

## **Sustainability Practices and Performance of Sierra Leonean Deposit Money Banks**

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### **Introduction**

In recent times, firms are faced with heightened demand from regulatory bodies to demonstrate social and environmental responsibility and are expected to report such information about how they manage social and environmental issues. Also, there has been an increased demand on organizations from the stakeholders to widen the focus of business performance beyond financial performance. The major aspects of focus for a bank are profitability and risk; while some banks are interested in fast growth and attaining long term objectives, others prefer gradual growth by taking minimal risk that produces returns to shareholders. If the change in stock value does not meet the shareholders expectations, existing shareholders might sell their shares and potential investors might be reluctant to invest making it hard for the bank to raise capital. Banks are the major players in the financial sector and play the role of facilitating financial activities by creating interaction between borrowers and lenders within the economic unit of a nation. The efficiency of a financial system is evident in its level of profitability, the transactions it facilitates between lenders and borrowers and the quality of its services to customers over time. As financial intermediaries, banks play an important role in the operation of an economy which is equally the case in Sierra Leone where all other sectors have to interact with banks to carry out their functions effectively either as a debtor or creditor.

According to Pamane and Vikpossi (2014) the financial system provides the platform for flow of funds or savings from individuals and companies to enterprises as well as individuals in need of capital for productive investment. An efficient financial system positions resources to activities that will provide maximum rate of return for the use of the funds. These resources enhance economic growth; provide enterprises with the ability to produce more goods and services and generate jobs. Well performed and formal financial market offer to investors a variety of short and long term investment instruments by providing qualified financial intermediaries that enable individuals to make reasonable and adequate decisions about the risks and rewards of investing their funds. These instruments combine risk and returns effectively so that the investors who wish to participate in a well-structured and appropriate market can do so.

According to International Finance Corporation (2007), sustainability is increasingly recognized as central to the growth of emerging market economies. For the private sector, this represents both a demand for greater social and environmental responsibility as well as a new landscape of business opportunity. The financial sector delayed in responding to this trend but is now emerging as a major driver across all sectors in an economy. In the banking sector, new standards and codes of conduct enhances corporate accountability, transparency, and consideration of impacts on environment and society. The most appropriate means to sustainability should be such that the needs of stakeholders are met while enhancing a business' own operations and bottom line. Identifying and measuring the benefits of sustainability as a competitiveness strategy is an important part of ensuring long-term commitment from shareholders and other stakeholders. The focus area for financial institutions in the current business world has expanded to include

safeguarding the environment, accommodation of underprivileged groups and taking cognizance of other social issues that relates to labor practices, protection of indigenous populations, and upholding cultural heritage. In order to create sustainable values, it is expected of banks to create a system that effectively manages social and environmental issues and the associated risk as there is need for banks to adopt sustainable strategies given that risk consideration by itself does not enhance value creation in terms of profit and new market coverage.

According to Jeucken and Bouma (1999) banks are major players in enhancing sustainable development and their intermediary role can be qualified as both qualitative and quantitative - while they foster sustainability by improving in-house environmental and social performance, they also do so by weighing risks and attaching prices to these risks through efficient credit approval system and also by developing sustainable products such as investing funds in socially responsible opportunities. On the other hand, the use of resources such as energy, water and paper in banks and for operations also impacts in no small way because banks often operate extensive network of branches hence have significant impact on carbon footprint based on non-renewable energy consumptions. As a consequence of this reality, the financial sectors in few African, Asian and South American countries have come up with sustainability policies regulating or guiding the activities of banks within their territories. The countries are Sierra Leone and Kenya in Africa, China, Bangladesh, Indonesia, Mongolia and Vietnam in Asia, as well as Brazil, Peru and Colombia in South America (International Finance Corporation, 2016).

The development of sustainability is seen because banks are now being held accountable for the impacts of their activities particularly the effects of loans and investments in the society (Coulson, 2009) thereby influencing the environmental influence of businesses on one hand and on the other fostering sustainable development through inclusion (Klein & Mayer, 2011). This aligns with the strategy of sustainable financing as it pertains to the effect of capital through which loans are created and investments are made (Sachs & Schmidt-Traub, 2014). This development highlights the fact that funds made available by financial institutions of which banks are key players, acts as a corrective tool for better sustainability through the formulation of appropriate policies or regulations that govern its provision and flow.

Equally addressed by these sustainability policies is to show how impactful the channeling of funds for sustainable activities can be rather than just for speculative, precautionary or transaction motives. Financial institutions particularly banks could face consequences for both internal and external environmental issues as well as social issues. While internal environmental and social sustainability issues could increase costs of operations and litigation costs respectively based on law cases against them by staff, external environmental issues leading to damage of collaterals used to secure credit facilities pose as a source of systematic credit risk (Weber, 2012) that goes a long way in affecting a bank's profitability and impacts heavily on investors owing to reduced return on investment (ROI) due to increased provisioning for bad loans. Given their nature as financial intermediaries, responsible enterprise takes on a specific form for banks. The impact of banks is not only measured through direct operations in offices and branches, but also through investments, which can lead to involvement in unsustainable practices. As banks often provide the majority of external finance to companies, they can require firms to embrace sustainable business models. Bank lending potentially has more impact on sustainable business practices compared to the stock market (Scholtens, 2006).

Akingunola, Adekunle and Adedipe (2013) stated that the performance of banks is evident in their operations, activities and management. Also, beyond the services and products of the bank, performance depends on its operational environment. Bank performance means the adoption of a set of indicators which are pointers of the bank's current status and the extent of its ability to achieve its desired objectives. This is important as the banking sector efficiency is considered a vital segment of a modern economy and should be thoroughly evaluated and scrutinized to safeguard the continuous survival of the financial system and the economy as a whole. Banks provide and render a range of products and services to their customers, both individuals and business concerns with little or no differentiation in the products and services offered by the various banks as the products and services are similar. Therefore, it is imperative to evaluate the performance and determine the contribution of banks individually as compared to the contribution of the banking sector as a whole to business development as it is inevitable for banks to continue to attract significant attention from the public and scrutiny by financial regulators. Sustainability of banks is a focus area not just to the regulatory bodies but the management and clients of the banks as well as the society at large (Rengasamy, 2012).

This study is focused on providing empirical evidence as to the extent to which the commitment to sustainable practices affects the performance of banks.

## **1.2 Statement of the Problem**

The research problem of this study is coined from the adoption of the Sierra Leonean Sustainable Banking Principles (NSBPs) by banks. The earnings and profitability profile of a bank reflect its ability to carry out present and future operations, absorb future contingent shocks and strengthen resilience capacity. More specifically, this determines the capacity to absorb losses, finance its expansion and pay adequate dividends to its shareholders. Although there are various indicators of earning and profitability, the most widely used indicator is return on assets (ROA) alongside return on equity (ROE) and net interest margin (NIM) (Islam, Siddiqui, Hossain, & Karim, 2014). Despite the commitment of banks to sustainability, there are no key success factors in place to evaluate the impact of their sustainable banking efforts. The main challenges for sustainable banking are budget limitations, the struggle of linking realized benefits with sustainable banking activities and also the challenge of limited execution of sustainable banking due to inadequate budget and competing internal priorities (Deloitte 2017).

The return on equity (ROE) is a measure of shareholders returns based on the performance of a firm. Banks that depend more on deposits and borrowings are likely to achieve a higher ROE than banks that rely more on shareholders' funds. The rate of return on equity is a measure of the profit shareholders earn from employing their investment in the capital of an organization (Gibson, 2013). Weber and Oni (2015) stated that the main argument for integrating sustainability into financial sector regulations is that addressing sustainability issues increases the financial stability and financial success of the banking sector. One of the top sustainability priorities for banks is financial inclusion given their inherent strategy of increasing their number of banking customers. Financial inclusion is known to have implications for monetary and financial stability that form the core of central banking and is being considered as a critical element that makes growth inclusive as access to finance can enable economic agents to make longer term consumption and investment decisions, participate in productive activities, as well as cope with unexpected short term shocks (Park and Mercado, 2015).

Lassala (2017) stated that in some industries, return on asset (ROA) is a concern for companies with leverage to reduce cost of debt resulting from their sustainability profile. Companies who show responsibility towards environmental and social issues tend to be at an economic advantage. One of the top sustainability initiatives is women empowerment which is believed to enhance gender equality, poverty reduction and economic growth. McKinsey (2007) opined that gender diversity helps bring employees, shareholders and customers closer which potentially improves employee motivation, customer satisfaction and corporate brand image. Aside from the legislative pressure, since as a norm most of the businesses are in the process of incorporating sustainability reporting, this has created a peer pressure on the other companies operating in the industry as research has shown that the stakeholders could while rewarding the corporations that disclose sustainable activities, corporations that do not disclose will be at a disadvantage on a social perspective (Hewapathirana, 2014).

Net interest margin (NIM) stems mainly from deposits and loans which are the traditional activities of banks. Nguyen (2012) argued that banks increase in non-traditional activities is associated with reduction in net interest margin and decrease in non-traditional activities is associated with increase in net interest margin. A number of banks declined clients' access to funds because of the potential E & S risk while some banks-imposed criteria to minimize the potential risk before granting access to funds which shows that banks have a high level of commitment towards E & S issues. External environmental and social issues can also lead to litigation and act as reputational risks to the bank. Lubber (2013) opined that with the economic risks of climate change, water scarcity and other sustainability issues rising, and the opportunities in solutions and adaptation growing, investors must begin to include climate and other sustainability risks into investment analysis if they are to meet their obligations to future beneficiaries. Contrary to general view, returns do not have to be cut down in order to achieve sustainability when investing; many funds have met or exceeded their targets over time. However, while some experienced improved performance others had a decline but many investors have concluded and generalized wrongly that sustainability and maximal performance cannot be achieved at the same time.

Though, there have been quite a number of studies focusing on sustainability practices and performance of banks, most of it focused on banks outside Sierra Leone and the few done in Sierra Leone did not consider how the sustainability practices affect bank performance. Hence, there is need for extensive study of how sustainability practices affect performance in Sierra Leonean deposit money banks which is what this study is set out to achieve.

## **2.0 Review of Literature**

### **2.1 Conceptual Review**

#### **2.1.1 Performance Evaluation**

There is increasing focus on sustainable business practices and performance in banks and a corresponding interest among investors and regulatory bodies. European Central Bank (2010) stated that irrespective of the growing complexity in the banking sector, their key performance indicators remain earnings, efficiency, risk-taking and leverage. As much as a bank is expected to generate earnings, it is also imperative to consider the associated volatility of those earnings. Efficiency is the bank's ability to generate revenue from a given amount of assets and to make profit from a given source of income while risk-taking is reflected in the necessary adjustments to

earnings for the undertaken risks to generate them (e.g. credit-risk cost over the cycle). Wigwe (2016) stated that sustainability is about responsible business practices and community investment with primary focus on health, arts, sports, education, gender empowerment and the environment. Sierra Leonean banking industry's attitude towards the adoption of sustainability is progressive and evolving. Most institutions are showing commitment to sustainability as a strategy, practice or set of activities, offering opportunities to manage risks, explore opportunities and adapt to changing business. For a successful and genuine commitment to sustainability, society at large has to provide an enabling environment in which it can thrive.

According to Oh, Hong and Hwang (2017), the global advancement experienced in the business world and the growing demand of stakeholders for social commitment and transparency, has resulted in the adoption of social, environmental, and economic actions on the part of the companies; which are activities perceived to result in improved reputation, corporate image and are considered to be key consideration for companies in response to society's demands. Given the dynamic and complex nature of today's business environment, it is very likely that business sustainability derived from the practice of its social responsibility will influence financial performance. According to Aggarwal (2013), the inclusion of sustainability assessment in the main strategies of companies can generate strategic benefits that contribute to value creation. Deloitte (2017) stated that sustainable banking integrates environmental, social and governance (ESG) criteria into historical banking, and sets ESG benefits as a key objective. He further stated that capital market decisions used to be based on a two dimensional risk and return analysis but within the new era of sustainable banking, they are now based on three dimensions: risk, return and impacts. Banking institutions implement sustainable banking both in their internal daily operations (in terms of how they manage their physical branches/locations, human capital, costs, opportunities, risks exposures) and their activities relating to external interactions with their clients and the types of projects they fund. Studies by the International Finance Corporation (IFC) have revealed that there are several benefits banks have obtained from incorporating sustainability into their strategy and business practices, ranging from improved reputation to improved investor confidence.

According to United Nations Environment Programme (2015), sustainable development requires changes in the deployment and relative value of financial assets and their relationship to the creation, stewardship and productivity of real wealth. A sustainable financial system is, therefore, one that creates, values, and transacts financial assets, in ways that shape real wealth to serve the long-term needs of an inclusive, environmentally sustainable economy. Also, the sustainability of the banking sector is reflected in the quality and value of customers' products and services. By incorporating sustainability principles into corporate strategy financing decisions and product/service creation processes, banks can be outstanding in providing support and promoting environmentally and socially responsible projects and enterprises. Innovative products and services that target certain populations (e.g. women) or that encourage purchase of green products (e.g. green credit cards) go a long way to promoting sustainable practices. Sustainability is a commitment to economic well-being for both the present and the future, balancing society's needs today with the demands of tomorrow; it encompasses behaviors, processes, tools and technologies that can be perpetuated and replicated in ways that achieve economic, social or environmental benefits (Stanley, 2015).

### **2.1.2 Performance Measures for Financial Institutions**

According to Ebrahim, Abdullah and Faudziah (2014), there are a number of performance measures for banks used by academics and practitioners alike, which can be divided into traditional, economic and market-based measures of performance.

#### **2.1.2.1 Traditional Measures of Performance**

These are performance measures applied across industries and sectors. These include; return on assets, return on equity and cost-to-income ratio which are the most commonly used. Given the unique intermediation function for banks, net interest margin is equally monitored. The return on assets (ROA) is the net income for the year as a percentage of total assets in that same year. Return on equity (ROE) is a performance measure of shareholders value used internally, and it is the most widely used measure of performance given that:

- (i) it gives a direct evaluation of the financial return on shareholders' investment;
- (ii) it is readily available for analysts who rely solely on public information; and
- (iii) it is comparable among companies and different sectors of the economy.

#### **2.1.2.2 Economic measures of performance**

According to Kimball (1998), the economic performance measures takes into cognizance the creation of shareholders value and is used to assess the economic value generated by a company from its economic assets (as part of its balance sheet) in a particular year. These measures focus more on efficiency as the major element of performance and generally require high levels of information. There are two major indicators of economic performance among others:

- i) Economic value added (EVA) developed by Stern and Stewart in 1991. It is an indicator that relates to the total return of an investment and takes into account the opportunity cost of shareholders holding equity in a bank by measuring and comparing the economic rate generated by a company and the cost of capital invested in order to increase the market value of the company.
- ii) For a bank to be successful in its operations, managers must evaluate the intrinsic trade-offs between growths, return and risk; favoring the adoption of risk-adjusted metrics (RAROC) which allows banks to allocate capital to specific business units according to their specific business risk.

#### **2.1.2.3 Market-based measures of performance**

According to European Central Bank (2010) these are measures of performance that characterize the way the capital markets value the activity of any given company, compared with its estimated accounting or economic value. The most commonly used measures include:

- i) Total share return which is dividends as a ratio of the difference between share value and market share price
- ii) Price-earnings ratio (P/E) is the ratio of a company's earnings over its share price;

- iii) Price-to-book value (P/B) which relates the market price of shareholders' equity to its book value;
- iv) Credit default swap (CDS) which is the cost of insuring the unsecured bond of an institution for a given period of time.

### 2.1.3 Sustainability

Upon the creation of the concept sustainable development by Brundtland committee in 1987, they came up with the main objective of this concept, which is to meet the needs and demands of the present society without affecting the energy of the next community when it comes to securing its needs and requirements. Sustainability is defined as the ability of an institution to engage in additional activities that drives it towards adapting to events and changes relating to economic, social and ecological environment, and the management of resulting risk. This ability is evident in the public image and presence of the institution, as well as its acceptance and utilization of opportunities, which enhances creativity, innovation and its ability to cope with the flow of internal and external environment (Bansal & Ivey, 2013). A number of international institutions have defined sustainable development; Organization for Economic Cooperation and Development (OECD) sees sustainable development as an economic advancement based on realizing net returns and profits through activities that preserve environmental and social systems in an interrelated manner (OECD, 2002). Researchers and specialists in the field of sustainability have agreed that sustainable development is based on three dimensions that are considered essential pillars of sustainability (United Nations General Assembly, 2005). These dimensions are:

**Environmental dimension:** this aspect deals with preserving the natural environment within which operations and activities are carried out (Smouts, 2005).

**Economic dimension:** this aspect focus on economic activities such as the sourcing and use of funds in an efficient manner in working towards sustainability (Godard, 2010).

**Social dimension:** this aspects deals with meeting the needs of the society within which operations are carried out and putting into consideration the values upheld by different communities and those that sustains the society at large (Smouts, 2005).

Okeke (2018) stated that sustainability for every corporate entity is reliant on three areas; the economic, environmental and social, making up the triple bottom line.

### 2.1.4 Sustainable Financial Sector

Case (2012) outlines the starting point of sustainable financial services sector to have been based on philanthropy, gradually progressing to investing in sustainable businesses which entails refraining from business concerns whose operations impacts negatively on the society and; growth and value creation which focus on managing risk sustainably and utilizing opportunities in a sustainable manner to attain lasting improved performance. The sustainability of financial sectors depends on the quality of its products and services and the value created to meet the needs of its shareholders as well as taking responsibility for the needs of other stakeholders and the society at large, not necessarily preserving the natural environment; and maintaining transparency in reporting (Eccles & Serafeim, 2013).

Rogers (2013) opined that there is little or no trust in banks and the financial sector as a whole compared to other sectors which has led to the mergers and acquisitions in the sector to help failing firms while some failed completely owing to their lack of transparency. Wolk (2012) suggests that environmental, social, and governance (ESG) issues should be the major areas of focus for financial institutions as practiced globally. Eccles and Serafeim (2013) and Rogers (2013) opined that evaluating the sustainability dimensions of a firm is beyond the financial evaluation and should extend to the non-financial aspect. In the financial sector, sustainability is expected to be evident in the process, design, operations and in fact reflect every of their activities. Sustainability in banking should entail creating a balance of corporate culture, an endeavor for improved business operation and optimal performance as well as social considerations and customer satisfaction which entails more than the adoption of sustainability guidelines.

### **2.1.5 Role of Banks in Sustainability**

Banks play a key role in an economic system as a result of their intermediary function between people with shortage and surplus of funds. In this context, the activities of banks do not impact directly on the environment when compared to the chemical, mining, health/drug, petroleum or textile sector hence, it can be stated that the banking sector has a minimal direct impact on the environment.

The activities of financial institutions has an impact on individuals, organizations, the economy and the world at large as there is a need to interact with this sector in carrying out their functions and meeting personal, corporate and global demands hence, there is need for the financial sector to consider the how their operations and activities affects the environment and society as this impacts on sustainable development (Oner-Kaya, 2010).

Financial institutions are faced with environmental and social issues both internally and externally. The internal aspect is in relation to the processes of carrying out their operations and the impact on E&S issues is minimal in relation to what is obtainable in other sectors; although when aggregated, the internal activities of the financial sector has a significant impact on E&S issues. The external environment relates to the products and services of the banks which by itself do not impact E&S issues but its users impacts the environment through their activities which means that the external aspect of the banks impacts on E&S issues indirectly (Jeucken& Bouma, 1999).

According to Jeucken (2001), a bank advances through four phases before attaining sustainability. These are defensive banking, preventive banking, offensive banking and sustainable banking. The defensive banking phase is the point when the banks are focused on profitability and growth, totally avoiding sustainability and the associated cost. In the preventive banking phase, banks focus on cost savings areas in their operations and only consider sustainability in internal operations. In the offensive phase, banks start to see opportunities in the sustainable development process (e.g. sustainable financial products, new markets, financing sustainable energy) and take into account sustainability in the external operations as well as internal operations. In the sustainable banking phase, all operations of banks become sustainable and environmental, social and economic sustainability take the place of maximum financial return.

The intermediary function of the bank to individuals, organizations and the society as a whole is an outstanding role that can clearly show its drive or otherwise towards sustainability. Banks facilitate the flow of funds irrespective of time, volume, distance and risk; while the resulting



impact is seen in the economic development of the nation. The value of impact is both quantifiable and qualitative as it is evident in the progression of the economic advancement. (Jeucken, 2001). The bank has a responsibility towards the users of its services on one hand and the economy as a role on the other hand as its customer rely on their functions and the economy feels the impact given that the bank is a major facilitator in economic growth (EY, 2013). Case (2012) banks are expected to proactively manage their exposure to risk especially in environmental and socially sensitive opportunities because of the potential legal, regulatory and/or reputational damage it might cause. IFC (2017) stated that looking across emerging practices; four key indicators appear to be useful to track green banking. First is banking commitments which entail the adoption and implementation of green finance principles, standards, and practices by banks; financial flows in terms of the volume and distribution of bank assets to green investment priorities; financial risk which impacts on the reliability of financial product and services; and lastly, the environmental and social outcomes which is avoidance of negative E&S impacts and achievement of positive impacts in core financing activities.

### **2.1.6 Sustainable Banking**

According to Imeson and Sim (2010), sustainable banking is a principle that should characterize every activity of the banking sector as a bank's operation are not for the benefits of its owners, customers and staff alone but the society at large hence, the need for its operations to conserve the natural environment and impact the society by safeguarding its resources through proper management of risk. Banks are also expected to be proactive, as much as possible, and engage in activities that enhances the society and preserve the environment. Jeucken (2004) notes that the internal operations of a sustainable bank should align corporate business standard of sustainability and likewise, its external operations should create sustainable values for its customers and the society at large. CBSL (2012) defines sustainability banking as "an approach that recognizes the role of banks in driving long term economic development in Sierra Leone that is not only economically viable, but also environmentally responsible and socially relevant" (p. 2). The International Finance Corporation (2008) emphasized that sustainability in the banking sector is beyond philanthropic activities and corporate social responsibility. Sustainability in the banking sector has been embraced through:

- i) Commitment to environmental preservation and social considerations in operations.
- ii) Adoption of sustainability as a business culture.
- iii) Creation of access to more customers through products and services.

Barclays (2009) opines that sustainable banking entails good governance and effective risk management. The top management is expected to meet the requirements of relevant laws, regulatory and industry standards as well as policies that drive sustainability. Also, Straw (2013) stated that the profit potential of adopting sustainability should not be the drive for its implementation but should rather be seen as a necessity for attaining ESG goals. The International Institute for Sustainable Development (2013) stated that in a research by UNEP and Salomon, it was found that commercial and investment banks believed that environmental issues had a significant effect on their business operation. The areas of concern to the banks given its effect on financial performance are:

#### i) Lending Services

The bank is exposed to a certain level of financial risk resulting from liability on loan and credit facilities accessible by customers. Banks need to adopt due diligence in relying on the financial records of their clients and have an understanding of the client's business environment in order to mitigate potential risk.

#### ii) Borrowers' obligations

The ability of the borrower to pay up loan commitment might be jeopardized by expenses arising as a result of its activities. There is need to carry out an assessment of events that might arise following the activities of a borrower and the effect on the overall assessment of his credit worthiness.

#### iii) Growing environmental concerns

A number of regulatory demands relating to environmental preservation have surfaced over the years following health hazards caused by industrial waste and public concern about the future of environmental safety. This imposes a responsibility on banks in matters of environmental and social concern.

#### iv) Business opportunities

Rather than react to changes in the environment, banks are to forecast and prepare against possible changes through their approach and strategies. This will help to narrow down variance between expected and actual results.

### **2.1.7 Dimensions to Sustainable Banking**

According to Imeson and Sim (2010), there are three basic dimensions to sustainable banking and these are economic, social and environmental dimensions

#### **(i) The Economic Dimension**

The most significant area of concern in the drive towards sustainability is the impact that the product and services of a bank has on the sector as a whole. Not only are banks expected to meet customers need for value and quality, they are expected to provide fair compensation and working environment for their employees and create value for their shareholders. Overall, the operations of a bank should contribute to smooth running of the economy with minimal negative impacts.

#### **(ii) The Social Dimension**

To meet social demands, a bank is expected to work towards reducing the negative effects of its activities on the society while maximizing opportunities to make positive impact on the society. This can be achieved by engaging in ethical business practices, providing responsible services and at the same time creating job opportunities without any form of discrimination, providing basic needs of their operating community and other volunteer services among others

### **(iii) The Environmental Dimension**

Just like any other sector, sustainability for the banking sector requires a commitment towards reducing the negative impacts of their operations on the environment. This is done by avoiding some line of actions or trying to make good the negative effects of previous actions and also ensuring that their customers' activities are responsible towards the environment through their lending policies and assessments.

Sustainable banking entails a balance of the triple bottom line as economic achievement by itself does not create balance hence, preservation of the environment and social stability must also be accomplished. Jeucken (2001) noted that in working towards sustainable banking banks are not expected to only accept clients that have attained sustainability but should also drive clients that are still operating traditionally towards becoming sustainable. Also, banks should provide support for clients already working in the process of becoming sustainable.

#### **2.1.8 Sierra Leonean Sustainability Banking Principles (SLSBPs)**

As stated in Weber and Oni (2015), the NSBPs consist of “nine principles that cover environmental and social (E&S) risk management, E&S footprint, human rights, women's economic empowerment, financial inclusion, E&S governance, capacity building, collaborative partnerships and reporting” (p.1). Sierra Leone's central bank mandated full adoption and implementation of these principles and guidelines by the financial institutions; all banks are expected to issue an initial sustainable banking report detailing their respective principles implementation progress no later than 31 December 2013. However, a full sustainable banking report will be required from each bank no later than 31 December 2014. The guidelines have been developed as voluntary standards by Sierra Leonean banks. The reason for the development of the NSBP was to guarantee access to foreign investments for Sierra Leonean banks, because financial institutions, such as the Netherlands Development Finance Company (FMO), require information about how sustainability is addressed by their investees (Weber & Oni, 2015).

The Central Bank of Sierra Leone (2012) nine sustainability principles are:

- i. Principle 1 — “Our Business Activities' Environmental and Social Risk Management: We will integrate environmental and social considerations into decision-making processes relating to our Business Activities to avoid, minimize or offset negative impacts”.
- ii. Principle 2 — “Our Business Operations' Environmental and Social Footprint: We will avoid, minimize or offset the negative impacts of our Business Operations on the environment and local communities in which we operate and, where possible, promote positive impacts”.
- iii. Principle 3 — “Human Rights: We will respect human rights in our Business Operations and Business Activities”.
- iv. Principle 4 — “Women's Economic Empowerment: We will promote women's economic empowerment through a gender inclusive workplace culture in our Business Operations and seek to provide products and services designed specifically for women through our Business Activities”.

v. Principle 5 — “Financial Inclusion: We will promote financial inclusion, seeking to provide financial services to individuals and communities that traditionally have had limited or no access to the formal financial sector”.

vi. Principle 6 — “E&S Governance: We will implement robust and transparent E&S governance practices in our respective institutions and assess the E&S governance practices of our clients”.

vii. Principle 7 — “Capacity Building: We will develop individual institutional and sector capacity necessary to identify, assess and manage the environmental and social risks and opportunities associated with our Business Activities and Business Operations”.

viii. Principle 8 — “Collaborative Partnerships: We will collaborate across the sector and leverage international partnerships to accelerate our collective progress and move the sector as one, ensuring our approach is consistent with international standards and Sierra Leonean development needs”.

ix. Principle 9 — “Reporting: We will regularly review and report on our progress in meeting these Principles at the individual institution and sector level” .

The NSPBs address both social and environmental issues of banking. However, they mainly state that banks will develop policies, practices, and products and services to address the various sustainability issues. In particular, outcomes of the NSBP are not defined. Therefore, it is not easy to enforce the guidelines and to supervise compliance. Consequently, criteria have to be developed that enable the central regulator to enforce the guidelines.

### **2.1.9 Sustainable Performance Evaluation**

How well an organization has been able to adjust to changes in the environment is assessed through evaluation of its performance. Before the concept of sustainability became popular, performance evaluation was based on financial performance as contained in the financial report. At present, financial performance by itself is not a reliable measure of performance as there is need to consider changes in the market and environment within which a firm operates which are qualitative measures of performance as there is increasing focus by stakeholders on the environmental and social impact of firms’ operations. According to Goel (2010), the sustainable performance of a company is evaluated by carrying out an assessment of the three areas of sustainability: economic, social and environmental performance. Economic performance is concerned with areas reported in a company’s financial statement for the period and also includes training of human resources, research and development, employee cost and benefit. Environmental performance is concerned with the resource usage of the company in their operations which includes energy, land, water and the outcome of engaging in such activities like waste, air pollutions, chemical pollutions and spillages. A company is evaluated based on the aggregate of environmental impact in terms of waste disposal, depletion of natural resources, energy generation and consumption; air and chemical pollutions. Social performance is concerned with the impact of a company’s value chain on the community it is operating in. It includes employee relations, health and safety, ratio of wages to cost of living, non-discrimination, employee turnover rate and education. However, assessing the social impact of companies is more demanding and less embraced compared to economic and environmental performance assessment (Székely&Knirsch, 2005).

Eccles and Serafeim (2013) opined that the problem with banks, insurance companies, and other financial institutions exhibiting their commitment to sustainability by focusing on energy and water in their sustainability reporting is that these issues do not have a significant effect on the sustainability of the institution, its shareholders and other stakeholders (employees, customers, counterparties, and society) which rely upon the services and stability of the financial sector to create employment and stable economic growth. Financial institutions are expected to focus on social and governance issues as this is significant to their sustainable performance. There is need for sufficient information on key areas of sustainability in terms of social and corporate performance, and how it reflects in the financial performance. Social performance is reflected in recruitment and retention process, employee payment scheme, customer satisfaction, ethical productions, and financial inclusion while governance performance is reflected in the management of legal and regulatory issues, systemic risk management, and conflict resolution among others.

Eccles and Serafeim (2013) further stated that with adequate information, shareholders and other stakeholders will have a comprehensive view of exactly how a financial institution seeks to achieve financial performance and the associated negative impact it is making in doing so. This will position financial institutions to better manage non-financial environmental, social and governance performance through introduction of new products, methods, and business strategies that will enhance improvement of financial performance at the same time.

### **2.1.9.1 Financial Inclusion**

Financial inclusion is the objective of providing access for everyone to be part of the financial system in a manner that the needs of individuals, providers of goods and services and the society as a whole is met if achieved globally. One essential element of financial inclusion is access to instruments that allow for saving or borrowing or both however, it is possible to nurture increased financial inclusion without a large increase in aggregate credit as the most pressing financial needs for say the low-income population may consist in having reliable savings and payment instruments rather than credit (Hawkins, 2011, World Bank, 2008). Mckinsey (2010) in their study on global financial inclusion adopted a descriptive analysis; they analyzed the percentage of the world's adult population that does not use the services of a financial institution also, they considered the cost of offering deposit services.

IFC (2016) adopted a survey research in analyzing the role of banks in financial inclusion using the rate of income growth, percentage of account holders in financial institutions, mobile account holders and both. They also did an analysis of the drivers of financial inclusion (CSR, investment, market activities and commercial motives) and analysis of the users of mobile technology. The ROE is a measure of shareholders returns based on the performance of a firm. Banks that depend more on deposits and borrowings are likely to achieve a higher ROE than banks that rely more on shareholders' funds. ROE is strongly influenced by the capital structure of a financial institution, in particular, how much use it makes of equity financing. Every sector of the economy is affected by interest rate but it is very significant to the banking sector as they trade money. Deposits in banks forms the bulk of a nation's savings and as such impact its economic progress significantly. Bank deposits comprises of cash, cheque or electronic transfer of fund kept by customers in their bank account and attracts a return at the existing interest rate. Bank deposits serves as a support system to the banking sector and interest is the benefit customers get in return (Mushtaq & Siddiqui, 2017).

### **2.1.9.2 Environmental and Social Risk Management**

International Institute for Sustainable Development (2013) in their study stated that most financial institutions believed that environmental issues had a significant impact on their business operations and are sensitive about the financial effects as it relates to liability of lenders, ability of borrowers to meet financial obligations, complex environmental issues and business opportunities.

The state of investing at present is such that investors consider not just the financial return of a portfolio, project or company they wish to invest in but also considers if such investment is environmentally and socially viable. That is to say beyond financial return, sustainability has become an investment criterion for investors (Moore, 2004). Eccles and Serafeim (2013) emphasized that although financial institutions cannot overlook environmental issues they have a more significant impact on the environment when they assess the environmental impact of their customers' activities in giving them access to funds for their operations. As much as the financial sector has a responsibility to their environment, they should not focus on this as a key indicator of their sustainability.

Nieto (2017) stated that the environmental risk assessment of exposures should go hand in hand with the understanding of the credit risk involved. The sustainability risk that the financial sector faces is directly proportional to the risk exposure of their customers in terms of environmental and social issues. The risk (reputational, legal and/or financial) that a financial institution is confronted with results from the transactions they carry out with their customers given that that is a level of exposure to environmental and social risk which every individual or business is faced with in carrying out their operations. Some E&S risks are transaction-specific depending on the industry, client's operational activities and location. E&S issues come up in areas of waste management, environmental pollution, safety and health issues and social cultures; which are most times within the control of the clients and can be avoided or reduced (IFC, 2007). International Institute for Sustainable Development (2013) in their study stated that most financial institutions believed that environmental issues had a significant impact on their business operations and are sensitive about the financial effects as it relates to liability of lenders, ability of borrowers to meet financial obligations, complex environmental issues and business opportunities.

### **2.1.9.4 Environmental and Social Governance**

Cadbury (2000) stated that corporate governance is the system through which companies are directed and controlled to ensure that duties are exercised according to laws, regulation and codes of conduct. Formerly, corporate governance was limited to legal and accounting compliance, with a focus on shareholder returns. However, corporate governance presently includes environmental, social and governance (ESG) issues, as well as responsibilities to wider stakeholders groups (Saravanamuthu, 2004). CSR transparency is more effectively achieved through improving the quality of corporate governance, rather than mandating specific disclosures (Chan, Watson & Woodliff, 2014). For many reviewers, the main concern of responsible business is no longer how to mitigate negative externalities of business practices, but rather how to find ways in which businesses can anticipate and prevent the occurrence of negative impact. This approach means a significant step towards increased responsibility of firms, which goes beyond symbolic efforts and implies a major change to the overarching business model (Paulet, Parnaudeau & Relano, 2014).

Adenikinju (2005) observes that in a limited view, corporate governance can be conceived as a set of arrangement internal to the corporation that defines the relationships between managers and shareholders. Coleman and Nicholas-Biekpe (2006) define corporate governance as the relationship of the enterprise to shareholders or in a broad sense as the relationship of the enterprise to society as a whole which implies the sum of the processes, structures and information used for directing and overseeing the management of an organization. Vives (2000) and Oman (2001) observe that there is a more inclusive approach which views corporate governance as the methods by which suppliers of finance control managers in order to ensure that their capital cannot be expropriated and that they can earn a return on their investment. Within the capital market, economic performance is depicted by the amount of profit a firm makes. However, this information may be biased, since it is based on manager's accounting choices. Moreover, the ranking of companies which is usually based on accounting performance may be affected by environmental risks or inefficient corporate governance (Hejazi & Hesari, 2012).

The mechanisms of corporate governance are board size and board composition, board responsibility, accountability, internal control and transparency and disclosure. Heidi and Marleen (2003) observe that banking supervision cannot function well if sound corporate governance is not in place. Consequently, banking supervisors have strong interest in ensuring that there is effective corporate governance at every banking organization. Stoiber (2010) posits that most banks engaging in sustainability do that through applying the sustainability lens to the bank's mission and business by way of setting ethical standards for investing to designing products with sustainability features at their core. Green operations and philanthropy are givens in this category. The innovation of the financial system has changed the banks' products and has increased the banks' activities. Traditional banking activities mainly consist of receiving deposits and granting loans. Recent trend of product diversification of the banking services under financial deregulation implies that banks have been encouraged to involve non-traditional banking activities, such as cash management, bank account management, and other off-balance sheet services (Vithyea n.d.).

#### **2.1.9.5 Reporting**

Sustainability reporting is still in its initial stage of development. In most countries, this practice is adopted on a voluntary basis. Haider (2010) observes the historical development of corporate social and environmental reporting (CSER) and concludes that the development of CSER is following a slow process which begins 'with employee reporting and then moves on to social reporting, environmental reporting, triple bottom line reporting and eventually, and ideally, sustainability reporting. Similar to their developed counterparts, corporations in developing countries are also making CSER although low in volume. Yet, since the publication of the first separate environmental reports in 1989, the number of companies that has started to publish information on its environmental, social or sustainability policies and/or impacts has increased substantially (Kolk, 2004). With the gradual development in the sustainability reporting by the businesses, there has been shift from the voluntary nature of reporting to mandatory. For this purpose, various regulatory bodies have developed frameworks and regulations related to the reporting and it is been evident that corporations has elevated beyond the external and regulatory pressure and has reached the realization that they have to move beyond including a sustainability report/ statement in the annual report. Hence there is a trend of shifting towards an integrated reporting approach, which combines the performance and the purpose of a business (Hewapathirana, 2014).

### **2.1.10 Stakeholders**

The conflicting needs of the different stakeholder group imposes a difficult task on companies as there is need to meet the needs of one stakeholder group without overlooking the need of another hence the need for balance of conflicting needs. While one stakeholder group seeks for high returns, the associated cost to the bank is high; another group desires the loan service of the bank at the lowest possible cost, which has a negative effect on the return of the bank. Bank shareholders desire to generate more earnings from little investment which tend to result in a cut in employees compensation and benefits. There is also the policy of regulatory bodies that imposes a limit on the risk taking of the bank in sourcing and usage of funds which equally restrains the bank from meeting other stakeholder needs (Avkiran& Morita, 2010; Hempel, Simon & Coleman, 1994).

Avkiran and Morita (2010) stated five stakeholders group: shareholders, customers, managers, employees, and regulators. Rebai, Azaiez and Saidane (2012) stated that there is continuous change going on in the business world and a number of associated challenges; popular among them is the issue of meeting immediate needs without disrupting the chances of meeting future demands taking into consideration that every stakeholder has a part to play in other to attain sustainability. Also, in order for a bank to carry out their responsibility in achieving sustainability, they should be positioned to adapt to the changing demands in the business environment and should work towards adopting sustainable values taking into account the demands of the various stakeholder groups and the society at large. Rebai, Azaiez and Saidane (2012) in examining the sustainability of banks considered six stakeholders' view point; regulators, shareholders, customers, managers, employees and civil society; and suggested a number of expectations of each of this stakeholder which can be used to evaluate their performance among others.

#### **Regulators**

The gap between the economy and the financial sector is filled by the regulators. They safeguard the interest of the populace and the economic condition of the nation through policies on risk areas of the bank.

#### **Shareholders**

These are the equity capital providers of a bank and expect a reasonable return for their investment hence; their focus will be on the profitability of the banks as this will determine their returns on equity, dividend and continued survival of the bank. Shareholders retain and invest more in a bank where their expected returns are met and exceeded.

#### **Customers**

These are the recipients of the services provided by the banks. The income generated by the banks is from the payment made by customers for their services hence, the focus of the customers is on the quality and value of services rendered by the banks.

#### **Managers**



Managers are officers of the bank and expect fair benefits and incentives for their service to the bank. Their expectations can only be met when the bank is performing well which means that the performance of the bank is imperative to meeting their needs.

### **Employees**

Employees are also concerned about the financial performance of their bank as this determines their rewards in terms of benefits and societal factors.

### **Civil society**

While the activities of the banking industry do not by itself create issues of social concerns, its unique role can be used to channel the society at large towards a state of economic stability.

Douglas, Doris and Johnson (2004) opined that the financial sector is an agent of sustainability as they drive other sectors to become more sustainable economically, environmentally and socially. By implementing regulatory policies, the bank is able to maintain a desired level of economic stability. Also, through environmental risk assessment, banks are able to control the activities of their clients by making funds available to sectors or projects that sustain the natural environment. Finally, through its work place culture, a bank can adopt practices that are compatible with socially acceptable values and norms.

## **2.2 Theoretical Review**

This research study considered a number of theories. These are stakeholders' theory, resource dependency theory and institutional theory. However, this study was anchored on stakeholders theory.

### **2.2.1 Stakeholders Theory**

Following the introduction of stakeholders' theory in 1970, Freeman (1984) developed the scope of the theory to accommodate a wider range of stakeholders. Colbert, Freeman and Wheeler (2003) argued that the stakeholders' theory is an integration of social and organizational school of thought. The theory does not have an origin in itself but was developed from the background and incorporation of existing traditional philosophies. Stakeholders' theory takes into cognizance all group of individuals that have a stake in the existence of an organization as opposed to agency theory where the shareholders' objective is the main focus of the management. The stakeholder perspective entails working towards a balance in meeting the needs of various stakeholder groups beyond the traditional ideology of principal – agent relationship (Freeman, 1999) while Sundaram and Inkpen (2004) argues that the theory is focused on meeting only the needs of significant stakeholder groups. However, Clarkson (1995) opined that an organization is a system that is set up to create value for its stakeholders. Freeman (1984) opined that trying to meet the conflicting needs of the various stakeholders poses a challenge to management in decision making. Donaldson and Preston (1995) however argued that the stakeholders' theory is concerned with how management decisions affect the needs of stakeholders without considering the needs of a group above another.

### **2.2.2 Resources Dependency Theory**

This theory was formalized by Pfeffer and Salancik in 1978. Haslinda and Benedict (2009) stated that the resource dependency theory focus on board's role in making resources accessible while stakeholders theory focus on meeting the needs of stakeholder groups. Hillman, Canela and Paetzold (2000) contend that resource dependency theory focuses on the role that directors play in providing or securing essential resources to an organization through their linkages to the external environment. Daily, Ellstrand and Johnson (1996) agreed that resource dependency theory is focused on the integration of key professionals into the firm to enhance the managerial operation of the firm as it is more cost effective than sourcing for them when the need arises. The availability and accessibility of resources is vital to the smooth operation and continuous survival of a firm (Daily, Dalton & Canella, 2003). According to Hillman *et al.* (2000), the directors are the link between an organization and resources such as information, skills and access to key players.

### **2.2.3 Institutional Theory**

Since its emergence in the 1970s particularly through Meyer and Rowan's (1977) model article publication, there have been proliferations of organizational analyses based on institutional theory with investigated works in the field covering a wide range of phenomena (Tolbert & Zucker, 1999). The theory has become vibrant over time and has risen to prominence as a popular and powerful explanation for both individual and organizational action (Dacin, Goodstein, & Scott, 2002) emphasizing the dependence of modern organizations on their environments (Meyer, 2008). According to Kostova, Roth and Dacin (2008), the theory provides a theoretical platform for investigating a wide scope of critical issues, gives room for detailed analysis and can be fundamentally applied in international management literature to: conceptualize national environments in terms of regulatory, cognitive and normative pillars which introduces important constructs such as country institutional profile; and conceptualize processes of large-scale transformation of national systems through the notions of institutional transition, upheaval and imperfection among many other applications.

Institutional theory considers the processes of institutionalization by which structures, including schemes, rules, norms, and routines, become established as authoritative guidelines for social behavior (Scott, 2004). Conferring to Meyer and Rowan (1977), institutionalization involves the process by which social processes, obligations, or actualities take on a rule-like status in social thought and action. The concept of institutionalization brings up the issue of structures which aligns to several theories that focus on the flow of activities as key dimensions for the success of formal organizations in the modern world with the other reason for structures being its institutional legitimacy as structural ideas are intertwined in social ideologies and imposed the legal system among others. As a result, they stated that the use of institutional structures display obligations and leaves no room for excuse. This is vital with regards to regulations as non-adherence to stated rules reflects irresponsibility which could bring about some form of disciplinary actions or sanctions.

## **2.3 Empirical Review**

A number of studies have been done on sustainability practices and banks performance. Some of the studies relating to return on asset, return on equity, net interest margin and sustainability practices are reviewed.

### **2.3.1 Sustainability Practices and Return on Asset**

Ngwakwe (2009) studied the relationship between environmental responsibility and firm performance in Sierra Leone for the period of 1997 to 2006. The study showed that sustainable practices have a significant positive impact on the financial performance (measured by return on asset) of firms. Chan and Heang (2010) did a study on corporate governance, board diversity and bank efficiency of commercial banks in Malaysia for the period of 2000 to 2009. Secondary data sourced from the financial statement of the commercial banks was employed to form a panel data. Gender diversity on the board was used as a measure of board diversity which is the independent variable while return on asset was used as a measure of bank efficiency which is the dependent variable. Adopting regression analysis, the study showed that gender diversity does not have a significant effect on return on asset (ROA).

Wachudi and Mboya (2012) studied the effect of board gender on the performance of commercial banks in Kenya for the period of 1998 to 2009 using a regression model to carry out the analysis; their measure of board diversity was the presence of female directors in the board and the proportion of female directors and ROA was used as a measure of performance. Secondary data sourced from the financial statements of the commercial banks was employed in the study to form a panel data. The study showed that the presence of female directors in the board has a negative relationship with the return on asset (ROA). Also, the proportion of female directors in the board has a negative relationship with ROA.

Van-Geffen (2012) studied the financial performance and risk profile of sustainable firms in United States from 2001 to 2010. Secondary data was employed to form a panel data. The independent variable was corporate social performance while the dependent variable was financial performance measured by return on asset (ROA). They analyzed the variables using regression analysis and descriptive statistics and did a comparative analysis. They concluded that sustainable firms are more profitable than benchmark companies. Pathan and Robert (2013) did a study on whether the board structures of banks affect their performance in U.S. bank holding companies for the period of 1997 to 2004. Gender diversity was used as a proxy for board diversity and performance was measured by the return on average asset (ROAA). The studied showed that gender diversity has a positive significant effect on the performance of banks measured by ROAA.

Setiyono and Tarazi (2014) studied the diversity of bank board members and its effect on performance and risk in Indonesia banks from 2001 to 2011. Secondary data was employed to form a panel data which was analyzed using descriptive statistics and regression analysis. To account for gender diversity, they calculated the proportion of women (female) on the board as a proxy for gender diversity which is the independent variable and return on asset (ROA) as a proxy for performance which is the dependent variable. They concluded that the inclusion of women in the board has a significant impact on performance. Taskin (2015) studied the relationship between CSR and banks' financial performance of banks in Turkey in 2013. The study makes a content analysis based on the guidelines of GRI for measuring the degree of CSR, namely, economic impacts, environmental impacts and social impacts which is the independent variable while return on asset (ROA) was used to measure financial performance which is the dependent variable. Secondary data was employed to form a time series data. The study showed an insignificant negative relationship between CSR and ROA.

Zyadat (2016) studied the impact of sustainability on the financial performance of Jordanian Islamic banks for the period of 2008 to 2014. Secondary data sourced from annual reports and sustainability reports was employed for the study. Sustainability is the independent variable measured by the three dimensions of sustainability while financial performance is the dependent variable. The study considered the effect of the three dimensions of sustainability (economic, environmental and social) on financial performance (return on assets). Adopting a descriptive analysis using multiple regression analysis, he concluded that the dimensions of sustainability have a significant impact on ROA. Ebdane (2016) studied the impact of sustainability reporting on corporate performance in Philippine. The study focused on determining the effect of overall sustainability reporting and the individual performance indicators including economic, social and environmental disclosures to the performance of companies who submit sustainability reports. The studied showed that sustainability disclosure as a whole affects performance measured by return on asset (ROA) however when treated individually, economic, environmental, and social disclosures do not affect the company performance in terms of ROA.

### **2.3.2 Sustainability Practices and Return on Equity**

Chan and Heang (2010) did a study on corporate governance, board diversity and bank efficiency of commercial banks in Malaysia for the period of 2000 to 2009. Secondary data data. Gender diversity on the board was used as a measure of board diversity which is the independent variable while return on asset was used as a measure of bank efficiency which is the dependent variable. Adopting regression analysis, the study showed that gender diversity does not have a significant effect on return on equity (ROE). Van-Geffen (2012) studied the financial performance and risk profile of sustainable firms in United States from 2001 to 2010. Secondary data was employed to form a panel data. The independent variable was corporate social performance while the dependent variable was financial performance measured by return on equity (ROE). They analyzed the variables using regression analysis and descriptive statistics and did a comparative analysis. They concluded that sustainable firms are more profitable than benchmark companies.

Pathan and Robert (2013) did a study on whether the board structures of banks affect their performance in U.S. bank holding companies for the period of 1997 to 2004. Secondary data was used for the study to form a panel data which was analyzed using descriptive statistics and regression estimates. Gender diversity was used as a proxy for board diversity which is the independent variable while performance which is the dependent variable was measured by the return on average equity (ROAE). The studied showed a positive relationship between gender diversity and performance of banks. Setiyono and Tarazi (2014) studied the diversity of bank board members and its effect on performance and risk in Indonesia banks from 2001 to 2011. Secondary data was employed to form a panel data which was analyzed using descriptive statistics and regression analysis. To account for gender diversity, they calculated the proportion of women (female) on the board as a proxy for gender diversity which is the independent variable and return on equity (ROE) as a proxy for performance which is the dependent variable. They concluded that the inclusion of women in the board has no significant impact on performance.

Halamka (2015) in his study on ethics as a way to sustainability in the banking sector of Prague for the period of 2003 to 2013 and concluded that the peers of ethical banks had a higher profitability measured by return on equity (ROE). Taskin (2015) studied the relationship between CSR and banks' financial performance of banks in Turkey in 2013. The study makes a content

analysis based on the guidelines of GRI for measuring the degree of CSR, namely, economic impacts, environmental impacts and social impacts while return on equity (ROE) was used to measure financial performance. The study showed an insignificant negative relationship between CSR and financial performance measured by return on equity (ROE).

Zyadat (2016) studied the impact of sustainability on the financial performance Jordanian Islamic banks for the period of 2008 to 2014. Secondary data sourced from annual reports and sustainability reports was employed for the study. Sustainability is the independent variable measured by the three dimensions of sustainability while financial performance is the dependent variable. The study considered the effect of the three dimensions of sustainability (economic, environmental and social) on financial performance of Jordanian banks (return on equity). A descriptive analysis was adopted using multiple regression analysis; he concluded that the dimensions of sustainability did not have a significant impact on financial performance (ROE).

Ebdane (2016) studied the impact of sustainability reporting on corporate performance in Philippine. The study focused on determining the effect of overall sustainability reporting and the individual performance indicators including economic, social and environmental disclosures to the performance of companies who submit sustainability reports. The studied showed that sustainability disclosure as a whole affects performance measured by return on equity (ROE) also, when treated individually, economic, environmental, and social disclosures do not affect the company performance in terms of ROE.

### **2.3.3 Sustainability Practices and Net Interest Margin**

McKinsey (2007) in their study on women matter found out that when there are more women in the management board of a firm their financial and organization performance are greater than the industry average in terms of returns, EBIT margin and stock performance. Pathan and Robert (2013) did a study on whether the board structures of banks affect their performance in U.S. bank holding companies for the period of 1997 to 2004. Secondary data was used for the study to form a panel data which was analyzed using descriptive statistics and regression estimates. Gender diversity was used as a proxy for board diversity which is the independent variable while performance which is the dependent variable was measured by net interest margin (NIM). The studied showed a negative significant relationship between gender diversity and the performance of banks measured by NIM using regression analysis.

Setiyono and Tarazi (2014) studied the diversity of bank board members and its effect on performance and risk in Indonesia banks from 2001 to 2011. Secondary data was employed to form a panel data which was analyzed using descriptive statistics and regression analysis. To account for gender diversity, they calculated the proportion of women (female) on the board as a proxy for gender diversity which is the independent variable and net interest margin (NIM) as a proxy for performance which is the dependent variable. They concluded that the inclusion of women in the board has a significant impact on performance. Smith, Smith and Verner (2006) did a study on women in top management and firm performance and analyzed their data; percentage of female in management and gross value added using a regression model. They concluded that females in the board have a positive impact on performance.

Nwobu (2015) studied the relationship between corporate sustainability reporting and profitability in Sierra Leonean banks for the period of 2010 to 2013. The study employed a disclosure index to

score the extent of sustainability reporting. The study showed a significant relationship between profitability and corporate sustainability reporting. Taskin (2015) studied the relationship between CSR and banks' financial performance of banks in Turkey in 2013. The study makes a content analysis based on the guidelines of GRI for measuring the degree of CSR, namely, economic impacts, environmental impacts and social impacts while net interest margin (NIM) was used to measure financial performance. The study by way of regression analysis showed a significant positive relationship between CSR and financial performance measured by net interest margin (NIM). Halamka (2015) studied ethics as a way of sustainability in the banking sector of Prague for the period of 2003 to 2013. The study showed by way of comparative analysis that ethical banks had a higher net interest margin (NIM) than peers.

### 3.0 Methodology

This study adopted an *ex-post facto* design which refers to studies that investigate possible cause and effect relationship by observing an existing condition or state of affairs and searching back for plausible causal factors. This is because data were obtained from the annual financial statements of the Sierra Leonean money deposit banks to ascertain the effect of sustainability practices on performance.

#### 3.1 Measurement of Variables

The dependent variable of this study; performance was measured by return on asset (ROA), Return on equity (ROE), Net interest margin (NIM) and the geometric mean of return on asset, return on equity and net interest margin.

#### 3.2 Model Specification

In trying to achieve the objective of this study, a regression model was used to evaluate the impact of sustainability practices on the performance of Sierra Leonean deposit money banks. The model covered the effect of sustainability practices (SP) on return on asset (ROA), return on equity (ROE), and net interest margin (NIM).

$$Y = f(X, Z)$$

$$PER = f(SP)$$

Where: P = Performance

SP = Sustainability Practices

Y = Performance (Dependent Variable)

$$Y = y_1, y_2, y_3$$

$y_1$  = Return on Asset (ROA)

$y_2$  = Return on Equity (ROE)

$y_3$  = Net Interest Margin

X = Sustainability Principles

$$X = (x_1, x_2, x_3)$$

Z = Control variable

$$Z = z_1, z_2, z_3 \& z_4$$

$z_1$  = Leverage (LEV)

$z_2$  = Firm Size (FS)

$z_3$  = Firm Age (FA)

$z_4$  = Risk (RK)

Functional Relationships

$$ROA_{it} = f(SP_{it}) \dots\dots\dots F_1$$

$$ROA_{it} = f(SP_{it}, LEV_{it}, FS_{it}, FA_{it}, RK_{it}) \dots\dots\dots F_2$$

$$ROE_{it} = f(SP_{it}) \dots\dots\dots F_3$$

$$ROE_{it} = f(SP_{it}, LEV_{it}, FS_{it}, FA_{it}, RK_{it}) \dots\dots\dots F_4$$

$$NIM_{it} = f(SP_{it}) \dots\dots\dots F_5$$

$$NIM_{it} = f(SP_{it}, LEV_{it}, FS_{it}, FA_{it}, RK_{it}) \dots\dots\dots F_6$$

The model is specified as:

$$ROA_{it} = \alpha_0 + \beta_1 SP_{it} + \mu_{it} \dots\dots\dots \text{Model 1}$$

$$ROA_{it} = \alpha_1 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it} \dots\dots\dots \text{Model 2}$$

$$ROE_{it} = \alpha_2 + \beta_1 SP_{it} + \mu_{it} \dots\dots\dots \text{Model 3}$$

$$ROE_{it} = \alpha_3 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it} \dots\dots\dots \text{Model 4}$$

$$NIM_{it} = \alpha_4 + \beta_1 SP_{it} + \mu_{it} \dots\dots\dots \text{Model 5}$$

$$NIM_{it} = \alpha_5 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it} \dots\dots\dots \text{Model 6}$$

Where:

$\alpha_0 - \alpha_5$  is the intercept for the models

$\beta_1 - \beta_5$  is the coefficients of the explanatory variables

$\mu$  is the error term of the proxies

$i$  represents the Bank

$t$  represents the period of study

### Ethical Consideration

Compliance with the relevant principles of acknowledging the various authors to avoid plagiarism was ensured. The researcher avoided any form of dishonesty by using data as obtained.

## 4.0 DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

### 4.1 Descriptive Statistics

**Table 4.1 : Descriptive Statistic Output**

Variables	Obs	Mean	Std. Dev.	Min	Max
SP	100	0.5763	0.2418	0	0.9667
LEV	100	0.7917	0.2487	0.0012	1.4021
FS	100	17.6369	3.0405	12.49464	21.9759
FA	100	20.5	15.2637	2	47
RK	100	0.0206	0.0263	0	0.1067
ROA	100	0.0155	0.0280	-0.1051	0.1396
ROE	100	0.0264	0.4761	-3.9432	1.0944
NIM	100	0.0779	0.0318	-0.0370	0.1541
PER	100	0.0541	0.0457	-0.2074	0.2158

**Source: Researcher's Study, 2019**

Table 4.1 shows the measures of central tendency and dispersion computed to depict the underlying distribution of each variable. The key highlights of the table 4.1 are as follows:

Sustainability Practices (SP) shows a mean value of 0.576. This implies that on the average, the sampled deposit money banks engage in 58 per cent of sustainability practices. The maximum value of 0.9667 and the minimum value of 0.00 shows that the engagement of the sampled deposit money banks in sustainability practices differ over the years. In addition, the standard deviation of 0.2418 suggests that the sustainability practices of the sampled deposit money banks were relatively constant overtime.

Leverage (LEV) shows a mean value of 0.7917. This implies that on the average, the sampled deposit money banks have a leverage of 79 per cent. The maximum value of 1.4021 and minimum value of 0.0012 shows that the sampled deposit money banks leverage differ over the years. In addition, the standard deviation of 0.2487 suggests that the leverage of the sampled deposit money banks were relatively constant overtime.

Firm age (FA) shows a mean value of 20.5. This implies that on the average, the sampled deposit money banks a firm age of 21 years. The maximum value of 47 and minimum value of 2 shows



that the sampled deposit money banks firm age differ over the years. In addition, the standard deviation of 15.2637 suggests that the firm age of the sampled deposit money banks were relatively constant overtime.

Firm size (FS) shows a mean value of 17.6369. This implies that on the average, the sampled deposit money banks have a firm size of 18. The maximum value of 21.9759 and minimum value of 12.49464 shows that the sampled deposit money banks firm size differ over the years. In addition, the standard deviation of 3.0405 suggests that the firm size of the sampled deposit money banks were relatively constant overtime.

Risk (RK) shows a mean value of 0.0206. This implies that on the average, the sampled deposit money banks have a risk of 2 per cent. The maximum value of 0.1067 and minimum value of 0 shows that the sampled deposit money banks return on asset differs over the years. In addition, the standard deviation of 0.0263 suggests that the risk of the sampled deposit money banks were relatively constant overtime.

Return on Asset (ROA) shows a mean value of 0.0155. This implies that on the average, the sampled deposit money banks have a return on asset of 1.6 per cent. The maximum value of 0.1396 and minimum value of -0.1051 shows that the sampled deposit money banks return on asset differs over the years. In addition, the standard deviation of 0.0280 suggests that the return on asset of the sampled deposit money banks were relatively constant overtime.

Return on Equity (ROE) shows a mean value of 0.0264. This implies that on the average, the sampled deposit money banks have a return on equity of 2.6 per cent. The maximum value of 1.0944 and minimum value of -3.9432 shows that the sampled deposit money banks return on equity differs over the years. In addition, the standard deviation of 0.4760 suggests that the return on asset of the sampled deposit money banks were relatively volatile overtime.

Net Income Margin (NIM) shows a mean value of 0.0779. This implies that on the average, the sampled deposit money banks have a net interest margin of 7 per cent. The maximum value of 0.1541 and minimum value of -0.0370 shows that the sampled deposit money banks net interest margin differ over the years. In addition, the standard deviation of 0.0318 suggests that the return on asset of the sampled deposit money banks were relatively constant overtime.

Performance (PER) shows a mean value of 0.0541. The maximum value of 0.2158 and minimum value of -0.207 shows that the sampled deposit money banks performance differ over the years. In addition, the standard deviation of 0.0457 suggests that the performance of the sampled deposit money banks were relatively constant overtime.

#### **4.2 Inferential Analysis**

In order to determine the effect of sustainability practices (SP) measured by sustainable solution practice index (SSPI) on performance (PER) measured by return on asset (ROA), return on equity (ROE), and net interest margin (NIM); controlled by leverage (LEV), firm age (FA), firm size (FS) and risk (RK), the study regressed sustainability practices (SP) on each of the measurements of performance (PER) in a linear regression.

Table 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7 and 4.2.8 shows the result of the regression analysis as well as the diagnosis tests of the effect of sustainability practices (SP) sustainable

solution practice index (SSPI) on the performance measures; return on asset (ROA), return on equity (ROE), net interest margin (NIM) and performance (PER) controlled by leverage (LEV), firm age (FA), firm size (FS) and risk (RK) respectively.

#### 4.2.1 Test of Hypothesis One

**Research Objective 1:** To evaluate the effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks.

**Research Question 1:** To what extent do sustainability practices affect the return on asset of Sierra Leonean deposit money banks?

**Research Hypothesis 1 (H<sub>01</sub>):** There is no significant effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks.

**Table 4.2.1: Regression Analysis for Model 1**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0053	0.0081	0.65	0.513
SP	0.0177	0.0101	1.76	0.078
R-squared	0.0191			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	0.23			0.6332
Multiplier test	4.05			0.0442
Heteroskedasticity test	38.54			0.0000
Wooldridge test for autocorrelation	0.309			0.5916
Pesaran's test of cross sectional independence	2.625			0.0087

**Dependent Variable: ROA; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 1:**

$$ROA_{it} = \alpha_0 + \beta_1 SP_{it}$$

$$ROA = 0.0053 + 0.0177SP_{it}$$

#### Interpretation of Diagnostic Test

Table 4.2.1 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result

of the hausman test showed a probability value of 0.6332 which is greater than the 5% level of significance hence, the significance of this test result indicated that the null hypothesis of the hausman specification test cannot be rejected by the study. Therefore, the random effect estimation technique was utilized for model one.

The study went further to test the appropriateness of the random effect estimation technique by conducting the Breusch and Pagan Lagrangian multiplier test. This test has a null hypothesis that random effect is not needed and not appropriate for the model, the result of this test showed a probability of 0.0442 which is lower than the 5% level of significance. This showed that the study cannot accept the null hypothesis and hence the acceptance of the alternate hypothesis that random effect is appropriate for the model.

The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.0087 which is less than the 1% level of significance. This implies that the residuals are correlated at 1% level of significance. Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.000 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.5916 which is higher than the 5% level of significance. It however suggests that the study does not reject the null hypothesis of no first-order autocorrelation in the model.

To jointly deal with this combination of econometrics issues of cross sectional dependence and heteroscedasticity for a random effect estimation panel data model, the study remedied the issues by estimating the model with the option that produced robust standard error estimates for panel models using generalized least square (GLS).

**Findings:** The regression analysis estimates on Table 4.2.1 showed that sustainability practices (SP) has a positive insignificant effect on performance measured by return on asset (ROA). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.0177 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.18 unit increase in ROA. Furthermore, the probability of the t-statistics 1.76 with p-value of 0.078 shows that the coefficient is statistically insignificant at 5% level of significance. The  $R^2$  of 0.0191 indicates that 2% variation in return on asset (ROA) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 98% change in return on asset (ROA) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the t-statistics is 1.76 while the p-value is 0.078 which is greater than 0.05. Therefore, the null hypothesis was not rejected which means that there is no significant effect of sustainability practices on the return on asset (ROA) of Sierra Leonean deposit money banks.

#### 4.2.2 Test of Hypothesis Two

**Research Objective 2:** To evaluate the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks.

**Research Question 2:** What is the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks?

**Research Hypothesis 2 (H<sub>02</sub>):** There is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks.

**Table 4.2.2: Regression Analysis for Model 2**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0199	0.0272	0.73	0.467
SP	0.0169	0.0116	1.46	0.148
LEV	-0.0214	0.0114	-1.87	0.064
FS	0.0004	0.0012	0.31	0.761
FA	-0.0001	0.0003	-0.53	0.600
RK	-0.0477	.118909	-0.40	0.689
F-Statistics	1.47			
Prob.	0.2054			
R-squared	0.0727			
Adj. R-squared	0.0234			
<b>Diagnostic Tests</b>	<b>Statistics</b>	<b>Probability</b>		
Hausman test	-5.95			
Heteroskedasticity test	116.29	0.0000		
Wooldridge test for autocorrelation	0.414	0.5362		
Pesaran's test of cross sectional independence	2.611	0.0090		

**Dependent Variable: ROA; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 2:**

$$ROA_{it} = \alpha_1 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it}$$

$$ROA_{it} = 0.0199 + 0.0169SP_{it} - 0.0214LEV_{it} + 0.0004FS_{it} - 0.0001FA_{it} - 0.0477RK_{it}$$

### Interpretation of Diagnostic Test

Table 4.2.2 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a value of -5.95 which does not meet the hausman test assumption. Therefore, the pooled OLS estimation technique was utilized for model two. The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.0090 which is less than the 5% level of significance. This implies that the residuals are correlated at 5% level of significance.

Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.000 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.5362 which is higher than the 5% level of significance. It however suggests that the study does not reject the null hypothesis of no first-order autocorrelation in the model.

**Findings:** The regression analysis estimates on Table 4.2.2 showed that sustainability practices (SP) has a positive insignificant effect on performance measured by return on asset (ROA). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.0169 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.017 unit increase in ROA. Furthermore, the probability of the f-statistics 1.47 with p-value of 0.2054 shows that the coefficient is statistically insignificant at 5% level of significance. The  $R^2$  of 0.0727 indicates that 7% variation in return on asset (ROA) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 93% change in return on asset (ROA) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the f-statistics is 1.47 while the p-value is 0.2054 which is greater than 0.05. Therefore, the null hypothesis was not rejected which means that there is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on asset of Sierra Leonean deposit money banks.

### 4.2.3 Test of Hypothesis Three

**Research Objective 3:** To evaluate the effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks.

**Research Question 3:** To what extent do sustainability practices affect the return on equity of Sierra Leonean deposit money banks?

**Research Hypothesis 3 (H<sub>03</sub>):** There is no significant effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks.

**Table 4.2.3: Regression Analysis for Model 3**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	-0.0129	0.1053	-0.84	0.400
SP	0.1058	0.0134	7.90	0.000
R-squared	0.0107			
Diagnostic Tests	Statistics			Probability
Hausman test	0.53			0.4664
Heteroskedasticity test	8.19			0.0042
Wooldridge test for autocorrelation	229.214			0.0000
Pesaran's test of cross sectional independence	2.980			0.0029

**Dependent Variable: ROE; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 3:**

$$ROE_{it} = \alpha_0 + \beta_1 SP_{it}$$

$$ROE = -0.0128796 + 0.1058SP_{it}$$

### Interpretation of Diagnostic Test

Table 4.2.3 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a probability value of 0.4664 which is greater than the 5% level of significance hence, the significance of this test result indicated that the null hypothesis of the hausman specification test cannot be rejected by the study. Therefore, the random effect estimation technique was utilized for model three.

The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.0029 which is less than the 5% level of significance. This implies that the residuals are correlated at 5% level of significance. Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.0042 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel

data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.000 which is lower than the 5% level of significance. It however suggests that the study rejects the null hypothesis, hence the presence of autocorrelation in the model.

To jointly deal with these combination of econometrics issues of cross sectional dependence, heteroscedasticity and autocorrelation for a random effect estimation panel data model, the study remedied the issues by estimating the model with the option that produced robust standard error estimates for panel models using generalized least square (GLS) estimation with heteroscedastic, cross-sectional correlation and panel-specific AR (1) correlated errors.

**Findings:** The regression analysis estimates on Table 4.2.3 showed that sustainability practices (SP) has a positive effect on performance measured by return on equity (ROE). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.1058 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.11 unit increase in ROE. Furthermore, the probability of the t-statistics of 0.000 shows that the coefficient is statistically significant at 5% level of significance. The  $R^2$  of 0.0107 indicates that 1% variation in return on equity (ROE) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 99% change in return on equity (ROE) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the t-statistics is 7.90 while the p-value is 0.000 which is less than 0.05. Therefore, the null hypothesis was rejected which means that there is a significant effect of sustainability practices on the return on equity (ROE) of Sierra Leonean deposit money banks.

#### 4.2.4 Test of Hypothesis Four

**Research Objective 4:** To evaluate the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks.

**Research Question 4:** What is the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks?

**Research Hypothesis 4 (H<sub>0</sub>4):** There is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks.

**Table 4.2.4: Regression Analysis for Model 4**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0551	0.4481	0.12	0.902

SP	0.1762	0.1906	0.92	0.358
LEV	-0.0595	0.1879	-0.32	0.752
FS	0.0020	0.0203	0.10	0.922
FA	0.0006	0.0044	0.13	0.897
RK	-6.3205	1.954701	-3.23	0.002
F-Statistics	2.89			
Prob.	0.0178			
R-squared	0.1334			
Adj. R-squared	0.0873			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	-0.10			
Heteroskedasticity test	185.48			0.0000
Pesaran's test of cross sectional independence	1.212			0.2257

**Dependent Variable: ROE; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 4:**

$$ROE_{it} = \alpha_3 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it}$$

$$ROE_{it} = 0.0551 + 0.1762SP_{it} - 0.0595LEV_{it} + 0.0020FS_{it} + 0.0006FA_{it} - 6.3205RK_{it}$$

**Interpretation of Diagnostic Test**

Table 4.2.4 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a value of -0.10 which does not meet the hausman test assumption. Therefore, the pooled OLS estimation technique was utilized for model four.

The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.2257 which is greater than the 5% level of significance. This implies that the residuals are not correlated at 5% level of significance. Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.0000 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant.



**Findings:** The regression analysis estimates on Table 4.2.4 showed that sustainability practices (SP) has a positive effect on performance measured by return on equity (ROE). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.1762 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.18 unit increase in ROE. Furthermore, the probability of the t-statistics of 0.000 shows that the coefficient is statistically significant at 5% level of significance. The  $R^2$  of 0.1334 indicates that 13% variation in return on equity (ROE) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 87% change in return on equity (ROE) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the f-statistics is 2.89 while the p-value is 0.0178 which is less than 0.05. Therefore, the null hypothesis was rejected which means that there is a significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the return on equity of Sierra Leonean deposit money banks.

#### 4.2.3 Test of Hypothesis Five

**Research Objective 5:** To evaluate the effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks.

**Research Question 5:** To what extent do sustainability practices affect the net interest margin of Sierra Leonean deposit money banks?

**Research Hypothesis 5 (H<sub>05</sub>):** There is no significant effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks.

**Table 4.2.5: Regression Analysis for Model 5**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0652	0.0110	5.94	0.000
SP	0.0221	0.0134	1.66	0.098
R-squared	0.0092			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	1.73			0.1878
Multiplier test	55.62			0.0000
Wooldridge test for autocorrelation	7.714			0.0215
Pesaran's test of cross sectional independence	0.700			0.4837

**Dependent Variable: NIM; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 5:**

$$NIM_{it} = \alpha_0 + \beta_1 SP_{it}$$

$$NIM = 0.0652 + 0.0221SP_{it}$$

### **Interpretation of Diagnostic Test**

Table 4.2.5 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a probability value of 0.1878 which is greater than the 5% level of significance hence, the significance of this test result indicated that the null hypothesis of the hausman specification test cannot be rejected by the study. Therefore, the random effect estimation technique was utilized for model five.

The study went further to test the appropriateness of the random effect estimation technique by conducting the Breusch and Pagan Lagrangian multiplier test. This test has a null hypothesis that random effect is not needed and not appropriate for the model, the result of this test showed a probability of 0.000 which is lower than the 5% level of significance. This showed that the study cannot accept the null hypothesis and hence the acceptance of the alternate hypothesis that random effect is appropriate for the model.

The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.4837 which is higher than the 5% level of significance. This implies that the residuals are not correlated at 5% level of significance. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.0215 which is lower than the 5% level of significance. It however suggests that the study rejects the null hypothesis, hence the presence of autocorrelation in the model.

To jointly deal with this combination of econometrics issues of cross sectional dependence, and autocorrelation for a random effect estimation panel data model, the study remedied the issues by estimating the model with the option that produced robust standard error estimates for panel models using generalized least square (GLS).

**Findings:** The regression analysis estimates on Table 4.2.5 showed that sustainability practices (SP) has a positive insignificant effect on performance measured by net interest margin (NIM). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.0221 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.022unit increase in NIM. Furthermore, the probability of the t-statistics of 0.098 shows that the coefficient is statistically insignificant at 5% level of significance. The  $R^2$  of 0.0092 indicates that 0.9% variation in net interest margin (NIM) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 99.1% change in net interest margin (NIM) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the T-statistics is 1.66 while the p-value is 0.098

which is greater than 0.05. Therefore, the null hypothesis ( $H_0$ ) was not rejected which means that there is no significant effect of sustainability practices on the net interest margin (NIM) of Sierra Leonean deposit money banks.

#### 4.2.6 Test of Hypothesis Six

**Research Objective 6:** To evaluate the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks.

**Research Question 6:** What is the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks?

**Research Hypothesis 6 ( $H_0$ ):** There is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks.

**Table 4.2.6: Regression Analysis for Model 6**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0841	0.0295	2.85	0.005
SP	0.0161	0.0126	1.28	0.203
LEV	-0.0412	0.0124	-3.32	0.001
FS	0.0008	0.0013	0.59	0.556
FA	-0.0002	0.0003	-0.73	0.470
RK	0.3636	0.1288	2.82	0.006
F-Statistics	3.55			
Prob.	0.0056			
R-squared	0.1587			
Adj. R-squared	0.1139			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	-3.47			
Heteroskedasticity test	1.13			0.2877
Wooldridge test for autocorrelation	10.438			0.0103

Pesaran's test of cross sectional independence	-0.028	0.9777
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**Dependent Variable: NIM; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Model 6:**

$$NIM_{it} = \alpha_5 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it}$$

$$NIM_{it} = 0.0841 + 0.0161SP_{it} - 0.0412LEV_{it} + 0.0008FS_{it} - 0.0002FA_{it} + 0.3636RK_{it}$$

**Interpretation of Diagnostic Test**

Table 4.2.6 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a value of -3.47 which did not meet the hausman test assumption. Therefore, the pooled OLS estimation technique was utilized for model six. The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.9777 which is higher than the 5% level of significance. This implies that the residuals are not correlated at 5% level of significance.

Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.2877 which is higher than the 5% level of significance. This suggests that the study does not reject the null hypothesis of constant variance, indicating that the variance of the residuals is constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.0103 which is lower than the 5% level of significance. It however suggests that the study rejects the null hypothesis, hence the presence of autocorrelation in the model.

**Findings:** The regression analysis estimates on Table 4.2.6 showed that sustainability practices (SP) has a positive insignificant effect on performance measured by net interest margin (NIM). This is indicated by the sign of the coefficients, that is  $\beta_1 = 0.0161 > 0$ . This result is consistent with *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable show that a 1 unit increase in SP, will lead to a 0.016unit increase in NIM. Furthermore, the probability of the f-statistics of 0.0056 shows that the coefficient is statistically significant at 5% level of significance. The  $R^2$  of 0.1587 indicates that 16% variation in net interest margin (NIM) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 84% change in net interest margin (NIM) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the f-statistics is 3.55 while the p-value is 0.0056 which is lower than 0.05. Therefore, the null hypothesis ( $H_0$ ) was rejected which means that there is significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the net interest margin of Sierra Leonean deposit money banks.

#### 4.2.7 Test of Main Model One

**Research Objective:** To evaluate the effect of sustainability practices on the performance of Sierra Leonean deposit money banks.

**Research Question:** To what extent do sustainability practices affect the performance of Sierra Leonean deposit money banks?

**Research Hypothesis:** There is no significant effect of sustainability practices on the performance of Sierra Leonean deposit money banks.

**Table 4.2.7: Regression Analysis for Main Model 1**

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0604	0.0131	4.60	0.000
SP	-0.0109	0.0173	-0.63	0.528
R-squared	0.0033			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	0.66			0.4167
Multiplier test	1.15			0.2838
Heteroskedasticity test	13.41			0.0003
Wooldridge test for autocorrelation	3.235			0.1056

**Dependent Variable: PER; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Main Model 1:**

$$PER_{it} = \alpha_0 + \beta_1 SP_{it}$$

$$PER = 0.0604 - 0.0109SP_{it}$$

#### Interpretation of Diagnostic Test

Table 4.2.7 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a probability value of 0.4167 which is greater than the 5% level of significance hence, the significance of this test result indicated that the null hypothesis of the hausman specification test cannot be rejected by the study. Therefore, the random effect estimation technique was utilized for model seven.

The study went further to test the appropriateness of the random effect estimation technique by conducting the Breusch and Pagan Lagrangian multiplier test. This test has a null hypothesis that

random effect is not needed and not appropriate for the model, the result of this test showed a probability of 0.2838 which is higher than the 5% level of significance. Also, the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.0003 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.1056 which is higher than the 5% level of significance. It however suggests that the study does not reject the null hypothesis of no first-order autocorrelation in the model.

To jointly deal with this combination of econometrics issues of cross sectional dependence and heteroscedasticity for a random effect estimation panel data model, the study remedied the issues by estimating the model with the option that produced robust standard error estimates for panel models using generalized least square (GLS).

**Findings:** The regression analysis estimates on Table 4.2.7 showed that sustainability practices (SP) has a negative effect on performance measured by the geometric mean of return on asset (ROA), return on equity (ROE) and net interest margin (NIM). This is indicated by the sign of the coefficients, that is  $\beta_1 = -0.010936 < 0$ . This result is not consistent with the *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable shows that a 1 unit increase in SP, will lead to a 0.01 unit decrease in PER. Furthermore, the probability of the t-statistics of 0.528 shows that the coefficient as is statistically insignificant at 5% level of significance. The  $R^2$  of 0.0033 indicates that 0.33% variation in performance (PER) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 99.67% changes in performance (PER) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the T-statistics is 0.63 while the p-value is 0.528 which is greater than 0.05. Therefore, the null hypothesis was not rejected which means that there is no significant effect of sustainability practices on the performance (PER) of Sierra Leonean deposit money banks.

#### 4.2.8 Test of Main Model Two

**Research Objective:** To evaluate the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the performance of Sierra Leonean deposit money banks.

**Research Question:** What is the controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the performance of Sierra Leonean deposit money banks?

**Research Hypothesis:** There is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the performance of Sierra Leonean deposit money banks.

#### Table 4.2.8: Regression Analysis for Main Model 2

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	0.0278	0.0458	0.61	0.545
SP	-0.0092	0.0195	-0.47	0.638
LEV	0.0030	0.0192	0.16	0.877
FS	0.0017	0.0021	0.83	0.407
FA	0.00001	0.0004	0.03	0.974
RK	-0.0803	0.1997	-0.40	0.689
F-Statistics	0.38			
Prob.	0.8596			
R-squared	0.0199			
Adj. R-squared	-0.0322			
<b>Diagnostic Tests</b>	<b>Statistics</b>			<b>Probability</b>
Hausman test	-3.47			
Heteroskedasticity test	15.87		0.0001	
Wooldridge test for autocorrelation	3.49		0.5693	
Pesaran's test of cross sectional independence	2.022		0.0432	

**Dependent Variable: PER; Obs.: 100**

**Significance level: 5%**

**Source: Researcher's Study, 2019**

**Main Model 2:**

$$PER_{it} = \alpha_6 + \beta_1 SP_{it} - \beta_2 LEV_{it} + \beta_3 FS_{it} + \beta_4 FA_{it} + \beta_5 RK_{it}$$

$$PER_{it} = \alpha_6 - 0.0092SP_{it} + 0.0030LEV_{it} + 0.0017FS_{it} + 0.00001FA_{it} - 0.0803RK_{it}$$

### Interpretation of Diagnostic Test

Table 4.2.8 shows the results of the diagnostic tests carried out to determine the choice and appropriateness of the estimation technique employed for this model as well as the regression output for the model. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is appropriate for the model. The result of the hausman test showed a probability value of -3.47 which does not meet the hausman test assumption. Therefore, the pooled OLS estimation technique was utilized for model eight. The study also carried out the cross-sectional dependence test through the use of Breusch and Pagan CD test. This test result shows a probability value of 0.0432 which is lower than the 5% level of significance. This implies that the residuals are correlated at 5% level of significance.

Also, the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.0001 which is lower than the 5% level of significance. This suggests that the study rejects the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.5693 which is higher than the 5% level of significance. It however suggests that the study does not reject the null hypothesis of no first-order autocorrelation in the model.

**Findings:** The regression analysis estimates on Table 4.2.8 showed that sustainability practices (SP) has a negative effect on performance measured by the geometric mean of return on asset (ROA), return on equity (ROE) and net interest margin (NIM). This is indicated by the sign of the coefficients, that is  $\beta_1 = -0.0092 < 0$ . This result is not consistent with the *a priori* expectation as it was expected that sustainability practices will have a positive effect on performance. Also, the size of the coefficient of the independent variable shows that a 1 unit increase in SP, will lead to a 0.009 unit decrease in PER. Furthermore, the probability of the f-statistics of 0.8596 shows that the coefficient is statistically insignificant at 5% level of significance. The  $R^2$  of 0.0199 indicates that 2% variation in performance (PER) is attributable to sustainability practices as represented by sustainable solution practice index (SSPI) while the remaining 98% changes in performance (PER) can be attributed to other variables not covered in this model.

**Decision:** At the level of significance of 0.05, the f-statistics is 0.38 while the p-value is 0.8596 which is greater than 0.05. Therefore, the null hypothesis was not rejected which means that there is no significant controlling effect of leverage, firm size, firm age and risk on the effect of sustainability practices on the performance of Sierra Leonean deposit money banks.

## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

### Conclusion

The study examined the effect of sustainability practices on the performance of Sierra Leonean deposit money banks. The findings from the study provide relevant empirical evidence by showing that sustainability practices have an insignificant positive effect on return on assets and net interest margin while there was a positive significant effect of sustainability practices on return on equity. Also, sustainability practices have a negative but insignificant effect on performance. This constituted statistical and empirical evidence for the implications of sustainability practices on the performance of Sierra Leonean deposit money banks.

Thus, this research concluded that a positive relationship exists between sustainability practices and the performance of Sierra Leonean deposit money banks.

### Recommendations

The following recommendations are made based on the findings and conclusion of this study;

Investors should look to encourage sustainability practices by investing in organizations committed to sustainability practices.



The management of organizations should continue to incorporate sustainability practices in their business strategies and be more innovative.

Regulators should recognize commitment to sustainability practices among organizations and review existing guidelines from time to time to reflect current demands.

In trying to be sustainable, organizations should not cut down on the traditional activities that enhance profit maximization which is one of the primary purposes of its existence.

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