Board composition and bank performance in a small island developing state: The case of Curacao

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Abstract
Based on agency theory, this paper contributes to the literature by assessing the effects of Supervisory Board size, gender diversity, and multiple directorship on performance within the banking industry of the small island developing state: Curacao. The research made use of the data drawn from annual reports of locally generated banks and its subsidiaries. Results from linear regressions indicate a positive relationship between multiple directorship and bank performance, and a negative association between bank outcomes and both gender diversity and board size. According to these results, it is concluded that the legislation on corporate governance for credit institutions in Curacao should incorporate a maximum number of members on the board, as well as promote interlocking directorates and quotas by gender.

Keywords: supervisory board size; multiple directorship; gender diversity; bank performance; Curacao.

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1. Introduction

Corporate Governance can be defined as arrangements intended to align company objectives and ensure that the rights of firm stakeholders are not violated (John & Senbet, 1998). The Corporate Governance framework is comprised of three basic components, namely: contracts to align objectives, procedures to resolve conflicts of interest, and supervision mechanisms.

The Supervisory Board of an entity is accountable for the behavior of the firm and controls the company’s general policies (Centrale Bank, 2001). The effectiveness of a Supervisory Board is highly dependent on how well directors work together as well as individually (Centrale Bank, 2001). Therefore, the board should continually evaluate its efficiency and take the proper steps to enhance its performance. Alongside the required knowledge, the board composition – Board Size, Multiple Directorships, and Gender Diversity, among others – are factors that impact the Supervisory Board as a whole and may influence the effectiveness and the decision-making process. For instance, small boards have been positively related with company results (Yermack, 1996), as it is easier to reach consensus, make decisions, and monitor the firm; Multiple Directorships can help the organizational performance because board members linking a firm to its external environment can foster access to critical information and valuable resources that help reduce asymmetric information for strategic actions (Beckman, Haunschild, & Phillips, 2004), the same argument can be expanded to companies’ CEOs interactions (McDonald and Westphal, 2003). Gender Diversity on boards can promote a more optimistic environment, extend dialogues on strategic matters, and decrease conflicts and agency costs (Wilson, Wright, & Scholes, 2013).

All companies, no matter size, public or private, long standing, or recent startups should be properly informed and pay attention to good governance practices, as Corporate Governance has become imperative to the business world. There is no debate that Corporate Governance practices have an impact on the performance and long-term viability of a firm (Kose & Senbet, 1998); however, it is important to find the right balance concerning Corporate Governance practices, as all practices do not fit all.

An efficient financial sector contributes to a better standard of living by reducing the risk and costs associated with the production and trading of goods and services (Herring & Santomero, 1995). Good Corporate Governance in the banking industry is of great importance and will continue to increase given the risk and challenges the banking industry permanently faces (Herring & Santomero, 1995). It is vital to protect the interests of the stakeholders, improve transparency and compliance with the law and increase bank performance.

Following the financial scandals of WorldCom and Enron in 2002 and the global financial crisis in 2008, the importance of Corporate Governance continues to grow. Many supervisory entities dedicated a substantial amount of time and resources towards the development of sound Corporate Governance policies. In addition to the OECD’s efforts, the Basel Committee has been effective in obtaining information from collective supervisory experience of the Basel members and other supervisory authorities to issue specific guidance in this topic in efforts to promote safe and sound banking policies (Basel Committee, 2015a).

Over the past few years, the Central Bank of Curacao and Sint Maarten has been vigorously encouraging Corporate Governance in the financial sector (Centrale Bank, 2001). Both Guidance Notes for the Board of Directors of Supervised Financial Institutions, and a concise document of Best Practices Guidelines on Corporate Governance were introduced in 1996 (Centrale Bank, 2001), the Guidance Notes enclosed the legal obligations of directors, the role of the audit committee, and the conventional responsibilities of the board. The Best Practice Guidelines comprised a discussion and presentation of various systems, policies and measures useful in coping with Corporate Governance issues within financial institutions. The Central Bank of Curacao and Sint Maarten has been vigorously encouraging Corporate Governance improvements through on-site examinations and through reviewing the statement of compliance provided, besides, the Central Bank’s rules and regulations further comprise a periodic management report, which entails a briefing by management on the performance of a bank and the reflection of the future direction of the institution, supervisory regulation related to extension of credit to persons directly related to the institution, and supervisory regulation related to restrictions on transactions and limitations to extension of credit (Tromp, 2019).

Board composition and its effect on Firm Performance has been one of the Corporate Governance topics that have been brought forth in many studies. Nevertheless, as far as the authors have investigated, there is no research done in this area for Small Island Developing States (SIDS); these are a diverse cluster of 52 developing countries fronting particular social, economic, and environmental vulnerabilities (UNOHRLLS, 2013). Curacao is a small island and one of the challenges, as mentioned in the article of Frielink...
is that there should be less discretion when appointing people in important positions, such that the interests of companies and stakeholders are protected and the firms can be successful in the long run. Having the proper supervision is vital in such cases; however, to achieve that, the best practices ranging from Board Size, Gender Diversity to Multiple Directorships, should be known to ensure having an efficient and effective board (Matroos-Lasten, 2019).

A challenge of a small island economy such as Curacao is that the companies are usually smaller compared to other economies and therefore occasionally have a less demanding structure, which often makes it more challenging in terms of good Governance (Minto-Coy, Lashley, & Storey, 2018; Sannegadu, Henrico, & van Staden, 2021). Another challenge is separating personal relationships from business matters (Goede, 2008). Having the correct social contacts in the recent years have grown in importance; as social relations are informal it has become difficult for some to separate personal relations from business issues. Others question if the decisions made within the companies are based on personal interests or based on the best interests for the stakeholders. According to the agency theory, a principal-agent conflict will derive from the separation between ownership and control (Jensen & Meckling, 1976); the magnitude of agency conflicts in a company is contingent to the institutional setting in which it functions, when formal institutions are weak, agents are more propitious to look after their own benefits (Lien, Teng, & Li, 2016). Good Corporate Governance schemes reduce the presence of agency costs.

What can the companies do to ensure that their choices are aimed to enhance outcomes for the stakeholders? Despite all the previously done research in what is considered best practices, there is no empirical information available on the matter regarding Board Size, Gender Diversity, and Multiple Directorship for companies operating in SIDS. It is therefore important to understand the influence of these Corporate Governance arrangements on bank performance for this particular context.

In summary, the objective of this study is to analyze through the lens of agency theory the relationship between Supervisory Board Size, Gender Diversity, and Multiple Directorships on performance in the banking industry of Curacao, which as of today has not been empirically studied in the island. Throughout this study we will take a closer look at these Corporate Governance practices and how they relate to bank performance in this context. This study will further add to international literature and research on Small Island Developing States (SIDS). Most of the available information concerns Europe or the United States of America (USA), which are big economies, while island states represent the smallest economies in the world (Kurecic, Luburic, & Kozina, 2017). Furthermore, this study will help to create awareness in the financial sector on the potency of ‘good governance’ in a local context. The findings of this research are of importance to the supervisory board of directors, top management, shareholders, regulators, customers, auditors, and other stakeholders.

Information was captured from the annual reports of local banks and their subsidiaries. Results obtained through linear regression analysis, using the ordinary least squares method, indicate that there is a negative association between Board Size and Gender Diversity on Bank Performance. On the contrary, Multiple Directorships positively relate with banks’ outcomes. According to national regulations in Curacao, a minimum of three Supervisory Board members are recommended for insurance companies and credit institutions (Centrale Bank, 2001), but there is no indication regarding a maximum number of members. Furthermore, there are neither Gender Diversity requirements nor regulation on Multiple Directorships. These findings can provide new insights to incorporate in the legislation and improve bank performance.

The rest of this study is organized as follows: section 2 deals with the literature review and hypotheses formulation; section 3 refers to the data, variables, and methodology employed in the study; section 4 presents results from the data analysis; and section 5 concludes and provides recommendations for further research.

2. Literature review

This section elaborates on literature concerning key variables of this study, namely: Corporate Governance, Firm Performance, Gender Diversity, Board Size, and Multiple Directorships. The latter will sustain the importance of conducting a study about Corporate Governance and Bank Performance for the banking industry of Curacao.

2.1 Corporate Governance background

Over the past three decades, Corporate Governance became a global topic and has caught the attention of many governments, corporations, academic experts, banks, regulators, international organizations, and investors. Due to the great amount of research done in Corporate Governance, in 2009 the Social Science Research Network introduced the Corporate Governance Network with more than 20 related electronic journals.

In 1999, the Organization for Economic Cooperation and Development (OECD) launched its first Principles of Corporate Governance, these principles became an international benchmark for many corporations, investors, policy makers, and other stakeholders to attain good
Corporate Governance (Abu-Tapanjeh, 2009). The OECD Principles became available to both members and non-members and were updated in 2004 and revised in 2015; their intention is to build on know-how and experience of companies, policy makers, regulators, and stakeholders (OECD, 2017).

2.2 Corporate Governance

Corporate Governance, in its broad sense, refers to ways in which companies are directed and controlled. Good Corporate Governance practices maximize firm value, avoiding expropriation of stakeholders. This concept plays an important role in guaranteeing proper management of all companies, and particularly for big, multinational, and private sector corporations (Diacon & O’Sullivan, 1995; Kose & Senbet, 1998). It is a means to avoid corporate scandals such as the ones that led to the financial crisis back in 2008. The increasing importance of Corporate Governance has subsequently sparked the interest in empirical evidence by many agents in the business world, which could be useful to enhancing foremost firm performance. Although the increased level of importance is greatly noticeable across research, it is remarkable that the concept of Corporate Governance is defined differently across industries and professions. While some use the agency theory as a foundation to define the concept, originally focusing on the interest of the shareholders, other researchers have created different multi-stakeholder frameworks.

Agency theory was introduced by Berle and Means (1932), expanded by Jensen and Meckling (1976) and Fama and Jensen (1983), and further developed by Bainman (1982) and Eisenhardt (1989). It is argued that the agent-principal conflict takes place as executives and shareholders have different objectives; shareholders look after profits, while executives search mostly for personal gains. From the agency perspective, it is believed that Corporate Governance is the instrument by which the acts of the agents (e.g., managers) are supervised and held to fairly enhance profits and shareholders’ profits (L’Huillier, 2014; Mitton, 2002). Naseem, Zhang, Malik and Rehman (2017) and Nelson (2005) also agree that Corporate Governance entails the laws, regulations, and other factors that are applied to control operational activities of a company, in efforts to ensure investors a return on their investment.

Based on what has been previously said, in this paper Corporate Governance is understood as ways to direct and control organizations such that profitability is achieved without expropriating stakeholders. It consists of three aspects: explicit and implicit contracts, reconciling procedures, and supervision procedures. The first ones are created in order to establish the distribution of responsibilities, rights, and rewards; the second are created to manage the conflict of interest that may arise between the company and stakeholders according to their duties, privileges, and roles; and the last one entails proper management of control, monitoring, and information flow.

2.3 Basel Committee’s Guiding Principles of Good Corporate Governance

The Basel Committee’s Guiding Principles (2015b) are established in the Corporate Governance Guidance Notes for the Supervisory Boards of Supervised Financial Institutions, there is a total of 13 principles in its contents and these relate to “board’s overall performance, board qualifications and compositions, board’s own structure and practices, senior management, governance of group structures, risk management functions, risk identification, monitoring and controlling, risk communication, compliance, internal audit, compensation, disclosure and transparency, and the role of supervisors” (Basel Committee’s Guiding Principles, 2015b, p. 3). All these principles are intended to help banks and supervisors in achieving robust and transparent risk management and decision-making and at the same time ensure public trust, safety, and soundness of the banking sector. For this study, attention will be paid to principle number 3: board’s own structure and practices, which concerns the organization and assessment of the board, and how it deals with conflicts of interest (Basel Committee, 2015b).

The implementation of good Corporate Governance among financial institutions in Curacao is mainly supervised by the Central Bank of Curacao and Sint Maarten (Centrale Bank, 2001). The Central Bank has adopted the guiding principles of good Corporate Governance of the Basel Committee as stipulated in their “... admission requirements for local and international banks and its Corporate Governance Guidance Notes for the Supervisory Boards of Supervised Financial Institutions” (Matroos-Lasten, 2019, p. 1), aiming to promote stability, integrity, efficiency, safety, and soundness of the financial sector in Curacao and in Sint Maarten. These guidelines include the interest of stakeholders of the banks and other credit companies. The Central Bank has chosen to use the two-tier board model as a control point, although the General Law of Curacao allows a one-tier Board. The regulations formulated regarding the admission requirements for local and international banks, basically specify what local banks should comply with in order to enter and remain active in the sector. The Corporate Governance Guidance Notes for the Supervisory Boards of Supervised Financial Institutions contain the grounds on which banks are being supervised to ensure proper management of profitability for shareholders and at the same time proper management of third-party funding. Since banks are basically using third party’s (public) funding to finance their lending activity and generate return on investment for their shareholders, regulation is quite strict.
2.3.1. Organization and assessment of the board.

The Basel Committee mentions that the board should continuously work on its own structure, in terms of leadership, size, the use of committees, and devices to solve conflict of interests. In order to ensure a desirable performance of the board as a whole and each member individually, a regular assessment should be conducted. Then, aspects like the structure, size and composition, suitability of each member, effectiveness of board’s governance are reviewed with the intention of improving board performance (Basel Committee, 2015b).

2.3.2. Conflict of interest.

The Basel Committee suggests that “The board should oversee the implementation and operation of policies to identify potential conflicts of interest” (Basel Committee, 2015b, p. 18). Hence, the board should have a policy with regards to conflict of interests and an objective compliance process for this policy. It stipulates that members should at all times avoid any type of activities that are or appear to be a conflict of interest. Banks should be aware of situations in which conflict of interest could arise, make a rigorous review and implement an approval process (e.g., when a board member wants to serve on another board). Promptly, there should be an emphasis on disclosure duties, responsibility to abstain from voting, adequate procedures for transactions, and non-compliance consequences.

2.4 Firm performance in the banking industry.

Similar to Corporate Governance, there is also a lack of consensus when it comes to defining the concept of Firm Performance. Despite the differences of opinions about its definition, it is evident that performance is operationalized by many researchers and practitioners based on financial and non-financial determinants. Selvam, Gayathri, Vasanth, Lingaraja and Marxiaoli (2016) developed a model of possible determinants of Firm Performance. In their study they indicated that there are nine determinants that should be considered; three of these determinants are finance related, namely: profitability, market value, and growth. While the non-financial determinants involve “employee satisfaction, customer satisfaction, environmental performance, environmental audit performance, corporate governance, and social performance” (Selvam et al., 2016, p. 96).

According to Taouab and Issor (2019), it is vital to continuously assess and measure Firm Performance, since it is what determines to what extent companies are able to develop, progress, and remain competitive; to survive an ever-changing and competitive environment, companies should continuously keep track of their performance. The criteria used for assessing performance are productivity, growth, return, profitability, flexibility, and institutionalization (Taouab & Issor, 2019). Firm Performance is the result of a company’s aptitude to competently exploit the limited available resources to attain its aims, it deals with competitiveness, efficiency, and effectiveness of the organization.

According to Munir (2015), Firm Performance can be understood as financial stability or financial health. The construct is measured by means of Return on Equity, Return on Assets, profit margin, sales, capital adequacy, liquidity ratio, and stock prices, among others. It mainly depends on the industry for which it should be considered. In the banking industry stock prices, cash flows, revenues, and operating income are widely used to monitor performance (Munir, 2015). Return on Assets (ROA) and Return on Equity (ROE) are two commonly used performance ratios to analyze banks’ financial statements (Maverick, 2019); ROA specifies how much a company earns on its assets; ROE is a measure that expresses how effectively management is using its company’s assets/ investments in order to generate profits. Late in the 1970’s, ROE became one of the preferred performance metrics, as it communicates shareholders how well the company is using their investment (Ralph, 2015).

Banks performance depends on several variables, including Corporate Governance schemes. In this research, special attention is given to the relationship between performance and board composition of the Supervisory Board: Gender Diversity, Board Size, and Multiple Directorships.

2.5 Gender diversity and performance

Cultural factors play a vital role in achieving or overlooking board gender diversity goals (Devillard, Sancier-Sultan, & Werner, 2014). Each company has a corporate culture which may present some challenges in supporting women on top management or board positions. The survey of Devillard et al. (2014) indicates the challenges women face on their journey to top level management in today’s world; although many studies have shown that women are able to lead as effectively as men do, the truth is that women are still underrepresented in top level management due to the lack of support.

According to Abdelzaher and Abdelzaher (2019) the effects of Gender Diversity on the outcomes of boards remain an issue, since female participation at Board of Directors is much less frequent, compared to their male counterparts. This is also highlighted in a recent paper by Watkins-Fassler and Rodriguez-Ariza (2019) for Mexican companies listed during 2001-2015, as female board members on average accounted only for 4% of boards. Therefore, it is important to continue
studying the firm value that is created (or not) with higher presence of females. These authors were able to provide empirical evidence that shows that there is a positive significant association between the percentage of women on boards and firm value, which was measured by Return on Equity (ROE). Adams and Ferreira (2009) also agree that there is a positive and significant relation between Gender Diversity and Firm Performance. These researchers noted that this effect comes to play only when more than two women are part of the board. It has been claimed that gender diversity can raise value and reduce agency costs, since women tend to monitor better than men by having a higher inclination towards asking questions. In addition, women’s presence on boards enlarges companies’ competitive advantages as a result of their superior market perspective and optimistic image on the clients (Ramón-Llorens, García-Meca, & Duréndez, 2017). Poletti-Hughes and Brian-Turrent (2019) showed that females on Latin American companies’ boards tend to stimulate more risk-taking and consequently obtain better expected returns. In addition, women differ and supplement men in their capabilities and skills, which stimulate performance (Kirsch, 2018).

In contrast to the studies which find evidence that support the positive relationship between Gender Diversity and Firm Performance, other investigations conclude that there is no significant relationship (Darmadi, 2011), or that this association is negative. It has been argued that women tend to have less managerial and board experience than men, diminishing their potentially positive impact on performance (Dang, Nguyen, & Vo, 2014). In addition, some authors conclude that females have an inclination to be more risk-averse than males, which limits the pursuit of higher (and riskier) expected value projects (Amorós, Etchebarne, Torres-Zapata, & Felzensztein, 2016).

According to the Central Bureau of Statistics Curacao (2019), the participation of men in management positions is slightly higher than that of women. A total of 23853 men between the ages of 25-65 have some form of managerial position, while there are 19743 women in the same condition (45% of the total). In addition, the total employed population of women on average is higher (by 2124 individuals) than that of men [Central Bureau of Statistics Curacao, 2018]. In light of the above, it can be stated that women play an active and relevant role in Curacao’s business environment. In line with the agency theory, it is proposed that:

- **H1**: Gender diversity in the supervisory board has a positive relation with banks performance in Curacao.

### 2.6 Board size and performance

There are many studies concerning the relationship between Board Size and Firm Performance. Many argue that a large board harms the performance of the firm, as it is more difficult to make decisions (Uwuigbe & Fakile, 2012). Others believe that smaller boards are less effective and diminish firm’s performance, as their control spectrum is reduced (Guest, 2009).

Investigating the effect of Board Size on Firm Performance is very important to determine the extent to which management can be properly supervised to mitigate agency problems. There seems to be better communication between directors and management in smaller boards (Yermack, 1996), which positively impacts monitoring and performance. Lin and Lee (2008) have also pointed out that smaller boards are preferred due to the easiness with which they tend to reach consensus, which speeds up the decision-making process, increases efficiency of the board and effectiveness of the firm. However, authors like Badu and Appiah (2017) find that there is a positive significant relationship between Board Size and Firm Performance. They suggest, from the principal-agent perspective, that bigger boards allow more monitoring in order to improve Firm Performance. Other researchers, such as Topak (2011), conclude that there is actually no relationship between Board Size and Firm Performance.

Banks on the island of Curacao tend to operate on a smaller scale compared to large international banks and may not need a large board to work and monitor efficiently. The decision-making process on Curacao is known, in the eyes of the public, to be relatively lethargic and may be affecting the overall performance of the firm. Bigger boards might be more complicated to manage in the island; therefore, this study will test the following hypothesis:

- **H2**: Supervisory board size has a negative relation with banks performance in Curacao.

### 2.7 Multiple directorships and performance

With respect to Multiple Directorships, there are few countries that dictate recommendations on this regard. For example, in Malaysia, Multiple Directorship is one of the concerns related to Director Commitments within the Malaysian Code of Corporate Governance. In the Bursa Malaysia Practice notes, listed companies are allowed a maximum of 25 simultaneous directorships, 10 in publicly listed companies and 15 in non-publicly listed companies. This is very different compared to the US recommendation, in which it is advised for a director to have three or less simultaneous directorship roles (Securities Commission Malaysia, 2017). In Curacao, Multiple Directorship is not strictly regulated.

A director that agrees to be part of more than one board automatically enters a fiduciary relationship with all companies involved. Furthermore, this person owes all companies identical duties of care and loyalty. The
duties of care and loyalty are meant to reduce agency costs and basically involve the degree to which the board member will act in benefit of the corporation without putting personal or third party’s interests first. Based on the literature, it can be said that many studies point out the costs of having board members with Multiple Directorships since it may weaken active monitoring, and this may negatively impact Firm Performance (Chen, 2008). Multiple Directorships bring forward Busy Boards, which deteriorate Corporate Governance by overstretching directors, with a negative effect on the decision-making process and Firm Performance (Fich & Shivdasani, 2006). On the other hand, some authors argue that it has a positive effect by improving access to relevant information and other valuable resources that help firms to adapt and reduce uncertainty concerning strategic actions (Howard, Withers, & Tithanyi, 2016; Watkins-Fassler, Fernández-Pérez, & Rodríguez-Ariza, 2016).

Chen (2008) concludes that in “firms with high growth opportunities [likely having greater needs for advising and finance] and low agency conflicts [likely having less need for monitoring], Multiple Directorships could be a source of beneficial advising, which improves board functions and Firm Performance. In contrast, in firms with low growth opportunities [lower need for advising and finance] and high agency conflicts [more need for monitoring], Multiple Directorships can undercut effective monitoring by outside directors and therefore can negatively affect Firm Performance” (Chen, 2008, p. 25-26).

On the island of Curacao there may be limits as to the number of professionals available to occupy a role within the Supervisory Board of a bank with the relevant experience and knowledge to monitor properly, reduce agency costs, and dictate effective strategic lines. Additionally, there are not many financial institutions compared to more developed countries. Because all financial institutions are supervised by the Central Bank of Curacao and Sint Maarten, the regulatory requirements for all banks are the same, therefore, it is predicted that:

- H3: Multiple directorships in supervisory boards have a positive relation with banks performance in Curacao.

3. Method

3.1 Sample and data

In order to analyze the interconnection between Board Size, Gender Diversity, and Multiple Directorships on Bank Performance, this study made use of data drawn from annual reports of supervised locally generated banks. The banks considered were APC Bank, The Windward Islands Bank, and Vidanova Bank. The annual reports published online by the Central Bank of Curacao and Sint Maarten and banks’ websites provided all the necessary information for this research. This type of data collection was chosen as the information was easily accessible to the public. The study integrated locally generated banks on the island of Curacao and their subsidiaries, where one bank was excluded due to lack of information. Then, the total sample corresponds to 5 banks and their information was captured for the period 2004-2018.

3.2 Variables

Independent variables used in this study are Board Size, Gender Diversity, and Multiple Directorships. As the two-tier board system is implemented in the banks under study, by board we refer to the Supervisory Board. Board Size corresponds to the total number of directors per year on each board of the financial institutions studied. This is the usual way to compute Board Size, as implemented by authors such as Toxqui and Watkins-Fassler (2016) and Melville and Merendino (2019). Gender diversity is calculated as the proportion of female directors represented (seated) on each board (per year) (Watkins-Fassler & Rodríguez-Ariza, 2019). Multiple Directorships indicate if a director (or directors) of one bank simultaneously occupies a seat at the board of directors of another bank or banks. This is expressed through a dummy variable, being 1 if there is Multiple Directorships and 0 if this is not the case. This operational definition has been employed in previous studies, such as in Watkins-Fassler et al. (2016).

The dependent variable used in this study is Firm (Bank) Performance. It is measured using both Return on Assets (ROA) and Return on Equity (ROE). ROA is calculated by dividing the bank’s net income by its total assets. ROE is calculated by dividing the bank’s net income by the total shareholders’ equity.

Control variables employed in this study are Bank Size and Leverage. Bank Size is expressed as the natural logarithm of total assets. Leverage measures the bank’s total debt over equity.

3.3 Methodology

The linear regression model has been used to analyze the quantitative data collected for this study. This type of modeling technique has been chosen because it establishes the statistically significant relationships between dependent and independent variables, and the strengths of these relationships.

The main equation employed for the regression analysis is the following:

\[ P_{i,t} = \alpha_0 + \alpha_1 BS_{i,t} + \alpha_2 GD_{i,t} + \alpha_3 MD_{i,t} + \alpha_4 S_{i,t} + \alpha_5 L_{i,t} + \mu_{i,t} \]
where P represents the dependent variables ROA and ROE, $\alpha_0$ is the intercept or constant term, BS stands for the independent variable Board Size, GD represents the independent variable Gender Diversity, MD corresponds to the independent variable Multiple Directorship, S is the control variable Bank Size, L represents the control variable Leverage, $\mu$ is the error term, and subscripts i and t correspond to the bank and time (year).

4. Data analysis and results

4.1 Descriptive statistics

The descriptive analysis of the independent, dependent, and control variables is shown in Table 1.

An average Board Size of 11 members has been found for the sample of banks over the period 2004-2018, with a minimum number of 5 directors and maximum of 17. Multiple Directorships are present on average in 56% of the cases, which constitutes a relatively common practice. It is interesting to notice that the maximum number of boards where a director simultaneously participates is 2, which reduces the busy board considerations. Regarding Gender Diversity, it is worth to observe that although females in Curacao do occupy executive positions (Central Bureau of Statistics Curacao, 2018), it is less frequent to find women on boards. On average, female participation in supervisory boards constitutes only 14%. Some banks do not include women on their boards, while the highest female representation in a supervisory board corresponds to 38%.

Regarding the dependent variables ROA and ROE, mean values are 3% and 18%, respectively. In two occasions there appears to be negative ROA values; in the case of ROE, this happens only once.

Furthermore, the control variable Leverage reports an average value of 9.96. Generally, Leverage shows a positive sign, except for one time, where the value corresponds to -11.30. This finding can be explained through the bank’s acquisition of an investment with borrowed funds (with higher interest rates compared to the investment return). Finally, Bank Size reports an average value of 14.60.

4.2 Regression analysis

For the regression analysis the ordinary least squares (OLS) method is used, which aims to minimize the sum of the squared residuals. In order to check that the estimators are BLUE (Best Linear Unbiased Estimators), tests for multicollinearity, heteroscedasticity, autocorrelation, and normality of residuals were performed. Robust standard errors were employed in the regression analysis.

Multicollinearity implies that there are relationships between the explanatory variables. When present, it makes it difficult to estimate the parameters with precision and determine the effect of each individual variable. Large standard errors are obtained and therefore low t-statistics. So, coefficients tend to be not significant in spite of high R² values. Nevertheless, the OLS method is still useful when multicollinearity (not perfect) is present, OLS estimators remain BLUE. It is possible to check for multicollinearity using the correlation matrix, as it can be observed in Table 2, the correlations are low.

Another assumption underlying OLS estimation is that error terms for all observations have the same variance; otherwise, heteroscedasticity is present. Although OLS is still consistent and R² remains the same, heteroscedasticity produces biased standard errors and the variances of parameters are no longer minimized (OLS is not BLUE). Therefore, it is more probable to reject hypotheses due to smaller t-values (coefficients that appear to be significant may in fact be insignificant). To detect heteroscedasticity, the Breusch-Pagan-Godfrey test can be employed. The null hypothesis is that heteroscedasticity is not present. In this case, the p-value attained using ROA as the dependent variable is 0.23 (0.16 when using ROE); therefore, the presence of heteroscedasticity is rejected at a 10% significance level.

Regarding autocorrelation, when present it indicates a relationship of the residuals between periods; with it, biased estimators in small samples are obtained. With large samples OLS is still consistent; however, standard errors are biased (confidence intervals are wider and it is then easier to reject a hypothesis), therefore, coefficients that appear to be significant may in fact be insignificant. We also overestimate R². Autocorrelation can be analyzed using the LM Test. The null hypothesis is that there is no serial correlation. In this case, the p-value obtained using ROA is 0.34 (0.19 when using ROE); therefore, the presence of autocorrelation is rejected at a 10% significance level.

Table 1. Descriptive statistics

| Variable | Mean | Standard Deviation | Minimum | Maximum |
|----------|------|--------------------|---------|---------|
| **Independent Variables** |      |                    |         |         |
| BS       | 10.93| 3.66               | 5.00    | 17.00   |
| MD       | 0.56 | 0.50               | 0.00    | 1.00    |
| # of MD  | 0.83 | 0.81               | 0.00    | 2.00    |
| GD       | 0.14 | 0.07               | 0.00    | 0.38    |
| **Dependent Variables** |      |                    |         |         |
| ROA      | 0.03 | 0.01               | -0.02   | 0.06    |
| ROE      | 0.18 | 1.27               | -7.46   | 1.52    |
| **Control Variables**  |      |                    |         |         |
| S        | 14.60| 0.96               | 12.91   | 15.89   |
| L        | 9.96 | 7.33               | -11.30  | 43.01   |

Source: own elaboration.
To test for the normality of residuals, it is possible to use the Jarque-Bera test. The null hypothesis is that residuals are normally distributed. The p-value obtained for this test when ROA is the dependent variable is 0.32; therefore, residuals are normally distributed at a 10% significance level. On the other hand, when the dependent variable is ROE, the p-value for the Jarque-Bera test is 0.03 and normality of residuals is rejected. The major implication of this is that it is harder to make accurate forecasts with the model (which is not the intention of this study). Econometric results are shown in table 3.

Econometric results manifest that Gender Diversity reduces banks performance. As the participation of females on boards increases, ROA drops sharply. When considering ROE as the performance variable, there also appears to be a negative (but not significant) effect of Gender Diversity. In addition, regression analysis shows that Board Size negatively relates with performance. As Board Size increases, ROE significantly declines. When considering ROA as the performance measure, this negative effect is not statistically significant. Regarding Multiple Directorships, it is evident that they have a positive association with performance, which is significant both for ROA and ROE. On the other hand, the effect of leverage on banks performance is ambiguous, as for ROA the relationship is positive and for ROE negative, being significant in both cases. Finally, bank size negatively relates with performance, particularly when considering ROE.

### Table 2. Correlation matrix

|     | BS   | GD   | MD   | L    | S    |
|-----|------|------|------|------|------|
| BS  | 1.00 | 0.22 | 0.15 | -0.12| 0.28 |
| GD  | 0.22 | 1.00 | -0.06| -0.14| 0.12 |
| MD  | 0.15 | -0.06| 1.00 | 0.33 | 0.10 |
| L   | -0.12| -0.14| 0.33 | 1.00 | -0.01|
| S   | 0.28 | 0.12 | 0.10 | -0.01| 1.00 |

Source: own elaboration.

### Table 3. Regression results

| Variable | ROA  | ROE   |
|----------|------|-------|
| \( \alpha \) | 0.06**| 4.41***|
|           | (2.32)| (2.95) |
| BS       | -0.01| -0.05*|
|          | (-0.54)| (-1.73)|
| GD       | -0.10***| -0.51|
|          | (-4.03)| (-3.06)|
| MD       | 0.01**| 1.34***|
|          | (2.22)| (6.41)|
| L        | 0.01* | -0.16***|
|          | (1.76)| (-11.26)|
| S        | -0.01| -0.19*|
|          | (-0.95)| (-1.79)|
| R²      | 0.51 | 0.80  |

*Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level. t-statistics are in parenthesis.

Source: own elaboration.

5. Conclusions

Results indicate that Gender Diversity has a negative effect on banks performance. This contradicts the first hypothesis of the study: Gender Diversity in the supervisory board has a positive relation with banks performance in Curacao. It should be noticed that this hypothesis is based on the fact that in Curacao women play active roles in executive positions. Nevertheless, it was found in the investigation that very few females participate as supervisory board members. Therefore, this result is in line with the literature that link women’s lack of directorship experience with poor companies’ performance (Dang et al., 2014). It does not mean that women should not participate in boards; on the contrary, greater female exposure in supervisory boards will eventually provide them with the necessary skills and expertise to boost firm performance. Compared to men, women tend to ask more questions and monitor better, which reduces agency problems and improves performance (Adams & Ferreira, 2009). Therefore, in order to increase the participation of females on bank boards in Curacao (which also applies to other latitudes), and thus increase their experience in these positions, it would be convenient to incorporate quotas for women in the legislation.

With regards to Board Size, there is empirical evidence to support the second hypothesis of this research: Supervisory Board Size has a negative relation with banks performance in Curacao. Curacao’s business scale is relatively small so banks do not require a large board to monitor and function efficiently. The decision-making process is more effective with smaller boards, which is reflected in higher performance (Yermack, 1996). Management can be better supervised to mitigate agency problems with small boards that operate more fluently (Lin & Lee, 2008). In this respect, it would be convenient that the Central Bank of Curacao and Sint Maarten introduce in its rules a maximum number of members for banks’ Supervisory boards.

Finally, results show that Multiple Directorships are associated with higher ROA and ROE, in line with hypothesis 3: Multiple Directorships in Supervisory boards have a positive relation with banks performance in Curacao. It was observed that the maximum number of simultaneous directorship seats taken by the same person is two, which abolishes the arguments of busy boards and their negative impact on firm performance. On the contrary, Multiple Directorships provide locally generated banks in Curacao with valuable human capital and other resources, which favor decision-making processes and reduce information asymmetries and agency costs (Watkins-Fassler et al., 2016). In this respect, Central Banks – including the Central Bank of Curacao and Sint Maarten -
should dictate recommendations concerning Multiple Directorships.

It is important for SIDS to establish a complete best practice guide for the banking industry, to promote its growth, sustainability, and generate better conditions for the economy as a whole. It is also recommended that banks at SIDS evaluate their current situation regarding their Corporate Governance schemes and determine the best practices they should adopt, particularly related to board composition.

This study presents some limitations; it was restricted to a limited number of Financial Institutions and periods of time in only one Small Island Developing State: Curacao. The findings may differ if a larger data set is used, and more SIDS are included. In addition, not all variables influencing banks performance have been considered in this study, qualitative aspects of performance were not addressed at all. Finally, the study didn’t address the optimum size of the board, the optimum number of boards where a director should simultaneously participate, nor the optimum percentage of females on bank boards. Future research can take the latter into account.

The present study can be expanded to include other types of firms, not only locally generated banks. Given the importance of Corporate Governance for company performance, and the lack of research done in this area for corporates operating in SIDS, it is worth conducting further studies and expanding the island sample. Understanding which variables are relevant to have effective and efficient supervisory boards of directors in this particular context is vital in order to offer specific corporate recommendations and contribute to the economic development of SIDS.

**Conflict of interest**

The authors declare no conflict of interest.

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