APPROVAL FORM

The undersigned certify that they have supervised the student Matipira Terrence dissertation entitled: **Assessing the impact of non-interest income diversification on commercial bank performance in Zimbabwe: Case of BancABC.** The dissertation was submitted in partial fulfilment of the requirements of the Bachelor of Commerce in ACCOUNTING Honours Degree at Midlands State University.

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DISSERTATION TITLE   **Assessing the impact of non-interest income diversification on commercial bank performance in Zimbabwe: Case of BancABC**

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DATE   **MAY 2014**

DEDICATION

I dedicate this to my father, mother, my brother Michael Matipira and my future wife Thelma Maidei Shava.

Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.

ABSTRACT

Introduction: Traditionally, commercial banks generate their profits from the difference between interest from lending and interest granted to the depositors. However following financial liberalization, deregulations and increased competition from non-financial intermediaries, banks have since diversified from their traditional ways of making profits into non-traditional ways/non-interest income generating activities.

Statement problem: The blurred effects of diversification into non-interest income was revealed by the end results of Memorandum of Understanding (MoU),banks were regulated to charge stipulated rates on non-interest income activities namely: cash withdrawals, time deposits, ledger fees, maintenance and services and automated teller machines transaction charges. This regulatory policy was followed with mixed results, with some banks recording increased margins of profits; whilst other banks announcing loses. This brought a perplexing question on how can one well produce both salt and sweet water? The relationship between profitability and activities generating non-interest income is not straightforward in sense that the diversification strategy can either increase profits or end up contributing to operational costs of the bank. This prompted the researcher to investigate on the impact of non-interest income diversification on commercial bank performance.

Methodology: The study used a case study mixed research design that incorporated both qualitative and quantitative analysis. In this study a regression model was used to investigate the relationship between dependent and independent variables using E-Views 7 a statistical package, the analysis was done at 95% confidence level. The researcher employed a convenience and judgmental sampling techniques because the search only targeted acquainted individuals. The researcher used a coded excel questionnaire that was administered through e-mail to targeted respondents. The data was analysed using t-statistics analysis, correlation analysis and regression analysis.

Results: The study established that diversification into non-interest income is associated with increased commercial bank performance represented by profitability. However the study also revealed that diversification into non-interest income is allied with increased levels of operational costs.

Recommendations: The study recommends that banks should treat non-interest income as complementary income to net interest income but rather not a substitute. Diversification into non-interest income is a sufficient strategy but not a necessity stratagem to ensure banks survival.

LIST OF ACRONOMYS

ATMs   Automated Teller Machines

BHC   Banking Holding Companies

C/1   Cost to Income

DIV   Diversification

EU   European Union

HHI   Herfindahl Hirschman index

KYC   Know Your Customers

MoU   Memorandum of Understanding

NIM   Net Interest Margin

RBZ   Reserve Bank of Zimbabwe

ROA   Return on Asset

ROE   Return on Equity

SHnet   Share of Net Interest Income

SHnon   Share of Non-Interest Income

LIST OF TABLES

Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.

LIST OF FIGURES

Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.

LIST OF APPENDICES

CHAPTER 1

1.0 Introduction

This chapter gives the background of the study, statement of the problem, research objectives as well as related research questions. Furthermore, the chapter also highlights the significance of the study, conceptual framework, delimitations and limitations as well as assumptions to the study and definition of terms.

1.1 Background of the Study

According to (Zhrekar, 2012:p29) õHistorically, commercial banks have been considered as institutions which accept deposits and give loans, and therefore making profits from the difference between costs of the former and earnings of the latterö. (Rice, 2004) stated that õin recent years, banking companies have taken advantage of deregulation to generate substantial amounts of non-interest income from non-traditional activities like investment banking, securities brokerage, insurance agency and underwriting, and mutual fund salesö .Today banks generate an increased portion of their income from non-intermediation and non-interest activities (Zhrekar, 2012).

Over the past few years the operating environment for Zimbabwean banks have been dreadful comparing of liquidity constrains, capitalization requirements, low deposits base, regulatory changes and stiff competition. Banks have adopted the income diversification strategy to rely on non-interest income. (An in depth analysis for the Zimbabwean Banking Sector, 2013: p 11) reviewed that Total Net Interest Income to Total Income, which by international Standards should be between 65% and 75%, was at 51% for the Industry against 47% for the same period last year. According to (Stiroh, 2002) pointed out that õone of the potential reason for the change is that non-interest income may be less dependent on overall business conditions than traditional interest income, so that an increased reliance on non-interest income reduces the cyclical variation in bank profits and revenue.ö

However the consequences of non-interest income diversification in relation to financial performance of commercial banks in Zimbabwe are not well understood. This was revealed by the end results of Memorandum of Understanding (MoU) agreement which took effect from 1st of February 2013 up to 1st of December 2013. This agreement provided guidelines for the determination of interest rate margins and bank charges. (Monetary Policy Statement, 2013, pg75-

79) banks were regulated to charge stipulated rates as per agreement on cash withdrawals, time deposits, ledger fees, maintenance and services and automated teller machines transaction charges. This regulatory policy was followed with mixed results, with some banks recording increased margins of profits; NMB and Standard Chartered Bank non-interest revenue increased by 22.7% and 2.9% respectively; whilst other banks announcing loses; CBZ 25% loss in revenue arising from non-interest income (RBZ banking sector analysis,2013). This brought a perplexing question on how can one well produce both salt and sweet water? The relationship between profitability and activities generating non-interest income is not straightforward in sense that the diversification strategy can either increase profits or end up contributing to operational costs of the bank (European Central Bank, 2000).

ABC Holdings Limited is the parent company of a regional banking group operating in Botswana, Mozambique, Tanzania, Zambia and Zimbabwe. With its primary listing on Botswana Stock Exchange, secondary listing on Zimbabwe Stock Exchange.

Figure 1.1 Total income composition structures (2009 to 2013)

Figure 1.2 Total income components and profitability trends (2009 to 2013)
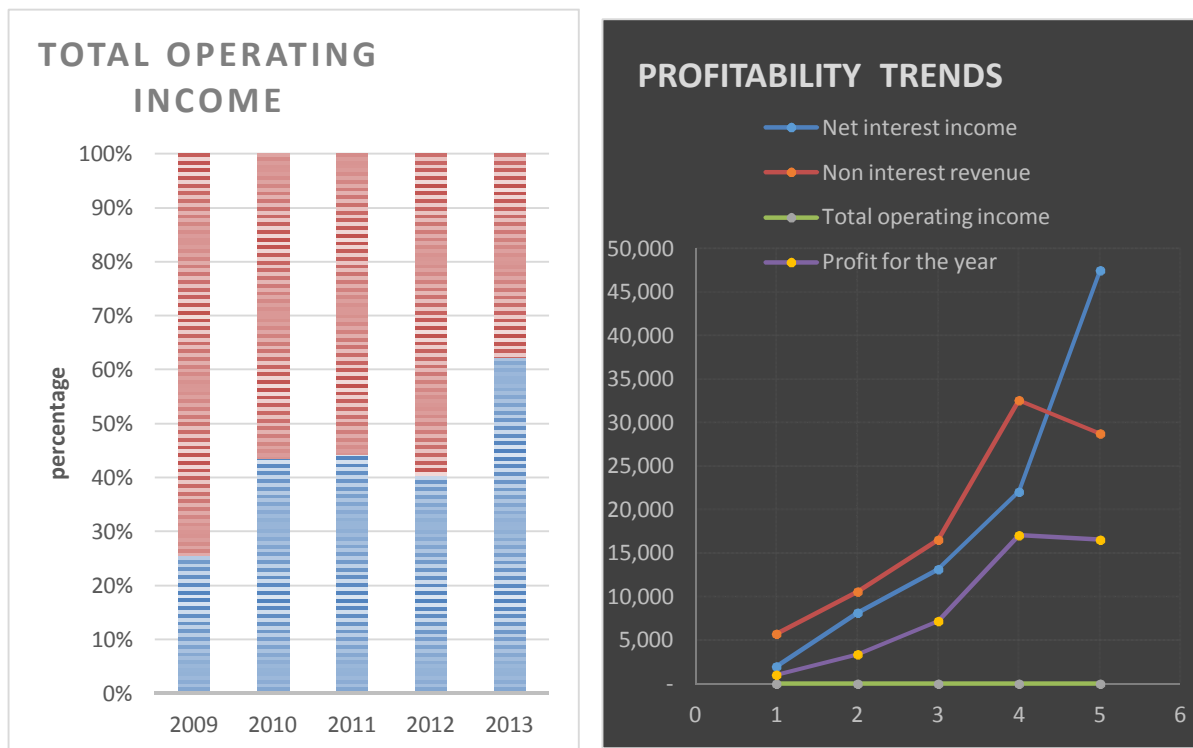
(Source: BancABC Half Year Analyst Presentation, 2013)

From the above trends, the impact of non-interest income diversification on bank profitability is not consistent across the period of (2009-2013). Hence, the extent to generalize the relationship between non-interest income and bank performance is limited at best.

1.2 Statement of the Problem

From the above background it can be noted that the main challenge for Banc ABC Zimbabwe; there is an observable trend that Non-Interest Income to total income have decreased from 61% in 2009 to 23 % in 2013 and this decrease was followed with 3% decrease in profitability in year 2013. For this reason the researcher seeks to understand the impact of non-interest income diversification on financial performance?

1.3 Objectives of the Study

The primary objective of the research is to find out the impact of non-interest income diversification on financial performance. The researcher seeks to identify whether diversification into non-interest income improves or worsens financial performance of the bank.

Secondary objectives

- To identify the relationship between Non-Interest Income and bank size
- To analyse relationship between Non-Interest Income and risk
- To identify the correlation between Non-Interest Income and net interest income
- To analyse the determinants of Non-Interest income

1.4 Research Questions

- What are the determinants of Non-Interest Income?
- What is the composition of BancABC non-interest income structure?
- Can the size of the bank have an influence on the volume or/ percentage of non-interest income?
- What can be done to enhance BancABC performance?
- What risks are associated with the diversification from traditional ways of making profits to reliance on non-interest generating activities?

1.5 Research hypothesis

In testing for the impact of non-interest income diversification on financial performance of BancABC Zimbabwe the research is carried out under the following hypothesis;

Null Hypothesis (H_0) **:** $\beta = 0$ **(**An increase in Non-Interest Income has a positive effect on the bank financial performance**)**

Alternative Hypothesis (H_1) **:** $\beta \neq 0$ **(**An increase in Non-Interest Income has a negative effect on the bank financial performance)

1.6 Justification of the Study

The research project sought to provide a roadmap for identification of variables that influence profitability starting with non-interest income to total income which currently remains a low of 27% to total income from the 2013 financial year and also the research seeks to facilitate the Bank meeting its 2016 BHAG goal of reaching a market capitalisation of US$5billion.Given this background it is pertinent to find ways of growing banks profitability through stream-lining resources to areas that boost the banks performance starting with investigation on non-interest income effect on bank performance.

1.7 Assumptions of the Study

- Relevant data is available for the study.
- Customers want to manage their financial costs and are looking for convenient product offerings and services
- Selected interviewees will respond in time.
- Information collected from respondents is accurate, relevant and can be relied on.
- The researcher will have adequate funds necessary to complete the study.

1.8 Scope of the Study

The study shall be mainly focused on BancABC Zimbabwe. For the purposes of benchmarking and International Best Practice, the research has focused on this Pan African bank. Although other

banks are to be considered, Retail and Finance department shall be the major focus for the research as it is the potential driver of non-interest transactions and non-interest generating activities.

1.9 Limitations of the Study

There are considerable setbacks and constraints the researcher will be subject to when carrying out the study and these will impact on the objectivity and dependability of the results to an acceptable confidential level. These constraints include the following:

- The researcher will be limited to time and resources; to tone down this constrain, the researcher shall use an online excel automated questionnaire to save time and resources.
- Lack of co-operation from some of the targeted respondents, in mitigating this constrain the researcher shall carry out interviews
- Due to the confidentiality and sensitivity of financial information in question; the researcher has to rely on published financial results, Bank Reports, Banks and Banking surveys, Reserve Bank Monetary reports, Industry Reports, Ministry of Finance Budget Reports, Journal publications and the Internet to complement information sources and bridge the gap.

1.10 Conceptual framework
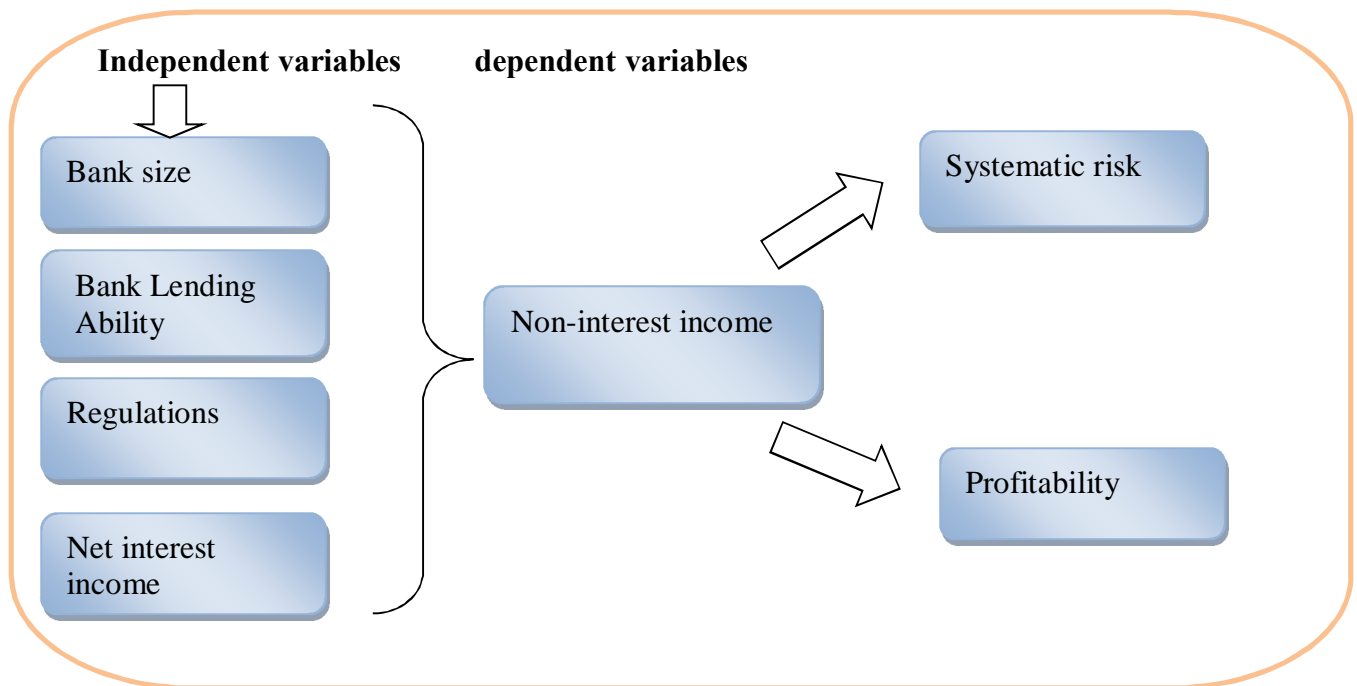
1.11 Definition of Key Word

Non-interest income -õas revenue that banks earn from areas outside their lending operation or any income that bank earns from activities other than their core intermediation business (taking deposit and making loans) or fro investment. Itøs also refers as õfee incomeö since fees constitute of majority of non-interest incomeö (Karanja, 2012).

Net interest income-refers to revenue that the banks earn from core banking activities of lending after deducting any impairment charges on loan

CHAPTER 2 LITEREATURE REVIEW

2.1 Introduction

The following chapter serves to show an analysis on what other authors and scholars advocated about the non-interest income diversification. It helps the researcher to evaluate his own efforts into the study by making a review to both theoretical and empirical literature relevant to the topic in question. In this chapter, each objective of the study will be analysed to make an assessment on what different schools of thought say about these objectives in particular reference to the problem. It can reveal the sources of data that may have been known or used by the researcher to facilitate the gathering of more information to make this research a success.

2.1.1 Traditional and non-traditional activities

According to (De young and Tara, 2004,p.34) in their article õHow do banks make money?ö spelled out õ3-6-3 rule,ö which states that bankers are paid a 3 percent rate of interest on deposits, charge 6 percent rate of interest on loans, and then headed to the golf course at 3 o¢clock. The rule bona fide the way banks operate before the inception of non-traditional banking activities. (Roland and Chanelle, 2005,p.226) pointed out that the role of traditional banks has centred on the generation of net interest income through two core activities; namely, the collection of deposits on which banks pay interest and the issuing of loans for which they receive interest income.

Concurring,(Anita, et al, 2010,p.3) noted that õas banks are increasingly squeezed in their pursuit of profitability; one strategy to increase income is to diversify away from traditional sources of revenue like loan making and toward activities that generate fee income, service charges, trading revenue, and other types of non-interest incomeö.(Jones and Wayne,2014) argued that banks are increasing shifting from net interest income into a multifaceted mystery magical box called non-interest income which can either instigate financial stability or financial instability depending on the way the box is handled.

2.1.2 What is non-interest income?

According to (Meier, 2011,p.5)*, õ non-interest income*, or *fee income*, refers to the earnings of the bank that are not directly related to interest activities, examples of non-interest income include service charges on deposit accounts, fiduciary income, and servicing feesö. (Peter and Sylvia, 2010, p.148) defined non-interest income as õsources of income other than revenues from loans and investments are (or fee income)ö.

(Barbara, Philip and Claudia, 2006) defined non-interest income as income generated by fee income, commissions and trading income and this income has become important due to increased emphasis on this source of revenue in recent years. (Letitia, et al, 2008) defined net non-interest income as the difference between non-interest income and non-interest expenses and net operating income is the sum of net interest income and net non-interest income.

2.1.3 Diversification theory in relation with non-interest income

Portfolio diversification theory was first propounded by Harry Markowitz in 1952 and the predecessor named the theory õportfolio theoryö. The theory was crafted on assumptions that all investors are risk-averse and all investor are in business to maximise expected returns. In 1970, William Sharpe reinforced the portfolio theory by adding up an assumption on the asset pricing model and the additional assumption proved useful in assessing investorsøexposure.

Portfolio is a generic term used to refer to a combination of assets, options and securities that the investors have vested interest on. According to (Encyclopaedia of finance, 2006) diversification is strategy used by investors and management by investing in different assets of different nature rather than concentration on single asset .Diversification yields benefits when unrelated assets are combined in a portfolio, this refers to asset and securities that not perfectly positively correlated.(Leavan and Levine,2009) diversification reduces unsystematic risk which is that risk associated inherently with the asset or securities, however the benefits and the extend on which diversification strategy can apply is limited to its inability to curb systematic risk (market risk).

(De young, 2009) stated that banks have since diversified form offering traditional services only, but recent moved to non-traditional banking services. In addition, the author stated that

diversification into non-interest income generating activities attract with it unsystematic risk arising of non-interest income generators.

2.2 Composition of Non -Interest Income

According to (Brunnermeier, et al, 2010) studied and categories non-interest income components into sub-groups namely: trading and securitization, investment banking and advisory fees, brokerage commissions, venture capital, and fiduciary income, and gains on non-hedging derivatives.(Couto, 2002) also stated that the composition of non-interest income includes activities such as income from trading and securitization, investment banking and advisory fees, brokerage commissions, venture capital, and fiduciary income, and gains on non-hedging derivatives.

(Kohler, 2013), spelled out that non-interest income composition differs among banks with some banks generating almost all of their operating income from non-interest income activities, whilst other banks depend out rightly on net-interest income. According to (ECB Report, 2000:4; Stiroh, 2002) found that the composition of non-interest income is rather heterogeneous and it differs among banks, regions and countries. In addition (Stiroh, 2002), categorized non-interest income into four primary components ó fiduciary income, service charges, trading revenue, and fees and other income.

(Tapper, 2010) examined into interest income components for Jamaican banks and concluded by sub dividing non-interest income into service charges, transaction fees and commissions, dividends and trading profits on securities, foreign exchange gains and losses and other income

2.2.1 Definition of non-interest income Components

⬧ **Investment Banking Fees and Commissions**

According to (BHCPR User's Guide, 2013, p.16) defined investment banking fees and commissions as õthe sum of fees and commissions from securities brokerage; investment banking, advisory, and underwriting fees and commissions; and fees and commissions from annuity salesö. (Stiroh, 2002,p.6) outlined components that makes up fees and other income namely-loan commitment fees, safe deposit boxes, commissions, and land rental fees

Fiduciary Activities Income

(BHCPR User's Guide, 2013, p.16), defined fiduciary activities income as õincome derived from services rendered by trust departments of banking subsidiaries or a subsidiary acting in any fiduciary capacityö (BHCPR User's Guide, 2013, p.16).

Trading Revenue

(Stiroh, 2002, p.6) õTrading revenue is primarily income from trading cash instruments, off-balance contracts, and mark-to-market changes in the carrying value of assets and liabilitiesö. (BHCPR User's Guide, 2013:16) defined trading revenue as õThe net gain or loss recognized from trading cash instruments and derivative contracts (including commodity contracts). It results from revaluation adjustments (as a result of periodic marking to market) to the carrying value of trading assets and liabilities, as well as interest rate, foreign exchange, equity derivative, and commodity and other contractsö (BHCPR User's Guide, 2013, p.16).

Other Non-Interest Income

(Jones and Wayne, 2014) defined other non-interest income as revenue arising from activities that includes merchant credit card fees, income from loan penalties, annual cardholder fees, fees for servicing mortgages, and income from loans that have been securitized.

Figure 2.1 Types of non-interest income

Categories of non-interest income			
Fiduciary services	**Service charge on deposits**	**Trading gains and fees**	**Other non-interest income**
• Fees for managing and protecting customers property • Fees for recordkeeping for corporate security transactions and dispensing interest and payments • Fees for managing corporate and individual pension and retirement plans	ÉChecking account maintenance fees ÉChecking accounts overdraft fees ÉFees for writing excessive checks ÉSaving account overdraft fees ÉFees for stopping payments of checks	Net gains and losses from trading cash instruments and off balance sheet deposits (including commodity contracts) that have been recognized during the accounting period	ÉInvestment banking, advisory, brokerage and underwriting ÉVenture capital revenue ÉNet securitization ÉInsurance commission fees and income ÉNet gains (losses) on sales of real estate owned Net gains (losses) on sales of other assets (excluding securities

2.3 Determinants of Non-Interest Income

2.3.1Competition

According to (Williams and Rajaguru, 2013, p.2) on their paper addressing the issue of changes in income structure for Australian banks, established that reductions in net interest income is attributed to the process of disintermediation and increased competition. Similar findings from (Gischera and Jüttner, 2002) stated that increased competition emanating from non-financial intermediaries influences on how bank prices their products and services, competition also influence the income ,cost and product mix on which the bank relies on.

(ECB Report, 2000,p.10) pointed out that competition emanating from non-banking financial intermediaries have resulting in pressure for banks to capture low profits margins and this have led to banks diversifying into other source of income such as fees and commission to offset competition. (Franklin and Thelma, 2011) in the same agreement outlined that competition emerging from the new competitors have since changed the way the financial institutions conduct their business, banks have begun to diversify into conventional products and services that create a life settlement contract with the client such as life insurance services in banks.

2.3.2 Technological advancements

According to (Karakaya and Err, 2013) stated that they has been a transformation in operating environment for banks through the inception of information, communications and technologies (ICT) which have brought with it changes and of betterment of financial services (internet banking, ATMs, asset securitization and credit rating, high-yield bonds and financial derivatives).

 (Kim and Young-Jae, 2010, p.5) analysed the cause of non-interest income diversification for South Korea Banks concluded that new technological developments stimulate non-interest income generating activities and reduce in importance income arising from interest generating activities. The authors correspondingly stated that technological formulated financial services improves convenience to customers who will be willing to pay an extra fees for services rendered to them through ATMs or over the Internet.

(Davis and Tuori, 2000) noted that developments in financial theories and technological advancements facilitated rapid developments in new financial products and this exerted pressure on banks in changing their incomes structure so as to accommodate off balance sheet activities and non-traditional income activities. According to (Mittal and Gupta, 2013), outlined technological some of the technological developments in banking sector and also emerging trends in banking technology as listed below:

Figure2.2: Technological development in banks

Emerging trends in banking technology
- Financial Inclusion   and IT Implementation and Management
- Mobile Banking and IT for business innovation.
- Electronic Payments
- IT for Internal Effectiveness and managing IT Risk
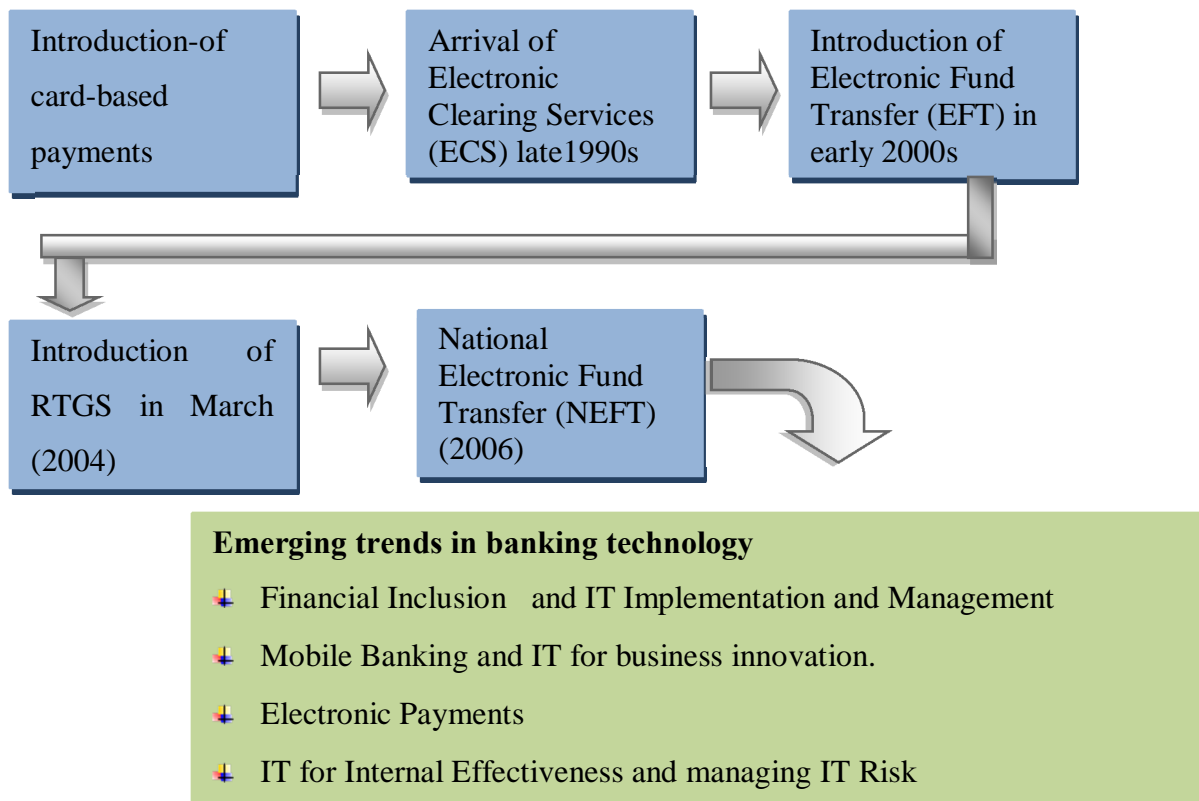
Source: Mittal and Gupta, 2013

(Kim and Young-Jae, 2010, p.4) õResponse to competitive threats and opportunities, many banks embraced the new technologies that drastically altered their production and distribution strategies and resulted in large increases in non-interest income.ö

2.3.3 Deregulation

(Jones and Wayne, 2014) defined deregulation as process of stripping off previous instated barriers so as to embraces changes in an operating environment. Deregulation follows competition and

competition follows improved financial services to the customers. According to (Meier, 2011, p.6) stated that deregulation õnegated many of the restrictions imposed on the financial industry, allowing banks to pursue non-traditional non-interest activities like insurance and investment banking.ö

(Robert and Tara, 2004, p.49) aforementioned that deregulation detached the fear for bank managers to experiment into new survival strategies, deregulation promotes new products innovations, change in organizational philosophies and operational styles of management. (Wang, 2008, p.1) õDeregulation has intensified competition in the markets for intermediation services. This has resulted in lower net interest margins and driven banks to seek alternative areas of activities in domestic and international spheresö.

(Gorener and Choi,2013,p.125) said that deregulation only played an imperative of removing entrance barriers, however the degree to rely on fee-generating activities is based on the investor and management views on non-interest generating activities. Deregulation vary among countries and shifting to non-interest income activities is an indication, but rather not a confirmation that deregulation is not a determent for banks to change their income.

2.3.4 Increased Customers' Needs

(Busch and Kick, 2009) prompted that increasing consumersø needs, demographic changes and growing of wealth among individual have initiated and sustained the creation of new types of banking activities with many individuals preferring portfolio investments as a financial service to manage their funds. (Köhler, 2013) pointed that increased customers services in retail banks shows on how market share and repeated business is of value to banks. Customers are now information asymmetry-knowingly that one can easily move from one bank to another without incurring costs

Similarly (Davis and Tuori, 2000) pointed the same notion that increasing number of wealth individuals has changed the demand side of financial services, with traditional services and products being inadequate to meet customersø needs who has the objective of maximizing returns and minimizing risk in the context of long-term investments. This has since raised the demand for

brokerage, asset management and consultancy activities which has caused banks to change their income structure.

2.4 Non-Interest Income and Risk

(Monetary Policy Statement, 2014, p.15) revealed that õthere are 21 operating banking institutions (including the Post Office Savings Bank (POSB), following cancellation of Trust Bank operating license on 6 December 2013 and 146 microfinance institutions". The banking sector is clouded with many players and diversification from core business of lending to non-interest income seems as the answer? However, different authors have carried studies and concluded differently on the relationship between diversification into non-interest income and risk

2.4.1 Opponents for finding diversification benefits

Using data for 1334 banks in 101 countries over the financial crisis in 2007 period, the authors (Demirgüç-Kunt and Huizinga, 2009, p.29) finds õthat traditional banks ówith a heavy reliance on interest-income generating and deposit funding ó are safer than banks that go very far in the direction of non-interest income generation and funding through the wholesale capital marketö. In conclusion (Demirgüç-Kunt and Huizinga, 2009) also stated that greater reliance on non-deposit funding and non-interest income is very risk banking strategy.

(De jonghe, 2011) document that interest income is less risky than all other revenue streams. In addition he pointed that different components of non-interest income namely-trading income, fees and commissions and other operating income does not differ significantly from one another. In conclusion he stated that profitable banks are the one that focus on lending activities (traditional activities) and also this banks are less inclined to systematic risk than diversified banks.

(Staikouras, et al,2000,Stiroh and Rumble, 2006) concluded that reliance on non-interest income as a diversification strategy for financial holding companies (FHCs) are more than offset by increased exposure to non-interest activities, which are quite volatile but not more profitable than lending activities. (Couto, 2002, p.146) pointed out that õthe more the income of a bank comes from sustainable core-business sources, the more reliable and stable are its earnings.ö On the same note, (Couto, 2002, p.146) argued that õreliance on non-recurring income is a sign of earnings

weakness and may mean that the bank is engaging in risky practices in an attempt to boost earningsö. The author also stated that income arising from non-traditional banking activities is regarded beneficial if the revenue earned surpass operating expenses, provisions and contributions to tax expenses. (Brunnermeier, et al., 2010,p.2) also noted that banks with higher non-interest income composition in relation to total income have higher systemic risk as compared to banks that rely on net interest income. The author used CoVaR proxy as measure for systematic risk and established a relationship of one standard deviation from net-interest income is followed by 5.2% coefficient variance change in systematic risk.

(Williams and Rajaguru, 2007) revealed that banks with management that are risk averse turn to shun from diversification into non-interest activities because of the unstableness characteristics the income stream process. (Gorener and Choi, 2013) logged that diversification into non-interest income is like shooting in the dark because the income stream is opaque in nature and difficult to monitor. The author approved that interest income as a transparent source of revenue with an example on how changes in capital structure initiated by credit losses is easily traceable to the source: loan delinquency, loan classification, loan provisioning, and loan charge-off (Gorener and Choi, 2013, p.125)

2.4.2 Proponents for finding diversification benefits

Conversely, (Köhler, 2013) concluded that diversification ensures a health income structure and diversified bank are not easily affected by economic shocks. The author advocated banks should not immensely depend on one income stream. Furthermore (Köhler, 2013,p.17) the research õindicated that the impact of non-interest income on risk significantly depends on the activities used to generate non-interest income with retail-oriented activities being significantly less risky than investment-oriented activities such as those pertaining to capital markets activitiesö (Köhler, 2013,p.17)

In agreement (Gorener and Choi, 2013) pointed out that diversification into non-interest income is only associate with increased systematic risk, however the degree to generalize the hot-bloodedness and riskiness of the non-interest income is limited at best since they is no empirical evidence to finger point the relationship between non-interest income to other forms of risk such

as total risk, interest rate risk or idiosyncratic risk. (Stiroh, 2001) concluded that diversification into non-interest income results in the banks shifting away from traditional banking activities as a result this reduces credit and interest risk levels of the bank. The author also stated that diversification into non-interest income shift banksø income mix toward fee based products and services which in turn increases the portfolio diversification advantages through the integration of products and services with different correlation.

(Meier, 2011) there are many synergies created by combining similar activities. Larger banks with significant networks can benefit from economies of scope and scale by broadening into other services. Secondly, expanding the number of services a bank offers enables customers to execute all of their financial needs in one location. Banking holding companies (BHCs) then accumulate more information through a variety of activities, which enhances traditional intermediation activities.

(Sheng and Wang, 2007), on their study on effects of non-interest income on commercial banks in China concluded that the increasing demand for financial services has brought an increase in non-interest income which have caused good performance for commercial banks in China. (Jahan, 2012), examined the merits allied to shareholders dependence on non-interest income and concluded that investment in banks with large exposure of non-interest income generating activities is of benefit to shareholders since portfolio diversification is enhanced with regard to non-interest income

2.4.3 Type of risk that affects bank performance

According to (Sandra, D, 1997) the following six types of risk that affect commercial banks performance

- **Market risk:** risk that a price movement can expose a derivative counterparty to financial losses. (Price behaviour of a derivative is the same as the underlying asset. (Sandra, D, 1997)
- **Credit risk:** risk of loss associated with counterparty default (Sandra, D, 1997).

- **Liquidity risk:** risk that occurs when financial instruments cannot be sold without high costs or a large transaction can cause noticeable changes in prices (Sandra, D, 1997).

- **Operating risk:** risk of failed internal controls or human error (Sandra, D, 1997).

- **Legal risk:** risk that contracts cannot be enforced because of differing legal systems across countries, legal difficulties of the counterparties, lack of authority, etc.(Sandra, D, 1997).

- **Systemic risk:** risk that a disruption in one market will create a chain reaction in other markets (Sandra, D, 1997).

2.5 Non-Interest Income and Bank Size

According to (Meier, 2011) stated that bank size is an important determinant of non-interest income. (Demirgüç-Kunt and Huizinga, 2009) also found õthat large and fast-growing banks tend to have higher non-interest income and non-deposit funding sharesö. (DeYoung, 2009) noted that small banks struggle to pace up with the technological changes that will be happening in the financial sector henceforth this limit the ability for small banks to generate large amounts of non-interest income.

(Bonfim and Dai, 2010, p.14)Stated that large banks have an advantage when borrowing loans from credit line because of size collateral and because of this relationship large banks grants more loan transaction than small banks. In the process of granting loans, non-interest income is generated inevitably through mortgage servicing charges and mortgage penalty charges.

In harmony, (Chunhachinda and Li, 2012) found that a positive correlation exist between bank size and non-interest income, the authors also examined components of non-interest income and concluded that income arising from fees and commissions is largely dependable on the volumes of transactions and the size of the bank.

In the same agreement (Stiroh, 2002) pointed that õlarge banking companies generate disproportionately more non-interest income from securitizing and servicing mortgage and credit

card loans, because the automated production processes used to produce these services exhibit substantial scale economiesö. (Anita, et al, 2010) analysis for 95 banks during the period 1997-2007 concluded foreign banks generate large amount of non-interest income as compared to private banks. The authors stated foreign banks generate large volumes of non-interest because of geographic and intercultural economies.

In contrast, (DeYoung and Rice, 2004) argued technology levels for both small and large banks are just the same, both small and large banks are able make use of internet banking and ATMs in providing services to the customers. Banks should rather be more concerned with niche banking strategy of relationship based with client rather depending on bank size.

(DeYoung, 2009) ,stated õthat õrelationship-basedö approach to banking allows small banks to serve local businesses that are unable to access public capital markets and households who require in-person financial services. Because these small banks differentiate themselves from their larger rivals by offering personalized products and services (e.g., small business loans, financial planning)ö (DeYoung, 2009).

(Tapper, 2010) argued that large banks generate a fairly income levels from non-traditional /or non-deposit activities because they disregard the benefits which arise from relationship with the customers. The author emphasized that; for large banks to enjoy high levels of non-interest income ratio they should include relationship approach to banking in their mix.

2.6 Non-Interest Income and profitability

(Tapper, 2010) diversification into non-interest income can lead to increased profitability levels depending on the macro-environment. In unstable macro-economic environment is a perfect breeding ground non-traditional activities, however in stable macro-economic environment diversification into non-interest income is associate with decrease in profitability.

(Letitia, et al, 2008) concluded that banks which rely mostly on non-interest activities are more profitable than banks which rely on traditional activities. The authors also stated that banks which rely on non-interest income have higher levels of ROA and ROE.

(Wagner, 2010) examined the relationship of profitability using a proxy measure of ROA to measure dependent variable and concluded that diversification into non-interest generating activities is allied with increased profitability levels in the long-run. The authors argued that the short-run benefits into non-interest income diversification are not clear because of the implementation costs that will be absorb by such activities.

(Craigwell and Maxwell, 2006) analysis for Barbados banks during the periods (1985 to 2001) concluded that the effect diversification and profitability levels is not clear with some banks recorded increased profitability, whilst other recording loses. The authors concluded diversification into non-interest income activities is beneficial to the overall performance of the bank but management should continuous monitor non-interest generating activities in order to reap benefits associate with such diversification.

(Stiroh, 2010) outlined that diversification into non-interest income does not increase profitability but rather this strategy reduces the overall profitability of banks through inevitable and unavoidable that are associate with non-interest income. More so, the author outlined that in order for banks to increase its profitability levels, management should rather channel the resources to traditional banking activities rather than throwing resources in a black hole called non-interest income.

(Glaser and Muller, 2010) made an analysis on individual components of non-interest income and their effect on profitability and concluded that diversification into non-interest income activities is only beneficial if the structure of non-interest income for the banks is dominantly made of fiduciary services and fees and commissions income.in agreement (Tara and Rice, 2004) also noted that they is a positive relationship between profitability and levels of fees and commissions. The authors highlighted that fees and commissions are associated with net interest income activities and likewise this services do not attract operational costs.

2.7 Non-Interest Income in relation to operational costs

According to (Glaser and Muller, 2010) pointed out that in order of banks to improve operating efficiency one useful tool is to scale down operation arising from non-traditional activities since these activities compares mostly of fixed costs. (Demirgüç-Kunt and Huizinga, 2009) identified that a positive correlation between fee generating activities and operational costs, the research

underlined that an increase in non-interest income likewise leads to higher fee income and banking overheads.

Comparable finds by (Ramasastri, et al, 2004) advocated that considerable amount of fixed costs additions are required in the development and implementation of fee-generating activities or / structures and this costs have an overall effect of increasing the operational leverage of banks. In addition (Ramasastri, et al, 2004) also pointed out the cost advantage that lending activities have over non-interest income õOnce a lending relationship is established, the only cost of an additional loan is the interest expense while the same does not apply for non-interest income where additional staff may be requiredö

(Sanya and Wolfe, 2010) examined non-interest income fees that emanated from investment and advisory service banking and concluded that this departments generate large amounts of income from speculation activities, however income earned is also netted by high salaries and wages of hiring expert personnelø.(Geyfman,2005) analysed the trend of information technology cost from (1999-2004) and concluded that information technology related expenses arose during that period for United States banks because of high reliance of non-interest income as there major source.

(Leavan and Levine, 2009) deregulation have promoted merges in the financial sector and banks are taking advantage of the created relationship in diversification into non-interest generating activities which are investment banking and asset management.

(ECB Report, 2000),analysed the relationship that exist between fee generating activities and profitability and stated that banks which specialize in non-interest income are less profitable than banks which specialize in net interest income because of higher administration and personnel costs that are associated with non-interest income generating activities. (Stiroh, 2002). concur that, a õbank that shifts its product mix from traditional asset-based, interest-generating activities to non-traditional fee-based activities tends to increase its õdegree of operating leverage For example, within the context of an ongoing lending relationship, the main input needed to produce more loans is a variable input (that is, interest expense); in contrast, the main input needed to produce more fee-based products is typically a fixed or quasi-fixed input (that is, labour expense) Thus, fee-

based activities may require greater operating leverage than lending activities, which makes bank earnings more vulnerable to declines in revenuesö (Stiroh, 2002).

(Stiroh and Rumble, 2006), alternatively, õthese activities may ultimately be profitable, but adjustment costs could hold down the short-run returns. For example, financial holding companies (FHCs) may need time to build the business practices, scale, technology, and expertise to successfully combine these different products and achieve higher risk-adjusted profitsö. (Smith and Wood, 2003), added up by saying that õmany institutions have broadened their range of corporate services to include management consulting, data processing and information systems, or other technological services. In addition, depository institutions generate fee income from personal financial planning services, assisting individuals with decisions on budgeting taxes, investments, retirement, estate planning and other financial matters. Since these services can be costly in terms of hiring and training individuals, fees must be commensurate with the cost of producing the serviceö (Smith and Wood, 2003).

2.8 Relationship of net interest income and non-interest income

(Busch and Kick 2009) concurring diversification theory stated banks financial performance can be only be boosted when all income components are negatively or weakly correlated. The study domino effect on profitability is that dependence on non-interest income is tailed by unhinged financial performance for individual banks.

According (Lepetit et al. 2008) find that a negative correlation exist between interest margin and non-interest income, the conclusion was drawn from an analysis of 602 European banks during (1996-2002).The research also revealed that non-interest income have a crossing selling effect rather a substitution effect to interest margins.

Similarly (Smith and Wood, 2003:p41) carried a study on the bank portfolio diversification for European banks and concluded that õa negative correlation between interest and non-interest income seems to exist in several countries, although in varying degrees; non-interest income seems to stabilize total operating income, with the partial exception of two European countries. So, the expansion of the bankøs range of activities reduces the variability of its earnings stream (Smith and Wood, 2003, p.41)ö

Furthermore (Karanja,2012) examined the relationship of net interest income and non-interest income for commercial banks in Kenya and concluded that they is a negative covariance between net interest income and non-interest income and an increase in non-interest income with negative correlation have led to diversification benefits for Kenyan banks.

(Williams and Rajaguru, 2013) proposed that fee income/non-interest income supplements the declines of net interest income margin rather replacing or superseding the existence of net interest income among commercial banks in United Kingdom.

Conversely, (Chiorazzo et al.2008) ascertain that a positive correlation between exist two income streams exist and diversification into non-interest income activity proved to reduce the risk-adjusted performance measures for Italian banks between (1993-2003)

2.9 Measures of commercial banks performance

Financial performance measures for bank performance are classified as profitability measures, diversification measures and risk-adjusted performance measures and market based performance measures.

Financial performance measure and acronym	Measurement ratio	Definition
Profitability measures		
↓ Return on asset (ROE)	net profit / shareholdersøequity	(Yang, 2011:p180)öMeasures net return generated as a ratio of shareholdersø equity over a period of time. A greater score implies better usage of shareholdersø equity in generating returns.ö
↓ Return on equity (ROA)	net profit / total assets	(Yang ,2011:p181)Measures net return generated as a ratio of total assets over a period of time. A greater score implies better

		usage of assets in generating returns.
♣ Net interest margin (NIM)	net interest income / assets (or interest-bearing assets)	Simply defined, the spread is the difference between the interest paid out by banks on their deposits and the interest earned on the loans normalized by the total assets:
♣ Cost to income ratio (C/I)	operating expenses / operating revenues	(Mabwe and webb,2010 :p39) õMeasures the income generated per £ cost. That is how expensive it is for the bank to produce a unit of output. The lower the C/I ratio, the better the performance of the bankö
Diversification measures		
• Herfindahl Hirschman index(HHI)	$-\{(NII/NOI)^2 + (NONII/NOI)^2\}$	(Temiet and Ochieng,2010) is the sum of squares of exposures as a fraction of total exposure
• Share of non-interest income (SHnon)	Non-interest income / (Non-interest income + Net interest income)	This refers to the amount of income contributed by non-interest activities.
Log function of total assets (LnAssets)	Exponential log function of total assets	Assets contribution to the total income
Economic performance measures		
• Economic value added (EVA)	return on invested funds ó (weighted average cost of capital * invested capital)	Measures the capital efficiency into profitability

23

	ó (weighted average cost of debt * net debt*)*	
• Risk adjusted return on capital (RAROA)	roe / roa	(Yang, 2011:p)Measures the return on assets after adjusting for the assumption of the level of risk of variability to return.
Risk adjustment return on asset (RAROE)	**r**oe / roe	(Yang, 2011:p)Measures the return on equity after adjusting for the assumption of the level of risk of variability to return.

2.10 Conclusion

Large literature is of support that diversification into non-interest income as a major source of revenue is risk since non-interest income is regarded to be more volatile than net interest income. The relationship between non-interest income and overall profitability level of the bank is affected by the short run fixed cost which are incurred in implementing fee generating structures. Bank size is positive driver for the volume of non-interest income. Technological advancement, competition, increased customersøneeds and deregulation are the major causes for banks to change their income structure.

CHAPTER 3 Research Methodology

3.0 Introduction

This chapter outlines a description of how the research was carried out, tracing all the activities and procedures undertaken during the study. It highlighted the research methodology adopted and the rationale for its use including how the information was collected and analysed. Aspects such as the research design, sample design, data sources and data collection instruments used are the focus of this chapter. The chapter also contains the merits and demerits of each method used. It is also the objective of the research to justify the particular techniques and instruments which have been used in this research.

3.1 Research Design

According to (Rajasekar et al, 2013) a research is õa logical and systematic search for new and useful information on a particular topic.ö(Kumar, 2011) defined a research design as a procedural plan that is adopted by the researcher in answering the research question validly, objectively, accurately and economically. Under research design, the researcher ground plan on the ways to administer the study (research method), on the ways to collect the information, techniques to analysis collected and method to communicate the research findings.(Teddlie & Tashakkori, 2009, p. 7) outlined that a research design can integrate both qualitative and quantitative approaches to data gathering, analysis, interpretation, and presentation .

3.2 Mixed research

(Creswell and Clark, 2007, p. 5) defined mixed-methods research as a research design crafted on assumptions that guide the collection and analysis of data and the mixture of qualitative and quantitative approaches. Mixed research methods can also be referred to as hybrid research or triangulation research. The integration of both qualitative and quantitative methods have vast advantages as cited by (Creswell,2003,2009) mixed research enhances better understanding of the study, the method also complement the weakness of one method, if qualitative methods are unable to provide enough information then quantitative research will complement. In addition this

research approach is useful for verification process in the sense that the both methods should produce similar results.

3.2.1. Qualitative Approach.

(Hancok et, al, 2009) stated qualitative research method is concerned with an understanding on how social phenomena fits into real-life context, by trying to answer the why question, how opinions and attitudes are formulated.(Tim and Overton, 2011) outlined that qualitative research focus mainly on the collection of non-numerical data, however non-numerical data is also quantifiable.

3.3 Case study research design

(Hayes, 2011) defined case study as õresearch method that involves a thorough, in-depth analysis of an individual, group or institutionö. (Kumar, 2011, Robson 2002, Yin, 2009) stated in agreement that what is held true for one cluster/group is also held true for another cluster/group and in such respect one typical case study stand to represent an in-depth sight of total population. A case study was undertaken in an attempt to obtain a complete and accurate understanding of the questions in hand. The research was split into four sets. The first set seeks to identify the determinants of non-interest income, the second set seeks to determine the impact associated with the changes in non-interest income levels on bank financial performances, thirdly the relationship between non-interest income and bank size and the last set seeks to find out the relationship between non-interest income on overall risk levels of the bank and its correlation with net interest income.

Table 3.1: Advantages and Disadvantages of Using Case Study.

Advantages of case study design	Disadvantages of case study design
Gather data on a short space of time and hence itøs economic.	Case study may fall to represent the entire population
Provide a rich and holistic account of a phenomena	The case study is affected by researcher bias, observation and interpretation bias
In depth analysis into both quantitative and qualitative data	
The objective are realistic since the study centred on one aspect	

3.3.1 Target Population-55 respondents

According to (Kictenham and Pfleeger, 2002), a target populationö is a group or individuals to whom the survey appliesö. This involves the selection of group of respondents that is of interest to researcher. Targeted population should be drawn from the respondents that are able the answer the research questions and to whom the results are applicable.

This research is focused on the impact on non-interest income diversification on commercial banks performance in Zimbabwe. However there are 21 operating banking institutions (including the Post Office Savings Bank (POSB), following cancellation of Trust Bank operating license on 6 December 2013. In addition, there are 146 microfinance institutions (Monetary Policy Statement, 2014, p.15). The research is going to be a case study on one commercial bank, Banc ABC. In this study the targeted population is 55 respondents, the researcher draw together the target population from the acquainted respondents that works in departments that generate non-interest income and from the respondents that possess an understanding of non-interest income activities namely: retail managers, finance managers, treasury staff and general managers, bank economist, country head finance manager and risk manager.

3.3.2 Sampling Procedures and Size 30

Subsequently, from the targeted population, the research identified a research sample of the respondents. (Hayes, 2011) defined research sample õa subset of population selected to participate in a research studyö. Sample stand to generalise representation of targeted population. (Kumar, 2011) defined sampling õas the process of selecting a few respondents (a sample) from a bigger group (sampling population) to become the basis for estimating prevalence of information of interest to the researcherö.

The researcher draw the research sample through the use a non-probability sampling techniques. The researcher combined convenience sampling technique and judgemental sampling. The description of the study requires acquainted respondents which are hard to get from a general population screening henceforth the researcher placed dependents on judgemental sampling. The researcher considered convenience sampling technique because the targeted population consist of managerial personnel who are always busy, therefore the researcher placed reliance on

convenience sampling. The advantages to researcher in justification judgmental sampling method are as listed below:

- Lower cost of sampling
- Lesser time involved in the process
- A select number of people who are known to be related to the topic are part of the study which means that there are lesser chances of having people who will distort the data
- Good method for pretesting instruments like questionnaires.

Table 3.2: Research sample

Category of respondents	Number of respondents targeted	
Retail managers	5	
Investment banking manager	2	
Treasury managers and staff	5	
Other Bank employees	10	
Risk manager	5	
Economists	1	
Finance manager	1	
TOTAL	30	

3.4 Research Instruments

3.4.1 Semi Structured Interviews

According to (Lemanski and Overton, 2011) semi structured interview is a technique used to collect qualitative data by setting up a situation that allows a respondent to express his/her option regarding the question being interviewed. (Nevile, 2007) stated that semi-structured interviews includes standardized themed questions that focus on areas to be covered by the interviewer and this instrument give the interviewer an opportunity to look into the responses and determine the flow of conversion.

The researcher used semi- structured interviews to find out how risk managers, accountants and finance manager viewed the issue of non-interest income diversification with respect to commercial bank performance. The interviews were conducted as pre-set by (Woods, 2011) who

stated that an interview should be properly scheduled, interviewee should be assured that confidential information would be used for the study purpose only, interviewer should state at the beginning of the interview that the interviewee is not obligated to answer all questions. Furthermore, the interviewer should avoid the use of confusing, complicated and closed ended questions when conducting the interview.

3.4.2 Questionnaires

õA questionnaire is a formalized set of questions for obtaining information from respondents. The overriding objective is to translate the researcherøs information needs into a set of specific questions that respondents are willing and able to answerö (Malhotra, n p176.) According to (Kumar, 2011) a questionnaire õis a written list of questions, the answers to which are recorded by respondentsö

The first step in the construction of a questionnaire is to specify what type of information is required. This depends, first, on the type of study we have at hand. In the case of descriptive and casual studies, we should have knowledge on the basis of hypotheses and propositions. We should know what the basis of our study is and what we want to achieve. Here we should also consider to whom this questionnaire is to be sent and what is to be asked. For example, in explanatory studies, we should have an unstructured questionnaire. Second we should consider whether the questionnaire is going to be disguised or undisguised. Moreover, we must consider how it is to be administered- through mail, personal interview, telephone interview or a combination of the above.

3.4.3 Email Administered questionnaire

The researcher administer the questionnaires through the use of an email. The researcher created an online excel coded worksheet that contains combo boxes, option buttons and list buttons to add interaction with the respondents. According to (Gingery, 2011) stated that online coded questionnaire literacy saves time and costs. Following is a table that contains the advantage and disadvantage that the researcher encounter from the use of email as a way of administering questionnaires.

Table 3.3: Advantages and disadvantages of email administered questionnaires

Advantages of email questionnaires	Disadvantages of email questionnaires
♣ prevent bias since the researcher is not direct involved with the respondents	♣ The researcher has no control on who answer the questionnaire.
♣ The respondents can answer at their own time, pace and schedule	♣ Sample limited to available email addresses
♣ surpasses geographic boundaries	
♣ Saves time and cost (cost efficiency)	
♣ Data from the respondents can be quickly be retrieved and reviewed for analysis since it will be in excel format.	

3.5 Secondary Data collection

Secondary data refers to the information collected by the researcher for the purposes which are different from the one who created/prepared the data. Secondary data entails placing reliance on someone primary data. (Crespen, 2009) one must identify the degree of relevant of secondary data before incorporating it to the study. The researcher incorporated secondary data in addressing the research objectives that required a time frame analysis so as to establish a trends between dependent and independent variables.

Table 3.4 merits and demerits of using secondary data

merits of using secondary data	merits of using secondary data
♣ It is time saving.	♣ Data may be outdated.
♣ It is economical. It saves efforts and expenses. It saves efforts and expenses.	♣ Accuracy of secondary data is not known.
♣ It helps to make primary data collection more specific since with the help of secondary data, we are able to make out what are the gaps and deficiencies and what additional information needs to be collected.	♣ Since many surveys deal with national populations, if you are interested in studying a well-defined minority subgroup you will have a difficult time finding relevant data.
♣ It helps to improve the understanding of the problem.	♣ Secondary analysis can be used in irresponsible ways. If variables aren't exactly those you want, data can be manipulated and transformed in a way that might lessen the validity of the original research.
♣ It provides a basis for comparison for the data that is collected by the researcher.	♣ Much research, particularly of large samples, can involve large data files and difficult statistical packages.

3.6 Quantitative approach

Quantitative research is principled on the analysis of numerical data as source to reach a conclusion of how variables are interrelated.(Creswell,2009) pointed out that quantitative research is means for testing objective theories by examining the relationship among variables. According to (Hancok, et, al, 2007) quantitative research involve the manipulation of one or groups of variables (independent) so as to reach a conclusion how those variables are connected to the dependent variable.

3.6.1 Proxy variable for bank performance

Dependent variables

The researcher used analysed three financial ratios to measure the financial performance of the bank so as to justify the best dependant variable. The most common profitability measures are return on asset (ROA), return on equity (ROE), and net interest margin (NIM).

According to (Chang, 2012:158) Return on assets (RoA) õmeasures net return generated as a ratio of total assets over a period of time. A greater score implies better usage of assets in generating returnsö. The return on assets (RoA) is the net income for the year divided by total assets, usually the average value over the year (European central bank, 2010:8)

Return on assets = ———————————

Return on equity (RoE) measures accounting profitability from the shareholderøs perspective. It illustrates the rate of return flowing to the bankøs shareholders. It approximates the net benefit that the stockholders have received from investing their capital (Rose and Hudgins, 2006:151). (Chang, 2012:157) (RoE) õMeasures net return generated as a ratio of shareholdersøequity over a period of time. A greater score implies better usage of shareholdersøequity in generating returnsö. It is calculated as follows:

Return on equity = ———————————

According to (European central bank, 2010:9), the net interest margin is a õproxy for the income generation capacity of the intermediation function of banksö.Net interest margin (NIM) measures how large the spread between interest revenues and interest costs that management has been able to achieve by close control over earning assets and the pursuit of the cheapest sources of funding (Rose and Hudgins, 2006:151). It is calculated as follows:

Net interest margin =———————————

3.7 Independent variable

Diversification measure

Preceding researchers namely, (Stiroh and Rumble, 2006), (Mercieca et al. 2007), (Chiorazzo et al, 2008), (De Jonghe, 2010) used Herfindahl Hirschman Index (HHI) to measure the degree of income diversification. Analogously, the researcher used *DIV* measurement. According (Chang, 2012, p.186) *DIV* õmeasure provides a gauge as to the variation in the breakdown of net operating revenue into net financing income and non-financing income õ. (Stiroh and Rumble, 2006, p.2186), itemized the components that make up net operating revenue into two broad categories: net interest income, *NET*, and non-interest income, *NON*. It is calculated as follows:

DIV = 1 – (SH2NET + SH2NON)

A net operating income with a diversification mix: 0.0 means that all revenue is concentrated on one single sources of income, whilst a diversification mix of 0.5:0.5 means an even distribution of income sources

Share of non-interest income

Measures the share of net operating revenue derived from non-interest income sources is calculated as follows:

$$= \frac{-}{(\quad - \quad + \quad)}$$

Bank size

The size of an individual bank is calculated as the total assets of a bank divided by the total assets of the industry. It is expected that larger banks will perform better, because they may have more diversified investment opportunities, better management, and employ better technology.

BANK SIZE =

3.8 REGRESSION MODEL

3.8.1 Multi-Regression Model

The researcher used a multi- regression model to analyse the relationship that core exist between bank performance and independent variables (non-interest income, risk, net interest income and bank size (assets). The results of the regression model were reported with yearly and quarterly financial reports of the selected commercial bank. The regression model is illustrated as follows:

$Y = \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \beta 4 X4 + e$

Where:

Y = dependent variable, which is a measure of bank performance based on ROE.

$\beta 0$=constant terms

$\beta 1$- $\beta 4$=beta coefficients

Independent variables

X1 = diversification spread (DIV)

X2 = share of non-interest income

X3 = share of net-interest income

X4 = bank size

e= is the error term which is assumed to be normally distributed with mean zero and constant variance.

3.8 Hypothesis Testing

Researcher carried out a t-test and F-test on the bank performance and non-interest income using E-views software. The researcher accept H_1 if t-test is negative and reject H_1 when it is positive.

3.9 Data Analysis Techniques and Presentation

E-views is an international acclaimed regression computer package used to run the regression models. The package is reliable and user friendly. In addition, E-views is compatible with other computer programs such as Excel and MS Word. Results from E-views can be easily transferred to Excel and MS Word for analysis. In line with best practice

Researcher used graphs and tables. The tabular form implies numerical presentation of data. The graphical form (figures) involves the presentation of data. In terms of structures which can be visually interpreted for example: bar charts, pie charts and line charts. All the graphic aids contain the following elements:

- Table of figure number, this permits easy location in the report.

- Title, the title will clearly indicate the contents of the table or figure.

- Box head and sub-head, the box head contains tables to the column in a table, while the sub-head contain the tables for the rows.

3.10 Validity and Reliability

The research study was designed to ensure that the results to be obtained were going to be valid and thus reliable. Validity is concerned with the degree to which chosen research instruments serve the purpose, for which they were constructed, as well as the extent to which the conclusions drawn from the research were true. Validity and reliability will be ensured by giving friends and colleagues to check on any errors and revising through the document by proof reading. The researcher gave the questionnaires to fellow colleagues to attempt filling them in before dispatching them to the respondents. This helped in clarification and reduced ambiguity on the questionnaires. This ensured reliability.

3.11 Conclusion

This chapter also highlighted the challenges encountered during the study as well as justification for the stages that were taken during the research, indication of the data analysis techniques and presentation. In the next chapter were the analysis, presentation, interpretation and explanation of the research findings.

CHAPTER 4 DATA PRESENTATIONS AND ANALYSIS

4.0 Introduction

This chapter presents an analysis of the obtained data using multi-regression model, interviews and a questionnaire. The research instrument were used to test the hypothesis that have been established in chapter one. It also seeks to address some of the secondary objectives as it answers the core objective of this study. The analysed data is presented in the form of tables and graphs as well as in a qualitative nature. The chapter will then conclude with an overview of the data analysis.

4.1 Analysis of Data Response Rate

4.1.1 Questionnaire

Table 4.1: Summary of questionnaire responded

| Category of respondents	Number of respondents		
	Targeted	Actual	Response
Bank managers	12	9	75%
Finance manager	1	1	100%
Other bank employees	16	14	87.5%
Economists	1	1	100%
Total	**30**	**25**	**83.33%**

Source: Research Data

To the researcher the average questionnaire response rate of 83.33% was acceptable as a response rate that justifies the use of the research findings as a basis of making a conclusion and recommendation in this study. The other 16.6% non-response rate was mainly affected by the issue of distribution channel used to administer the questionnaires, it was difficult to reach the prescribed respondents because of incorrect email addresses, and other employees withhold information due to their views of bank confidiality policy. However the rate of non-respondents was insignificant to influence the overall research findings. Curative measures were taken to supplement non-respondents through the uses of quantitative analysis

Table 4.2: respondents' period of employment

Period of employment	Below 5 years	5-10 years	Above 10 years
Number of employees	7	13	5

Figure 4.1: respondents' period of employment
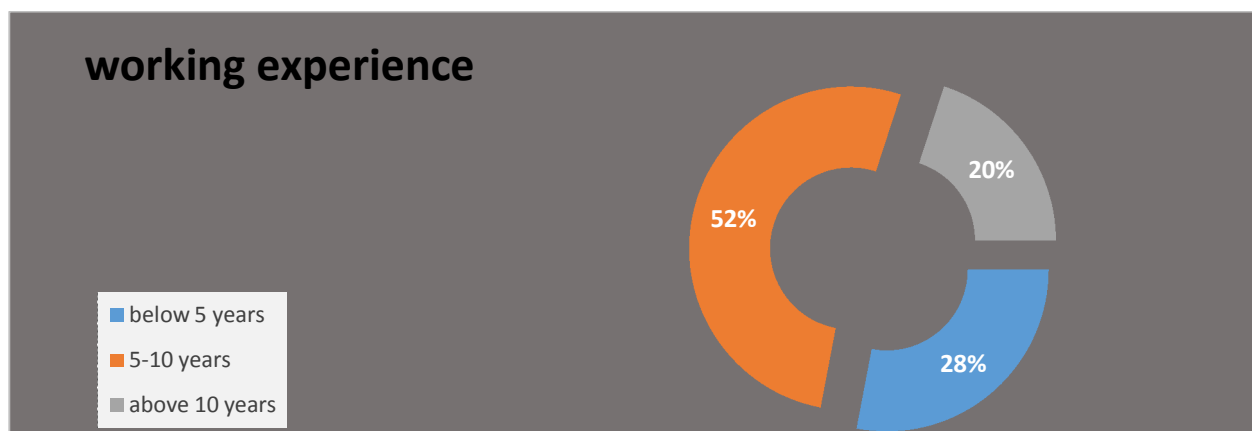
Source: research data

Figure 4.1 shows that among the 25 respondents 5/25 (20%) were above 10 years with the Organization, 13/25 (52%) were between 5-10 years with the organization and 7/25 (28%) were below 5 years with the organization. The research is based on a time series analysis from (2009-2013) henceforth, working experience is imperative to assess whether the respondents were at the organization from the period under review. The data presented showed that more than half of the respondents working experience is above 5 years but below 10 years with the organization.

Table 4.3: respondents' professional qualification
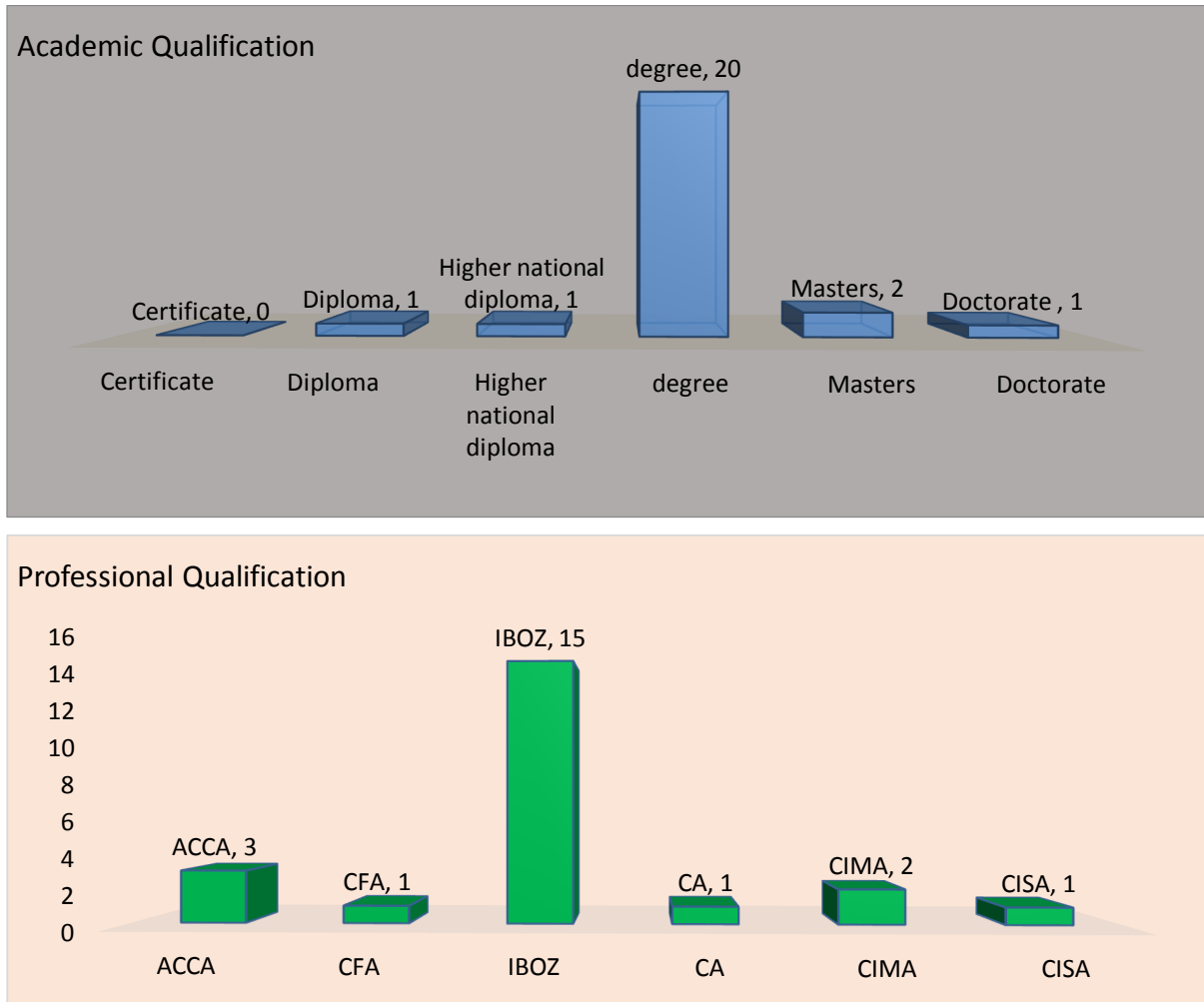
Description	ACCA	CFA	IBOZ	CA	CIMA	CISA
Frequency	3	1	15	1	2	1

Table 4.4: respondents' academic qualifications

description	Certificate	Diploma	Higher diploma	national degree	Masters	Doctorate

Frequency		1	1	20	2	1

Figure 4.2: respondents' academic and professional qualification

Source: research data

The general details of the questionnaire requested respondents to provide their professional and academic qualification. The objective being to assess the reliability and validity of fashioned information by the respondents.72% (18/25) respondents were degree holder, 8% (2/25) were mastersø holders and 4% were holders of a doctorate degree. The respondents professional members qualification to professional bodies were, 15/25 Institution of Bankers Association in Zimbabwe (IBOZ), 1/25 Certified Financial Analyst (CFA), 3/25 association Of Chartered Certified Accountants (ACCA), 2/25 Chartered Institution Of Management Accountants 1/25 ,Certified Information System Auditor (CISA) and 1/25 Certified Accountant (CA).

4.2 Data Presentation and Analysis

Under this review; the researcher adopted a question to question approach and a separable presentation of interviews findings in addressing both primary and secondary objectives

4.2.1 The determinants of non-interest income

The aspect was addressed by question five on questionnaire. The question was structured through the use of a combo-box list with gave the respondents guided parameter on four major determinants and an extra option was pre-set for the respondent to outline other options not confirmed to the list.

Figure 4.3: The determinants of non-interest income
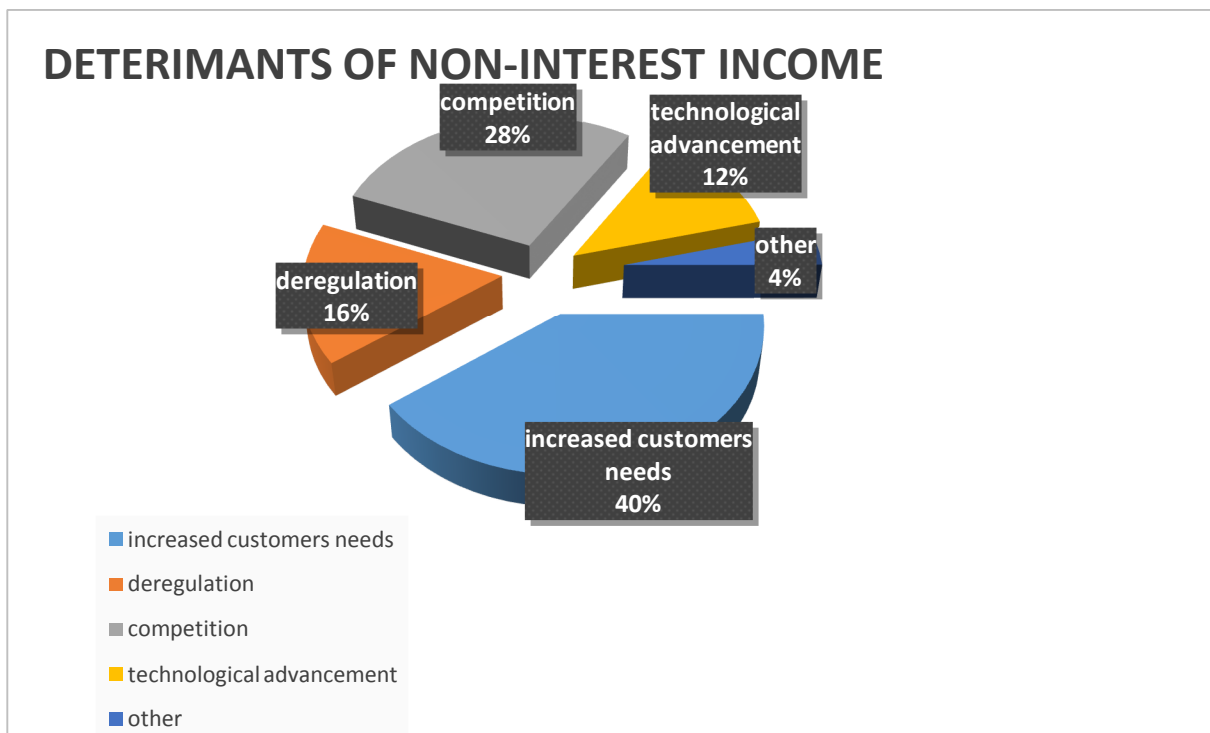
Source: Raw Data

Figure 4.3 showed that 40% (10/25) of the total sample populations suggested that the single major determine of non-interest income for the bank is increased customer's needs. 28% (7/25) argued that increased competition from non-financial intermediaries is the second determine of non-interest income. Deregulation 16% (4/25), technological advancement with 12% (3/25) and 4% (1/25) representing other factors.

This results are similar with (Busch and kick,2009) who concluded that the major cause for banks to change their income structure and service types is driven and sustained by increased customersø needs.(Stiroh and Rumble, 2006) also concluded that the financial innovation is a result of increased customersø needs that are pushing financial holding companies into new activities.

4.3 Intrinsic Characteristics of Non-Interest Income and Net Interest Income.

The aspect of income streams characteristics was addressed by question one and question seven on the questionnaire. The questions were to identify which income stream is more volatile over time and which income stream is reliable.

Figure 4.4: Intrinsic Characteristics of Total Income Structure
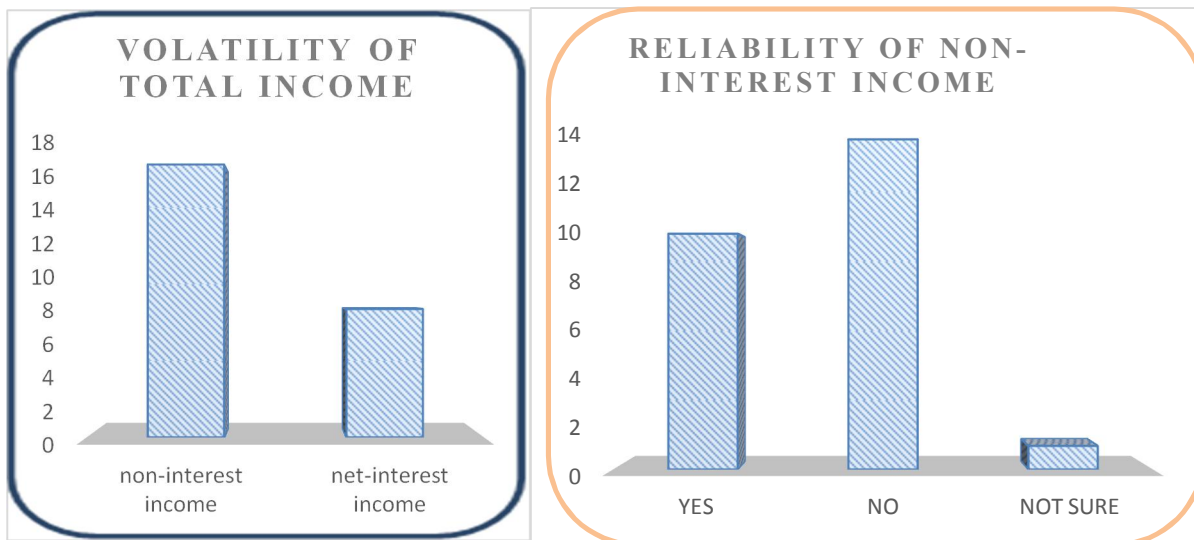
Source: research data

Figure 4.4 shows that 68% (17/25) of the total respondentsø population regarded non-interest income as the more volatile source of income whilst 32% (8/25) of the respondents regarded net interest income as a more volatile source of income.

On the same diagram, the researcher presented the findings on the reliability of non-interest income and 56% (14/25) of the respondents viewed that non-interest income as unreliable income source, whilst 40% (10/25) of the respondents regarded it to be reliable and only 4% (1/25) of the respondents were not sure on the intrinsic characteristics of non-interest income pertaining to its reliability. This research findings are similar with (Stiroh and Rumble, 2006) which concluded that

non-interest income activities are more volatile than lending activities since the volumes of non-interest income depends upon levels of competition and deregulation.

4.4.1 Impact of non-interest income diversification on profitability levels of the bank

The aspect was addressed in question two on both the questionnaire and interview question.

Table 4.5 Respondents' views of non-interest income and profitability

description	Strongly agree	agree	Uncertain	Strongly disagree	disagree	total
Frequency	10	7	1	5	1	25
Percentage	40	28	4	20	4	100

Figure 4.5: non-interest income and profitability
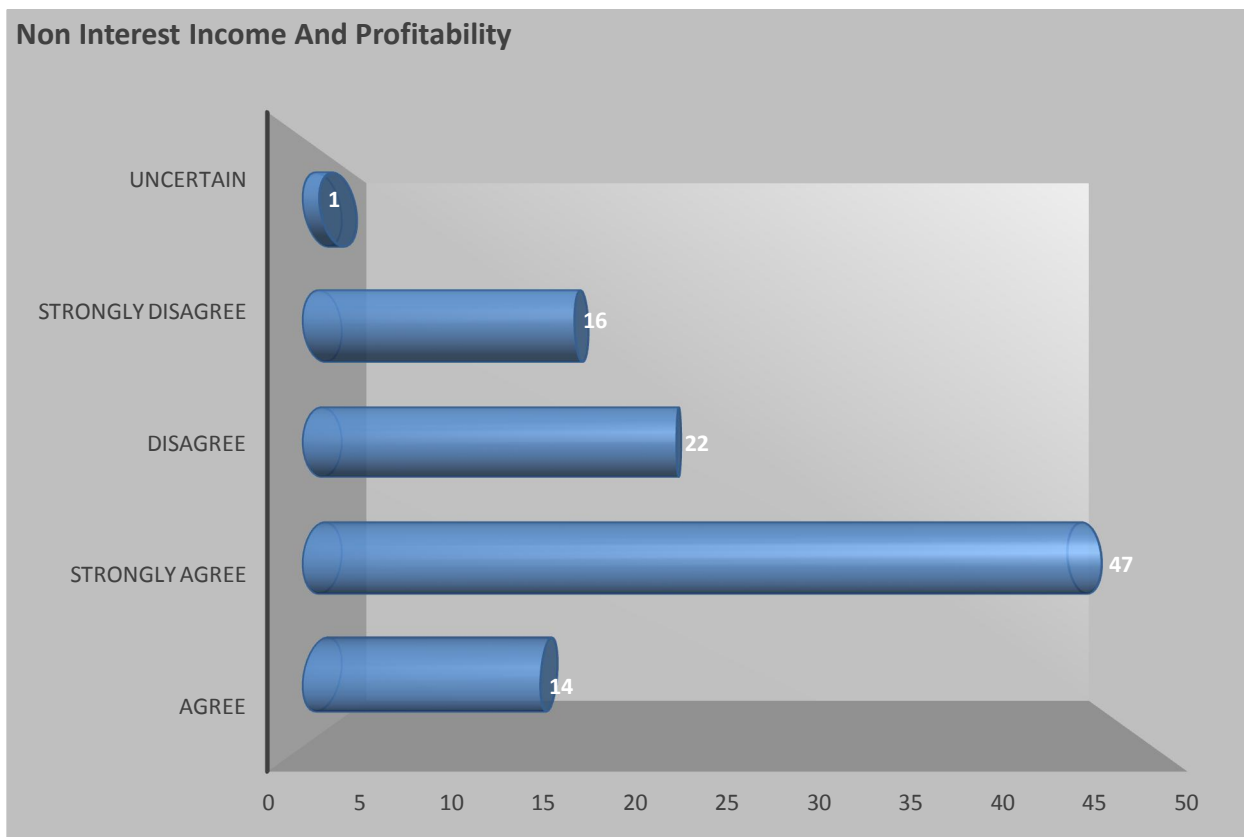
Source: Research Data

Figure 4.5 showed that 40%, (10/25) of the respondents strongly agree that diversification into non-interest income increase bank profitability, and 28 %,(7/25) of the respondents agreed to same

notion. However 24%, (6/25) of the total sample populations suggested that diversification into non-interest income does not increase profitability since non-interest income is more volatile than net interest income. The research data showed that diversification into non-interest income generating activities increase profitability these findings are similar with (Letitia, et al, 2008, Karanja, 2012) who concluded they is a positive relationship between non-interest income and financial performance and also large reliance on non-interest income results in higher levels of (ROE and ROA)

4.5 Non-interest income and bank size

The relationship between bank size and the volume/or percentage levels of non-interest income was addressed by question three on the questionnaire and question four on the interview guide.

Table 4.6 Respondents' views on bank size and non-interest income

description	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree
frequency	5	12	0	5	3

Figure 4.6 Relationship of non-interest income and bank size
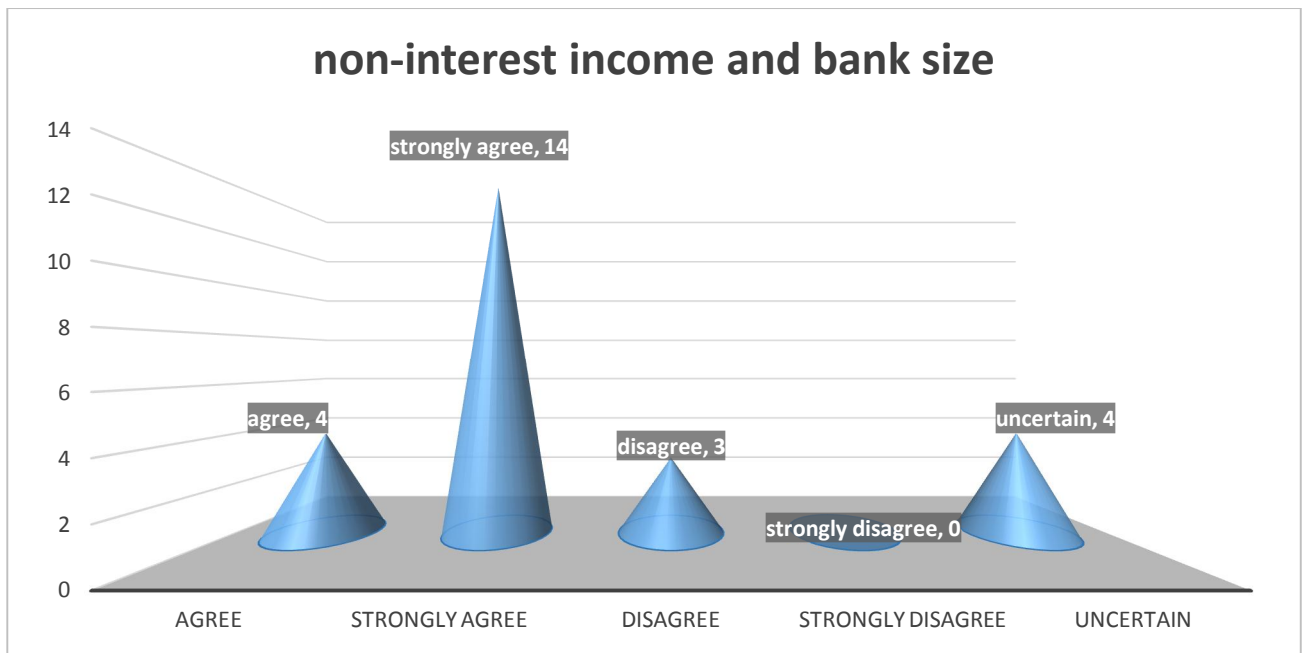
Source research data

Figure 4.6 showed that a total of 17/25 (68%) of the respondents were of the agreement that a positive relationship between bank size and non-interest income exist. The composition of 68% comprised of 12/25 who strongly agree and 5/25 who agreed. On the other hand; 32% (8/25) of the respondents were of the opinion that bank size does not have an influence on the volume of non-interest income.

These results are similar with the findings of (Tapper; 2013, Karakaya and Err, 2013) who concluded that the volume and the size of non-interest income largely depends on bank size.

4.6.1 Impact of non-interest income on operational costs of the bank

The possibility for one to budget or predict the future value of non-interest income and the relationship that core exist between non-interest income and operation cost was addressed in question eight and nine respectively.

Figure 4.7 a) non-interest income and operational costs
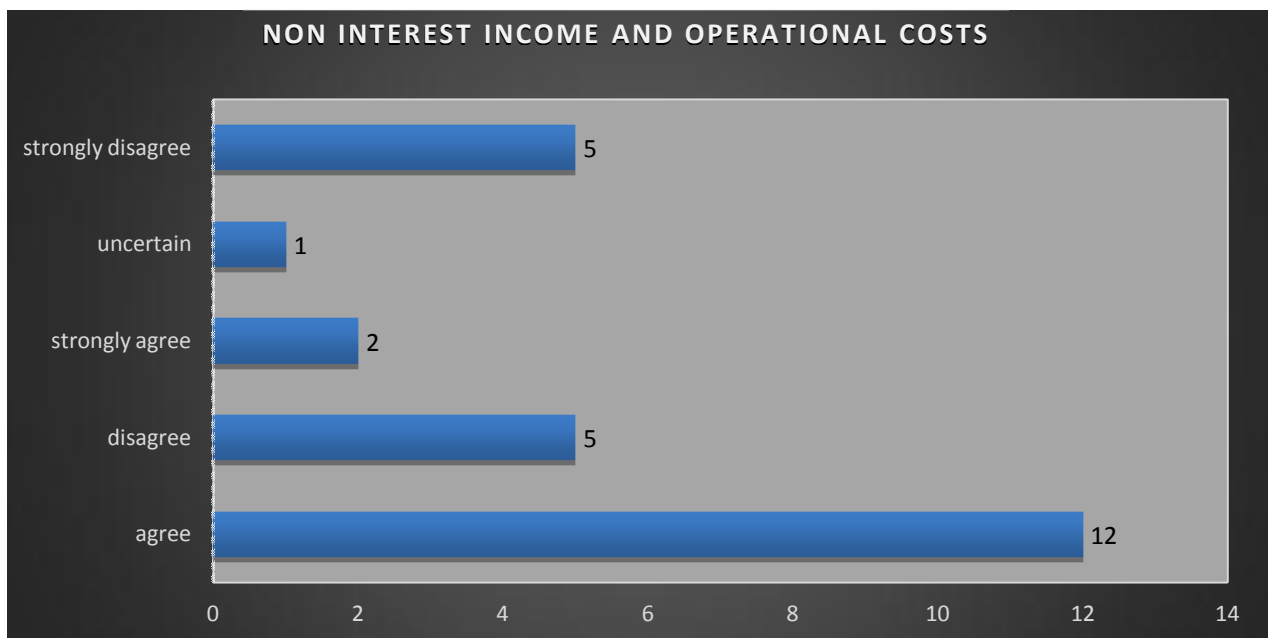
Source: research data

Figure 4.7 a) illustrates that 17/25 respondents agreed whilst 6/25 disagreed that non-interest income attracts more operational costs than net interest income. Majority of the respondents concluded that a non-income interest is allied with high percentage of operational costs.

b) Non-interest income predictions into the future value

ABILITY TO PREDICT THE FUTURE VALUE OF NON-INTEREST INCOME
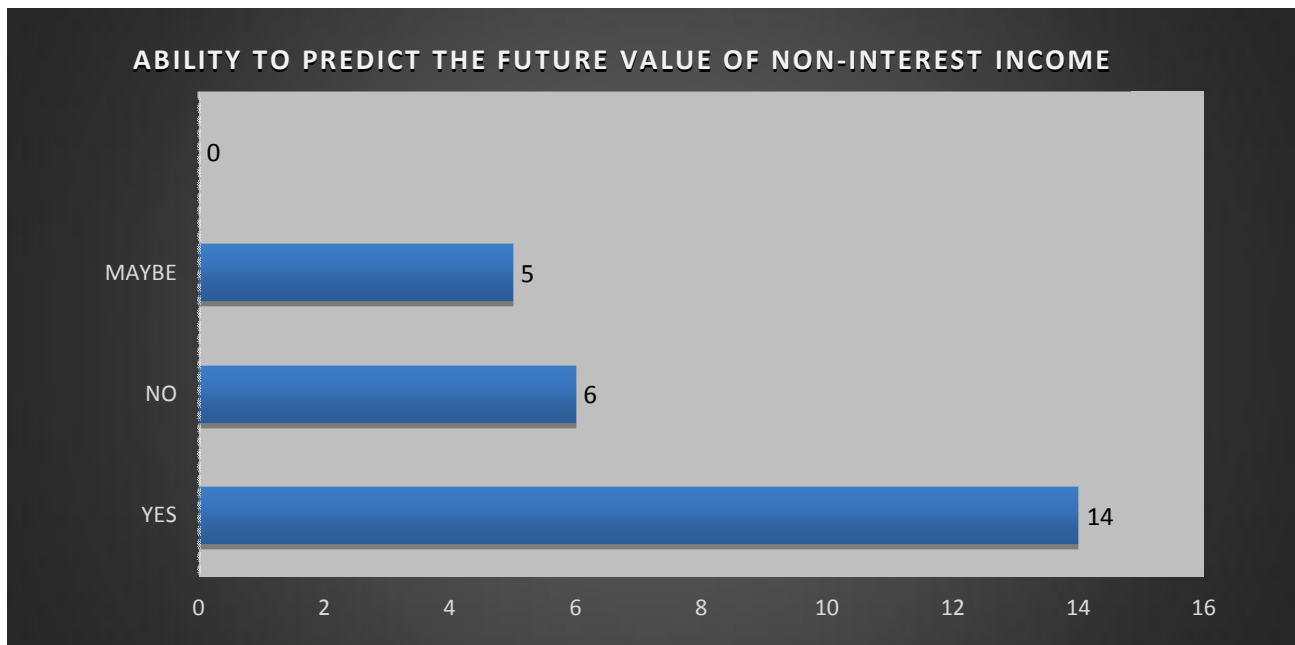
Source: research data

Figure 4.7 b) pointed out the respondents view with regard to the prediction of non-interest income future values, 14/25 standpoint that non-interest income figures can forecasted in budget preparation, however 5/25 respondents disputed that one is unable to anticipate the future values of non-interest income because of the intrinsic characteristic of volatile the income streams impersonate.

The research results correspond to the findings of (Demirgüç-Kunt and Huizinga, 2009) who identified a positive correlation between fee generating activities and operational costs, the research underlined that an increase in non-interest income likewise leads to higher fee income and banking overheads. (Stiroh and Rumble, 2006) agreed that non-interest income generating activities are profitable in the long-run but in the short run the profit element is absorbed by additional cost borne by hiring of expert personnel, marketing of financial services, technological enhancements.

4.7.1 Correlation between net interest income and non-interest income

The correlation between non-interest income and net interest income was analysed from the secondary data of BancABC financial statement (2009-2013).The scatter plot below in (figure 7)

shows that they is a positive and linear relationship between non-interest income and net interest income. The results show that at least 53% of the variation in the net interest income is influenced by change in the non-interest income.

Figure: 4.7 correlation of net interest income and non-interest income.
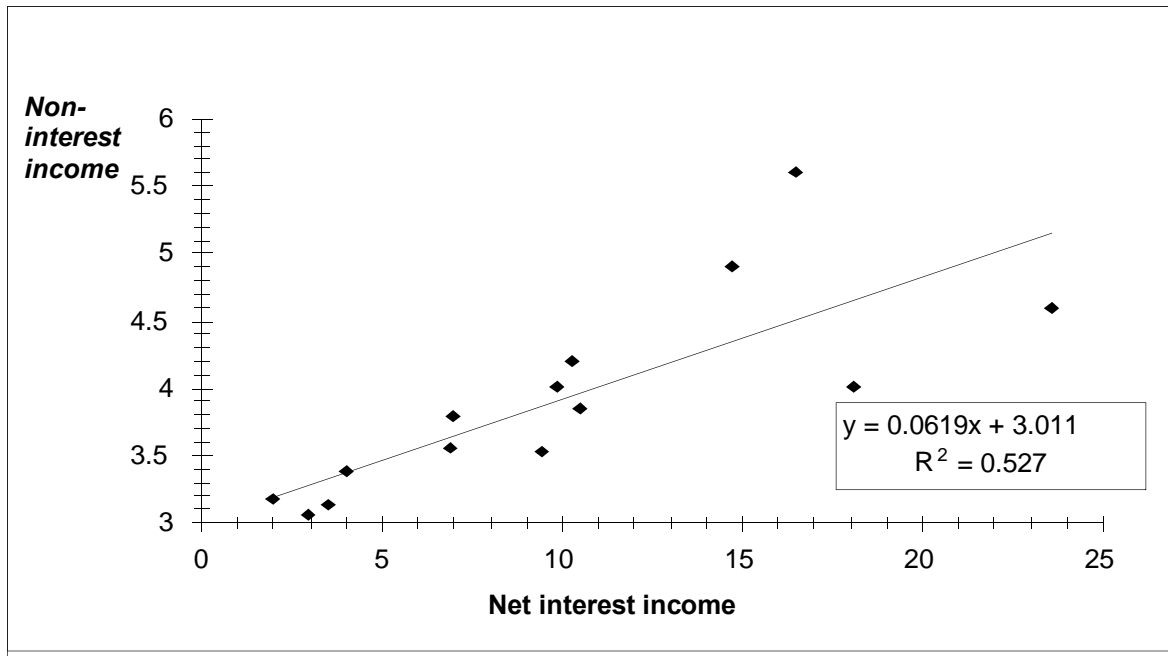
Source: secondary data

4.7.2 Interviews

A total of seven interviews were carried out successfully. The task shows a summary of interviews that were concluded and the response rate.

Table 4.8: Showing response rate of interviews

Category of respondents	Number of respondents		
	Targeted	Actual	Response
Bank managers	5	3	60%
Other bank employees	4	3	75%
Finance manager	1	1	100%
Total	10	7	70%

Source: Research Data

An acceptable response rate of 70% was achieved which goes to show the views of finance manager, bank managers and other bank employees with regard to the impact of non-interest income diversification on commercial banks financial performance. The non-response rate of 30% was due to the strict policies in bank on releasing information, as banks employees believe that confidential information may fall in the hands of a competitor may lead to loss in market share. This however, did not have any major impact on the final results of the research.

Question 1 - Impact of non-interest income diversification on profitability levels of the bank?

All of the respondents mentioned that diversification into non-interest income is a supplementary strategy rather than a substitution stratagem implemented by the bank. The respondents stated that on no account can the bank shift from its core-banking activities of accepting deposits and granting loans. The finance manager and other three bank manager mentioned that diversification into non-interest income is sufficient for enhancing profitability but not a necessary alternative for sustaining favourable bank performance in the long run because of the intrinsic characteristic the income stream poses (volatility and high operational costs). The finance manager made a remark that diversification into non-interest income activities increase systematic risk and reduce credit risk this comment was in line with the finds of (Brunnermeier, et al., 2010, p.2) who noted that banks which generate its total income dominantly from non-interest income are highly exposed to higher systemic risk levels and lower credit risk levels.

Question 2- Does bank size have an influence on non-interest income?

All of respondents mentioned that the volumes of non-interest income is dependable on bank size. The advantages of being large brings with it huge client base for the bank to offer vast range non-traditional services. The respondents also stated that besides bank size, customer service is of great importance to return and sustain volumes of non-interest income. This findings are in agreement with (DeYoung, 2009) who stated that banks should take of õrelationship-basedö approach to banking by offering in-person financial services as a strategy to differentiate themselves from rivals which offer generalized financial products and services.

Question 3- What are the determinants of non-interest income

Regarding the response to the determinants of non-interest income, the respondents had different views, the finance manager, two bank manager and one employee mentioned that the major determinant for banks to shift their income structure is increased competition from non-financial intermediaries. The finance manager laid emphasis in respect of competition arising non-financial intermediaries who are offering mobile banking services. Other respondents mentioned the issue of financial innovation and increased customersø needs as the major determinants of non-interest income. The findings correspond with (Williams and Rajaguru, 2013) who spelled out that competition from non-financial intermediaries have led to the change of income structure for Australian banks.

Question 4-what is the relationship between non-interest income and operational cost?

Four of the respondents mentioned that non-interest income attracts large portion of operational costs than net interest income. The respondents mentioned some of the operational costs that accrue from reliance of non-interest income includes; ATM construction and maintenance costs, cell phone subscription expense, internet banking maintenance and servicing costs, system integration and upgrading costs. The finance manager mentioned that net interest income only bears expenses on the initiation stage and once a credits is granted then they are no sizeable expenses expected to accrue to the bank but rather income is expected from the clients granted the loans.

Question 5-which income streams is volatile?

Six of the respondents mentioned that non-interest income is a volatile income stream as compared to net interest income. The respondents stated that enormous factor namely: customersøconfidence with the bank, Reserve Bank regulation, new financial products, competition from non-financial intermediaries can affect the stability of non-interest income. The finance manager goes on to say that volatility of non-interest income impede proper prediction of the non-interest income figures in budget preparation.

4.8 Analysis of Quantitative results

This is a summary of the econometric model results, diagnostic tests results, correlations, covariance and the interpretation of the results in addressing the hypothesis underlined in the study

4.8.1 Diagnostic tests

In determining the relationship between dependent and independent variables, the researcher performed the cointegration test, statitonary test and multicollinearity test. The following are results found the researcher.

4.8.2 Stationarity tests results

Stationarity test is an analysis on the time series of variables so as to ensure that the regressions results does not overstate or understate the relationship between the variables in question. The logic behind stationarity test is to attest that variables mean are constant over time. The researcher tested both the dependent and independent variables for stationarity using the unit root test. The Augmented Dickey Fuller (ADF) test was used in testing for variables stationarity by analysing the variable value if they are greater than the diagnostic values at 1%, 5% and 10 %. Below is a table that combined the results of the unit root test

Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.

Table 4.9: Unit root test results

Variable	t-Statistic	Critical values		Prob	Integration
Return on asset (ROA)	-4.381388	1% level 5% level 10% level	-3.857386 -3.040391 -2.660551	0.0035	I (1)
Bank size	-4.742897	1% level 5% level 10% level	-3.857386 -3.040391 -2.660551	0.0017	I (1)
Share of non-interest income (SHnon)	-4.931431	1% level 5% level 10% level	-3.857386 -3.040391 -2.660551	0.0011	I (1)
Share of net-interest income (SHnet)	-4.845347	1% level 5% level 10% level	-3.857386 -3.040391 -2.660551	0.0013	I (1)
Diversification(DIV)	-3.971915	1% level 5% level 10% level	-3.857386 -3.040391 -2.660551	0.0079	I (1)

The Augmented Dickey Fuller test was used in testing variables in the model for stationarity. The results from the Augmented Dickey Fuller test revealed that Return on asset (ROA), Share of non-interest income (SHNON), share of net interest income (SHNET), Bank size and diversification (DIV) were integrated of order zero I (1) at 1%, 5% and 10% level of significance. This is shown in the above table [Table 4.9].

4.8.3 Cointegration test results

Cointegration tests were carried-out using the Engler Granger method of 1987. The results show that the residual of the model (A) is stationary at I (1) thus according to Gujarati (2004) the linear combination of the variables in the model will cancel out the stochastic trends among the series.

Therefore the regression of the model will not be spurious. A summary of the cointegration test is found in table 4.8 above. The detailed presentation of the cointegration test is shown in Appendix F.

4.8.4 Auto-correlation test results

According to Gujarati (2004), if the Durbin Watson statistic is found to be close to 2 then one has to conclude that there is no first order autocorrelation. A summary of the upper and lower bounds of the rule is provided in Table 2.

Figure 4.9: Auto-correlation regions
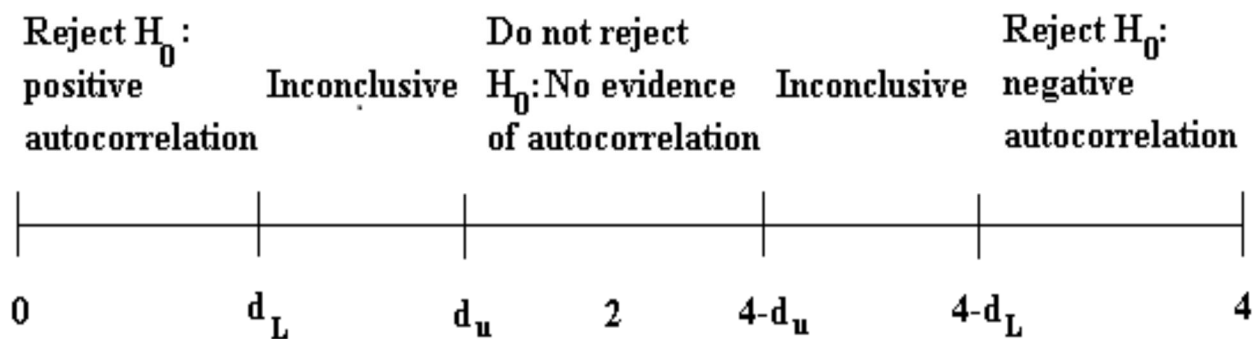
Source: Gujarati 2004.

H_0: No positive auto-correlation

H_1: No negative auto-correlation

After running the regression results show a DW statistic of 1.314605 thus one cannot conclude whether there is auto-correlation or not. However, Gujarati (2004) suggest that if the Durbin Watson statistic is greater than 2.172 then one has to reject H_0. Results are shown in Appendix F. The following hypothesis was used:

H_0: error terms are correlated.

H_1: error terms are not correlated.

4.9 Multi-collineality Results

Table 4.9: Correlation matrix

	ROA	SHNET	SHNON	DIV	BANKSIZE
ROA	1.000000	-0.245442	0.268499	0.549787	-0.556497
SHNET	-0.245442	1.000000	-0.694147	-0.327709	0.741330
SHNON	0.268499	-0.694147	1.000000	0.367526	-0.769304
DIV	0.549787	-0.327709	0.367526	1.000000	-0.794942
BANKSIZE	-0.556497	0.741330	-0.769304	-0.794942	1.000000

From the above table (4.10) it can be noted that correlation coefficients of all variables are less than 0.8 thereby signifying the absence of multi-collineality among the variables in the model. This then implies that none of the variables in the model are highly correlated.

H_0 = multicollinearity between regressors exist.

H_1 = no multicollinearity between regressors.

4.9.1 Estimation Result Presentation

The estimated model is shown below and a summary of variablesøcoefficients, standard errors, t-statistics and P values

Table 4.10: Summary of coefficients, standard errors, t-statistics and p values

Variable	coefficient	Std. Error	t-Statistic	P value
SHNET	4.2411	6.0161	0.70497	0.4909
SHNON	2.4870	4.3678	0.56940	0.57698
DIV	1.720	5.81910	0.29565	0.77129
BANKSIZE	-0.275	0.21688	-1.27015	0.22218

R^2 squared	0.3661375
Adjusted R^2 squared	0.2472883
Durbin-Watson statistic	1.314605
Number of observations	20

Estimated equation

ROA = C (1)*SHNET + C (2)*SHNON + C (3)*DIV + C (4)*BANKSIZE

Substituted coefficients

ROA = 4.24119SHNET + 2.4870*SHNON + 1.7204*DIV - 0.275482*BANKSIZE

4.9.2 Results Interpretation

After estimating the equation the researcher present these findings in relation to the model used. They is a positive coefficient relationship between commercial bank performance variable measure (ROA) and share of net interest income of 4.24119. This means that net interest income is contributing a magnitude of 4 times to the overall profitability levels of the bank. While non-interest income has a positive coefficient of 2.4870 and this means that non-interest income contributes a magnitude of 2 times to the overall profitability levels of the bank. The different between coefficient of net interest income and non-interest income (4.24119-2.4870) 1.75419 represent the option of operational costs taken by non-interest income. The findings stands to represent positive relationship between non-interest income and operational costs.

Diversification (div) showed a positive coefficient which implies that a unit increase in profitability arising from diversification into non-traditional banking activities is represented by 1.7204 increase in ROA. This therefore standing to confirm benefits arising from diversification into non-interest income.

Estimation results reveal a R^2 of 0.336613. It therefore implies that 33.66% of variations in the commercial bank performance are explained by variables in the model. Correspondingly the adjusted R^2 of the estimated model is 0.2472883. It therefore shows that the model has 24.72% forecasting power regarding factors influence the commercial performance of BancABC.

The effect of bank size according the model yielded a negative coefficient and negative t-statistic and this implies that bank size does not have an influence with regarding to the overall profitability of the bank of -0.275482

4.10 Conclusion

In a nutshell both qualitative and quantitative results are of support concerning diversification benefits arising from non-interest income. However the researchers data have provide an unique results concerning bank size and a profitability.

CHAPTER 5 CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMANDATIONS

5.1 Introduction

This chapter sum-up the findings from previous chapters regarding non-interest income diversification for BancABC. It therefore presents the summary of the research findings, the conclusion and recommendations to the identified problems in the research. In addition, this chapter also highlights area of further studies which was drawn from the weakness identified by the researcher in undertaking the study

5.2 chapter summaries

Chapter one gives the background of the study, statement of the problem, conceptual framework, delimitations and limitations, assumptions to the study, definition of terms and an analysis into the significance of the study. The primary research objective being an analysis of non-interest income diversification on financial performance of BancABC

Chapter two serves to show an analysis on what other authors and scholars advocated about the non-interest income diversification. It helps the researcher to evaluate his own efforts into the study by making a review to both theoretical and empirical literature relevant to the topic in question. Under this chapter, the researcher analysed each objective of the study in order to make an assessment on the views of different schools pertaining objectives referring to problems identified.

Chapter three outlines a description of how the research was carried out, tracing all the activities and procedures undertaken during the study. It highlighted the research methodology adopted and the rationale for its use including how the information was collected and analysed. Aspects such as the research design, sample design, data sources and data collection instruments used are the focus of this chapter. The chapter also contains the merits and demerits of each method used.

Chapter four presents an analysis of the obtained data using an online questionnaire and statistical procedures undertaken to test the hypothesis that have been established in chapter one. The analysed data is presented in the form of tables and graphs as well as in a qualitative nature. The chapter ends with a conclusion drawn from the overview of the analysed data.

5.3 Research findings

5.3.1 To identify the relationship between Non-Interest Income and bank size

Basing on qualitative research method of questionnaires, the researcher found that 68% of the respondents agreed that bank size has a positive influence on the volume of non-interest income. However the researcher placed much reliance on the statistic evidence with found that a negative correlation of -0.275 between SHNON and bank size.

5.3.2 To identify the correlation between Non-Interest Income and net interest income

The research concluded that they is a positive correlation between net interest income and non-interest income of 0.563 which means that this two income stream moves in the same direction and an 1% increase in net interest income is followed by 0.563% increase in non-interest income**.**

5.3.3 To analyse the determinants of Non-Interest income

The research findings presented a mixed results regarding the determinants of non-interest income with 40% concluding that increased customers needsø is the dominate cause for BancABC to change their income structure, whilst 28% regarded increased competition as the major cause. The researcher concluded that increased competition is the major determinant for the bank to change its income structure because 86% responses from the interviewees supporting the notion.

5.4 Research conclusion

Wrapping up the research findings gathered through the use of both qualitative and quantitative data in a addressing the primary and secondary research objectives research. The researcher concluded that diversification into non-interest income increase profitability levels of the BancABC as hypothesized by Ho. However such diversification from traditional banking activities is fastened with increased systematic risk and operational cost borne from non-interest income activities. Bank size has a far-fetched effect on the volume of non-interest income.

5.5Recommendations

5.5.1Recommendations to the Commercial Banks

- The bank/banks should fully utilize the KYC (know Your Customer) facilitate. This can enables banks to fully understand on the unique customersø needs and the appropriate pricing strategy to be adopted for non-interest income generating services. Relationship based approach to customers is of pronounced advantage than reliance on the bank size.

- Establishment of a favourable total income mix which should be adhered to by the bank. Bank risk managers, directors, economists and management should establish total income mix (net interest income: non-interest income) that is favourable in reducing profits variation. This mix should be crafted based on previous operating experience and company philosophies

- Commercial banks should shun from absolute reliance on non-interest income as their many source because of the volatility characteristic the income poses

5.5.2 Recommendations to the regulators

In order for the concept of non-interest income diversification to fully yield positive results for operating commercial banks in Zimbabwe, The Reserve of Zimbabwe should address the following issues.

- Control mechanisms: the regulators should craft a weekly or monthly report that obligate banks should submit a detailed and narrative report on non-interest income generating activities. This reports will form a guideline for RBZ to monitor non-interest income activities and used as a reference point in craft of policy directed towards non-traditional banking activities.

- Risk analysis policies/procedures: the regulators should ensure that banks are to furnish a detailed blueprint before the introduction of a new products that generate non-interest income. This blueprint should make an analysis on the overall risk levels of the bank before undertaking the activity.

- Recording of transactions: regulators should ensure that commercial banks follow a presentation guideline to ensure consistency and comparability of non-interest income components. The presentation guideline should define, categories and sub-categories component of non-interest income

5.6 Further areas of research

Further research questions are borne from the weakness identified by the researcher in undertaking the study and also time limitations that prevented the researcher from exploiting elongated objectives list. The following listed are areas of possible further study.

- An evaluation of non-interest income diversification on departmental performance for instance, asset management, stock broking treasury investment banking ,international banking and asset finance

- Impact of non-interest income diversification on shareholdersø value and market price of the bank.

- A detailed analysis on components of non-interest income assessment which components contribute much to the overall figure of non-interest income and why?

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Appendices

Appendix:A (ROA) Unit root Test

Null Hypothesis: D(ROA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.381388	0.0035
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
　　　and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ROA,2)
Method: Least Squares
Date: 04/29/14   Time: 00:59
Sample (adjusted): 2009Q3 2013Q4
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROA(-1))	-1.016611	0.232030	-4.381388	0.0005
C	-0.063974	0.282927	-0.226116	0.8240

R-squared	0.545410	Mean dependent var	-0.083567
Adjusted R-squared	0.516998	S.D. dependent var	1.726961
S.E. of regression	1.200209	Akaike info criterion	3.307307
Sum squared resid	23.04802	Schwarz criterion	3.406238
Log likelihood	-27.76577	Hannan-Quinn criter.	3.320949
F-statistic	19.19656	Durbin-Watson stat	2.112728
Prob(F-statistic)	0.000465		

Appendix:B (Banksize) Unit root Test

Null Hypothesis: D(BANKSIZE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.742897	0.0017
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	

10% level		-2.660551		

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
       and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BANKSIZE,2)
Method: Least Squares
Date: 04/29/14   Time: 08:39
Sample (adjusted): 2009Q3 2013Q4
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BANKSIZE(-1))	-1.168517	0.246372	-4.742897	0.0002
C	0.382849	0.361323	1.059575	0.3051

R-squared	0.584362	Mean dependent var		0.022167
Adjusted R-squared	0.558385	S.D. dependent var		2.255131
S.E. of regression	1.498628	Akaike info criterion		3.751416
Sum squared resid	35.93415	Schwarz criterion		3.850346
Log likelihood	-31.76274	Hannan-Quinn criter.		3.765057
F-statistic	22.49507	Durbin-Watson stat		2.078904
Prob(F-statistic)	0.000221			

Appendix: C (DIV) Unit root Test

Null Hypothesis: D(DIV) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.971915	0.0079
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
       and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(DIV,2)
Method: Least Squares
Date: 04/29/14   Time: 08:43
Sample (adjusted): 2009Q3 2013Q4
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DIV(-1))	-0.992954	0.249994	-3.971915	0.0011
C	-0.003887	0.013939	-0.278821	0.7840

R-squared	0.496477	Mean dependent var	0.000000
Adjusted R-squared	0.465007	S.D. dependent var	0.080654
S.E. of regression	0.058993	Akaike info criterion	-2.718350
Sum squared resid	0.055683	Schwarz criterion	-2.619420
Log likelihood	26.46515	Hannan-Quinn criter.	-2.704709
F-statistic	15.77611	Durbin-Watson stat	2.000259
Prob(F-statistic)	0.001095		

Appendix: D (SHNON) Unit root Test

Null Hypothesis: D(SHNON) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.931431	0.0011
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
    and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SHNON,2)
Method: Least Squares
Date: 04/29/14   Time: 08:49
Sample (adjusted): 2009Q3 2013Q4
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SHNON(-1))	-1.209670	0.245298	-4.931431	0.0002
C	-0.046764	0.017624	-2.653481	0.0173

R-squared	0.603165	Mean dependent var	0.000342
Adjusted R-squared	0.578363	S.D. dependent var	0.096769
S.E. of regression	0.062835	Akaike info criterion	-2.592157
Sum squared resid	0.063173	Schwarz criterion	-2.493227
Log likelihood	25.32941	Hannan-Quinn criter.	-2.578516
F-statistic	24.31901	Durbin-Watson stat	1.968226
Prob(F-statistic)	0.000150		

Appendix: E (SHNET) Unit root Test

Null Hypothesis: D(SHNON) has a unit root

Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=0)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.931431	0.0011
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
     and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SHNON,2)
Method: Least Squares
Date: 04/29/14   Time: 08:49
Sample (adjusted): 2009Q3 2013Q4
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SHNON(-1))	-1.209670	0.245298	-4.931431	0.0002
C	-0.046764	0.017624	-2.653481	0.0173
R-squared	0.603165	Mean dependent var		0.000342
Adjusted R-squared	0.578363	S.D. dependent var		0.096769
S.E. of regression	0.062835	Akaike info criterion		-2.592157
Sum squared resid	0.063173	Schwarz criterion		-2.493227
Log likelihood	25.32941	Hannan-Quinn criter.		-2.578516
F-statistic	24.31901	Durbin-Watson stat		1.968226
Prob(F-statistic)	0.000150			

Appendix F: Multi-collineality Results

	ROA	SHNET	SHNON	DIV	BANKSIZE
ROA	1.000000	-0.245442	0.268499	0.549787	-0.556497
SHNET	-0.245442	1.000000	-0.994147	-0.327709	0.741330
SHNON	0.268499	-0.994147	1.000000	0.367526	-0.769304
DIV	0.549787	-0.327709	0.367526	1.000000	-0.794942
BANKSIZE	-0.556497	0.741330	-0.769304	-0.794942	1.000000

Appendix: G source data

YEAR	ROA	DIV	SHNON	SHNET	Bank size
2009-1	1.892	0.869341	0.929733	0.070267	1.623377
2009-2	3.851799	0.858832	0.923575	0.076425	2.208163
2009-3	4.527882	0.761782	0.861789	0.138211	2.693118
2009-4	3.960294	0.717567	0.829823	0.170177	3.835307
2010-1	0.480021	0.60028	0.723919	0.276081	3.618263
2010-2	0.832761	0.581324	0.701648	0.298352	5.542265
2010-3	1.446635	0.544588	0.649312	0.350688	6.864122
2010-4	1.565079	0.506186	0.555614	0.444386	8.566766
2011-1	0.609041	0.501768	0.529736	0.470264	9.422101
2011-2	1.596263	0.50376	0.456642	0.543358	10.60993
2011-3	2.087329	0.50001	0.497756	0.502244	10.22179
2011-4	1.965237	0.504159	0.454396	0.545604	9.410682
2012-1	0.236186	0.504082	0.454821	0.545179	9.768292
2012-2	2.069094	0.506837	0.441531	0.558469	9.557017
2012-3	2.77003	0.500973	0.477944	0.522056	9.513396
2012-4	2.380146	0.502649	0.463604	0.536396	11.07413
2013-1	1.846372	0.502863	0.462164	0.537836	10.17276
2013-2	2.13288	0.562037	0.32388	0.67612	10.69934
2013-3	2.238896	0.615808	0.259368	0.740632	10.83938
2013-4	2.694497	0.647112	0.228788	0.771212	9.49772

APPENDIX H: LETTER OF INTRODUCTION

Midlands State University
Department of ACCOUNTING
P. Bag 9055
Gweru

11 April 2014

TO WHOM IT MAY CONCERN

<u>**RE: RESEARCH PROJECT ASSISTANCE**</u>

 I am a 4th year final student at the above mentioned institution and am carrying out a research on **Assessing the impact of non-interest income diversification on commercial bank performance: Case of BancABC.** This is in partial fulfilment of the requirements of the bachelor of Commerce Honours degree in ACCOUNTING that I am currently undertaking.

I kindly ask you to assist by completing the questionnaire attached to this letter. The information you provide as well as your personal views will be treated with confidentiality and used for the purpose of this study only.

Your contribution to this research is greatly appreciated

Yours faithfully

MATIPIRA TERRENCE

APPENDIX I: Questionnaire to BancABC employees

APPENDIX J: Interview Guide

1. What is the impact of non-interest income diversification on profitability levels of the bank?

2. Does bank size have an influence on non-interest income?

3. What are the major determinants of non-interest income?

4. What is the relationship between non-interest incomes, net interest income in relation to operational costs?

5. What are the intrinsic characteristics of non-interest income?

6. What is the relationship between non-interest income and net interest income?