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FEMALE BOARD REPRESENTATION AND PROVISIONING PRACTICES IN NIGERIAN BANKS

The removal of board members of deposit money banks (DMBs) in Nigeria with larger proportion of male directors in the last decade (2009-2018) for corporate reporting and governance irregularities has become commonplace. Also, the indifference of the extant corporate governance code in the Nigerian banking industry to the gender diversity in the DMBs' boards despite the global phenomenal nature of the practice poses a lot of questions. Given these rationales, this study examined the influence of female board representation on the practices of income smoothing via provision for loan losses. The time-series cross-sectional dataset related to the variables of the study for a sample of 15 DMBs were extracted from the annual reports of these banks for the period 2007-2018. Data collected were analysed using Prais-Winsten regression model with correlated Panel-Corrected Standard Errors (P-W/PCSEs). The results showed, on the whole, that the reduction in income-smoothing practices is engendered by the extent of female board representation given the significantly negative coefficients of proportion of female directors and Blau Diversity Index. Specifically, among the five continuous measures of female representation, proportion of female directors and Blau Diversity Index explain better the reduction in the income-smoothing practices. For five categorical female representation indicators, presence of at least one woman in the audit committee (F1AD), presence of at least three women on the board and having female chief financial officer (FCFO) are better predictors but that of F1AD is contrary to the prior expectations. The study also established that the reduction in earnings-smoothing practices cannot take place until a critical mass of female board members is present. The study solicited for the appointment of at least three female directors and having female CFO on the DMBs' boards among others.

Key words: Bank board, Critical Mass, Female Directorship, Income Smoothing, Nigeria, Provisions.

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Нигериядағы банктердің директорлар кеңесінде әйелдердің өкілдік ету практикасы

Соңғы онжылдықта (2009-2018 ж.) ерлер саны көбірек болған Нигериядағы депозиттік банктер басқармаларының (DMB) мүшелерін корпоративті есеп беру және корпоративті басқаруды бұзғаны үшін шығару әдеттегіге айналды. Сонымен қатар, Нигерияның банктік индустриясындағы қолданыстағы корпоративті басқару кодексінің DMB кеңестеріндегі гендерлік әртүрлілікке немқұрайлығы, осы тәжірибенің ғаламдық феноменалды сипатына қарамастан көптеген сұрақтарды тудырады. Осыны ескере отырып, зерттеу барысында директорлар кеңесінде әйелдер өкілдерінің несиелік шығындар резервтері арқылы кірісті теңестіру тәжірибесіне әсері зерттелді. Осы банктердің 2007-2018 жылдардағы жылдық есептерінен 15 DMB үлгісі үшін зерттелетін айнымалылармен байланысты уақыттық қатарлардың көлденең қимасының жиынтығы алынды. Жиналған деректерді салыстырмалы панельмен реттелген стандартты қателіктермен (P-W/PCSEs) Прайс-Винстен регрессия моделі арқылы талдау жүргізілді. Нәтижелер, жалпы алғанда, кірістерді теңестірудің төмендеуі әйел директорлардың айтарлықтай жағымсыз коэффициенттерін және Блаудың әртүрлілік индексін ескере отырып, әйелдердің директорлар кеңесінің құрамына енуіне байланысты екенін көрсетті. Атап айтқанда, әйел өкілдерінің үздіксіз бес индикаторы арасында әйел директорлардың үлесі және Блау алуан түрлілік индексі кірісті теңестіру тәжірибесінің төмендеуін жақсы түсіндіреді. Әйелдер өкілеттілігінің бес категориялық индикаторы бойынша, тексеру комиссиясында (F1AD) кем дегенде бір әйелдің болуы, директорлар кеңесінде кемінде үш әйелдің болуы және қаржылық бас директор (FCFO) әйелдің болуы ең жақсы болжамды болып табылады, бірақ F1AD алдыңғы күтімдерге қайшы келеді. Зерттеу, сонымен қатар, басқарма мүшелерінің құрамында әйел-

мүшелері болғанға дейін табысты теңестіру тәжірибесінің төмендеуі болмайтынын анықтады. Зерттеу барысында кем дегенде үш әйел директорды, атап айтқанда DMB директорлар кеңесіне әйел қаржы директорларын тағайындау ұсынылды.

Түйін сөздер: банк кеңесі, маңызды масса, әйелдер көшбасшылығы, табысты теңестіру, Нигерия, резервтер.

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Практика представленности женщин в совете директоров банков в Нигерии

Устранение членов советов депозитных банков (DMB) в Нигерии, где в последнее десятилетие (2009-2018 гг.) было больше директоров-мужчин, за корпоративную отчетность и нарушения корпоративного управления стало обычным явлением. Кроме того, безразличие существующего кодекса корпоративного управления в банковской отрасли Нигерии к гендерному разнообразию в советах директоров DMB, несмотря на глобальный феноменальный характер этой практики, вызывает множество вопросов. Учитывая эти доводы, в данном исследовании изучалось влияние женского представительства в совете директоров на практику выравнивания доходов через резервы на покрытие потерь по ссудам. Набор перекрестных данных временных рядов, связанных с переменными исследования для выборки из 15 DMB, был извлечен из годовых отчетов этих банков за период 2007-2018 гг. Собранные данные были проанализированы с использованием регрессионной модели Прайса-Винстена с коррелированными стандартными ошибками, скорректированными панелью (P-W/PCSEs). Результаты показали, что, в целом, сокращение практики выравнивания доходов вызвано степенью представленности женщин в совете директоров с учетом значительно отрицательных коэффициентов доли директоров-женщин и индекса разнообразия Блау. В частности, среди пяти непрерывных показателей представительства женщин доля женщин-директоров и индекс разнообразия Блау лучше объясняют причину сокращения практики выравнивания доходов. Для пяти категориальных показателей женского представительства, наличие как минимум одной женщины в аудиторском комитете (F1AD), присутствие как минимум трех женщин в совете директоров и наличие женщины-финансового директора (FCFO) являются лучшими предикторами, но показатель F1AD противоречит предыдущим ожиданиям. Исследование также установило, что сокращение практики выравнивания доходов не может произойти до тех пор, пока не будет присутствовать критическая масса женщин-членов совета директоров. В ходе исследования предлагалось назначить, по крайней мере, трех женщин-директоров и, в частности, включить женщин-финансовых директоров в советы директоров DMB.

Ключевые слова: правление банка, критическая масса, женское руководство, выравнивание доходов, Нигерия, резервы.

Introduction

Background to the Study

As the upper echelons of decision making, the role played by the board of directors of the corporate entities cannot be overemphasised. The financial and non-financial issues, matters related to stocks, tax planning and provisioning policies, as well as other financial reporting matters hinged on the continuity of corporate entities are taken at strategic corporate board level. The need for propriety in these operating and corporate reporting disclosure decisions is informed by the efforts being made by various institutional and regulatory bodies in ensuring the quality on the corporate boardroom (Basel Committee on Banking Supervision-BCBS, 2015; Central Bank of Nigeria-CBN, 2014; 2018a; Financial Reporting Council of Nigeria-FRC, 2018; Organization for Economic Cooperation and Development-OECD, 2015). The emphasis on quality on the corporate boardroom, within personal and contextual factors, is to avert corporate governance failure (Sanusi, 2010; 2012) which has pervasive effects on various corporate decisions (de Larosière, et al., 2009; Vasilakopoulos et al., 2018). As documented in the literature the rate at which companies with lopsided corporate governance practices fail during trying periods either at microeconomic or macroeconomic level is higher compared to corporate entities with sound governance system (Fernandes et al., 2017).

As contained in various corporate governance codes, the means by which corporate board quality

can engender transparency and improved corporate disclosures are diverse (BCBS, 2015; CBN, 2014; 2018a; Securities & Exchange Commission-SEC, 2011) but diversity on the corporate boardroom forms part of the strategic ones (Austrian Working Group for Corporate Governance, 2018; FRC, 2018). The diversity in the corporate boardroom is identifiable in various ways including race, religion, education, ethnicity and gender but gender diversity stands out and continues hitherto to be a subject of discourse in the relevant literature (Ben Slama et al., 2019; Garanina & Muravyev, 2019; Sani et al., 2019; Zalata et al., 2019).

Banks like other types of corporate businesses are not left out in the process of entrenching transparency and adequate disclosures engendered by the quality on the corporate boardroom. As a matter of fact, the process appears more pronounced in the banking sector given series of regulatory and institutional frameworks both locally and internationally (BCBS, 2011; 2015; CBN, 2010; 2014; FRC, 2018; SEC, 2011). This might not be unconnected with the unique features of banking sector and its direct impact on the entire financial system. The safety, going-concern and soundness of financial institutions of a country have direct impacts on the state of its economy (CBN, 2014). The unique structure of banks' financial statements is said to facilitate information asymmetries at a higher level (Leventis et al., 2013). The said information asymmetries are substantially embedded in the "loans and advances" which happen to be the largest asset in the banks' statement of financial position. The inclusion of "loans and advances" in the banks' balance sheet requires being separated into "performing and non-performing" types (CBN, 2010).

From non-performing loan assets therefore, banks are saddled with the responsibility of determining the proportion to be charged against income statement. These charges in the statement of profit or loss are referred to as "provision for loan losses" (PLL). Although the exercise is guided by the prudential guidelines and/or accounting standards, some levels of discretions of bank management are embedded in the process. This accounts for the conclusion in the literature that PLL is the largest bank accrual (Kanagaretnam et al., 2003; Kwak et al., 2009) and a tool used by the banks for earnings smoothing or management (Kanagaretnam et al., 2003; Leventis et al., 2011; Ozili & Outa, 2018). Thus, like other corporate businesses, if the quality of bank board is prompted by its diversity and in particular gender diversity, then the representation of females in the bank board should be a factor in the banks' income smoothing practices brought about by their loan loss provisioning behaviour.

As a rider to the reality of the quality of bank board to improve transparency and level of disclosure in the banks' financial reporting, it has been empirically proved in other climes that female directorship in the corporate board including bank has tendency to improve corporate financial performance (Fernandes et al., 2017) and/or reduce earnings management practices (Arun et al., 2015; Dani et al., 2019) as well as in Nigeria (Adamu et al., 2017). However, extant corporate governance guide in the industry in Nigeria is silent on the bank board gender diversity (CBN, 2014). It is only in the recent corporate governance code for all corporate entities in Nigeria that the issue of gender diversity is emphasised (FRC, 2018) but not as elaborate as the requirements for non-executive directorship with specific proportion in the board as contained in the CBN corporate governance code for banks and discount houses in Nigeria (CBN, 2014).

It is indeed on record that non-performing exposures and failure in corporate governance practices among others accounted for Nigerian banking crisis of 2009 (Sanusi, 2010). This, which was consequent upon CBN and Nigeria Deposit Insurance Corporation (NDIC) special audit of deposit money banks (DMBs), was followed by a number of reforms including financial reporting and corporate governance reforms (Sanusi, 2012). Subsequently, the removal of board members of a bank with international operating licence including its chairman on the ground of shady corporate disclosures including provisioning practices based on tips from its non-controlling shareholders by FRC (FRC, 2015) questioned the reforms. The issues of corporate disclosures and governance also surfaced with the dissolution of the board of a bank with systemic status by CBN, its management take-over by Asset Management Corporation of Nigeria and its eventual disposal after being delisted.

The above scenario is a pointer to the fact that establishing the working relationship between corporate governance practices and bank financial disclosures should be a continuum in the academic arena. Thus, the need to examine the extent of the influence of gender diversity on the practices of incoming smoothing achieved via loan loss provisioning practices by Nigerian DMBs.

Problem Statement

The issues having to do with corporate governance practices, transparency and adequate corporate disclosures in financial reporting continue to reverberate in the Nigerian banking sector. The

events that led to the Nigerian banking crisis of 2009 and recurring similar events as well as subsequent sanctions of boards of a number of banks continue to linger. Also, while the inclusion of a female Chief Executive Officer-CEO among the CEOs of 5 DMBs relieved of their job by CBN following the outcome of the 2009 special audit (Otusanya et al., 2013) might be a setback, the fact that one of the CEOs appointed by CBN to manage some troubled banks is a woman can be considered an impetus to further investigate the impact of female directorship. Also, despite the inclusion of gender diversity in the new corporate governance guide as issued by FRC of Nigeria, the "apply or explain" approach required of corporate entities in the adoption of the code coupled with the silence of the extant banking sector corporate governance code and another one for listed companies issued by SEC in 2011 on the female board representation may serve as a loophole in the process of ensuring good corporate governance practices in the country. All these chronological events in the Nigerian banking arena suggest the need for an investigation into the impact of female board leadership on the extent of practices of earnings smoothing by Nigerian DMBs.

Significance of the Study

In political arena, the call has been increasing the women representation in the polity. This has been extended to the corporate world believed to be dominated also by men accounting for more than 80% representation on corporate boards globally (Sotola, 2019). This has led to the fixing of the minimum proportion of women representation in terms of quota in some jurisdictions including Nordic countries, France, Spain and Belgium (Ben Slama et al., 2019; Eulerich et al., 2014; Rose, 2007). Unless supported by empirical findings, the silence of the extant corporate governance code in the Nigerian banking industry and indifference of the country general corporate governance code to the quota of female representation on corporate boards will remain not subjected to any amendment. Also, the disclosure of the extent of female representation in all hierarchical levels of administration as contained in the directors' reports of Nigerian DMBs in the recent time will amount to a revelation of increase or otherwise of women participation on the DMBs' boards without evidence of its impact. Thus, this study has the capacity to alert the regulators- CBN, SEC and FRC to come up with a clear-cut position on the representation of women on the corporate boards and in particular the Nigerian DMBs' boards.

Literature Review

Conceptual Review

This sub-section dwells on the concepts related to the purpose of the study. These concepts are female board directorship, provision for loan losses and earnings-smoothing practices.

Female Board Directorship

Diversity is one of the characteristics expected of corporate board as required at global level (Dobija & Kravchenko, 2017; Organisation for Economic Co-operation and Development-OECD, 2015) and in Nigeria (FRC, 2018). Diversity in governance board can be in terms of age, ethnicity, experience, skills and gender (Campbell & Minguez-Vera, 2008; FRC, 2018). Although gender diversity is said to have capacity to bring about increased creativity and innovation (Campbell & Minguez-Vera, 2008), high probability of conflicts within the board given implied superiority trait of men over women is believed to be a setback (Joshi et al., 2006). Nevertheless, empirical tests of the relationships between female board representation and each firm financial condition of performance, earnings management/ smoothing, risk taking and accuracy of earnings forecasts either individually (Arun et al., 2015; Dani et al., 2019; García-Meca et al., 2015; Setiyono & Tarazi, 2018; Yang et al., 2019) or collectively with other corporate governance/board attributes (Berger et al., 2014; Sosnowski & Wawryszuk-Misztal, 2019) are evident. In the relevant literature, extent of female board representation is measured using percentage of female directors, non-executive female directors or independent women directors in the whole board (Arun et al., 2015; Sosnowski & Wawryszuk-Misztal, 2019), percentage of female directors in the audit committee (Gulamhussen & Santa, 2015) or categorical variable approach where with at least one or three female directors on a board "1" is assigned, otherwise it is coded "0" (Ben Slama et al., 2019; Green & Homroy, 2018). Some studies also used diversity indexes which include Blau index of heterogeneity and Shannon diversity index (Campbell & Minguez-Vera, 2008; Oba & Fodio, 2013) to represent female participation on the corporate boardroom. These two approaches, the continuous variable approach and dichotomous variable approach are adopted in this study.

Provision for Loan Losses and Earnings Smoothing Practices

In the previous studies, the relationship between PLL and earnings before taxes and PLL is used to establish whether banks employ PLL as a tool for

earnings smoothing/management (Abu-Serdaneh, 2018; Ahmed et al., 1999; Anandarajan et al., 2007; Leventis et al., 2011). However, adopting PLL as a measure of earnings smoothing requires its separation into non-discretionary and discretionary components (Bushman & Williams, 2012; Kanagaretnam et al., 2010; Kwak et al., 2009). Non-discretionary component of PLL as an integral part of banks' total accrual arises as a result of changes in banks' business models (Lassoued et al., 2017) while discretionary component is the accrual that is actually under managerial control and a source of probable income-smoothing practices (Kanagaretnam et al., 2003). Discretionary PLL (DPLL) has been adopted by previous related studies though very few as a measure of earnings smoothing/management (Isa & Farouk, 2018; Olowokure et al., 2017). However, there are several versions of econometric models used to derive DPLL in the literature (Amidu & Kuipo, 2015; Beaver & Engel, 1996; Kanagaretnam et al., 2003).

Theoretical Review

This study is premised on income smoothing hypothesis, critical mass theory, resource dependence theory and resource-based theory.

Income Smoothing Hypothesis

Long before earlier empirical tests for income smoothing in the literature (Gordon et al., 1966; Hepworth, 1953), income smoothing as an act had been observed as the practice of management of corporate firms (Simpson, 1969). Income smoothing behaviour is described as an accounting behavioural pattern geared towards reduction in the reported earnings' fluctuation (Moses, 1987). As argued by Copeland (1968), "smoothing moderates year-to-year fluctuation in income by shifting earnings from peak years to less successful periods" (p. 101). A powerful smoothing device which has to do with the choice of smoothing variables like provisions and amortisations techniques (Albrecht & Richardson, 1990) is the discretionary accounting changes (Moses, 1987). In the banking industry, banks' managers have substantial discretions over PLLs despite guide by accounting standards' setters and supervisory authorities (Liu & Ryan, 2006). Income smoothing through PLLs could be legal or illegal. Income smoothing as an illegality which involves the manipulation of earnings to mislead investors in the form of creation of reserves called "cookie jar" strategically meant for smoothing reported earnings (Abu-Serdaneh, 2018) is prioritised in this study since it is linked to the discretionary provisioning practices.

Resource Dependence Theory/Resource-Based Theory

Resource Dependence Theory (RDT) is used interchangeably with Resource-Based Theory (RBT) to explain the relevance of women corporate leadership in the literature (Gallego-Álvarez et al., 2010; Hillman et al., 2007; Lee-Kuen et al., 2017). While RDT is attributed to Pfeffer (1972) and Pfeffer and Salancik (1978), RBT is traceable to Penrose (1959). As conceptualised by Pfeffer and Salancik (1978) a corporate entity is an open system which depends on the contingencies in the external environment. This implies that external factors have substantial influence on the organisational behaviour (Hillman et al., 2009). Although female board representation is not part of what Pfeffer and Salancik (1978) identified can prompt organisational change, Hillman et al. (2007) have demonstrated how female directorship can impact on three benefits of "advice and counsel", "legitimacy" and "channels for communicating information and gaining access to support from distinguished elements outside a firm" identified by Pfeffer and Salancik (1978) to be attributable to resource dependence perspective.

Regarding RBT, Penrose (1959) described an enterprise as an amalgam of productive resources determining possible growth of an entity. That is, RBT focuses on factors internal to the entity and that can prompt an enduring competitive advantage (Hart & Dowell, 2011). From the perspective of female representation on corporate boardroom, therefore, RBT focuses on how interlocks of male and female board members (board gender diversity) can be a source of an entity's success or competitive advantage (Gallego-Álvarez et al., 2010). Using the approach of previous studies (Dani et al., 2019; Liu et al., 2014), both RDT and RBT are adopted in this study.

Critical Mass Theory

Although critical mass as a concept has its origination in physical sciences (Oliver, 2013), critical mass as a theory is attributed to the works of Kanter (1977a, 1977b) in the Humanities and Social Sciences though the term "critical mass" was not employed in both studies (Broome et al., 2010). It is also ascribed to the work of Granovetter (1978) when issue of thresholds is the focus (Dang et al., 2014; Oliver, 2013). Though initiated simultaneously, critical mass theory was heralded by "theory of tokenism" (Lee, 2019). A token in the corporate board using the perspective of Kanter (1977b) is referred to as sole representation of women in the board (Lee, 2019; Lückerath-Rovers,

2013). The basic argument is that when there is only one woman in a men-dominated group, the female who is believed to be a token is not likely to make significant contribution in the decision-making process (Ben-Amar et al., 2017). In Kanter's (1977a; 1977b) standards, in a group with a larger proportion of one sex, race or tribe, the dominants (members of majority group) take critical decisions while the tokens (members of minority group) exist as mere symbolic representatives and stereotypes conforming to majority decisions. As conceptualised by Kanter (1977a; 1977b) there are four categories of groups: uniform, balanced, tilted and skewed groups (Joecks et al., 2013; Lee, 2019).

Supporting the proposition of Kanter (1977a), Kristie (2011) argues that existence of a female member in a corporate board is a "token" while two-member and three-member female representation are regarded as "presence" and "voice" respectively. More so, three-member female board representation is considered a magic number based on a survey of 50 female directors of Fortune 1000 (Konrad et al., 2008). Thus, following the approach of previous studies (Lee, 2019; Liu, 2018; Luo et al., 2017), critical mass theory is adopted.

Empirical Review

Female Board Directorship and Firm Financial Condition: Advanced Economies' Studies

Companies are more probable to be identified with improved corporate performance, ethical behaviour and/or earnings quality as well as reduction in excessive risk taking, earnings management/smoothing and/or corporate information opaqueness when characterised by palpable gender diversity as reported previously for Spanish (Campbell & Minguez-Vera, 2008), Chinese (Cheng et al., 2010; Liu et al., 2014; Luo et al., 2017) and Australian (Hutchinson et al., 2015) studies. With gender diversity, improved financial condition was also evident for United States of American-US and Canadian (Bart & McQueen, 2013; Dezsö & Ross, 2012; Larkin et al., 2013; Srinidhi, Gul & Tsui, 2011; Upadhyay & Zeng, 2014; Wiley & Monllor-Tormos, 2018), German and Italian (Bruno et al., 2018; Joecks et al., 2013) as well as United Kingdom-UK, Russian and French (Arun et al., 2015; Ben Slama et al., 2019; Garanina & Muravyev, 2019; Gull et al., 2018; Lakhal et al., 2015) companies. In contrast, there were German (Berger et al., 2014), Canadian (Firoozi et al., 2016), US (Sila et al., 2016) and Chinese (Usman et al., 2018) studies with evidence of inverse relationship between increased female board representation and corporate financial condition.

Further clarifications from the above revealed that percentage of female directors, Blau index and Shannon index other than presence of at least one woman are good predictors of firms' financial performance (Campbell & Minguez-Vera, 2008). However, presence of one female director, non-executive director and female audit committee membership is a viable tool for earnings quality improvement (Srinidhi et al., 2011). While findings of Larkin et al. (2013), Joecks et al. (2013), Liu et al. (2014), Lakhal et al. (2015) and Wiley and Monllor-Tormos (2018) reinforced the relevance of presence of at least three female board members or a critical mass of female directors against presence of at least one or two female directors, improvement in firms' financial condition was noted by Bruno et al. (2018) for presence of at least two women directors but Charles et al. (2015) could not establish any difference in the performance of firms with or without a critical mass of women representation on US corporate boards. The reduction in earnings management as found by Gull et al. (2018) is subject to female business/finance expertise, audit committee membership, having female CFOs and CEOs. Conversely, evidence provided by Arun et al. (2015) and Lakhal et al. (2015) are insufficient with insignificant coefficients. Having female chair explained the improvement in earnings per share and reduction in earnings management as reported by Cheng et al. (2010) and Lakhal et al. (2015).

Female Board Directorship and Firm Financial Condition: Developing Economies' Studies

Empirical support for the ability of female board representation to engender improved financial/market performance, board activeness and/or reduction in risk of corporate firms include Egyptian, Indonesian, Polish and Costa Rican for banks, as well as Norwegian, Malaysian, Israeli, Brazilian and Indian for non-financial firms evidence provided by Abobakr and Elgiziry (2017), Setiyono and Tarazi (2018), Skała and Weill (2018) and Lafuente and Vaillant (2019) as well as Torchia et al. (2011), Yang et al. (2019), Lee-Kuen et al. (2017), Schwartz-Ziv (2017), Dani et al. (2019) and Singh et al. (2019) respectively. Contrary evidence was reported by Rose (2007), Darmadi (2011) and Yang et al. (2019) for Danish, Indonesian and Norwegian companies regarding the linkage of gender diversity to increased profitability. While Torchia's et al. (2011) and Schwartz-Ziv's (2017) findings established a critical mass of female board membership prompting improved firms' financial condition, Lafuente and Vaillant (2019) empirical evidence favoured a gender-balanced board. Also,

Lee-Kuen et al. (2017) established the positive coefficients of proportion of female directors, Blau index and Shannon index but Singh et al. (2019) reported insufficient evidence. The emphasis of Skała and Weill (2018) was on female Chief Executive Officers (CEOs).

Female Board Directorship and Firm Financial Condition: Nigerian Studies

A number of previous Nigeria studies empirically reported improved firm's performance, value and accounting quality and/or reduced earnings management/smoothing as a result of female board representation (Adamu et al., 2017; Akpotor et al., 2019; Isa & Farouk, 2018; Oba & Fodio, 2013; Oyerogba & Ogungbade, 2020; Sani et al., 2019). However, Oba and Fodio (2013) reported an inverse relationship of Blau index with firm's performance while positive influence of female board leadership on firms' performance is subject to its interaction with intellectual capital efficiencies (Isola et al., 2020). Contrary evidence showing that female board representation is inversely related to firms' performance and/or financial reporting quality can be deduced from some findings (Abu et al., 2016; Aifuwa & Embele, 2019; Echekoba et al., 2019; Hassan & Ibrahim, 2014; Oba, 2014; Olowokure et al., 2017; Omoye & Eriki, 2015). Though, all these studies adopted panel regression model, only Adamu et al. (2017) and Sani et al. (2019) opted for panel corrected standard error (PCSE) regression analysis.

Female Board Directorship and Firm Financial Condition: Cross-Country Studies

Majority of the previous cross-country studies reviewed lend credence to the ability of female board representation to improve firms' financial condition. Empirical evidence provided by Gulamhussen and Santa (2015), García-Meca et al. (2015), Fernandes et al. (2017) and Green and Homroy (2018) confirmed the improved financial performance and/or reduction in risk given the extent of presence and proportion of female directors on corporate boards. Also, a GMM estimation by García-Sánchez et al. (2017) established that presence of women on banks' boards improve financial reporting quality as measured by accounting conservatism and earnings persistence while a panel random-effects analysis by Adusei et al. (2017) linked increased corporate profitability to the balance between men and women rather than a critical mass of women on the boards.

Gap in the Literature

Although a number of previous studies have examined the link between female board directorship and earnings quality in terms of earnings management, smoothing or persistence and accounting conservatism, majority of them focused on non-financial sector except Adamu et al. (2017), García-Sánchez et al. (2017), Olowokure et al. (2017) and Isa and Farouk (2018) who focused on financial services industry. However, the approach used to measure income smoothing via provision for loan losses which is the most appropriate method for banking institutions is deviated from by most of the studies. Nevertheless, Isa and Farouk (2018) and Olowokure et al. (2017) who adopted similar approach in the measurement of earnings management or smoothing failed to conduct a holistic examination of the influence of female board representation for adopting only a single measure in their respective studies' models.

Research Hypothesis

In compliance with majority of previous empirical findings in the relevant literature, it is hypothesised that:

"Income smoothing practices via provision for loan losses are negatively influenced by the extent of female representation in the Nigerian DMBs' boards".

Methodology

Research Design and Methods of Data Collection and Analysis

The research design of this study is both ex-post facto and longitudinal in nature because past bank-level data obtained at cross-sectional and time-series level were used. The population is all depository institutions in Nigeria as at 31 December 2018 which are 1,016 (CBN, 2018b) but data relevant to the study were obtained from financial reports of 15 out of 26 DMBs based on data availability and accessibility using judgemental sampling. Data were extracted for the period 2007-2018 which is an upper limit (10-12 years) of business/economic cycle because bank's PLLs are said to be cyclically related to macroeconomic indices (Adzis, 2017). Thus, by 12-year duration (2007-2018) and a sample of 15 DMBs, 180 bank-year events/observations are expected. Descriptive statistics and inferential statistics which include mean, median, correlation and regression model were used to analyse data. Given the longitudinal level at which data were collected, panel regression analysis was considered more appropriate. Hence, all the procedural steps involved in panel regression model, that is, testing for fixed-effects (FE) model, random-effects (RE) model and panel ordinary least square (panel

OLS) as well as related post-estimation statistics were followed.

Model Specification

For the extent of relationship between female board representation and firm financial condition examined in this study, the approach of Campbell and Minguez-Vera (2008) was followed. Econometrically, Campbell and Minguez-Vera (2008) estimated the relationship between female directorship and firm performance as follows:

$$Q_{it} = \beta_0 + \sum \beta_j WOMAN_{jit} + \beta_j CV_{jit} + \varphi_t + \eta_i + \varepsilon_{it} \quad (1)$$

In the Campbell and Minguez-Vera's (2008) model, Q stands for firm value indicated by Tobin's Q, WOMAN is a matrix variable of women board representation which includes presence of at least one woman on the board, the proportion of women on the board, Blau diversity index and Shannon diversity index. CV is a matrix variable of leverage, ROA and size. However, based on deductions from other previous studies (Green & Homroy, 2018; Gulamhussen & Santa, 2015; Gull et al., 2018) more indicators of women representation on the board were used. Also, relevance of more control variables in excess of those adopted by Campbell and Minguez-Vera (2008) were established (García-Sánchez et al., 2017; Gull et al., 2018; Sila et al., 2016). Thus, more alternative measures of female board representation and control variables were used in this study. More so, given the objective of this study, income smoothing rather than Tobin's Q is the dependent variable. Therefore, following the approach of Isa and Farouk (2018) and Olowokure et al. (2017), discretionary provision for loan losses (DPLL) is adopted as a measure income smoothing for this study. Since DPLL has to be estimated from total PLL, the model of Kanagaretnam et al. (2003) presented below was adopted:

$$LLP_{it} = \beta_0 + \beta_1 NPL_{it-1} + \beta_2 CHNPL_{it} + \beta_3 CHLOAN_{it} + \varepsilon_{it} \quad (2)$$

where: LLP_{it}= provision for loan losses scaled by beginning loans;

NPL_{it-1} = beginning of period nonperforming loans scaled by beginning loans;

$CHNPL_{it}$ = change in the value of nonperforming loans scaled by beginning loans;

$CHLOAN_{it}$ = change in value of loans scaled by beginning loans.

In model (2), the explanatory variables account for the non-discretionary component of LLP while the residual term represents DPLL. The derivation of DPLL from model 2 facilitated the estimation of third model.

Thus, econometric model to test the impact of female directorship on income-smoothing practices by Nigerian DMBs is expressed as:

$$DPLL_{it} = \delta + \sum_{j=1}^{10} \gamma_j WOMAN_{it} + \sum_{k=11}^{15} \gamma_k OCG_{it} + \sum_{p=16}^{19} \gamma_p OCV_{it} + \varepsilon_{it} \quad (3)$$

Although, DLLP as derived from model 2 is considered a measure of earnings smoothing, however, following the approach of previous studies (Quttainah et al., 2013; Zainuldin & Lui, 2018) absolute value of DPLL was used in model 3. As observed by Zainuldin and Lui (2018) management or smoothing of earnings could be income increasing or income decreasing represented by negative and positive DPLL respectively. Thus, income smoothing practices are better measured by absolute value of DPLL. Also, in model 3, WOMAN is a matrix variable of 10 alternative forms of female representation on bank boards. These include proportion of female directors, female non-executive directors and female audit committee membership. Others are presence of at least one, two, and three female

members on the board. The presence of at least one female member in audit committee and a woman as Chief Financial Officer (CFO), Blau diversity index and Shannon diversity index are not left out. OCG jointly represents "other corporate governance variables" which include board size, board independence, board meetings and institutional ownership used as control variables following the approach of Gull et al. (2018). The OCV stands for "other control variables" which include three control variables adopted by Campbell and Minguez-Vera (2008) and loan growth adopted by García-Sánchez et al. (2017).

Following the approach of Campbell and Minguez-Vera (2008) Blau diversity index and Shannon diversity index were calculated for female representation because they are believed to be more robust. The Blau index for gender diversity is expressed as:

$$BLAU = 1 - \sum_{i=1}^{n} P_i^2 \quad (4)$$

While Shannon index for gender diversity is calculated as follows:

$$SHANN = -\sum_{i=1}^{n} P_i lnP_i \quad (5)$$

In models 4 and 5, Pi represents proportion of board members in each category of the board while "n" stands for number of categories in the board, in this case 2. While the coefficient of Blau index ranges from 0-0.5, that of Shannon index ranges from 0-0.69. The highest values of index in both circumstances arise when there is gender balance on the board. The components of model 3 are described in Table 1.

Table 1 – Description of Variables in Model 3 as Related to Female Board Directorship

S/N	Notation	Variable Name	Description
1	DPLL	Discretionary PLL	Residual of model 2
2	PFM	Proportion of female directors	Number of female directors scaled by board size
3	PFNED	Proportion of female non-executive directors	Number of female non-executive directors scaled by board size
4	PFAD	Proportion of female members in audit committee	Number of female members in audit committee scaled by audit committee size
5	F1BD	Presence of at least 1 woman on the bank board	"1" is assigned if there is presence of at least one female director on the board otherwise "0" is assigned
6	F2BD	Presence of at least 2 women on the bank board	"1" is assigned if there is presence of at least two female directors on the board otherwise "0" is assigned
7	F3BD	Presence of at least 3 women on the bank board	"1" is assigned if there is presence of at least three female directors on the board otherwise "0" is assigned
8	F1AD	Presence of at least 1 woman on the bank audit committee	"1" is assigned if there is presence of at least one female member in the audit committee otherwise "0" is assigned
9	FCFO	Female CFO	"1" is assigned if CFO is a woman otherwise "0"
10	BLAU	Blau index	Blau diversity index derived from model 4
11	SHANN	Shannon index	Shannon diversity index derived from model 5
12	BSZ	Board size	Natural log of total number of directors on bank board
13	BIND	Board independence	Proportion of non-executive directors on the board
14	BIND2	Board independence	Proportion of independent directors on the board
15	BMT	Board Meetings	Natural log of total number of board meetings yearly
16	INST	Institutional Ownership	Proportion of shareholdings by institutional shareholders
17	LGRT	Loan Growth Index	Difference between a DMB's loan growth rate and the median loan growth rate of all DMBs
18	LEV	Leverage ratio	Ratio of total liabilities to total assets
19	SROA	Risk	Standard deviation of return on assets
20	SIZE	Bank size	Natural logarithm of total assets

Notes: 1) compiled by authors based deductions from literature and conceptual framework;
2) items 2-11 stand for alternative measures of female board representation used as independent variables;
3) items 12-16 are other corporate governance variables (OCG) other than female board directorship variables;
4) items 17-20 are bank-specific variables regarded as other control variables (OCV).

Results and Discussion

Descriptive Analysis

Based on what is depicted in Table 2, the positive average value of DPLL (though more or less zero) is an indication that Nigerian DMBs in the sample period engaged in income-decreasing earnings smoothing. However, with a negative median value (-0.005), it is evident substantial part of the sample period was used for income-increasing earnings smoothing practices. Conversely, a confirmation of use of PLL for earnings smoothing is accentuated with mean and median values of 0.024 and 0.016 respectively for ADPLL. ADPLL is as high as 22.5% as revealed in Table 2. Regarding the representation of women on Nigerian DMBs' boards, Table 2 summarily reveals that female board representation in Nigerian banks is low. Although the proportion of female representation (PFM) is as high as 57%, the mean and median values of 17.6% and 18.2% which are below 20% show that women board representation in Nigerian DMBs' boards belong to the skewed group and by implication their presence in the banks' board is a token. This is also the scenario for other measures of female board representation given their low mean and median values coupled with <1 mean and median values for categorical measures of female board leadership. The descriptive statistics of other variables of the study are as presented in Table 2.

Table 2 – Summary Statistics of all the Study's Variables

Variable	Obs	Mean	Median	Std.Dev.	Min	Max
DPLL	176	3.97E-11	-0.0047	0.0375	-0.2247	0.1566
ADPLL	176	0.0241	0.0155	0.0022	0.0004	0.2247
PFM	176	0.1762	0.1818	0.1205	0.0000	0.5714
PFNED	176	0.1082	0.0801	0.0922	0.0000	0.3750
PFAD	176	0.1565	0.1667	0.1496	0.0000	0.6667
F1BD	176	0.8352	1.0000	0.3720	0.0000	1.0000
F2BD	176	0.6591	1.0000	0.4754	0.0000	1.0000
F3BD	176	0.5170	1.0000	0.5011	0.0000	1.0000
F1AD	176	0.6534	1.0000	0.4772	0.0000	1.0000
FCFO	176	0.0966	0.0000	0.2962	0.0000	1.0000
BLAU	176	0.2614	0.2975	0.1525	0.0000	0.4898
SHANN	176	0.4054	0.4741	0.2147	0.0000	0.6829
BSZ	176	13.4205	14.0000	2.8354	5.0000	20.0000
BIND	176	0.6283	0.6077	0.1173	0.2000	0.9167
BIND2	176	0.1203	0.1333	0.0820	0.0000	0.3077
BMT	176	6.2500	6.0000	2.1870	2.0000	13.0000
INST	176	0.3692	0.3083	0.2951	0.0000	1.0000
LGRT	176	0.0759	0.0000	0.4438	-1.1495	3.5156
LEV	176	0.8813	0.8627	0.1728	0.7140	2.5475
SROA	176	-0.0002	0.0002	0.0033	-0.0293	0.0091
SIZE	176	20.7247	20.7911	0.8890	18.6800	22.5076
LLP	176	0.0361	0.0240	0.0561	-0.2225	0.3919
NPL	176	0.1013	0.0488	0.1402	0.0089	0.8846
CHNPL	176	0.0130	0.0050	0.1202	-0.3701	0.8781
CHLOAN	176	0.2504	0.1744	0.4438	-0.9750	3.6901

Notes: 1) compiled by authors;
2) ADPLL stands for absolute value of discretionary provision for loan losses;
3) Actual Board Size (BSZ) and number of Board Meetings (BMT) were reported as against their natural logarithms used for correlation and regression analyses.

Correlation Analysis

To ensure that the study's main model is properly specified, pair-wise correlation analyses were performed to detect the degree of multi-collinearity among the regressors. As revealed in Table 3, no two control variables on one hand, and one independent and one control variables on the other hand are collinear given their respective correlation coefficients being far from the threshold of 0.8 (Brooks, 2008). The highest and the lowest correlation coefficients in both cases are 0.46 and 0.00. However, the degree of multi-collinearity among quite a number of pairs of independent variables is higher with their correlation coefficients ranging from 0.8 to 0.99. This palpable higher degree of multi-collinearity among the independent variables prompted a separate model of each with the control variables. The implication of this is that the study eventually had 10 separate regression models based on the number of measures of female board representation adopted (Tables 5 and 6).

Table 3 – Correlation Matrix of the Study's Explanatory Variables in Model 3

Variable	PFM	PFNED	PFAD	F1BD	F2BD	F3BD	F1AD	FCFO	BLAU	SHANN	BSZ	BIND	BIND2	BMT	INST	LGRT	LEV	SROA	SIZE
PFM	1.00																		
PFNED	0.82	1.00																	
PFAD	0.52	0.53	1.00																
F1BD	0.62	0.52	0.40	1.00															
F2BD	0.78	0.62	0.43	0.62	1.00														
F3BD	0.82	0.68	0.41	0.46	0.74	1.00													
F1AD	0.40	0.41	0.76	0.48	0.41	0.28	1.00												
FCFO	0.05	-0.02	0.05	0.09	0.11	0.05	0.12	1.00											
BLAU	0.97	0.80	0.51	0.73	0.85	0.83	0.43	0.06	1.00										
SHANN	0.94	0.77	0.50	0.80	0.85	0.80	0.45	0.07	0.99	1.00									
BSZ	0.09	0.06	0.18	0.38	0.35	0.25	0.30	0.17	0.19	0.24	1.00								
BIND	0.02	0.20	-0.11	-0.03	-0.06	-0.05	-0.11	0.00	0.00	-0.01	-0.25	1.00							
BIND2	0.42	0.46	0.32	0.37	0.25	0.26	0.29	-0.09	0.41	0.41	-0.11	0.20	1.00						
BMT	0.03	-0.03	-0.07	-0.02	0.14	0.10	0.02	0.03	0.04	0.04	0.12	-0.21	-0.15	1.00					
INST	0.41	0.37	0.29	0.20	0.31	0.31	0.14	0.32	0.38	0.36	-0.06	0.14	0.23	-0.15	1.00				
LGRT	-0.13	-0.12	-0.01	0.00	-0.10	-0.09	0.03	-0.04	-0.10	-0.09	0.07	-0.12	-0.24	-0.13	-0.12	1.00			
LEV	0.22	0.17	0.17	-0.01	0.05	0.06	0.00	-0.09	0.11	0.09	-0.38	-0.13	0.07	0.05	0.08	0.07	1.00		
SROA	0.12	0.11	0.07	0.18	0.10	0.12	0.06	0.07	0.15	0.16	0.33	0.28	0.17	-0.11	0.11	0.00	-0.29	1.00	
SIZE	0.23	0.24	0.17	0.25	0.27	0.27	0.28	-0.08	0.29	0.30	0.19	0.05	0.41	0.17	-0.22	-0.14	-0.24	0.20	1.00

Note: compiled by authors

Test of Hypothesis/Regression Results

Prior to the test of hypothesis, the dependent variable (DPLL) was derived from model 2 as estimated by Kanagaretnam et al. (2003) using first stage regression presented in Table 4. As evident in Table 4, panel regression model adopted was Panel OLS. This was premised on the results of Hausman test- HSM (meant for testing for appropriate model between FE and RE models) and Breusch-Pagan Lagrange Multiplier (BPLM) test (meant for testing for appropriate model between RE and Panel OLS models where the choice of HSM is RE as evident in Table 4) with p-value >0.05. For regression models in Tables 5 and 6 where the study's hypothesis was tested, the procedural step followed was in favour of Prais-Winsten regression model with correlated panel-corrected standard errors (P-W/PCSE). Based on the results of Hausman tests (HSM) as contained in Tables 5 and 6, the appropriate model for all regression models tested was panel FE model. However, given the presence of heteroscedasticity as revealed by modified Wald test for heteroscedasticity in FE model (HET) with p-value <0.05, further assumptions were made.

The assumptions are that residual terms in the panel have contemporaneous correlation,

panel autocorrelation and are not homoscedastic (Blackwell III, 2005). When the error structures of a regression model (most especially when included fixed-effects) are typical of these assumptions, the best approaches for more robust estimates are Feasible Generalised Least Square (FGLS) and OLS or its equivalent with PCSEs (Beck & Katz, 1995; Blackwell III, 2005). However, panel FGLS is appropriate only for balanced panel. Thus, given the unbalanced nature of the study's panel dataset as datasets related to 176 bank-year events were obtainable out of 180 bank-year observations proposed, Prais-Winsten regression model with correlated panel-corrected standard error (P-W/PCSE) was adopted. If the assumption of residual terms having panel autocorrelation is compared with panel-specific first-order autocorrelation (AutoC) reported in Tables 5 and 6, the rationale relied upon for adopting P-W/PCSE may not be sufficiently tenable. However, it has been empirically proved that estimates with PCSEs are superior to approaches without PCSEs (like least squares) when degree of autocorrelation is less than 0.5 (Dielman, 1985). Given these rationales, the regression estimates of P-W/PSCE were reported in Tables 5 and 6 to establish the impact of female board representation on the practices of income smoothing by Nigerian DMBs.

Regression Results of Kanagaretnam's et al. (2003) Model

From Table 4, it is evident that non-performing loans and change in non-performing loans both scaled by beginning gross loans (NPL & CHNPL) have significantly positive impact on LLP. This suggests that the higher the NPL and CHNPL the higher the LLP. However, there is inverse relationship between CHLOAN and LLP though not statistically significant. These findings are relatively similar to the results of previous studies which had used the model or its equivalent except for the explanatory potential of CHLOAN (Kanagaretnam et al., 2003; 2004; Zainuldin & Lui, 2018). The results of F-statistics (F-stat) with p-value <0.05 and value of root mean squared error (RMSE) being closer to zero (that is, 0.038) are evidence of appropriateness of Kanagaretnam's et al. (2003) model adopted in this study. The residuals of this model were considered the discretionary provision for loan losses (DPLL) and its absolute values were considered the measures of income smoothing used for the second-stage regression model from which the study's hypothesis was tested.

Table 4 – Regression Estimates of Kanagaretnam's et al. (2003) Model

Variable	Dependent Variable: LLP		
	Coefficient	t	P-value
NPL	0.1420972	2.59	0.010»
CHNPL	0.3500793	6.77	0.000ɣ
CHLOAN	-0.0050117	-1.01	0.312
cons_	0.0184184	3.96	0.000ɣ
HSM	0.46(0.9275)		
BPLM	1.50(0.1106)		
$BPCT_1$	5.00(0.0253)»		
$BPCT_2$	57.31(0.0000)ɣ		
R^2	0.5532		
Adj.R^2	0.5454		
F.stat	20.9(0000)ɣ		
RMSE	0.03781		
Observation	176		
Model Type	Panel OLS		

Notes: 1) compiled by authors;
2) additional tests: Hausman test (HSM); Breusch-Pagan Lagrange Multiplier (BPLM) tests; and OLS test for heteroscedasticity-Breusch-Pagan/Cook-Weisberg test with fitted values of dependent varaiable- LLP (BPCT1) and with explanatory variables: NPL; CHNPL; & CHLOAN (BPCT2) reported chi-square statistics with p-value in parentheses while F-statistics (F-stat) reported F-value with p-value in parentheses;
3) R^2 and Adj.R^2 stand for co-efficient of determination and its adjusted form respectively;
4) RMSE stands for root mean squared error;
5) ɣ and » signify significance at 1% and 5% respectively.

Regression Estimates with Continuous Measures of Female Board Representation

The results of regression models with each continuous indicator of female board representation (PFM, PFNED, PFAD, BLAU and SHANN) are presented in Table 5.

The results of impact of female board representation or gender diversity on Nigerian DMBs' income-smoothing practices as revealed in Table 5 are mixed. Except for the proportion of female members in audit committee (PFAD) which has positive impact on practices of income smoothing, all other indicators negatively influence earnings smoothing as measured by absolute value of DPLL but only PFM and BLAU are significant. These results suggest that representation of women on corporate boardrooms of Nigerian DMBs has tendency to facilitate the reduction in the Nigerian DMBs' income-smoothing practices. Among the control variables, proportion of independent directors (BIND2), loan growth (LGRT) and leverage ratio (LEV) significantly influence practices of earnings smoothing and have similar explanatory potentials across all models presented in Table 5.

Table 5 – PCSE's Prais-Winsten Regression Estimates with Continuous Indicators of Female Board Directorship

MODEL	A	B	C	D	E
Variable	Female Board Representation Indicators (Continuous Variables)				
	PFM	PFNED	PFAD	BLAU	SHANN
PFM	-0.0257(-1.89)λ	----------	----------	----------	----------
PFNED	----------	-0.0009(-0.05)	----------	----------	----------
PFAD	----------	----------	0.0179(1.50)	----------	----------
BLAU	----------	----------	----------	-0.0185(-1.76)λ	----------
SHANN	----------	----------	----------	----------	-0.0016(-0.19)
BSZ	-0.0101(-1.37)	-0.0170(-2.03)»	-0.0203(-2.76)γ	-0.0096(-1.26)	-0.0167(-1.99)»
BIND	0.0258(1.68)λ	0.0102(0.58)	0.0113(0.66)	0.0254(1.64)λ	0.0101(0.58)
BIND2	-0.1132(-4.61)γ	-0.0937(-3.83)γ	-0.0999(-4.19)γ	-0.1137(-4.63)γ	-0.0930(-3.75)γ
BMT	0.0045(0.92)	0.0034(0.69)	0.0039(0.79)	0.0045(0.92)	0.0035(0.73)
INST	0.0072(1.11)	0.0010(0.12)	-0.0010(-0.12)	0.0071(1.11)	0.0013(0.16)
LGRT	-0.0178(-4.81)γ	-0.0171(-4.52)γ	-0.0177(-4.81)γ	-0.0175(-4.73)γ	-0.0171(-4.50)γ
LEV	0.0484(5.77)γ	0.0313(3.37)γ	0.0269(3.02)γ	0.0463(5.86)γ	0.0316(3.37)γ
SROA	-0.3121(-0.50)	-0.0864(-0.12)	-0.0427(-0.06)	-0.3340(-0.54)	-0.0826(-0.12)
SIZE	0.00004(0.03)	-0.0053(-2.19)»	-0.0060(-2.42)»	0.0001(0.01)	-0.0052(-2.13)»
_cons	0.1413(2.35)»	0.1513(2.54)»	0.1745(3.02)γ	0.1457(2.41)»	0.1486(2.46)»
HSM	35.23(0.0001)γ	37.27(0.0003)γ	29.6(0.0010)γ	31.41(0.0005)γ	31.36(0.0005)γ
HET	4776.09(0.0000)γ	4499.8(0.0000)γ	728.62(0.0000)γ	5225.6(0.0000)γ	5494.8(0.0000)γ
AutoC	0.1742	0.1785	0.1818	0.1762	0.1785
R^2	0.5341	0.3002	0.3056	0.5321	0.3007
Wald	273.93(0.0000)γ	108.06(0.0000)γ	120.60(0.0000)γ	271.21(0.0000)γ	109.65(0.0000)γ
Model Type	P-W/PCSE	P-W/PCSE	P-W/PCSE	P-W/PCSE	P-W/PCSE

Notes: 1) compiled by authors;
2) The Prais-Winsten regression coefficients are reported with z-statistics in brackets;
3) The Hausman test (HSM), modified Wald test for heteroscedasticity in fixed-effects model (HET), and Wald Statistics (Wald) report Chi-Square (X2) with p-value in brackets;
4) AutoC represents autocorrelation parameter, R^2 symbolises coefficient of determination while P-W/PCSE indicates the Prais-Winsten Regression with correlated panels-corrected standard errors;
5) γ, », and λ denote significance at 1%, 5% and 10% respectively.

While increase in the proportion of independent directors and loan growth cause reduction in DMBs' income smoothing practices, increase in leverage reduces the act. Also critical to the practices of income smoothing is board size (BSZ) which has negative influence across all models but only significant with PFNED, PFAD and SHANN models. There is also evidence of bank size (SIZE) having significantly negative influence on the practices of earnings smoothing via provisioning when PFNED, PFAD

and SHANN are independent variables. The proportion of non-executive directors (BIND) has positive effect on income-smoothing practices but only significant with PFM and BLAU as independent variables. Summarily, the results of all regression models used to test the study's hypothesis as presented in Table 5 are validated by the results of Wald statistics with higher chi-square statistics and p-value <0.05.

Except for PFAD, the propositions of resource-based theory are confirmed by inverse relationship of other continuous measures of gender diversity with earnings-smoothing practices. However, the confirmation of premise of resource dependence theory could have been exact if the coefficient of PFNED is significant. Nonetheless, the findings as obtained for PFM and BLAU in relation to reduction in financial impropriety embedded in income smoothing practices are in agreement with findings of Arun et al. (2015), Lakhal et al. (2015), Adamu et al. (2017), García-Sánchez et al. (2017), Luo et al. (2017) and Isa and Farouk (2018) but contrary to the findings of Oba (2014), Hassan and Ibrahim (2014), Omoye and Eriki (2014), Firoozi et al. (2016), Olowokure et al. (2017), Aifuwa and Embele (2019) and Singh et al. (2019).

Regression Estimates with Categorical Measures of Female Board Representation

The regression estimates of each categorical measure of female board representation (F1BD, F2BD, F3BD, F1AD and FCFO) with the control variables are presented in Table 6. Similar to what is obtainable in Table 5; the results of impact of female board representation as measured by these categorical independent variables are mixed. The results that meet the prior expectations of the study with negative influence are those of F2BD, F3BD and FCFO as contained in models G, H and J but only significant with F3BD and FCFO. This suggests that presence of at least three women on DMBs' boards and having a female CFO have tendency of engendering the reduction in earnings smoothing practices by Nigerian DMBs. Conversely, the presence of at least one woman on the bank board (F1BD) and statutory audit committee (F1AD) cause the increase in the DMBs' practices of income smoothing given their positive coefficients but can only be empirically proved with that of F1AD being significant. The significantly positive coefficient of F1AD as obtained in this study disagrees with findings of Gulamhussen and Santa (2015), Gull et al. (2018) and Srinidhi et al. (2011). However, an indication that as CFO, female acts in compliance with the full disclosure and transparency rules in corporate reporting and female CFO is risk-averse corroborate the findings of Gull et al. (2018) despite being at variance with those of Arun et al. (2015) and Lakhal et al. (2015). The empirical support for theory of critical mass based on significantly negative coefficient of F3BD against F1BD and F2BD as established in this study is a corroboration of the findings of a number of previous studies (Garanina & Moravyev, 2019; Larkin et al., 2013; Liu et al., 2014; Luo et al., 2017; Schwartz-Ziv, 2017) and a reversal of few others (Adusei et al., 2017; Lafuente & Vaillant, 2019).

Other results as exhibited by control variables show that board size (BSZ), board independence (BIND2), loan growth (LGRT), and bank size (SIZE) have negative impact on income-smoothing practices across all models except that BSZ and SIZE are not significant in model H with F3BD as independent variable. The control variables having positive influence on the practices of earnings-smoothing practices by Nigerian DMBs across all models are proportion of non-executive directors (BIND), board meetings (BMT) and leverage ratio (LEV) but significant results are obtainable only from the coefficients of LEV. The appropriateness of all the models in Table 6 and the reliance on their estimates are substantiated by the results of Wald statistics which are all significant at p-value <0.05.

Table 6 – PCSE's Prais-Winsten Regression Estimates with Categorical Indicators of Female Board Directorship

MODEL	F	G	H	I	J
Variable	Female Board Representation Indicators (Categorical Variables)				
	F1BD	F2BD	F3BD	F1AD	FCFO
F1BD	0.0054(1.34)	----------	----------	----------	----------
F2BD	----------	-0.0029(-0.99)	----------	----------	----------
F3BD	----------	----------	-0.0101(-2.67)[y]	----------	----------
F1AD	----------	----------	----------	0.0066(2.14)[y]	----------
FCFO	----------	----------	----------	----------	-0.0135(-2.66)[y]
BSZ	-0.0207(-2.49)[y]	-0.0147(-1.82)[λ]	-0.0010(-1.46)	-0.0212(-2.88)[y]	-0.0151(-2.15)[y]
BIND	0.0088(0.53)	0.0104(0.59)	0.0091(0.55)	0.0108(0.66)	0.0139(0.82)

Continuation of table 6

MODEL	F	G	H	I	J
BIND2	-0.1033(-4.08)ɣ	-0.0921(-3.59)ɣ	-0.0959(-3.77)ɣ	-0.1020(-4.20)ɣ	-0.1007(-4.03)ɣ
BMT	0.0032(0.65)	0.0039(0.81)	0.0008(1.24)	0.0032(0.66)	0.0040(0.83)
INST	-0.0007(-0.09)	0.0026(0.34)	0.0063(0.82)	-0.0004(-0.04)	0.0051(0.73)
LGRT	-0.0175(-4.56)ɣ	-0.0172(-4.56)ɣ	-0.0179(-4.75)ɣ	-0.0181(-4.86)ɣ	-0.0173(-4.63)ɣ
LEV	0.0296(3.42)ɣ	0.0329(3.73)ɣ	0.0403(4.40)ɣ	0.0294(3.36)ɣ	0.0301(3.50)ɣ
SROA	-0.0436(-0.06)	-0.1132(-0.16)	-0.1211(-0.18)	0.0290(0.04)	-0.1417(-0.22)
SIZE	-0.0056(-2.33)»	-0.0050(-2.09)»	-0.0034(-1.44)	-0.0063(-2.64)ɣ	-0.0052(-2.22)»
_cons	0.1658(2.96)ɣ	0.1363(2.34)»	0.0776(1.39)	0.1815(3.25)ɣ	0.1423(2.64)ɣ
HSM	30.13(0.0008)ɣ	30.82(0.0006)ɣ	24.08(0.0074)ɣ	80.97(0.0000)ɣ	30.67(0.0007)ɣ
HET	4525.63(0.0000)ɣ	5710.96(0.0000)ɣ	3174.90(0.0000)ɣ	1261.93(0.0000)ɣ	1161.01(0.0000)ɣ
AutoC	0.1660	0.1760	0.1669	0.1694	0.1574
R^2	0.3050	0.3020	0.3401	0.3078	0.3147
Wald	122.28(0.0000)ɣ	113.53(0.0000)ɣ	121.18(0.0000)ɣ	124.91(0.0000)ɣ	108.34(0.0000)ɣ
Model Type	P-W/PCSE	P-W/PCSE	P-W/PCSE	P-W/PCSE	P-W/PCSE

Notes: 1) compiled by authors;
2) The Prais-Winsten regression coefficients are reported with z-statistics in brackets;
3) The Hausman test (HSM), modified Wald test for heteroscedasticity in fixed-effects model (HET), and Wald Statistics (Wald) report Chi-Square (X2) with p-value in brackets;
4) AutoC represents autocorrelation parameter, R^2 symbolises coefficient of determination while P-W/PCSE indicates the Prais-Winsten Regression with correlated panels-corrected standard errors;
5) ɣ, », and λ denote significance at 1%, 5% and 10% respectively.

Conclusion and Recommendations

Conclusion

From the findings of the study, there is sufficient evidence that there is low representation of female members on the boardroom of Nigerian banks. Further deduction is that the increase in female representation has the capacity to restrict all activities that can fuel increased income-smoothing practices among Nigerian DMBs. It is also an established fact that Blau Diversity Index is superior to Shannon Diversity Index in the measurement of gender diversity on Nigerian DMBs' boardroom. Furthermore, the level of transparency and compliance with accounting rules in the banking industry by female CFOs supersede their male counterparts and can reflect in the decline in income-smoothing practices. It is also not debatable that female representation on Nigerian DMBs' boardroom below three is equivalent to a uniform board comprised mainly male members. Thus, the reality of critical mass of three female board members to contribute substantially to improved financial reporting quality of the Nigerian banks is pragmatic.

Recommendations

Based on the findings of the study and the conclusion drawn subsequently, the following recommendations were made regarding how the female board representation and other attendant issues can be instrumental to the reduction in income-smoothing practices of Nigerian DMBs.

Attempt should be made to increase female representation on the boardroom of Nigerian DMBs. This can be done via amendments to the corporate governance codes to accommodate increase in board size and number of independent directors.

Regulatory authorities should advise banks to appoint female CFOs most especially when having male CEOs or banks can be encouraged to rotate the appointment between male and female directors by term of office.

It should be expressly stated in the corporate governance code that gender diversity on the corporate boardroom of DMBs is not acknowledged until at least 3 female members are on the board.

Appointments of women into the statutory audit committee should be made among the independent directors and sound accounting expertise should be the priority besides integrity. However, if it is to be made among the shareholders similar condition of accounting expertise should not be sacrificed.

Since non-executive directors are required to be in excess of executive directors in the board, the proportion of independent directors should be made to be higher than or at par with number of pure non-executive directors.

In the absence of regulatory provisions to accommodate some of the suggestions made, banks can, on their own, effect some of the changes anytime nominations are made to make replacements in the board.

Future studies should widen the horizon to include other banks and adopt more measures of earnings smoothing to know those that can be better explained by the extent of female board representation in Nigerian banks.

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