Board Independence and Financial Performance of Deposit Money Banks in Nigeria and Canada

Ajibade Ayodeji¹ and Richard Adeleye Okunade¹*

¹Department of Accounting, Babcock University, Ilishan Remo, Ogun State, Nigeria.

Authors’ contributions

This work was carried out in collaboration between both authors. Author RAO designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author RAO managed the analyses of the study. Author AA managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

Introduction: In current eras, supervisory bodies have interceded in the operations of Deposit Money Banks. This is because they are confronted with plethora of problems such as overexpansion; corruption of bank officers, inappropriate risk management and these resulted to poor financial performance.

Aims: The present study aims to focus on the link amid board independence and financial performance of Deposit Money Banks as well as providing a comparative view by focusing on Nigeria and Canada.

Methods: This study seeks to observe the association amid board independence and corporate financial performance of Deposit Money Banks in Nigeria and Canada. The panel data methodology is widely recommended for it is useful when data is a blend of time-series and cross-sectional features. The study applied secondary data extracted from annual financial statements of Deposit Money Banks quoted on the Nigerian Stock Market and in the Canadian stock market between the ten years period of 2008 and 2017.

*Corresponding author: E-mail: leyekunade@yahoo.com;
1. INTRODUCTION

In current eras, supervisory bodies have interceded in the operations of Deposit Money Banks. This is because they are confronted with plethora of problems such as overexpansion, corruption of bank officers, inappropriate risk management and these resulted to poor financial performance. Given the significant function banks play in the economy [1], there is a necessity to guarantee smooth procedures in their activities. Consequently, such mirage of problems has led to a fall in investors’ confidence thus creating a worsened level of financial performance since customers are sceptical of their investment security [2].

In spite of certain misfortune that arose from the global financial crisis (GFC), banks in Canada have exhibited a remarkable performance over the past five years to 2018. Banks have done an extraordinary work of spreading revenue streams as well as surviving limits created by interest rates as well as growing regulations. Deposit money banks mainly get revenue via interest income such as corporate loans and mortgages, but it also gets income via noninterest sources, which comprises of fees on a variation of services as well as commissions. Nonetheless, this is not the case for most developing countries like Nigeria. They face quite a lot of challenges such as deteriorating profitability, slow credit growth, fast asset quality deterioration, weakening capitalisation, bad loans, public sector credit over reliance. The outlook from all these is not much brighter because most of these issues affecting their performance is directly linked to their governance system. An analytical comparison of what is applicable in Canada and Nigeria would provide some workable solutions to the banking sector issues of Nigeria; as well as create room for convergence effect.

The gap between ownership and control introduces the moral hazard issue which generates a need for monitoring as well as control mechanisms [3]. Thus, the key problem with board independence (BIND) is to appoint executives who are conversant with the company’s model as well as market, but who are not connected to the executives through business relationships and personal and collegiate ties. In reality, this may be a tough task to accomplish, as many businesses in the same market are connected with each other given their financial, supplier and customer relations. An independent as well as effective board is a prerequisite of good governance structure. If the board lacks independence and effectiveness for executing their monitoring function, there exist an opening for managers to use managerial opportunism to perpetrate financial fraud.

Presently, most entities have comprehended the vital functions of the independent directors since the failure of big entities such as Cadbury, Parmalat, Enron, World com, Xerox, Skye Bank and other prominent corporations around the world. This has enlarged the need for good governance practice that will bound the incidence of GFC affecting countless entities all over the world [4].

An analysis of literature recognized that BIND was amongst the significant influences on corporate performance, nonetheless, conclusions are inconsistent. Some earlier authors have resolved that BIND is linked with enhanced performance level [5,6], contradictory, some researchers posit that independent board show a negative effect on corporate performance [7,8,9] and [10] reported no relationship. These findings are inconsistent due to likeliness that there exists endogenous factors mediating the associations that is absent in earlier empirics. Though

**Results:** The variables considered in this study are return on asset (ROA) (dependent variable), proportion of independent non-executive directors on board (BIND) and audit committee independence (ACI) (independent variables), earnings per share (EPS) and firm size (FSIZE) which are control variables. From the findings, it is revealed that there exists a significant relationship between board independence and profitability of deposit money banks in Nigeria and Canada.

**Conclusion:** Empirical results obtained reveal that audit committee independence promoted financial performance of the deposit money banks in Nigeria while in Canada it was positive and insignificant. Thus, a greater proportion of audit committee independence would bring about a greater level of financial performance in deposit money banks in Nigeria and Canada. The aspect of corporate governance implies that banks will profit by increasing the number of its independent directors and independent audit committee members.

**Keywords:** Financial performance; deposit money; Canada; Nigeria; stock market.
empirical investigation has not provided any clear communication as to the role of independence as well as comparison effect on countries, the subject matter remains critical. This offers justifications for the research work to focus on the link amid board independence and financial performance of Deposit Money Banks as well as providing a comparative view by focusing on Nigeria and Canada.

2. LITERATURE REVIEW

2.1 Board Independence

The inclusion of outside executives on the board is termed 'board independence'. This plays a vital mechanism to test the efficacy of a board. Mallin [11] sees independent executives as directors who besides receipt of director's compensation do not bear any other significant relationship with the entity in which the decision of the board may affect their independent judgment. Whereas, inside director is an individual on the board who is a member of staff of the entity [12].

Starting the 90s’, the notion of board independency became prevalent and globally numerous nations started to adopt the recommendation that specifies the minimum level for the representation of outside director of public corporations. External executives in the firm in comparison to current or past workers are expected to be independent directors and are activists of shareholder interest [13] because of non-attachment with the entity so that they can virtuously indicate the interests of shareholder [14]. Furthermore, Ramdani and Van-Witteloostuijn [15] expressed that when a board was independent, it will be able to monitor successfully the company's senior executives and as a result this hindered them from pursuing activities which were regarded as self-interest. BIND is the ratio of inside to outside directors [16].

2.2 Firm Performance

The topic of corporate performance has received substantial attention from researchers from business spheres [2] as well as business practitioners (managers and entrepreneurs) because it is crucial as demonstrated in high performance entities which have success stories due to their apparent competence in handling their processes as well as their positive addition to the welfare of their stakeholders. Although, low performance entities are not, owing to their lack of such critical attributes [2]. Performance is however, a difficult concept, in terms of definition and measurement.

Financial ratios can be seen as a primary reference for the examination of corporate performance. This agrees with Osisioma [17] claim that “ratios relate one set of values to another, with the subsequent quotient serving as a proxy by which performance is judged.” A key proxy for financial performance is its profitability. According to [Osisioma 17] they are intended at bringing to light the profitability of an entity’s operation, the management efficiency, the intensity of capital usage and the rapidity with which invested capital is turned over.

2.3 Theoretical Review

2.3.1 Agency theory

Agency theory stems around the notion of separation of ownership and control leading to diverse goals for owners and agents [3]. Independent managers can efficiently checkmate top management and merge their goals to shareholders’. Thus, they aid in curbing agency problems as well as promoting good corporate performance. This proffers a positive link amid ratio of independent directors and corporate performance [18,19,20]. The agency problem promotes differing goals, asymmetric problems, as the principal has comprehensive information than the agent giving rise to agency costs. Subsequently, there are several stakeholders, the agent is occasionally challenged with the tough choice of satisfying opposing stakeholder interests. Agency theory provides the theoretical framework for this study to scrutinize the association amid BIND and financial performance of Deposit Money Banks.

2.4 Empirical Review of Literature

In reviewing literature, [21,22,23,24] discovered that corporations which complied with the reference to engage independent director(s) enjoyed significantly improved performance. Also, Foo and Mat Zain [25] supported this stand in their study which revealed a Positive connection amid board independence and liquidity. Furthermore, Liu et al. [26] revealed that independent executives spur an inclusive positive effect on corporate operating performance. This was also supported by [27] in their study which revealed that BIND has
significant positive impact on market-based performance measures. Nonetheless, Basmah and Lakshmi [28], Sharifah et al. [29] in their study expressed that board independence, has a positive link with firm performance while excess board independence is not statistically significant relationship with firm performance.

Nonetheless, some researchers discovered a negative relationship between board independence and performance of banks. Ponnu and Karthigeyan [30] revealed that there is no positive relationship between Board independence and corporate performance and the responsibility now is solely on the shoulders of the government to ensure effective corporate governance is maintained throughout the nation. Also, Ijeh, [19] revealed that Board independence is negatively signed and statistically significant at less than 1% significant for both ROA and ROE. These findings were in line with that of [31,32,33,34].

3. METHODOLOGY

This study seeks to observe the association amid board independence and corporate financial performance of Deposit Money Banks in Nigeria and Canada. The research objective will be achieved using the panel ordinary least square method. The panel data methodology is widely recommended for it is useful when data is a blend of time-series and cross-sectional features. The study applied secondary data extracted from annual financial statements of Deposit Money Banks quoted on the Nigerian Stock Market and in the Canadian stock market between the ten years period of 2008 and 2017. The study adapted the model of Alshetwi [35]. The econometric model is defined as thus:

\[
\text{PERF} = \text{ROA} \quad (1)
\]

\[
\text{PERF} = f (\text{BIND, ACI, EPS, FSIZE}) \quad (2)
\]

\[
\text{ROA}_t = \beta_0 + \beta_1 \text{BIND}_t + \beta_2 \text{ACI}_t + \beta_3 \text{EPS}_t + \beta_4 \text{FSIZE}_t + U_t \quad (3)
\]

Where

\[
\text{PERF} = \text{Financial Performance}
\]

\[
\text{BIND} = \text{Proportion of Independent Non-Executive Directors on Board}
\]

\[
\text{ACI} = \text{Audit Committee Independence}
\]

\[
\text{FSIZE} = \text{Firm Size}
\]

\[
\text{EPS} = \text{Earnings per Share}
\]

3.1 A-priori Expectation

The a-priori expectation makes available the estimated significance of the co-efficient of the model parameters to be estimated. Increase in board independence is expected to yield an increase in corporate performance of the selected banks.

The a priori expectation is mathematically represented as follows: \( \beta_1, \beta_2 > 0 \)

3.2 Measurement of Variables

Dependent Variable: Financial Performance

This is measure by returns on asset (ROA) and it is derived as

\[
\text{ROA (return on asset)} = \frac{\text{profit after tax}}{\text{total asset}} \times 100\%
\]

Independent Variable:

\[
\text{BIND}: \text{Proportion of Independent Non-Executive Directors on Board was calculated by dividing the number of non-executive directors by the total number of board members}
\]

\[
\text{ACI}: \text{Calculated by the proportion of the number of independent non-executive directors on the committee to the total number.}
\]

Control Variables

\[
\text{EPS}: \text{Profit after tax as a ratio of number of ordinary shares}
\]

\[
\text{FSIZE}: \text{Natural logarithm of total asset of a firm}
\]

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis

The result presented in the table above reveals that the correlation between the examined variables used to capture board independence and financial performance of Deposit Money Banks in Nigeria. The importance of carrying out a correlation analysis was to detect presence of multicollinearity amongst the independent variables. (2) recommends a correlation less than 80% to show absence of multicollinearity. Examining the matrix above, it can be seen that the highest correlation between the independent variables is 7% which is between EPS and FSIZE for Nigeria and 71% between FSIZE and EPS for Canada.
Table 1. Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Nigeria</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROA</td>
<td>BIND</td>
<td>ACI</td>
<td>EPS</td>
</tr>
<tr>
<td>ROA</td>
<td>0.032853</td>
<td>0.043937</td>
<td>0.810080</td>
<td>0.093435</td>
</tr>
<tr>
<td>BIND</td>
<td>1.000000</td>
<td>0.044552</td>
<td>-0.039912</td>
<td>-0.065192</td>
</tr>
<tr>
<td>ACI</td>
<td>0.044552</td>
<td>1.000000</td>
<td>0.054293</td>
<td>0.030173</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.039912</td>
<td>0.054293</td>
<td>1.000000</td>
<td>0.072639</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-0.065192</td>
<td>0.030173</td>
<td>0.072639</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROA</td>
<td>BIND</td>
<td>ACI</td>
<td>EPS</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0067</td>
<td>0.0688</td>
<td>0.2825</td>
<td>0.0644</td>
</tr>
<tr>
<td>BIND</td>
<td>1.0000</td>
<td>0.7098</td>
<td>-0.4783</td>
<td>-0.5452</td>
</tr>
<tr>
<td>ACI</td>
<td>0.7098</td>
<td>1.0000</td>
<td>-0.5436</td>
<td>-0.8003</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.4783</td>
<td>-0.5436</td>
<td>1.0000</td>
<td>0.7117</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-0.5452</td>
<td>-0.8003</td>
<td>0.7117</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: Author's Work (2019).

Table 2. Hausman test

Correlated Random Effects - Hausman Test (Nigeria)
Equation: Untitled
Test cross-section random effects

<table>
<thead>
<tr>
<th>Test summary</th>
<th>Chi-Sq. statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>8.224941</td>
<td>4</td>
<td>0.0837</td>
</tr>
</tbody>
</table>

Source: Author's Work (2019).

Correlated Random Effects - Hausman Test (Canada)
Equation: Untitled
Test cross-section random effects

<table>
<thead>
<tr>
<th>Test summary</th>
<th>Chi-Sq. statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>15.425496</td>
<td>4</td>
<td>0.0039</td>
</tr>
</tbody>
</table>

Source: Author's Work (2019).

This Hausman test was carried out to determine which model best suites the panel regression. The rule states:

If the P-value is statistically significant adopt a fixed effect model.

Also, the P-value (0.0039) < 5% significant for Nigeria. Therefore, a fixed effect model shall be used for this regression analysis.

4.2 Analysis of Panel Regression Results

Table 3. Regression analysis output

<table>
<thead>
<tr>
<th>Variable</th>
<th>Nigeria</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIND</td>
<td>0.0021</td>
<td>0.01</td>
</tr>
<tr>
<td>ACI</td>
<td>0.0032</td>
<td>0.00</td>
</tr>
<tr>
<td>EPS</td>
<td>0.0001</td>
<td>6.37</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-0.0013</td>
<td>0.00</td>
</tr>
<tr>
<td>C</td>
<td>-0.0053</td>
<td>0.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nigeria</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-squared</td>
<td>0.7555</td>
</tr>
</tbody>
</table>

Mean dependent var

Source: Author's Work (2019).
Variable | Nigeria | Canada | Source: Author’s Work (2019)
--- | --- | --- | ---
Coefficient | Std. Error | t-Statistic | Coefficient | Std. Error | t-Statistic |
Adjusted R-squared | 0.7219 | 0.2451 | 0.054312 | 3.8349 | S.D. dependent var |
S.E. of regression | 0.0215 | 3.3319 | Sum squared resid | 0.060409 | 566.184 |
F-statistic | 22.493 | 3.3945 | Durbin-Watson stat | 1.939601 | 1.5366 |
Prob(F-statistic) | 0.0000 | 0.0034 | |

4.3 Discussion of Panel Regression Results

This study examines the relationship between board independence and financial performance of deposit money banks in Nigeria and Canada. The dependent variable was proxied using ROA while the independent variable (board independence) was measured using proportion of independent non-executive directors (BIND) and audit committee independence (ACI).

i. For Nigeria, The R-squared which represents the coefficient of determination is 0.76(76%), while the adjusted R-squared which takes into account all the independent variables are 0.72(72%). This depicts that 72% of the dependent variable is explained by the independent variables while the remaining 28% is subject to factors not captured by this study. The F-statistics is positive (22.49260) which show the fitness of the model and is validated by the probability of the f-statistic which is significant at 1%, 5% and 10%. The Durbin Watson statistics value of 1.94 shows there is evidence that the parameter estimates are free from autocorrelation. From the analysis, it is revealed that there is a significant relationship between board independence (BIND, ACI, EPS, FSIZE) and corporate financial performance of deposit money banks in Nigeria.

Also, BIND revealed a positive (0.002117) but insignificant relationship with ROA. This means that for every unit increase in BIND, there is a 0.2% increase in performance (ROA) of the sampled firms. The means that the more the proportion of independent non-executive directors on the board would lead to an increase in their profitability. From the probability value which is insignificant at 5%, the null hypothesis is accepted which says that there is no significant relationship between proportion of independent non-executive directors and financial performance of deposit money banks in Nigeria.

ACI showed a positive (0.003074) and significant relationship with ROA. This is further explained that for every unit increase in ACI, there is a 0.3% increase in the profitability of deposit money banks in Nigeria. This depicts that the higher the level of audit committee independence, the greater the independence of the board which would bring about positive performance in terms of profitability. The EPS and FSIZE were used as the control variable for the study. EPS shows a positive and significant relationship with ROA while FSIZE shows a negative and insignificant relationship with ROA.

ii. Examining the relationship between board independence and financial performance of deposit money banks in Canada, the R-squared is 0.3475 (35%) while the adjusted R-Squared is 0.2451 (25%) depicting that 25% of changes in the dependent variable can be explained by changes in the independent variables (BIND, ACI, FSIZE & EPS). The F-statistics is positive (3.3945) which show the fitness of the model and is validated by the probability of the f-statistic which is significant at 1%, 5% and 10%. The Durbin Watson statistics value of 1.54 shows there is evidence that the parameter estimates are free from autocorrelation. From the analysis, it is revealed that there is a significant relationship between board independence (BIND, ACI, EPS, FSIZE)
and financial performance of deposit money banks in Canada.

Also, BIND revealed a negative (-2.8714) but insignificant relationship with ROA. This means that for every unit increase in BIND, this means that the more the proportion of independent non-executive directors on the board would lead to a decrease in their profitability. From the probability value which is insignificant at 5%, the null hypothesis is accepted which says that there is no significant relationship between proportion of independent non-executive directors and financial performance of deposit money banks in Nigeria.

ACI showed a positive (1.4439) and insignificant relationship with ROA. This depicts that the higher the level of audit committee independence, the greater the independence of the board which would bring about positive performance in terms of profitability.

The EPS and FSIZE were used as the control variable for the study. EPS shows a positive and significant relationship with ROA while FSIZE shows a negative and insignificant relationship with ROA. The findings from the study show that audit independence would significantly affect the financial performance of banks in Nigeria even though it would positively affect performance of banks in Canada.

The research findings are in line with the works of several author [23,24] which discovered a positive relationship between board independence and financial performance depicting that in emerging nations, directors' interest may increase agency conflicts which creates performance issues but non-executive directors on board as well as the independence of the audit committee ensure positive performance which automatically promotes positive financial performance.

The findings also support the agency theory which depicts that independent director's presence on the board minimizes agency difficulties. Although, this is not the case for developed nations like Canada as increase in the ratio of non-executive directors on board negatively affects financial performance which is in tandem with the work of several author [36,31] which expresses that board independence expresses no positive impact on financial performance.

The implication of this result is that board independence is a crucial factor of good financial performance for deposit money banks in developing countries like Nigeria but seems to have no significant effect on developed countries which may arising from these countries already having very structured systems as opposed to developing countries that faces a lot of structural issues and problems which ranges from high level of corruption, fraud, unethical practices, etc. Also, this study throws light on the fact that governance is not a one size fit all approach as countries have differing characteristics as board independence is seen to have effect on some other developed countries (United States).

These findings may not be so surprising from the results of Canada as directors have failed to add value to in some other developed countries [37]. These may be because outside directors' function on a part time basis and also lack insider information [38]. For instance, the financial scandal of WorldCom; where their board was made up of totally non-executive directors.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

The focus of this study on board independence is predicated on the need to ascertain whether deposit money banks in Nigeria and Canada have a functional board with an appropriate level of board independence which in turn affects their financial performance. The variables considered in this study are return on asset (ROA) (dependent variable), proportion of independent non-executive directors on board (BIND) and audit committee independence (ACI) (independent variables), earnings per share (EPS) and firm size (FSIZE) which are control variables. From the findings, it is revealed that there exists a significant relationship between board independence and profitability of deposit money banks in Nigeria and Canada.

Empirical results obtained reveal that audit committee independence promoted financial performance of the deposit money banks in Nigeria while in Canada it was positive and insignificant. Thus, a greater proportion of audit committee independence would bring about a greater level of financial performance in deposit money banks in Nigeria and Canada. Also, board independence would bring about a positive effect on financial performance of deposit money banks in Nigeria while in Canada, it would cause a negative effect of financial performance even though not significant. This aspect of corporate governance implies that banks will profit by
increasing the number of its independent directors and independent audit committee members.

From the research findings, the study proffers the following recommendations:

i. There should be strict compliance of corporate governance principles by all corporate organizations.

ii. Banks and all corporate organizations should motivate their executive members through financial compensation to promote independence.

iii. Banks and corporate organizations should exploit the wealth of financial experience of their independent audit committee members

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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