that engage in these practices while boosting their economic performance. Regarding the implementation of such practices, in 2018, the banking sector was handed a leading role within the European Union [34] through the action plan on financing sustainable growth, which aims "to connect finance with the specific needs of the European and global economy for the benefit of the planet and our society" [35] (p. 2).

In reference to the implementation and development of CSR, Carroll [36] and Uddin et al. [37] stated that the purpose of CSR is the sustainable development of economic activity and the corporate culture across three areas: economic, social, and environmental, previously defined as the core elements of CSR [38]. Therefore, there is a clear relationship between CSR and the SDGs. These 17 interconnected goals, which are designed to address major global challenges, cover the three dimensions of sustainable development: economic

growth, social inclusion, and environmental protection [34], corresponding to the core dimensions of CSR.

These objectives were established in 2016, which marked the beginning of the 2030 Agenda for Sustainable Development, backed by the member states of the United Nations in an attempt to achieve sustainable global economic development that respects the planet and its resources. The 2030 Agenda calls on civil society, and especially businesses, to pursue 17 SDGs through their core business activity, while also focusing on sectors such as the banking sector, due to the need for capital and investment to implement new strategies [39].

Thus, commitment to the SDGs is vital, with these goals reflecting whether the activities of companies positively affect society by adding value while enhancing their reputation [40]. At the same time, adoption of the SDGs is important for the survival of companies [26], by performing activities in accordance with the norms and values of society [41]. However, very few studies have used the commitment to meeting the SDGs to develop CSR measures. Moreover, there is also a scarcity of studies that have examined the adoption of these criteria in companies' CSR practices and have investigated their antecedents and consequences. Examples include the study by Rosati and Faria [42]. In the case of the banking sector, the study by Zimmermann [43] was based on evidence from 26 German banks, Avrampou et al. [44] used a sample of five European banks, and the study by Cosma et al. [34] focused on 262 European banks.

Therefore, numerous factors justify the aims of the present study. First, CSR is important as a business strategy. Second, women are under-represented in the upper echelons of corporate management. Third, gender diversity plays a key role in promoting CSR. Fourth, there is a lack of studies of this issue in relation to the banking sector. Fifth, research in this area is of huge potential value in the European context given the influence of common regulations. Likewise, the SDGs also offer an interesting focus because they provide a valuable opportunity to measure the level of commitment to CSR, enabling the quantification of companies' awareness of the 2030 Agenda yet have hardly been addressed to date [45]. This study has two specific aims. The first aim is to analyze the level of commitment to CSR by considering the adoption of the SDGs by the largest European banks (highest market capitalization). Second, the study aims to analyze the possible differences between banks in terms of their engagement with SDGs on the basis of gender diversity on the board of directors.

To the best of our knowledge, this is the first study to use a novel measure of commitment to CSR in terms of SDG adoption. The analysis not only takes into account whether the bank is committed to one or more of the SDGs and the number of SDGs pursued by the bank but also measures the intensity of this commitment. While the first two measures have been used in previous studies [34,42], no studies appear to have used the third, even though companies differ in the way they adopt the SDGs [44]. Its use is, therefore, a key issue. This analysis is also the first that aims to determine whether there are differences in commitment to the SDGs between banks with different levels of board gender diversity. Although Rosati and Faria [42] analyzed the relationship between the adoption of the SDGs and female representation on the board of directors, this issue formed part of a broader objective to examine the effect of various organizational factors. Therefore, gender diversity was not the study's main focus. In addition, the study examined non-financial organizations. Together, the features described in this paragraph constitute the contribution of the present study.

This study can thus provide a springboard for future research by offering a proposal for CSR measurement and analysis based on the commitment of the business community to addressing the SDGs. Moreover, this research offers crucial evidence of the role of board gender diversity in the banking sector's commitment to the 2030 Agenda. This issue is highly relevant given that the gender diversity-CSR literature (using commitment to CSR through the SDGs) is still at an incipient stage [46]. The importance of this endeavor is further highlighted by the need to focus on the banking sector, given its key role in achieving the SDGs. This key role results from its capacity to steer companies, public

administrations, and families toward the 2030 Agenda [34] by providing the resources and investments needed to meet the SDGs [44].

To achieve our objectives, we selected a sample of the 30 European banks with the highest market capitalization. Descriptive and inferential statistical analyses were then carried out using data from 2017. Notable results include the finding that most banks had a commitment to the 2030 Agenda in 2017, although much work is still needed to achieve the adoption of the 17 SDGs. Banks with greater female board representation also show greater commitment to the SDGs that are aimed at combating climate change and ensuring the sustainable and equitable development of cities. However, gender diversity does not seem to offer a way of differentiating the sampled banks in terms of their adoption of the remaining SDGs.

This paper has five sections, including this introduction. Section 2 discusses the relationship between CSR and gender diversity in general, with an emphasis on the banking sector. Section 3 describes the sample, explains how the variables were obtained, and outlines the method. Section 4 presents the results, and these results are discussed in Section 5. Finally, Section 6 states the conclusions of the study, discusses the limitations, and highlights the future lines of research.

## 2. Theoretical Framework

### 2.1. CSR and Gender Diversity: A Brief Literature Review

According to Hambrick and Mason's [47] upper echelons theory, the characteristics of the board of directors are an important factor of business performance. The explanation behind this idea is that the personality and values of the board members determine the way in which they act and make decisions. Thus, knowing the characteristics of a company's top executives can help us understand the actions taken by the company [48], with top management considered a potential strategic resource [49].

Of these characteristics, gender diversity is considered by many authors to be an essential factor for CSR [50]. This relationship between board gender diversity and CSR performance is supported by several theories, including the theory of resource dependence [51] and stakeholder theory [52]. This support can be explained in two ways. First, the presence of women on the board is a critical resource for enriching decision making through the contribution of different points of view. Second, the different perspectives provided by boards with a strong female representation influence the implementation of socially responsible practices [53] that are better able to meet the needs and expectations of stakeholders [54].

In addition, the benefits of a female presence are primarily due to the fact that men and women have different leadership styles. Women are more participatory and democratic [55] and are more aware of CSR initiatives [56]. By contrast, men are more competitive and ambitious [57]. However, a key factor is charity. This attribute is associated with women according to Firer and Williams [58], who suggest that the presence of women leads to an increase in goodness, which translates into greater community service and cultural activities [59].

At the same time, it is argued that women are more likely to engage in socially responsible initiatives and act more effectively in response to environmental issues than men [60] because they are more apprehensive and aware of the dangers of climate change [61,62]. Consequently, female representation encourages the adoption of green practices [63].

Consequently, boards with more women behave more ethically [64] and perform better in terms of social and environmental actions [11,65]. In addition, gender diversity is associated with features such as greater awareness of health risks, social commitment and worker recognition [66]. Evidence of this association is the awareness of CSR in companies whose boards include women. This situation leads people to consider these companies in a more favorable light, thus increasing their customer network [67], which can in turn increase opportunities within the company for other female employees [68] by helping more women to access positions at the management level. Doing so reduces the barriers to entry to the board of directors, as shown by Berger et al. [69] in a study of the banking sector.

From a homophily perspective, this fact can be explained by the tendency to establish linkages between similar individuals.

The empirical evidence reflects a degree of consensus in the literature regarding the impact of gender diversity on CSR practices. Together with the earlier discussion, this consensus suggests a general acceptance of women's favorable influence, although this view is not unanimous. Notable results showing a positive influence include the finding that the presence of women has tangible effects on companies' CSR [70], improves social responsibility actions [71–73] and increases the dissemination of these actions [74,75]. Therefore, increasing the number of women on the board of directors is advisable to promote better CSR actions [75]. Likewise, scholars have shown the need for there to be at least three women on the board of directors for gender diversity to have a significant impact on CSR, arguing that as the number of female directors increases, so does the likelihood that their opinions will be taken on board [76–78].

In contrast, some authors, such as Zhuang et al. [79] and Lau et al. [80], argue that the presence of women is not significant. Others, such as Walls et al. [81], consider that board gender diversity actually worsens companies' environmental performance. These results can be explained by several reasons. First, low female representation on the board may lead to fewer advantages and benefits of gender diversity [82]. Likewise, the inclusion of women on the board may be determined by the approval of regulations and pressure from outside the organization. In such cases, female representation is a symbolic act in which women are considered mere tokens, so their presence will not improve the effectiveness of the board [83]. In fact, the effectiveness of their actions may even decrease due to greater conflict between members when there are at least three women directors [70].

Finally, various studies have reported that the impact of gender diversity may differ across the three dimensions of CSR. For example, Reyes-Bastidas and Briano-Turrent [84] showed that gender diversity positively influences economic performance but reduces social and environmental performance, and Alazzani et al. [15] suggest that the influence of gender diversity affects the social but not the environmental sphere.

## 2.2. CSR and Gender Diversity: Analysis of the Banking Sector

With regard to the banking sector, research on board gender diversity has primarily focused on the economic dimension of CSR, with analyses generally seeking to establish whether such diversity affects the financial performance of banks. The subject-specific literature, which provides mixed results, is vast, so only certain key studies are cited here. For instance, García-Meca et al. [85], analyzed an international sample of 159 banks between 2004 and 2010. They concluded that the banks with the greatest board gender diversity had better business performance in terms of financial profitability. They also concluded that there was less of an influence in contexts with weaker regulation and investor protection. These results are consistent with those reported by Jabari and Muhamad [86], who used a sample of 19 Islamic banks in Indonesia and Malaysia for the period 2010 to 2018 to show a positive relationship between these variables. They also concluded that this relationship may be weaker when the size of the board of directors is greater. Owen and Temesvary [87] reached a similar conclusion. Using a sample of 90 U.S. banks between 1999 and 2015, they found that the influence of women on financial performance was conditioned by securing a minimum level of female representation on the board. By contrast, Mohammad et al. [88] and Farhana [89] found that a greater number of women on the board did not affect the financial performance of Jordanian and Indonesian banks, respectively. Finally, Ahmad and Alshbiel [90], analyzed 16 Jordanian banks between 2004 and 2013, observing that the banks run by women had a lower return on assets than those run by men. They explained this result as being a consequence of women's risk aversion.

With respect to the other dimensions of CSR, environmental performance has also been linked to gender diversity by several authors. For example, Deschênes et al. [91], reported the existence of a positive relationship between the two variables. Birindelli et al. [92] confirmed this causal relationship for a sample of 96 listed banks in Europe, Middle East,



and Africa (EMEA) between 2011 and 2016, considering both CEO gender and board gender diversity. Similarly, Gallego-Álvarez and Pucheta-Martínez [93] observed that the companies with the greatest female representation on the board of directors reported more on environmental issues, based on an international sample of banks for the period 2005 to 2016. However, Gallego-Sosa et al. [94], analyzed a sample of 52 European and North American banks for the period 2009 to 2018 and found a lack of influence of female directors on the environmental dimension. They attributed this finding to the low representation of women on the boards of directors of the sampled banks, which therefore failed to capture the multiple potential benefits of board gender diversity.

Finally, to the best of our knowledge, no studies have examined gender diversity on the boards of banks and the possible effects of this gender diversity on the social performance dimension of CSR. The only study on this topic is by Barako and Brown [74], according to whom board gender diversity positively influences the dissemination of information on social practices (not social performance) by banks in Kenya. Examples of such practices include the amount of donations, the development of training policies for employees, and the financing of educational programs.

The highlighted studies have examined the relationship between the gender diversity of the boards of banks and the dimensions of CSR. Other studies have also examined overall CSR. However, such contributions are scarce. Shakil et al. [27] found a positive relationship between board gender diversity and CSR for a sample of 37 American banks between 2013 and 2017. García-Sánchez et al. [78] confirmed this relationship for a sample of 159 banks in nine countries (seven European countries plus the United States and Canada) between 2004 and 2010. They concluded that gender diversity positively influences the implementation of social, environmental, and human rights actions. Martínez-Ferrero et al. [95] reported a non-significant influence of board gender diversity on these dimensions for the same sample. Finally, Birindelli et al. [26] concluded that female representation influences sustainable practices only in banks with a gender-balanced board of directors.

Notably, board gender diversity can affect the CSR reporting practices of banks [96–98]. These results have since been confirmed by Matuszak et al. [99], who used a sample of 16 Polish banks for the period 2008 to 2015, Kiliç et al. [19], who used a sample of banks operating in Turkey between 2008 and 2012, and Buallay et al. [100], who used an international sample of 2,116 banks for the period 2007 to 2016 to show that, for such a positive influence to exist between board gender diversity and sustainable reporting, female representation on the board should be between 22% and 50%. However, the findings of Ghabayen et al. [101] contradict the previous studies. After analyzing 147 Jordanian banks for the period 2004 to 2013, they found that board gender diversity negatively influences the reporting of social practices (CSR).

As this literature review reveals, scant research has centered on the banking sector in analyzing the linkages between gender diversity and overall CSR performance or between gender diversity and the social and environmental dimensions of CSR. Likewise, none of the cited studies has measured the level of commitment to CSR in terms of the SDGs.

In view of the arguments and evidence in the literature regarding the positive influence of gender diversity on the degree of CSR in companies, we conclude this section by proposing the following research hypothesis:

**Hypothesis 1.** *European banks with more gender-diverse boards of directors have a greater commitment to meeting the SDGs.*

### 3. Sample and Method

#### 3.1. Sample

The sample comprised the 25% largest European commercial banks in terms of market capitalization as of 15 February 2019, numbering 30 institutions from 13 countries (Spain, France, Italy, Sweden, Germany, Denmark, Ireland, Hungary, the Netherlands, Poland, Austria, the Czech Republic, and Portugal), according to the global register of listed

commercial banks in the Osiris database [102]. Large banks were selected because of their importance within the sector and to ensure greater data availability.

Data from the year 2017 were used because this was the most recent year the sampled companies had published sustainability reports at the time the sample was chosen. The year 2016 was ruled out because it coincided with the launch of the 2030 Agenda, which could condition data availability.

### 3.2. Variables

To achieve our aims, we used three types of variables: CSR variables, gender variables, and variables that provided information on various characteristics of the companies. One of these variables was a governance variable; the rest were financial. All variables are presented in Table 1. The annual report, corporate governance report, and sustainability report published on the respective corporate websites for the year 2017 were used to gather the data.

Some monetary values were expressed in the original currency. These were converted by taking the euro as the base currency. The exchange rates published by the European Central Bank [103] were used.

**Table 1.** Corporate social responsibility (CSR), gender diversity, governance, and financial variables.

Variable	Label	Definition
CSR	Sustsdg	Dummy variable that takes the value 0 if the bank does not address any Sustainable Development Goals, and 1 otherwise.
	Itemsdg	Number of SDGs targeted.
	N“n”	Dummy variable that takes the value 0 if goal “n” is not addressed, and 1 otherwise ( $n = 1, \dots, 17$ ).
	Inic“n”	Number of initiatives carried out to achieve goal “n” ( $n = 1, \dots, 17$ ).
Gender diversity	Dum1	Dummy variable that takes value 0 if there are no women on the board of directors, and 1 otherwise.
	Dum3	Dummy variable that takes value 0 if there are fewer than 3 women on the board of directors, and 1 otherwise.
	Nwom	Number of women on the board of directors.
	Pwom	Proportion of female directors, calculated as the ratio of the number of women on the board to the total number of board members.
	Blau	Gender diversity of the board of directors. Values range from 0 to 0.5, where 0 indicates the lowest diversity due to the absence of women on the board and 0.5 indicates the maximum diversity when the number of female and male board members is the same. The interpretation of the other values depends on their proximity to these extreme values [104].
Governance	Nmem	Number of members of the board of directors.
	Nemp	Number of employees.
Financial	Tass	Total assets in millions of euros.
	EPS	Earnings per share in euros.
	ROA	Return on assets (ratio of net profit to total assets).

Source: compiled by the authors using a selection of variables frequently used in the relevant literature for the gender, governance, and financial measures (e.g., [105–109]).

The CSR variables, calculated from the data published in each bank's sustainability report, were created specifically for our purpose, which is one of the contributions of this study. To the best of our knowledge, only Ali et al. [105], who investigated the adoption and implementation of the 2030 Agenda SDGs in the BRICS (Brazil, Russia, India, China, and South Africa) based on a sample of 25 multinationals, and Cosma et al. [34] have considered the number of SDGs targeted. However, they did not take into account the level of commitment to each SDG. This level of commitment is captured in this paper by measuring the initiatives taken to achieve these SDGs (Inic“n” variable). The more SDGs targeted, and the more initiatives taken are used as a proxy to determine the level of CSR commitment. Therefore, the indicators used here captured both the number of SDGs targeted by each bank and the number of actions carried out to achieve each one. With respect to the latter, given the interrelated nature of the SDGs, we considered only initiatives that were directly related to the objectives for each SDG [110] and that were explicitly mentioned in each sustainability report in the section on commitment to achieving the SDGs. Crucially, the data on the CSR variables were collected by the same researcher for the entire sample. This practice was adopted to avoid possible biases derived from the application of different criteria and to limit subjectivity.

Regarding the board gender diversity variables, we used the variables that have been most widely employed in the literature in relation to the link between gender diversity and CSR. These variables were calculated using data published in each bank's corporate governance report. *Dum1* was included to control for the difference between banks with no female directors on their boards and those with at least one female director. Some studies have shown that women have greater ethical and social skills, which affect the decisions they take [111]. The *Dum3* variable was included because various studies have shown that the presence of at least three women on the board of directors strengthens their role, positively influencing investments in environmental responsibility, among other areas [112], and leading to more active participation by women in meetings [113].

*Nwom* was included because previous studies have shown that CSR actions and the dissemination of these actions increase when the number of women also increases [56,74]. The same is true of the *Pwom* variable, given that it is important to consider not only the number of women on the board of directors but also the proportion of women on the board. It has been shown that the proportion of women positively influences CSR [114]. To calculate the number of women on the board of directors and, hence, the percentage of women on the board, the number of members of each gender was counted by considering the number of members of the management board for banks with two-tier boards and the members of the board of directors for banks with one-tier boards. Likewise, the *Blau* variable was included because several studies have shown that it offers a good measure of diversity [15,72].

Finally, to identify other characteristics of the selected banks and to characterize the sample, the number of directors (*Nmem*) was included as a governance variable. The following financial variables were also included: size of the bank in terms of number of employees (*Nemp*), earnings per share (*EPS*) in euros, total assets in millions of euros (*Tass*), and return on assets (*ROA*). These measures were selected because of their use in the CSR literature. For example, Yang et al. [109] used *ROA* and *EPS* as indicators of business performance. Elmagrhi et al. [108] used *Nmem* as a governance measure, and measured firm size in terms of total assets (*Tass*). Haque [107] used *Nemp* to control for firm size. All these variables were calculated using data published in each bank's annual report.

### 3.3. Analysis

The analysis methods used in this study were descriptive and inferential statistical analyses. In the case of the descriptive analysis, the aim was to arrange and analyze the properties of the data [115]. We calculated a number of widely used statistics, such as the mean, the standard deviation, the maximum and minimum values, as well as the 25th, 50th, and 75th percentiles, supported by graphs.



With respect to the inferential statistical analysis, the hypothesis of mean differences was tested to determine whether the commitment of banks to the SDGs differs significantly for banks with different levels of board gender diversity. That is, the null hypothesis of equal means for each CSR measure was tested. The sample was divided into two groups of companies: those with gender measures below the mean for the sample and those with gender measures greater than or equal to the mean value. The following gender variables were used as reference variables: *Nmuj*, *Pmuj*, and *Blau*. The first group of banks consisted of those with the lowest level of board gender diversity (X), whereas the second consisted of the most gender-diverse banks (Y). In this study, the standard deviations for the population were unknown and were assumed to be different. Therefore, the hypothesis testing was performed using the Student's *t*-statistic with *v* degrees of freedom [115], where:

$$v = \frac{\left( \frac{S_x^2}{n_x} + \frac{S_y^2}{n_y} \right)^2}{\frac{(S_x^2/n_x)^2}{n_x-1} + \frac{(S_y^2/n_y)^2}{n_y-1}} \quad (1)$$

$$\text{The experimental value was given by } t(\text{experimental}) = \frac{(\bar{X} - \bar{Y}) - 0}{\sqrt{\frac{S_x^2}{n_x} + \frac{S_y^2}{n_y}}}.$$

## 4. Results

### 4.1. Description of the Sample

Before presenting the core analysis of the study to meet our study aims, we first discuss the geographical distribution of the banks in the sample and offer a general description of the variables used in the study. This initial analysis provides an overview of the sector and the sample characteristics, shown in Tables 2 and 3.

**Table 2.** Banks committed (=1) or not committed (=0) to the SDGs by country.

Country	Percentage	Total	Sustsdg = 0	Sustsdg = 1
Spain	20.00%	6	1	5
Italy	16.67%	5	1	4
France	10.00%	3	1	2
Poland	10.00%	3	2	1
Germany	6.67%	2	1	1
Austria	6.67%	2	1	1
Ireland	6.67%	2	2	–
Sweden	6.67%	2	–	2
Denmark	3.33%	1	–	1
Hungary	3.33%	1	–	1
Netherlands	3.33%	1	–	1
Portugal	3.33%	1	–	1
Czech Republic	3.33%	1	1	–
Total	100%	30	10	20

Source: compiled by the authors based on each bank's 2017 sustainability report.

**Table 3.** Descriptive statistics for gender, governance, and financial variables.

Variables	Mean	Standard Deviation	Min.	Max.	25th Percentile	50th Percentile	75th Percentile
Dum1	0.8333	0.3790	0	1	1	1	1
Dum3	0.6	0.4982	0	1	0	1	1
Nwom	3.1	2.2026	0	7	1	3	5
Pwom	0.2456	0.1572	0	0.5	0.13	0.25	0.37
Blau	0.3231	0.1762	0	0.5	0.2311	0.375	0.4653
Nmem	11.8	3.69	5	19	9	12	14
Nemp	45,251	56,905.33	665	196,000	8492	17,108.5	51,621
Tass	451,861	486,809.7	358	1,474,732	71,333	276,099.5	690,059
EPS	1.5824	1.8974	0.004	6.05	0.28	0.535	2.92
ROA	0.0075	0.0097	−0.004	0.053	0.0036	0.0064	0.0092

Source: compiled by the authors based on the 2017 governance report and the 2017 annual report for each bank.

The data in Table 2 show that the sampled banks are located in 13 countries. Sorting these countries in descending order by the number of banks in each country shows that Spain is in first place, with six banks, accounting for 20% of the sample. The next country is Italy, with five banks, accounting for 16.66% of the sample. Next, France and Poland both have three banks, each accounting for 10% of the sample. This is followed by Germany, Austria, Ireland, and Sweden, all of which have two banks, each accounting for 6.67% of the sample. Finally, Denmark, Hungary, the Netherlands, Portugal, and the Czech Republic have the fewest banks, with only one bank each.

Taking the *Sustsdg* variable, we compare the number of banks that are committed or not committed to at least one of the SDGs. In five countries (Denmark, Hungary, the Netherlands, Portugal, and Sweden), all of the sampled banks are committed to CSR, reflected by their commitment to the SDGs (*Sustsdg* = 1). In Spain, Italy, and France, the majority of banks are committed to achieving at least one of the SDGs, whereas in Poland, the majority of banks are not committed. In Germany and Austria, the number of committed banks is the same as the number of those that are not committed. In contrast, the sampled banks in Ireland and the Czech Republic are not aligned with the SDGs (*Sustsdg* = 0). Therefore, although some banks are not committed to CSR in terms of the SDGs, most are. Specifically, 20 of the 30 analyzed banks (66.67% of the sample) have taken actions to achieve at least one of the 17 SDGs stated in the 2030 Agenda.

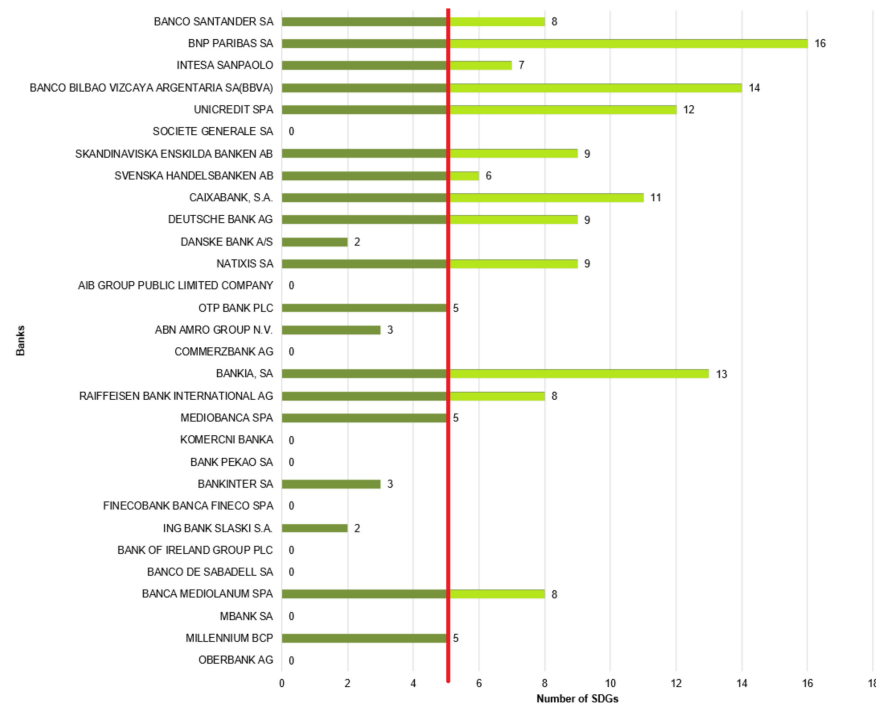
As shown in Table 3, 83% of the sample (25 banks), had at least one woman on the board of directors (see *Dum1*). This result implies that there are still large banks that have no women directors, although this is not the norm. The average of *Dum1* is higher than that of *Dum3*. Therefore, it follows that in some banks with a female presence on the board, the number of women directors is less than three. However, 60% of the analyzed banks have at least three female directors.

Although, on average, there are more than three women on the board of directors, the standard deviation reveals substantial heterogeneity across the banks, with the *Nwom* variable taking values between 0 and 7. In Section 4.3, it is shown that this maximum corresponds to two banks, and in only one of these banks does it equate to half of the total number of board members. In this case, the maximum percentage is 50%, with the members numbering 14. Therefore, the *Blau* index is 0.5 for this bank only. Given this result, combined with the fact that 50% of the banks have less than 25% representation of female directors on their board (based on the values for the *Pwom* variable), the results reflect the under-representation of women on the boards of the banks in the sample.

With regard to the rest of the characteristics, on average, the banks have boards with 12 members (*Nmem*), earnings of 1.58 euros per share (*EPS*), 45,251 employees (*Nemp*), and 451,861 million euros in assets (*Tass*). Notably, the last two variables have a high dispersion of values of the observations around the mean. In addition, 75% of the observations of the *ROA* variable reflect a positive return of more than 0.36%. On average, the banks have a *ROA* of 0.75%.

#### 4.2. Analysis of CSR through the SDGs

To analyze the CSR of the banks in the sample and thereby meet the first aim of this study, the level of CSR (based on the 17 SDGs) of the banks in the sample is discussed in this section. First, Figure 1 shows the number of SDGs targeted by each bank in 2017.



**Figure 1.** Number of SDGs targeted by each bank. Source: compiled by the authors based on each bank's 2017 sustainability report.

Figure 1 indicates which banks did not report that they were targeting some of the SDGs, which banks did, and how many SDGs they hoped to achieve. The vertical red line shows the average number of SDGs that all the banks intended to achieve, with 13 banks exceeding this average value. Of these, Banque National de Paris Paribas Société Anonyme, Banco Bilbao Vizcaya Argentaria, and Bankia S.A. targeted the most SDGs, with 16, 14, and 13, respectively. There were also three banks (Országos Takarékpénztár Bank Public Limited Company, Mediobanca Società per Azioni, and Millenium Banco Comercial Português) that aimed to achieve five SDGs (i.e., the average value). In contrast, the remaining 14 banks targeted a lower than average number of SDGs. This group contained the 10 banks that had not committed to meeting any of the 17 SDGs.

Figure 2 complements these data, reflecting the number of SDGs targeted by each bank, as well as the number of initiatives carried out in relation to each SDG and the total per bank. In addition, the number of banks engaged with each SDG is also shown.

Country	Entity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total number of initiatives by bank
Spain	BANCO SANTANDER SA	0	0	4	12	3	0	0	8	0	3	2	6	10	0	0	0	0	48
France	BNP PARIBAS SA	2	1	3	2	4	4	3	2	0	5	2	1	5	4	4	2	2	46
Italy	INTESA SANPAOLO	2	0	0	0	0	0	2	2	1	0	2	0	2	0	0	1	0	12
Spain	BBVA	3	0	1	1	4	2	1	14	2	1	5	1	4	0	0	5	2	46
Italy	UNICREDIT SPA	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0	12
France	SOCIETE GENERALE SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	SKANDINAVISKA ENSKILDA BANKEN AB	0	0	2	1	3	1	0	3	3	0	1	0	4	0	0	2	0	20
Sweden	SVENSKA HANDELSBANKEN AB	0	0	0	0	3	0	0	7	4	0	1	0	5	0	0	4	0	24
Spain	CAIXABANK, S.A.	6	0	1	4	2	0	2	3	3	4	0	4	2	0	0	0	5	36
Germany	DEUTSCHE BANK AG	0	0	0	5	6	0	2	6	3	4	0	2	0	0	0	4	7	39
Denmark	DANSKE BANK A/S	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
France	NATIXIS SA	1	0	2	0	1	0	2	1	0	0	3	0	5	0	1	0	0	16
Ireland	AIB GROUP PUBLIC LIMITED COMPANY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	OTP BANK PLC	0	0	0	3	0	0	0	5	5	0	0	3	0	0	0	0	3	19
Netherlands	ABN AMRO GROUP N.V.	0	0	0	0	0	0	0	4	0	0	0	3	2	0	0	0	0	9
Germany	COMMERZBANK AG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	BANKIA, SA	2	2	4	3	3	0	0	7	5	4	1	4	3	0	0	3	2	43
Austria	RAIFFEISEN BANK INTERNATIONAL AG	2	0	0	2	1	0	4	1	1	0	0	0	4	0	0	0	0	15
Italy	MEDIOBANCA SPA	0	0	0	3	1	0	0	4	0	0	0	3	0	0	6	0	0	17
Czechia	KOMERCNI BANKA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	BANK PEKAO SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	BANKINTER SA	0	0	0	0	0	0	0	3	0	7	0	0	2	0	0	0	0	12
Spain	FINCOBANCA BANCA FINECO SPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	ING BANK SLASKI S.A.	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	8
Ireland	BANK OF IRELAND GROUP PLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	BANCO DE SABADELL SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	BANCA MEDIOLANUM SPA	4	0	1	1	0	0	3	1	2	0	0	2	0	0	0	3	0	17
Spain	MBANK SA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	MILLENNIUM BCP	9	0	0	10	0	0	5	7	0	6	0	0	0	0	0	0	0	37
Germany	OBERBANK AG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of initiatives by SDG		32	3	19	51	32	7	25	86	30	35	18	31	52	4	5	31	21	482
Total number of banks that address each SDG		10	2	9	14	12	3	10	20	11	9	9	11	14	1	2	10	6	

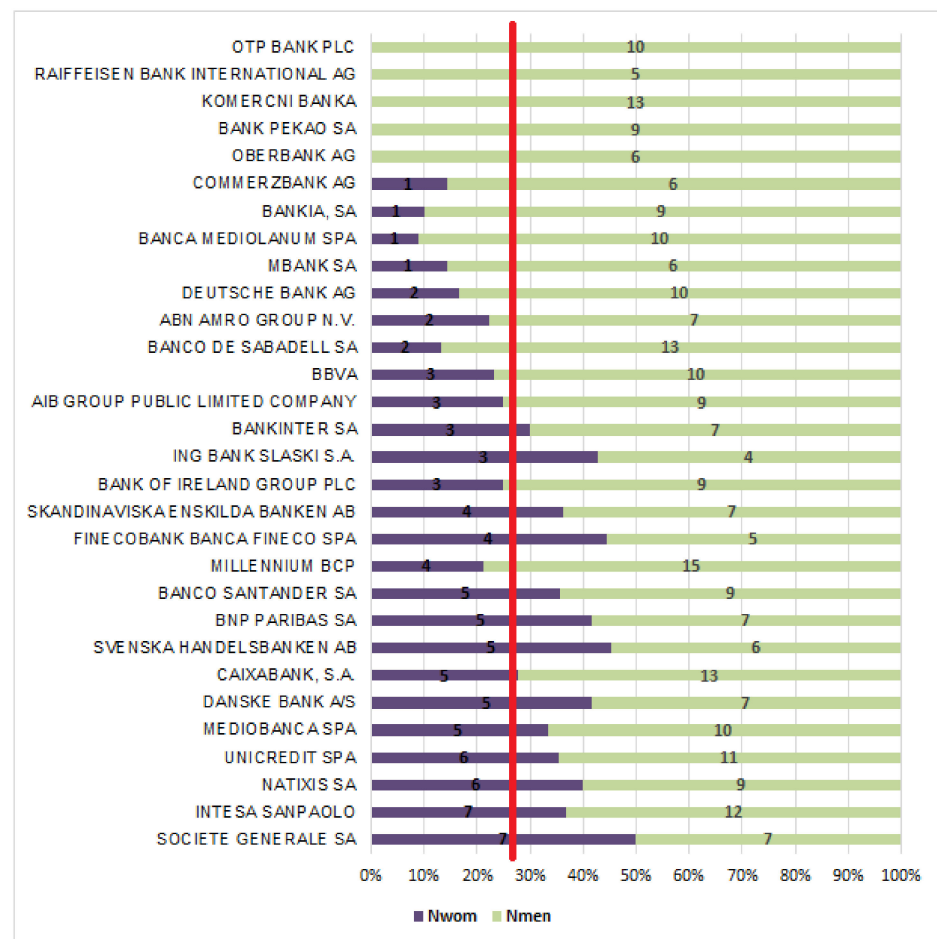
**Figure 2.** Total number of initiatives by bank and SDG. Source: compiled by the authors based on each bank’s 2017 sustainability report. 1: No poverty, 2: Zero hunger, 3: Good health and well-being, 4: Quality education, 5: Gender equality, 6: Clean water and sanitation, 7: Affordable and clean energy, 8: Decent work and economic growth, 9: Industry, innovation and infrastructure, 10: Reduced inequalities, 11: Sustainable cities and communities, 12: Responsible consumption and production, 13: Climate change, 14: Life below water, 15: Life on land, 16: Peace, justice and strong institutions, 17: Partnerships for the goals.

The color scale in Figure 2 shows that the 30 largest European banks carried out a total of 482 initiatives, distributed unevenly across the 17 SDGs. The table provides valuable information based on three criteria. First, considering the total number of initiatives carried out by each bank, the data show that Banco Santander S.A., BNP Paribas S.A., and BBVA carried out the most initiatives, as well as having the largest market capitalization in the sample. Second, considering the maximum and minimum number of initiatives by SDG, BBVA carried out the greatest number of initiatives to achieve a single SDG, namely economic and sustainable development (SDG 8), carrying out 14 actions to meet this SDG. Next, Banco Santander S.A. carried out 12 actions to achieve quality education (SDG 4) and 10 actions to combat climate change (SDG 13). Third, according to the total number of initiatives carried out to achieve one of the SDGs, the highest number of initiatives were carried out to achieve SDGs aimed at promoting economic and inclusive growth, combating climate change, and guaranteeing quality education. Initiatives were carried out for all SDGs, although the number of actions varies depending on the priority of the given SDG. Thus, all SDGs are targeted by at least one bank, with no bank attempting to meet all 17 SDGs.

#### 4.3. CSR and Board Gender Diversity

In this section, which addresses the second research aim, we study the board gender diversity variables, analyzing these variables in relation to the commitment to CSR. We first analyze the distribution of the members of the board by gender, based on the data shown in Figure 3. The graph shows the number of women and men on the board, as well

as whether the percentage of women directors is above or below the mean (24.56%) for the sample in this study (see Table 3).



**Figure 3.** Gender composition of the board of directors of each bank. Source: compiled by the authors based on each bank's 2017 corporate governance report.

The vertical red line in Figure 3 indicates the average percentage of women on the boards of directors in the sample. The graph indicates that in 14 banks, the presence of women is above the average value. By contrast, the remaining 16 banks have a below-average percentage of participation, generally corresponding to the banks with a lower number of women directors. It was also found that there was no gender parity on the boards of directors, reflecting the fact that the analyzed banks are still a long way from achieving gender equality among their directors. The exception was Société Générale S.A., which was the only bank with the same number of members of each gender. There was a higher proportion of men in the rest of the banks under study, and there were even five banks with no women on their boards.

Tables 4 and 5 show the level of CSR by level of gender diversity and the gender diversity of banks by level of CSR, respectively.



**Table 4.** Number of banks by *Nwom* for each level of *Sustsdg*.

<i>Nwom</i>	<i>Sustsdg</i> = 0	<i>Sustsdg</i> = 1	Total
0	3	2	5
1	2	2	4
2	1	2	3
3	2	3	5
4	1	2	3
5	0	6	6
6	0	2	2
7	1	1	2
Total	10	20	30

Source: compiled by the authors based on the 2017 corporate governance report and the 2017 sustainability report for each bank.

**Table 5.** Descriptive statistics for the gender diversity variables according to the value of *Sustsdg*.

Gender Diversity Variables	Mean		Standard Deviation		25th Percentile		50th Percentile		75th Percentile	
	0	1	0	1	0	1	0	1	0	1
If <i>Sustsdg</i> =	0	1	0	1	0	1	0	1	0	1
Dum1	0.7	0.9	0.483	0.307	0	1	1	1	1	1
Dum3	0.4	0.7	0.516	0.47	0	0	0	1	1	1
<i>Nwom</i>	2.1	3.6	2.233	2.062	0	2	1.5	4	3	5
<i>Pwom</i>	0.185	0.276	0.177	0.141	0	0.19	0.14	0.315	0.25	0.385
Blau	0.246	0.361	0.194	0.157	0	0.305	0.244	0.431	0.375	0.472

Source: compiled by the authors based on the 2017 corporate governance report and the 2017 sustainability report for each bank.

Table 4 shows a breakdown of the number of banks by number of women directors (*Nwom*) for banks targeting at least one SDG and those not targeting any (*Sustsdg* = 1 and *Sustsdg* = 0, respectively). The table thus shows that the banks committed to CSR in terms of pursuing the SDGs (i.e., *Sustsdg* = 1) have more women directors than those without a plan to achieve at least one SDG. There are no differences in the number of companies committed or not committed to CSR when there is one female board member. However, when there are two or more women directors, in practically all cases, there are more banks that aim to achieve at least one SDG. Notably, when there are five or six female directors, all eight banks are committed to the 2030 Agenda.

Table 5 shows that banks that aim to achieve at least one of the SDGs have more women on the board. Although the average percentage of female directors in the banks that are committed to CSR is 27.6%, the percentage of female directors is nearly 10 percentage points lower in banks that are not committed to CSR. The first group of banks represents 50% of the sample. These banks have at least 31.5% women on their boards. By contrast, the other 50% of banks in the sample (i.e., the second group of banks) have only 14% women on their boards. Furthermore, 70% of the banks that are committed to at least one of the SDGs have at least three women on their boards, while in the case of non-committed banks, only 40% have at least three female directors.

Finally, having found that, on average, each bank targets five SDGs, Table 6 shows the descriptive statistics for the board gender diversity variables for two groups of banks. The first group consists of the banks that address a number of SDGs less than or equal to the average number (5), while the second group consists of those that address more than the average number of SDGs.

**Table 6.** Descriptive statistics of gender diversity variables for  $Itemssdv \leq 5$  and  $Itemssdv > 5$ .

Gender Diversity Variables	Mean		Standard Deviation		25th Percentile		50th Percentile		75th Percentile	
	$\leq 5$	$\geq 5$	$\leq 5$	$\geq 5$	$\leq 5$	$\geq 5$	$\leq 5$	$\geq 5$	$\leq 5$	$> 5$
If Itemsdg=										
Dum1	0.764	0.923	0.437	0.277	1	1	1	1	1	1
Dum3	0.529	0.692	0.514	0.48	0	0	1	1	1	1
Nwom	2.529	3.846	2.065	2.23	1	2	3	5	4	5
Pwom	0.222	0.275	0.167	0.144	0.13	0.17	0.25	0.35	0.33	0.7
Blau	0.294	0.36	0.188	0.157	0.231	0.277	0.375	0.455	0.442	0.465

Source: compiled by the authors based on the 2017 corporate governance report and the 2017 sustainability report for each bank.

The results reveal a similar picture to the one described earlier. There is generally less of a difference between the values of the gender diversity variables when comparing banks targeting more than the average number of SDGs with those targeting less than or equal to the average number of SDGs (Table 6), than when comparing banks targeting at least one SDG versus those not targeting any (Table 5). Notably, however, the banks that are most committed to CSR (i.e., addressing more than five SDGs) have a greater number and a higher proportion of women directors. This finding implies that the Blau index is higher in cases where more than five SDGs are targeted, indicating that companies that are more committed to meeting SDGs have more gender-diverse boards.

To conclude this section, we provide the results of the hypothesis testing of mean differences (Table 7). These results show whether there are statistically significant differences between the means of each CSR measure for the two groups of banks according to their level of board gender diversity. These groups were defined by taking the mean value of *Nwom*, *Pwom*, and *Blau* as reference variables. The first group consisted of banks whose scores in the gender measures were below the common average (3.1, 0.245, and 0.323, respectively). The second group consisted of companies that were equal to or above the common average in this regard.

For most of the CSR measures, the null hypothesis of equal means between the two groups of companies with low and high board gender diversity is not rejected. That is, in these cases, no statistically significant differences were found between banks with low versus high board gender diversity in terms of their commitment to the SDGs.

In addition, of the few CSR variables with statistically significant differences between the means of the two groups of companies, the measures for SDG 13 (see *N13* and *Inic13*) has the most robust differences. This significance is confirmed by five of the six corresponding tests. Therefore, judging by the sign of the experimental value, the evidence suggests that, at the 5% significance level, there is greater commitment to achieving SDG 13 (Climate Action) and there are more initiatives to achieve this SDG in banks with greater female board representation.

Statistically significant differences at the 5% level between the means of the two groups of companies were also observed in three of the six tests for SDG 11 (Sustainable Cities and Communities), in two cases for the measure *N11*. Thus, the evidence suggests that banks with more gender-diverse management are more committed to achieving SDG 11. Finally, statistically significant differences between the means were observed in only one of the six hypothesis tests for the measures of SDG 5 and SDG 14 (at the 5% and 1% significance levels, respectively).

Consequently, these results show that banks' commitment to SDGs differs depending on the level of board gender diversity. However, these differences are limited to combating climate change and its effects and to developing inclusive and sustainable cities.

**Table 7.** Experimental values to test the hypothesis of mean differences of commitments to CSR for the following three pairs of groups: (1)  $Nwom < 3.1$  vs.  $Nwom \geq 3.1$ , (2)  $Pwom < 0.245$  vs.  $Pwom \geq 0.245$ , (3)  $Blau < 0.323$  vs.  $Blau \geq 0.323$ .

CSR Variables	<i>t</i> Experimental (1)	<i>t</i> Experimental (2)	<i>t</i> Experimental (3)
Sustsdg	−1.9487	−1.2656	−1.8157
Itemsdg	−1.7353	−0.3456	−1.0456
N1	−1.2656	0.5005	−0.5287
Inic1	−1.1642	1.016	−0.7781
N2	−0.1869	0.1869	0.36439
Inic2	0.0407	0.5769	0.6825
N3	−1.6515	−0.7166	−1.1191
Inic3	−0.9121	−0.696	−0.6175
N4	−1.5461	0.6692	−0.0974
Inic4	−1.6467	0.3628	−0.7123
N5	−2.1598 **	−0.8924	−1.0949
Inic5	−0.9535	0.0281	−0.3692
N6	−0.7944	−0.3656	−1.8371
Inic6	−0.8031	−0.4936	−1.5875
N7	−1.2656	0.5005	−0.5287
Inic7	−1.0708	1.0312	−0.0439
N8	−1.9487	−1.2656	−1.8157
Inic8	−0.4292	0.3796	−1.4307
N9	−0.1718	0.9122	0.7233
Inic9	0.2329	1.105	1.0616
N10	−0.8485	0.0774	−1.1191
Inic10	−0.6578	−0.0289	−0.9562
N11	−2.5517 **	−1.5999	−2.2357 **
Inic11	−1.3802	−0.5383	−2.4566 **
N12	0.5739	0.1718	−0.0252
Inic12	0.3024	−0.3246	−0.0863
N13	−2.2716 **	−2.4417 **	−2.6973 **
Inic13	−2.2009 **	−1.961	−2.322 **
N14	−1	−1	−1
Inic14	−1	−8 ***	−1
N15	−1.4771	−1.4606	−1.4552
Inic15	−1.2372	−1.2309	−1.2288
N16	−0.9122	0.1718	−0.0252
Inic16	−0.5256	0.3207	−0.3053
N17	0.548	1.2207	0.696
Inic17	0.4738	1.0234	0.8489
Observations	17/13	13/17	11/19

Source: compiled by the authors based on the 2017 corporate governance report and the 2017 sustainability report for each bank. \*\*\*, \*\* rejection of null hypothesis of equal means at the 1% and 5% significance levels, respectively.

## 5. Discussion

The results show that most of the banks analyzed are committed to the 2030 Agenda, given that they have focused their efforts on increasing the number of initiatives designed to achieve SDGs 8, 13, and 4, which aim at promoting economic and inclusive growth, combating climate change, and guaranteeing quality education. These results are consistent with those reported by Cosma et al. [34], who reached similar conclusions after observing that these three SDGs were the priority goals for the European banking sector.

Similarly, in most of the hypothesis tests, no statistically significant differences were found between banks with low versus high board gender diversity in terms of their commitment to the SDGs. The absence of a significant relationship between gender diversity and CSR has been reported by several authors [94,116–118]. The reasons that have been posited to explain this finding include low female representation on boards of directors, which prevents the development of the full potential of women directors [94,118]. This argument holds for the present study. Half of the sampled companies had less than

25% female representation on their boards of directors, and the average female representation was 24.5% (see Table 3). There also has to be a critical mass of at least three women on the board of directors for their influence to take effect in the company strategy [46,76]. However, only 60% of the banks in this study had at least three women board members (see Table 3).

Some authors have also argued that the positive influence of female representation among managers is limited to certain dimensions of CSR and that this influence may not be significant in relation to issues associated with powerful stakeholders such as employees and customers [117]. Notably, however, most studies of this relationship have shown that board gender diversity exerts a positive influence on CSR [46,63,71,72,119,120].

However, significant differences were found between the means of the two groups of banks in relation to achieving SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action), as well as the number of initiatives undertaken to achieve them. These results are supported by several studies that show that, in general, women tend to act ethically and are more aware of and are more empathetic toward social and environmental issues, which leads to a greater willingness to engage in socially responsible practices [60–62]. Specifically, multiple arguments support the idea that women are more involved in environmental issues than men. For example, women are more aware of environmental risks [121] and the dangers posed by climate change [61]. They are, therefore, more likely to implement policies and initiatives to combat this phenomenon [62]. Thus, there is ample evidence that board gender diversity positively influences companies' environmental performance [122–125].

Finally, these reflections show that the hypothesis could only be partially verified. The hypothesis could only be verified for level of CSR commitment to SDGs 11 and 13 but not for most of the indicators used to measure commitment to the SDGs.

## 6. Conclusions

The aim of this study was twofold. The first aim was to analyze CSR in the European banking sector according to these banks' commitment to the SDGs. This aim was chosen due to the importance of CSR for companies' strategic development and the lack of studies of this issue in the banking sector, despite the key role of this sector in economic development as a catalyst for business activity. Second, the study aimed to determine whether there are differences in terms of CSR at different levels of board gender diversity. This aim was motivated by the strong influence of this diversity on CSR, as supported by the literature. A sample of the 30 European banks with the highest market capitalization was used for the analysis. Variables were specifically created for this study to measure the level of CSR commitment (in terms of SDGs), gender diversity, governance, and financial characteristics for the year 2017. The data were analyzed using descriptive and inferential statistics and graphs.

The results indicate that two thirds of the European banks studied show a commitment to CSR by aiming to achieve at least one of the SDGs. Despite these actions, no bank aims to achieve all 17 SDGs. Most of the banks are implementing more initiatives to meet the SDGs related to economic and sustainable development (SDG 8), combating climate change (SDG 13), and guaranteeing quality education (SDG 4) than to meet the other SDGs. In addition, Banco Santander S.A. and BNP Paribas S.A. are carrying out the greatest number of initiatives, as well as having the highest market capitalization in the sample.

With regard to the composition of the boards of directors of these European banks, the presence of women directors is still low. On average, the percentage of female board members is less than 25%, a similar figure to that of listed companies in the European Union. However, this study shows that the banks committed to meeting at least one of the SDGs and that target a greater number of SDGs have a higher number and higher proportion of women on their boards of directors. Nevertheless, we only observed statistically significant differences in the degree of commitment to the 2030 Agenda between companies with different levels of gender diversity on their boards for the "Climate Action" and "Sustainable Cities and Communities" SDGs. This commitment was found to be stronger when there

was greater female representation. Therefore, for most of the measures of commitment to the 17 SDGs, we were unable to verify that gender diversity is a differentiating factor in the pursuit of these goals. This finding may owe to the low female representation on the boards of the analyzed banks, which prevents women from developing actions to promote CSR. This finding draws attention to the need to increase the presence of women on boards of directors to achieve better commitment to CSR in the banking sector.

Consequently, this research has major practical implications for both managers in the banking sector and political decision makers. First, despite the essential, strategic role of the banking sector in meeting the goals of the 2030 Agenda, the adoption of the SDGs by this sector has been slow, heterogeneous, and scarce. Thus, public institutions must implement policies that promote investment by companies in plans to achieve the SDGs. Meanwhile, managers' commitment to the SDGs should form part of the strategy that guides the actions of these banks, making this aspect part of their mission. The 2030 Agenda cannot be achieved without guaranteeing effective gender equality and without establishing the necessary mechanisms to empower women. As the results of this study show, this issue has yet to be resolved in the management of the banking sector, given the low female board representation, which ultimately conditions company performance. Therefore, this study shows the need to continue devoting efforts to this cause. Support from public administrations in the form of regulations that promote the role of women are essential, based on the premise that a framework to achieve the SDGs can only be built under conditions of equality. Finally, this research provides a platform for evaluating commitment to the SDGs in the banking sector. It thus creates a reference for assessing how this commitment evolves in the future.

To conclude, the limitations of the study include the fact that it was not possible to address the evolution of CSR over time because the time frame corresponded to a single year and the fact that the use of a small sample limits the generalizability of the empirical results. Similarly, the measures of commitment to the SDGs were created using data reported by the banks themselves. Therefore, these data may reflect aspirations rather than facts. However, these details are impossible to check. Moreover, an inferential analysis only enables an initial discussion of the possible link between CSR and gender diversity. No causal relationship was found based on econometric analysis. Therefore, future studies should extend the time frame to enrich the sample data by monitoring the situation over time. In addition, econometric analysis should be conducted to test the causal relationships between the variables of interest. Finally, it would be of interest to use other CSR indicators of a different nature. CSR is a multidimensional concept, so it is essential to take other measures into account. Thus, qualitative measures such as the type of sustainability strategy are of particular interest.

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