The relationship between political risk, credit risk and profitability in the South African banking sector

DANIEL MOKATSANYANE

(Student no: 22466223)

Dissertation submitted in partial fulfilment

of the requirements for the degree

MASTER OF COMMERCE (RISK MANAGEMENT)

in the

School of Economic Sciences

in the

Faculty of Economic Sciences & IT

at the

NORTH-WEST UNIVERSITY (Vaal Triangle Campus)

Supervisor: Dr D Viljoen

Co-supervisor: Dr PF Muzindutsi

November 2016

DECLARATION

I, **Daniel Mokatsanyane**, student number 22466223 hereby declare that this dissertation is my own original work and has been submitted in partial fulfilment for the degree, Masters of Commerce in Risk Management at North West University (Vaal Triangle Campus), and that it will not be presented at any other university for a similar or any other degree.

…….. **……/……./…...**

Mr Daniel Mokatsanyane Date

ACKNOWLEDGMENT

I would like to express my sincere gratitude to:

- **God**, for his undeserved favour, knowledge, wisdom, and understanding from above;
- My supervisor, **Dr Diana Viljoen**, and my co-supervisor, **Dr Paul-Francois Muzindutsi**, for your ongoing guidance and support, without which this dissertation would not have been possible;
- My **family** for their love and support. **Mr and Mrs Mzizi;** to you I will forever be thankful, and **Mr and Mrs Mofokeng**, **Mrs Masike**, **Dr Zolela Ngcwabe** and the clan, you showed me that family is beyond blood;
- My sister, **Dikeledi Evelyn Mokatsanyane**, and the rest of the **Mokatsanyane and Phelane fraternity**, thank you for your love and support;
- My brothers, **Siyamcela Moses Sambatha** and **Ayanda Phesheya Mdluli**, for your inspiration, love and respect – but most importantly, for the enduring friendship;
- My associate and brother, **Thomas Habanabakize**, thank you for all the encouragement and support;
- The North-West University (Vaal Triangle Campus) for the financial support;
- The faculty members and fellow students of the School of Economic Sciences, for their encouragement, assistance and support;
- **Janine Jubber**, for the exceptional final language and grammatical editing;
- Last, but not least, to my father, **Mr Lebode Wessells Mokatsanyane**, and my grandmother, **Mrs Masamoele Martha Mokatsanyane**, for their care, love, and sacrifices they made while contributing towards my education. You have both been pillars of strength, and for this, I will always be grateful and humbled.

DEDICATION

I dedicate this project to:

- My late mother, **Matebello Moselantja Jeanette Mokatsanyane**;
- My grandmother, **Mrs Masamoele Martha Mokatsanyane**; and
- Lastly, to **Nomsa Mzizi, Ndumiso Mzizi, Thandiwe Mzizi, Kabelo Mofokeng**, and **Nosolomzi Ngcwabe**. I have mastered the art of obedience and found answers to the question 'why'. I have set an example for you, and encourage you never to cease studying and improving the quality of your life by acquiring knowledge. Therefore, please receive my plea not to disappoint those following you.

ABSTRACT

As the cornerstone of every economic structure, the financial system is one of the most important key elements in the economic development and economic growth of every country. The structure of the financial system comprises various financial markets and financial institutions, including banks. Due to their critical role in promoting economic growth, financial stability and capital formation, banks are viewed as among the largest and most vital types of financial institutions. However, due to their nature and functionality, banks are exposed to a number of risks. Studies have indicated that political risk and credit risk are the two oldest and most perilous risks faced by banks globally, as they influence banks' capital, investment and profitability structure.

This study employed quantitative research to analyse the relationship between political risk, credit risk and profitability in the South African banking sector, which is the study's primary objective. The secondary data of four large banks, namely Absa, FirstRand, Nedbank and Standard Bank from 2001 to 2015 was collected. Data included return on equity (ROE), return on assets (ROA), net interest margin (NIM) and earnings per share (EPS) as the proxies for profitability. Two independent variables, credit risk, denoted by non-performing loans ratio (NPLR), and political risk denoted by political risk index (PRI) were used in the study. Lastly, bank size; operating expenses; economic activity; gross domestic product; and inflation and interest rate, were used as control variables.

The profitability variables were obtained from the INET BFA dataset and the respective banks' official websites. Political risk data was provided by ICRG, while South African macroeconomic variables were obtained from the South African Reserve Bank (SARB) and Statistics South Africa (Stats SA). The statistical tests and econometric models used to analyse the data included trend analysis, descriptive statistics, a correlation (multicollinearity) test and a unit root test. The panel pooled mean group (PMG) model, based on the Autoregressive Distributed Lag (ARDL) approach, was employed to test the cointegration among variables, and the error correction model (ECM) was used to determine the adjustment of the system to the equilibrium.

The findings of the study revealed that both political and credit risk has a significant relationship with profitability. Moreover, the analysis of other variables indicated that bank size has a negative effect on South African banks' profitability, while operating expenses

indicate a positive and significant effect. The analysis of GDP growth and inflation exhibited a positive effect on profitability. These findings are an indication that bank profitability is not only influenced by political and credit risk alone, but by bank size, operating expenses, GDP growth and inflation among other factors. Therefore, in an attempt to provide a meaningful explanation of the movements in profitability, banks' management should combine political risk, credit risk and bank size, operating expenses, GDP growth and inflation, in order to improve profitability management.

Key words: political risk, credit risk, profitability, ARDL, South Africa.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

AIC	Akaike Information Criterion
ARDL	Autoregressive Distributed Lag
ASPRO/SPAIR	Assessment of probabilities/Subjective Probabilities Assigned to Investment Risks model
BASA	Banking Association South Africa
BCBS	Basel Committee on Banking Supervision
BERI	Business Environment Risk Index
CAMPARI	Character, Ability, Margin, Purpose, Amount, Repayment, Insurance
CSR	Corporate social responsibility
ECM	Error correction model
EPS	Earnings per share
ERM	Enterprise risk management
FAPE	Financial analyst and previous experience
GDP	Gross domestic product
ICRG	International Country Risk Group
IMF	International Monetary Fund
INF	Inflation NOT USED IN TEXT
IPS	Im, Pesaran and Shin
KPSS	Kwiatkowski, Phillips, Schmidt, and Shin
LAPP	Liquidity, Activity, Profitability, Potential

LGDP	Logarithm of Gross Domestic Product
LLC	Levin, Lin & Chi
LINF	Logarithm Inflation
LNPLR	Logarithm of non-performing loans ratio
LOGTA	Logarithm of total assets
LPLTRI	Logarithm of political risk index
MNC	Multinational corporations
MVA	Multivariate analysis
NIM	Net interest margin
NPL	Non-performing loans
NPLR	Non-performing loans ratio
NWU	North-West University
OPE	Operating expenses
PAPERS	Person, amount, purpose, equity, repayment, security,
PLTRI	Political risk index
PMG	Pooled mean group
POLICON	Business International and Data Resources Inc. (Correct?)
PRI	Political risk index
PWC	PricewaterhouseCoopers
RBI	Risk-based internal
ROA	Return on assets

ROE	Return on equity
SARB	South African Reserve Bank
SPV	Special purpose vehicle
Stats SA	Statistics South Africa
USA	United States of America
WWII	World War II

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

As the cornerstone of every economic structure, the financial system is one of the most important key elements in the economic development and growth of every country. Hatter *et al*., (2015) asserts that the relationship between economic growth and the financial system is very strong. Similarly, several studies conducted by Gurley and Shaw (1967), Goldsmith (1969), McKinnon (1973), Shaw (1973), Beck *et al*., (2001), Levine (2002), and Rehman and Cheema (2013), confirm that a sound financial system has a positive effect on economic growth, through its role in mobilising financial resources between surplus and deficit units across the economy (Masood & Ashraf, 2012).

The financial system structure comprises different financial markets and institutions, such as capital markets consisting of stock markets and bond markets, commodity markets, money markets, derivatives markets, financial institutions including banks, insurance companies, pension funds and mutual funds. Through these institutions, different financial products and services are delivered.

Banks are regarded as the most important and largest type of financial institution, due to their intermediary role and the positive effect on economic growth, financial stability and capital formation (Nel, 2003; Hatter *et al*., 2015). According to Oladejo and Oladipupo (2011), banks are the largest owners of financial assets. As such, banks must manage their assets and liabilities in order to achieve economic growth and stability, as well as a profitable banking system. This is done through their intermediary function between surplus (lenders) and deficit (borrowers) units (Masood *et al*., 2015:39).

A stable, sound and profitable banking system improves the financial system and enhances the economy, in order to withstand negative shocks (Athanasoglou *et al*., 2008; Banga, 2013; 2015; Hatter *et al*., 2015). Moreover, Levine (1997) states that countries with stable and profitable banking systems improve faster than countries with a weak banking system. Profitability is regarded as one of the most important elements contributing to a productive and efficient banking system (Chen & Liao, 2011).

Apart from service and product provision, the aim of any business is to make a profit. Likewise, as financial institutions, banks aim to make a profit for their owners and to improve financial

system stability, soundness, economic growth and expansion (Aduda & Gitonga, 2011; Hatter *et al*., 2015). However, due to their nature and functionality, banks are exposed to a number of risks that affect their performance and profitability (Aduda & Gitonga, 2011). The effects of these risks are usually negative and often result in the liquidation of banks if no proper risk mitigation strategies are in place to prevent the risk occurring, or to reduce the effects if the risk cannot be avoided (Miller, 1992:311).

Risk is inherent in the main activities of a bank (Smith, 2002:22). According to Chicken (1968), risk is the recurrence of undesirable events that lead to uncertainty of the results. Similarly, Aduda & Gitonga (2011) define risk as 'uncertainties affecting profitability or resulting in losses'. Common risks faced by banks include operational risk, reputational risk, political risk, trade union risk, portfolio risk, credit or default risk, market risk, legal risk and liquidity risk (Cade, 1987; Niggle & Moore, 1989:1185; Berlin *et al*., 2003:1). Studies indicate that political risk and credit risk are two of the oldest and most perilous risks faced by banks globally. The reason for this is that they influence the banks' capital, investment and profitability structure, as well as the economy at large (Kobrin, 1979:74; Lewis, 1979:163; Caouette *et al*., 1998:1; Kamga Wafo, 1998:62; Pausch & Welzel, 2002; Drehmann *et al*., 2006:2; Gup *et al*., 2007).

The development in the global economy puts political risk at the heart of modern finance (Dougherty & Specter, 1982:9). However, it is necessary to discuss country risk and political risk, as these two risks are often mistakenly used interchangeably. Country risk is defined as any potential financial loss due to economic events in a country (Calverly, 1985:3; Krayenbuehl, 1985:3–20; Kennedy, 1991:194–241; Coplin & O'Leary, 1994:4–11). Country risk can also be seen as a combination of all risks, whether economic, financial or political risk, faced by a specific country (Leavy, 1984:142; Howell, 1998:33). Country risk is concerned with economic factors, while political risk is concerned with micro and macro risk. Nevertheless, political risk is a "specialised relation of country risk" (Brink, 2004:21). A country might face a high level of political risk and a low level of country risk, or vice versa (Bremmer, 2005:52 & Brink, 2004:23). In most cases, country risk is used when establishing a credit rating for a country.

Due to the scope and objective of this study, which is to analyse the relationship between political risk, credit risk and profitability in the South African banking sector, country risk will not be the focus of this study, and instead, the focus is on political risk. Loikas (2003) sources the origin of political risk from the relationship outcome of political authorities and economic

agents. Brink (2004:11) asserts that the country's business and financial environment are mostly influenced by the political culture, political system, political climate and political risk.

There are several different definitions of political risk, however, common factors include unanticipated actions by the government and civil unrest by the general citizens that might change policies and affect economy (Stein, 1983:18; Luther & Prakash Sethi, 1986:59; Nel, 2007:13; Bremmer & Keat, 2009:5–9). For the purpose of this study, political risk is defined as 'actions by government, whether influenced by corporate or societal factors, which will ultimately have an effect on the business, resulting in a loss of profit' (Robock, 1971; Rummel & Heenan, 1978:68; Kobrin, 1978:114; 1981; 1982; Simon, 1982:4; Lax, 1983). Similarly, Brink (2004) defines political risk as 'the exposure that a company or bank faces due to political events that might affect its profitability'.

The effect of political risk on a firm's performance is clearly discussed by Wanger (2000). In his study, the author distinguishes between micro and macro political factors that affect a firm's performance. This include factors such as theft, civil unrest, confiscation, labour unrest, corruption, political instability, changing tax regulations, unclear legislation, kidnapping, terrorism, and nationalisation (Lewis, 1979:1; Nel, 2007:3–4; Control Risks, 2009; Brink 2004; Sandstorm, 2008:100; Godspower-Akpomiemie, 2013:2).

The interest in political risk in finance can be traced back to the seventies. Baskin and Miranti (1999) noted that political events following the World War II (WWII) created a demand for the analysis of risk (Sandstorm, 2008:100). Examples of events that took place following WWII include: the Iranian revolution in 1979; the international debt crisis of the 1980s in many developing countries; debt crises in Mexico 1994 and Asia 1997; the Russian default in 1998; September 11 attacks**;** the 2007–2009 financial crisis; the presidential elections of the United States of America (USA), specifically the Obama and Trump elections; and xenophobic attacks, corruption and nationalisation debates in South Africa (Aggarwal, 1996; Aggarwal, 1998; Chiodo & Owyang, 2002; Galeano, 2002; Ryan, 2004; Sieder *et al.*, 2005; Enderlein *et al.*, 2008; Acharya *et al.*, 2009).

Because of the aforementioned events, the effect of political risk on credit risk became more significant, the interest in political risk in finance grew, and studies on the relationship between political risk and credit risk became relevant. According to Edwards (1983), Citron and Nickelsburg (1978), Brewer and Rivoli (1990), Balkan (1992), Peter (2002), Schultz and

Weingast (2003), and Saiegh (2005), credit risk remains one of the crucial risks for modern finance. Credit risk is the risk that arises from the potential of the counterparty defaulting on its repayment of the principal and the interest agreed on in the stipulated period (Brown & Moles, 2012; Sobehart *et al*., 2003). Over the years, credit risk and its management have become a bank's core competency. However, many banks failed and filed for bankruptcy due to the unsecured and unregulated over-extension of credit (Caouette *et al*., 1998:2). A good example of an unsecured lender in the South African banking sector is African Bank. African Bank granted many unsecured and unregulated over-extensions of credit, which had a negative impact on the country's banking and socio-political environment.

The 2007–2009 global financial crisis also led to the fall of large banks and other financial institutions that were regarded as 'too big to fail'. The fall of Lehmann Brothers is a good example of the unsecured and unregulated over-extension of credit by banks. Studies by Acharya *et al*., (2009), Marer (2010), Chang (2011), and Schøning (2011), confirm that the issuing of unsecured mortgage loans to borrowers, without a financial background check, was one of the main factors that contributed to the unforeseen global financial meltdown (Diamond & Rajan, 2009). The effects of credit risk can cause harm, even leading to the liquidation of a bank if not properly mitigated, due to direct links to the capital structure and profitability of the bank (Godspower-Akpomiemie, 2013:2).

Now that political risk and credit risk were introduced and briefly analysed, it is necessary to discuss the relationship between political risk, credit risk and profitability. Studies have shown that profitability is the function of internal and external determinants (Short, 1979; Bourke, 1989; Khan & Sattar, 2014). The internal factors are specific to an individual bank, and include asset management, capital management, financial risk, credit risk, working expenditure, cost efficiency, the bank's size and capital adequacy (Athanasoglou *et al*., 2008; Dietrich & Wanzenried, 2011; Sufian, 2011; Masood *et al*., 2015).

Conversely, external factors include macroeconomic risk and legal risk, while political factors include inflation, economic growth and interest rates (Masood *et al*., 2015). Several studies have been completed on the determinants of profitability, including Hanweck and Kilcollin (1984), Hancock (1985), Bourke (1989), Brewer and Rivoli (1990), Balkan (1992), Molyneux and Thornton (1992), Saunders and Schumacher (2000), Peter (2002), Cooper *et al*., (2003), Schultz and Weingast (2003), Ramlall (2009), Ramadan *et al*., (2011), Khan and Sattar (2014),

and Borio *et al*., (2015). These studies reveal that credit risk and political risk have a direct effect on banks' profitability.

One of the classical and most critical characteristics of a risk is the interdependency it has on other risks. This means that one form of risk could easily give rise to another form of risk (Bremmer & Keat, 2009:6). This interdependency holds true for both political risk and credit risk. Political risk factors could result in the formation of other risks, such as economic risk. For example, riots could affect the business environment, the cash flow and the capital structure of households. In the end, this affects the borrowers' ability to repay their loans and generate credit risk for banks (Albertazzi & Gambacorta, 2009; Bremmer & Keat, 2009; Essel, 2012; Khan & Sattar, 2014).

With the characteristics of a dual economy (developed and developing), and faced with risks from both categories, the South African banking sector is still regarded as one of the largest, most sophisticated and stable in Africa, providing internationally sophisticated services and products (Meyer, 2005; Maredza, 2014).

Despite being regarded as the most advanced and sophisticated banking sector in Africa, the South African banking sector is oligopolistic in nature and highly concentrated, made up of four large banks, namely Absa, FirstRand, Nedbank and Standard Bank (PWC, 2015). Fofack (2005) asserts that banking sectors dominated by a small group of large banks increase any risk associated with high volumes of non-performing loans. The International Monetary Fund (IMF, 2006) describes a non-performing loan as any loan that is unpaid for 90 days or more; this includes the interest and principal payments. Similarly, the Basel Committee (2001) categorises non-performing loans as loans unpaid by the counterparty for a period of 90 days.

To the researcher's knowledge, studies on the relationship between political risk, credit risk and profitability were conducted outside South Africa, and their results cannot be generalised in South African context. This study looked at the relationship between political risk, credit risk and profitability in the South African banking sector during different economic periods. The aforementioned studies only managed to identify credit risk and political risk as the determinants of profitability. Therefore, this study aims to ascertain the link between credit risk and political risk, as well as analyse the effects of credit risk and political risk on profitability.

1.2 PROBLEM STATEMENT

The non-performing loans of the four major banks in South Africa continued to increase in 2015, reaching R100 076 million by December 2015, from R93 685 million in 2014 (PWC, 2015). By December 2015, the banking sector assets stood at R3.6 trillion, with loans and advances representing 74.5% of these assets (SARB, 2016). The recent collapse of African Bank mirrors the effects of credit risk. Messai and Jouini (2013) state that banks will show high levels of credit risk before bankruptcy.

Essel (2012) state that emerging economies are fragile to political risk factors, and South Africa, as an emerging economy, is not immune to political risk effects. In fact, political risk is a sensitive issue in South Africa as it affects the country's business environment and plays a major role in its financial sector. Since the advent of democracy in 1994, the country's most impactful political event, South Africa has experienced a number of bank failures. These include Prima Bank, African Bank, Community Bank, Islamic Bank, FBC Fidelity Bank, New Republic Bank, Regal Treasury, Saambou and BoE (Makhubela, 2010:69–70).

Furthermore, the political influence on the financial sector was observed when President Jacob Zuma, president of the Republic of South Africa, removed former finance minister, Nhlanhla Nene, replaced him with David van Rooyen, and then shortly thereafter replaced David van Rooyen with the current finance minister, Pravin Gordan. These decisions negatively affected the banks and the South African economy at large. Following this quick succession of finance ministers, the South African rand weakened against the US dollar and reached its lowest point of R18 to one US dollar (Staff, 2016).

Over the past two decades, the South African banking sector has faced a number of risks and challenges. This includes a high volume of non-performing loans (NPL), political risk, fluctuations in interest rates, low gross domestic product (GDP), and increasing unemployment. Political risk and credit risk are the two types of risks that showed a significant effect on banks' profitability and performance (Makhubela, 2010; Aduda & Gitonga, 2011). Profitability is the strength of the entire financial system – the backbone of every country's economic structure, and therefore this study seeks to analyse the relationship and effects of political risk and credit risk on profitability in the South African banking sector.

1.3 OBJECTIVES OF THE STUDY

The following objectives have been formulated for the study:

1.3.1 Primary objectives

The primary objective of this study was to analyse the relationship between political risk, credit risk and profitability in the South African banking sector.

1.3.2 Theoretical objectives

To achieve the key objective, the following theoretical objectives were developed:

- Review theoretical concepts of political risk;
- Study the theoretical concepts of credit risk;
- Provide conceptual explanations of bank profitability and its measurement; and
- Review empirical studies on the link between political risk, credit risk and profitability during different economic periods.

1.3.3 Empirical objectives

In accordance with the primary objectives of the study, the following empirical objectives were formulated:

- Determine the relationship between credit risk and political risk in the South African banking sector;
- Establish how credit risk affects bank profitability in South Africa;
- Determine how political risk affects bank profitability in South Africa; and
- Compare how different measures of profitability affect the relationship between credit and political risks.

1.4 RESEARCH DESIGN AND METHODOLOGY

This study employs both a literature review and the use of statistical empirical literature to accomplish the set objectives. This study employs quantitative research design to review the regression result analysis with respective empirical literature on political risk, credit risk and profitability.

1.4.1 Literature review: political risk, credit risk and profitability

The literature review includes both theoretical literature, as well as empirical literature, to explain the relationship between political risk and credit risk on profitability in the South African banking sector. Secondary sources include previous research, books, journals, theses, academic studies, Internet sources, as well as commercial abstracts.

1.4.2 Empirical study

The empirical part of this study consists of the following:

1.4.2.1 Population and sampling

The research population for this study represents all operational commercial banks in South Africa. Although regarded as the most advanced and sophisticated banking sector in Africa, the South African banking sector is oligopolistic by nature and dominated by four large banks namely Absa Bank, FirstRand Bank, Nedbank and Standard Bank (PWC, 2015). Therefore, the sample of this study is the four big banks in South Africa as they represent 83% of the South African banking sector (BASA, 2014:3), and therefore provide a fair representation of the South African banking sector.

1.4.2.2 Data source and description of variables

To effectively and comprehensively study the relationship between political risk, credit risk and profitability in the South African banking sector, this study employs secondary data. Different measures of profitability include return on equity (ROE), return on assets (ROA), net interest margin (NIM) and earnings per share (EPS). These ratios have been widely used as the proxies of profitability by different studies (Ho & Saunders, 1981; Allen, 1988; Huizinga, 2000; Goddard *et al.*, 2004; Mirzaei *et al.*, 2011; Masood *et al.*, 2012; Ifeacho & Ngalawa, 2014; Maredza, 2014; Petria *et al.*, 2015; Ramlan & Adnan, 2016; Sun *et al.*, 2016).

Credit risk is approximated by the non-performing loans ratio (NPLR) and political risk is measured by the political risk index (PLTRI) provided by the International Country Risk Group (ICRG). To develop a political risk index, ICRG uses the following components: government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability and bureaucracy quality (Howell, 2011). Each component is rated according to

its importance and then summed up to hundred percent (Howell, 2011). Bank size, operating expenses, gross domestic product (GDP) and inflation are used as control variables.

In order for the study to be of value, the annual secondary data of four major banks in South Africa (Absa Bank, FirstRand Bank, Nedbank and Standard Bank) was collected from 2001 to 2015. The reason for the chosen period is due to the availability of data. The bank-specific variable data was collected from the INET BFA dataset and the banks' official websites. Political risk data was provided by ICRG, while South African macroeconomic variable data was obtained from the South African Reserve Bank (SARB) and Statistics South Africa (Stats SA).

1.4.3 Data analysis

Several statistical tests are performed before the regression model. The tests run include trend analysis, descriptive statistics, a correlation (multicollinearity) test and a unit root test. Quantitative methods, such as the panel pooled mean group (PMG) model based on the Autoregressive Distributed Lag (ARDL) approach to cointegration, and the error correction model (ECM), are used to determine the relationship between political risk, credit risk and profitability in the South African banking sector. The following propositions were developed regarding the effects of an independent variable on profitability (ROE, ROA, NIM, and EPS), and are discussed based on the results of the study. The full discussion is based on these propositions in chapter 4.

These propositions are outlined as follows:

- (P1): there is a negative relationship between political risk and profitability;
- (P2): there is either a positive or a negative relationship between credit risk and profitability;
- (P3): there is either a positive or a negative relationship between bank size and profitability;
- (P4): there is a negative relationship between operating expenses and profitability;
- (P5): there is either a positive or negative relationship between economic activity and profitability; and
- (P6): there is either a positive or a negative relationship between inflation and profitability.

1.5 ETHICAL CONSIDERATION

Ethical consideration involves generally acceptable research that is just and fair in conduct while upholding good moral standards (Zikmund *et al*., 2010). This study applies the annual secondary data of four major banks in South Africa (Absa Bank, FirstRand Bank, Nedbank and Standard Bank) collected from 2001 to 2015. The bank-specific variable data is available from the INET BFA dataset and official bank websites. Political risk data was purchased from ICRG, while South African macroeconomic variable data was obtained from the South African Reserve Bank (SARB) and Statistics South Africa (Stats SA). This study followed ethical standards of academic research, and approval was obtained from the Social and Technological Sciences Research Ethics Committee (ECONIT-2016-067) of the North-West University (NWU). Moreover, the study did not violate any confidentiality and anonymity principles, as the data disclosed in all the banks' annual financial statements is available to the public, and therefore there is no need to obtain consent to use the data.

1.6 CHAPTER CLASSIFICATION

This study comprises of the following five chapters:

Chapter 1 – Introduction: The first chapter of the study identified and subsequently elaborated upon the introductory subjects leading to the study. It provided the map for the study by outlining the background of the study, the problem statement and research objectives for the study, both theoretical and empirical. Research design and methodology, societal and ethical considerations, limitations of the study will also be discussed, and the chapter concluded by providing the outline of the research chapters to follow.

Chapter 2 – Literature review: This chapter provides a literature review on political risk, credit risk and profitability. The theoretical link between political risk and credit risk, and the effects on profitability will be independently analysed. This chapter also provides measures and instruments to hedge both political risk and credit risk. The chapter concludes by providing the underlying theoretical background on profitability and outlines the profitability measure used in this study.

Chapter 3 – Research methodology: The third chapter outlines the methodology used in this study to test the relationship between political risk and credit risk, and the effect it has on profitability in the South African banking sector during different economic periods.

Chapter 4 – Results and findings: This chapter provides an interpretation of the empirical findings of this study; regression analysis using the panel data method to achieve its empirical objectives, is presented and discussed in this chapter.

Chapter 5 – Summary, conclusion and recommendations: The summary of each chapter, the general conclusion and recommendations for future research, are presented in the chapter.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter offers an overview of the theoretical background of the study and is organised into three sections, focusing on the relationship between political risk, credit risk and profitability. The first section review, the underlying theory of political risk, includes the theoretical foundation of political risk, the difference between country risk and political risk, elaborates on the differences between political stability and political uncertainty, macro and micro political risk, and lastly, this section looks at political risk management. The second section provides conceptual explanations of credit risk and describes it in its different forms, investigates what causes it, and how to hedge against it. The third chapter explores the concept of profitability; the underlying theory and its determinants of profitability are discussed and it concludes with measurement thereof. The study on the relationship between political risk, credit risk and profitability is not a new concept. However, this concept is new in the South African economic environment, and is the knowledge gap that this study seeks to fill, especially in terms of the South African context.

2.2 THEORETICAL FOUNDATIONS: PROBLEM-SOLVING AND DECISION-MAKING THEORY

Every investment or business opportunity provides an investor with a number of uncertainties when investing. This requires an investor to have a logical approach to making a rational investment decision. Green (2002:4) defines a rational decision as the tool that helps investors to achieve their best investment objectives. Political risk and political risk analysis can be used in the process of managing these uncertainties and decision-making as the aid to finding a solution to the problem of uncertain future outcomes of investment (Brink, 2004; Boshoff, 2010; Somers-Cox, 2014. According to Bunge (1998), in all the investment decision processes where the investors are rational, the minimisation of uncertainty is the key factor.

Initially outlined by Newell *et al*., (1958), and later revisited by Simon (1982), problem-solving theory looks at the reaction of human beings to unfamiliar events. Simon (1982) asserts that both problem-solving and decision-making theory are concerned with setting goals and formulating actions, while decision-making is more concerned with evaluation and choosing the best option (Boshoff, **2010**:13–14).

The importance of the relationship between problem-solving and decision-making theory becomes clear in the process of investment, where political risk analysis is the first step in the decision-making and problem-solving process. Every aspect of the business is ultimately a result of a decision made and a problem solved. Garcia (2014) therefore emphasises problem-solving and decision-making theory as the fundamental theoretical understanding of political risk. Brink (2004:31) concurred by stating that political risk analysis provides the investor with an opportunity to assess the problem and follow steps to find a solution that agrees with the problem-solving and decision-making theory.

As explained in section 2.3.5.2, political risk analysis is the process of evaluating the entire environment and identifying the possible political risk factors, and then finding a way to manage them; in this process political risk can be seen as "a rational attempt at problem-solving" (Brink, 2004:30). Therefore, investors should consider the importance of the relationship between political risk and problem-solving and decision-making theory on their investment and profitability strategies (Somers-Cox, 2014). The following section will discuss political risk in detail.

2.3 CONCEPTUALISING POLITICAL RISK

2.3.1 Risk

There are several different definitions of 'risk'. Chicken (1996) defines risk as the recurrence of undesirable events that leads to uncertainty of the results. Similarly, Aduda and Gitonga (2011) define risk as uncertainties affecting profitability or resulting in losses. Bremmer and Keat (2009:4) perceive risk as a subject of probability and impact. The definition by Lax (1983:8) describes risk as the chance of injury, damage, or subjective loss, compared to a previous standard. Moreover, adversary, danger, hazard, loss, misfortune, peril, threat and vulnerability are words commonly used to in association with risk, uncertainty and instability (Boshoff, 2010:22; Garcia, 2014:15).

Risk, uncertainty and instability are commonly referred to as one concept. However, these concepts are different but related, and it is therefore necessary to provide a clear distinction between the concepts frequently and incorrectly equated to one another. Somers-Cox (2014:15) clearly states that uncertainty and instability are not tantamount to risk, but should be treated as the concept of risk. Risk is more of an objective concept, compared to instability and uncertainty, which are more subjective (Brink, 2004:19).

Alon and Martin (1998) present a number of sources where uncertainty finds its roots and this includes political, social, natural, and macroeconomic and government policy. Moreover, Brink (2004) and Boshoff (2010) find uncertainty because of information inadequacy. This means that uncertainty is the inability to effectively predict and quantify uncertain future events (Bremmer & Keat, 2009). Supporting this view is Kobrin (1979) who indicates that having invalid information can reduce the process of understanding uncertainty and converting it into a risk. On the concept of instability, Somers-Cox (2014) sees instability as a concept of risk and not a factor of risk. Furthermore, Kobrin (1979), describes instability as the property of the environment, for example, instability in the political affairs of a country can cause religious tension if different religious politicians are involved in the country's politics. Instability could also be a result of environmental changes in government, riots, policy changes or implementation of policy (Robock, 1971:15; Somers-Cox, 2014:15).

Based on the decision-making theory discussed in section 2.2., the distinction between risk, instability and uncertainty, political risk can be seen as the fundamental concept in the process of problem-solving and decision-making when investing (Vertzberger, 1998; Boshoff, 2010: 16; Garcia, 2014; Somers-Cox, 2014). Previous studies indicate that political risk, one of the oldest and most important risks faced by banks and companies globally, can be traced back to the seventies (Kobrin, 1979:74; Lewis, 1979:163). However, before political risk can be looked into, it is necessary to discuss country risk, as this risk is frequently used interchangeably with political risk.

2.3.2 Country risk

In the field of risk, there is an ongoing debate among scholars, academics, practitioners and governments pertaining to the definition, relation and use of country risk and political risk as one entity. The developments in the global economy and global politics puts risk in the heart of modern finance (Dougherty & Specter, 1982:9). This presents firms, industries and governments with different types of risks that are beyond the scope of the country risk (Alon *et al*., 2006:626; Somers-Cox, 2014:16).

Frei and Ruloff (1988:3) define country risk as the risk associated with loan and debt offering where local and foreign agents are involved. This means that country risk is the potential financial loss due to economic events in a country, or the existence of potential uncertainty in the host country (Calverly, 1985:3; Krayenbuehl, 1985:3–20; Kennedy, 1991:194–241; Coplin

& O'Leary, 1994:4–11; Ferreira, 1997:13). Country risk is also a combination of all risks, whether economic, financial or political risk, faced by a specific country (Leavy, 1984:142; Howell, 1998:33; Jakobsen, 2012:37). Country risk is more concerned about the macroeconomic factors, transfer risk and sovereign risk. Krayenbuehl (1985:3–4) defines transfer risk as the possibility of investment and trade restrictions imposed by a country on foreign investors, whereas sovereign risk is the risk that might arise from government loans granted to foreign investors or governments.

Conversely, political risk is more concerned about micro and macro risks, although the political risk is a "specialised relation of country risk" (Brink, 2004:21). Initially, political risk was treated as a country risk concept. However, the development of political events required much attention to the political risk that comes with them. The difference between country risk and political risk, rest on the inability and willingness or unwillingness of a country to repay loans or honour obligation. However, according to Brink (2004:23), the difference is not that easy to explain.

According to Garcia (2014:19) "economic and political variables as interrelated" and this makes country and political risk related, but not dependent on one another, meaning that a country can experience country risk without political risk and vice versa. However, Brink (2004) argues that it is imperative to include both country and political risk when dealing with risk analysis This is because the levels of political risk might be prolonged due to the levels of country risk and vice versa (Garcia, 2014:19).

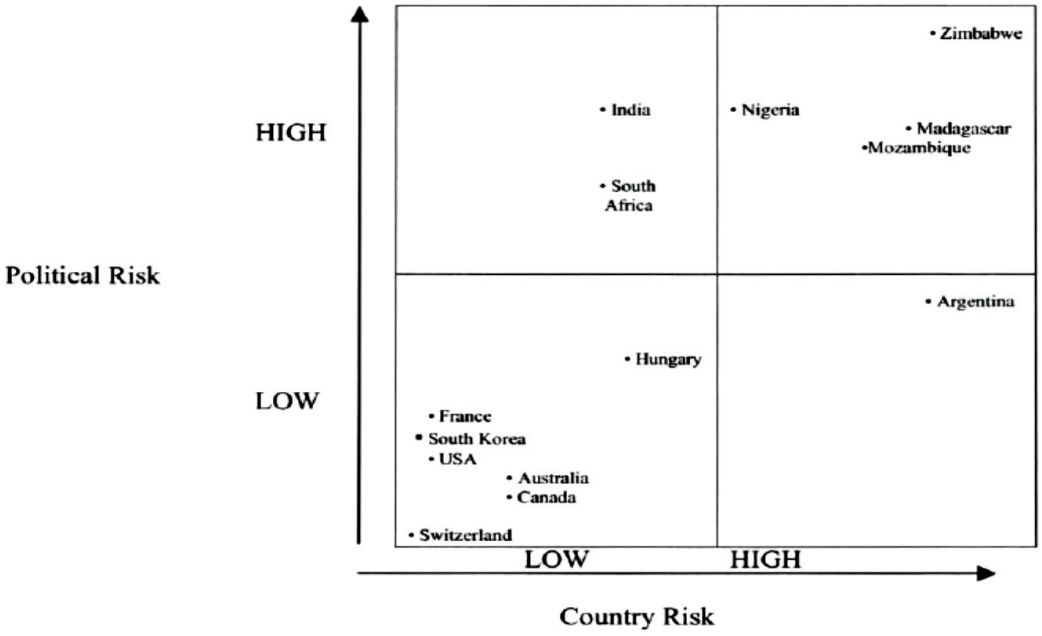

Figure 2.1 The difference or relationship between country risk and political risk
Source: Brink (2002:32)

Figure 2.1 illustrates that a country may experience both risks at different levels, and the power of one risk may spill over to the other risk. South Africa, for instance, may have the capital means and not default on its loan payments and honour its obligations, meaning low transfer risk and sovereign risk (country risk). Nevertheless, due to the political interference in the form of labour unrest and politically motivated strikes, which ultimately increases the level of political risk (unwillingness to honour the financial obligations). These actions might lead to sudden changes in the monetary policy, foreign investment policies, or legislation changes. These examples clearly demonstrate a strong relationship between political risk and country risk. Although closely related, a country might face one risk without the other.

Yet it seems like the definition of country risk depends mostly on the country's political willingness to fulfil its financial obligations, and the same goes for political risk. It is not the aim of this study to contribute to the definition of country risk, but rather to provide clarity on the difference between country risk and political risk, and is accomplished in this section. This study will then focus on political risk, as will be explained in the sections to follow.

2.3.3 Political risk

Yew (1997:1) asserts that the root cause of economic crises is not economic, but rather political. From this perspective, it can be noted that political risk plays a vital role in the economic growth

and stability of the country, and that the relationship between the two agents is vital and influential. Loikas (2003) draws the origin of political risk from the relationship outcome of political authorities and economic agents. Brink (2004:11) asserts that the country's business and financial environment are primarily influenced by political culture, the political system, political climate and political risk.

Political risk factors have a number of sources, which include, but are not limited to: political instability, corruption, changing tax regulations, unclear legislation, security sources including civil unrest, kidnapping, terrorism, labour unrest, theft, economic, ethnic and religious conflict, and foreign government intervention (Lindeberg and Mörndal, 2002:23; Berlin *et al*., 2003:2; Brink, 2004:80; Control Risks, 2009; Bremmer, 2009). As a result, there are several different definitions of political risk, ranging from general to specific (Fitzpatrick, 1983:249). Developments in the global economy put political risk at the heart of modern finance (Dougherty & Specter, 1982:9). With this said, there is no unanimity among scholars, academics and practitioners regarding the definition of the term 'political risk', and therefore many definitions have surfaced and the debate around the definition is an ongoing one.

Studies by Clark and Tunaru (2003: 126); Moran (1999:3); Sethi and Luther (1986:58); Kobrin (1979:67) and Robock (1971:7) lead to a consensus that there is no definition of political risk that is universally accepted and used without concern and attempt to improve it to suit the risk assessment or analysis of the specific firm or industry in question. Therefore, it is imperative to establish a solid and fully supported definition of political risk. The purpose of this section is to present leading thoughts and scholars in the field of political risk in an attempt to come up with an informed, well-researched, and understandable definition of political risk that will be used throughout the course of this study, from this section onwards.

Political risk is no longer a field only explored by academics for academic purposes only, but it has found its way into the heart of financial incautions, governments, business, investors and other economic agents. Therefore, a proper definition is crucial as risk predictions and risk analysis depend on the definition and factors to be used in the process. In the past, scholars, practitioners and analysts alike proceeded to conduct analysis without a proper definition of political risk, and as a result, this led to incorrect data selection, and eventually misinterpretation of results, leading to erroneous decision-making. Supporting this view is Sethi and Luther (1986:59), who assert that gaps in the definition, could lead to wrong answers (Duncan, 2003:7).

There are two camps of scholars when it comes to the definition of political risk, the first camp, Green (1974); Thunell (1977) and Bunn and Mustafaoglu (1978), bases its definition on the general political environmental state. These are any events that bring about instability in the political environment of a host country, which will have a negative effect on the country's economic and financial environment, and eventually affect the firm's profitability in the host country. Examples of events or risk in this camp include civil unrest, kidnapping, terrorism, expropriation, nationalisation and exchange controls (Control Risks, 2009).

Following the first camp of scholars, Bremmer and Keat (2009:4–10) define political risk as any event that might have a general effect on a country's investment environment and as a result, an effect on the organisation's performance. They further elaborate their definition by including risks, such as global warming and demographic changes in their definition, as an example of an event that might have an effect. Concluding political risk, and based on the first group of scholars, Green (1974); Thunell (1977) and Bunn and Mustafaoglu (1978). It is Bunn and Mustafaoglu (1978), who state that any changes in the political environment might bring about gaps in the business environment and eventually impact the profitability and investor confidence.

Due to the complexity and interdependency of the event covered by the first camp of scholars, there is no consensus regarding the appropriate definition of political risk. All the definitions by Green (1974), Thunell (1977), Bunn and Mustafaoglu (1978) and Bremmer and Keat (2009: 4–10) focused primarily on the events that arise in the general environment and not specific to any sector of the firm.

The second camp, Robock (1971); Heenan (1978); Korbin (1979, 1981, and 1982) and Poynter (1982), focused on the actions by government that negatively affect a specific sector, firm or project. As noted, political risk is no longer an area only explored by academics for academic purposes only. Academics and scholars in the first camp could not reach a consensus regarding the definition of political risk, due to its complexity and interdependency with other fields of study. Industries and businesses went on to define political risk in a way that will suit its analysis and industry or business operations.

Therefore, Kobrin (1979:77) asserts political risk as any changes in government policies that may cause certain industries to loose profit. Likewise, Simon (1982:8) presents political risk as actions by government that might have an effect on a select group of industries , companies

or individuals. From these definitions, it is imperative to note that political risk is a factor of the probability of a government action, through its political events, that will affect the country's business climate and the firm's profit (Howell, 1998:3). Agreeing with this view is Lax (1983:9) who asserts that political risk is also the potential that changes, implemented by a country's government, will bring about to modify the investment climate and affect the funding and profitability of specific projects**.** The abovementioned definitions are used by industries and firms (Robock, 1971; Heenan, 1978; Korbin, 1979 and Poynter, 1982).

The industry, company or project-specific definition of political risk finds its origin in the definition provided by the model designed by Tarzi, (1992:433), i.e. the Assessment of Probabilities/Subjective Probabilities Assigned to Investment Risks model (ASPRO/SPAIR), also known as the Shell Oil model. As an example of an industry-specific definition of political risk, the definition from this model focuses on the oil and gas industry and defines political risk as "the probability of not maintaining the described contract during the 10-year time span in the face of changing economic and political circumstances" (Gebelein *et al*., 1978:726). Since the model only applies to the oil and gas industry, it cannot be used for other industries. Therefore, a border definition will provide flexibility in terms of factors and variables used in the model, based on this definition (Somers-Cox,2014:17). Supporting this is Newman (1981:25) who maintains that the ASPRO/SPAIR model is biased and does not capture the country's political and business risk (word missing here?). As a result, it cannot be used when risk analysis outcomes will have an impact on the budgeting and profitability of the industry, sector or firm.

Compared to the Shell Oil model definition, Brink (2004:25) defines political risk as the probability that government's political actions will produce policies that require amendments in a specific organisation, in such a way that the investors in the firm lose money, contrary to what they initially expected. This definition provides more flexibility and understanding of the term 'political risk' under the concept of industry-specific risk. However, the definition lacks clarity on the most important terms in the industry-specific definition of political risk, and that is a macro risk, which will be discussed in the following subsection.

2.3.1 Industry-specific political risk (macro and micro risks)

Political risk, the subject of internal (events and within the host country) and external (events and factors outside the host country) poses macro and micro risk. Up to now, all the discussions

and definitions of political risk provided focused on political risk as an international concept, meaning that it looked at over-the-border transactional effects on investments. However, since the purpose of this study is focused on and limited to the South African banking sector, it is important to discuss and distinguish between macro and micro risks as important concepts in industry-specific political risk.

2.3.3.1 Internal versus external political risk factors

Macro and micro risks are the concepts of external and internal factors. External factors generally affect the whole economy and the functioning of the economic and financial operations in a country. For example, in the 1980s, sanctions imposed on South Africa had a general effect on the country without industry exception (Boshoff, 2010). Another example could be the 2007/2009 global financial meltdown. This affected both financial and economic petitions of many countries globally, and led to countries, such as Iceland, and big institutions like Lehman Brothers, to file for bankruptcy. Lastly, kidnapping, terrorism and war (for example, the horrors of the Islamic State in Syria and Iraq, and Boko Haram in Nigeria) are examples of external risk that affect the regional instability, as well as specific industries (Alon & Martin, 1998:12; Bremmer & Keat, 2009:88).

Conversely, internal factors find their origin from within the country, industry, company, and finally, the specific project. For example, changes in government policies will affect industry and company compliance, local power or political power, and overall economic conditions. Internal political risk factors include selective terrorism, selective strikes, selective protests, national boycotts of an enterprise, industry-specific regulations, subsidisation of local competition and selective price control, corruption, changing tax regulations, ethnic and religious conflict, economic stress, and foreign government intervention (Lindeberg & Mörndal, 2002:23; Berlin *et al*., 2003:2; Brink, 2004:80; Control Risks, 2009; Bremmer, 2009).

Distinguishing between industry-specific risk and the general political risk is not a new concept. Scholars such as Robock (1971), Kobrin (1981; 1982), Simon (1982), Lax, (1983), Frynas and Mellahi (2003), Alon *et al*., (2006), Alon & Herbert (2009) and Baas (2010) also identified these concepts. Disparities in these concepts (industry-specific risk and the general political risk) play a critical role in the definition of political risk, its usage, results and interpretation.

Different industries are faced with different risks (Alon *et al*., 2006:626). As such, the definition of risk in one industry may be treated differently in another industry; the same applies to political risk. The study by Fathei *et al*., (1988), reveals that a company exposed to different industries in one country receive and treat political risk at different levels and in different ways. Therefore, it is important to understand political risk in terms of every industry. What might be categorised, as political risk in the mining industry may not necessarily be the same in the banking sector. Supporting this view is Kobrin (1982:40) who asserts that the political risk effects vary by firm or industry. The classification and discussion of these concepts find their origin from Robock (1971: 9–10) who asserts macro risk as a general systematic risk, which affects the whole economy at large, while micro risk refers to specific risks within an individual industry, firm or project.

Likewise, Korbin (1981:253), Lax (1983:10) and Alon and Martin (1988:12) assert that macro risks are general to the economy and micro risks are limited to a specific project or company. Examples of micro risk include, but are not limited to, price controls, expatriate employment limits, labour unrest, corruption, and system tempering (Somers-Cox, 2014:15). Moreover, du Toit, (2014:12) lists size, ownership and relationship of the firm with the home government, firm resources, political behaviour of the firm, the degree of economic dependence on the firm or the home country, and corporate social responsibility (CSR), as some of the micro risks that foreign firms operating in Africa can expect to hedge against.

Frei and Ruloff (1987:4) gives micro risk more significance in the analysis process. They argue that by understanding the micro risk will ensure that the project, company or industry will be able to hedge against macro risks. Supporting this is Alon and Herbert (2009) who assert that understanding of micro risks by firms can help them to adjust to macro political risks.

Macro risk is important and vital in the analysis of political risk, however as noted above that different industries are faced with different risks Alon *et al*., (2006:626). It is important to understand that the industry and company-specific risks in the banking sector are of vital importance in order to withstand the effects of the macro risk. Arguing for this concept is Alon and Herbert (2009) who state that banking is a strategically important industry and more regulated compared to other industries. This regulation might incorporate international standards that will have a negative on the industry's profitability.

From the discussions of both camps of scholars, the concept of internal and external analysis is of importance, since the power of foreign factors, firm, non-government organisations, as well as the government, can complicate the business and investment environment of the host country, industry, and firm or project in question. The following subsection provides a brief discussion on the government-related versus society-related political risk factors.

2.3.3.2 Government-related versus society-related political risk factors

Macro and micro risks can be further classified as government-related or society-related, based on the origin or source of the political risk factors. Civil unrest, kidnapping, terrorism, labour unrest, theft, cultural and social conditions, ethnic and religious conflict and war (horrors of Islamic State in Syria and Iraq and Boko Haram in Nigeria) are caused by general society and human behaviours and not by the government, and are therefore classified as society-based-related political risks. Conversely, political risk factors, such as industry-specific regulations, subsidisation of local competition and selective price control, corruption, changing tax regulations, policy changes, exchange policies and regulatory discrimination, are caused by the government in power, and are then classified as government-related political factors (Lindeberg & Mörndal, 2002:23; Bremmer & Keat, 2009:88; Essel, 2012).

Since the government has the responsibility and obligation to deliver services to civil society, most of the government-related political risk factors are often economically motivated (Essel, 2012:48). Schmidt (1986) further divides government-related political risk factors as transfer risk, operational risk and ownership control risk. Transfer risk is the risk of capital payments (Hong *et al*., 1999), whereas operational risk includes laws that might affect the operations of the company, and this may include tax legislation, price controls and regulatory discrimination. Ownership control risk, as the name suggests, has to do with ownership change of a company, including expropriation or confiscation (Howard, 1993:48–49; Hong *et al*., 1999; Schmidt, 1986:45). Since providing social security and service is not a low cost and affordable responsibility for the government, all of the aforementioned government-related political risk factors may be economically motivated, in order to improve service provision.

Social security and services are civil rights provided by the government to the civil citizens (Karl and Laster, 2007:9). If these demands or services are not met, the society can cause trouble and political tension. Society-related political risk factors originate from the unity of society on a specific view that will oppose the government and lead to riots, strikes and protests

that cause political risk and threaten investment prospects. Labour unrest, services delivery protests, 'Rhodes must fall' and 'fees must fall' movements in South Africa are examples of society-related political risk factors. These political risk factors are prone to take place in a country with unstable political, economic and socio-cultural conditions. It is the objective and mission of every government to make sure that the needs of the whole society are met. However, with limited resources and unlimited needs, the government is unable to provide all the required services to the society, and because of this, society-related political risk factors are inexorable (Essel, 2012:32). Figure 2.2 presents a summary of macro and micro risk factors.

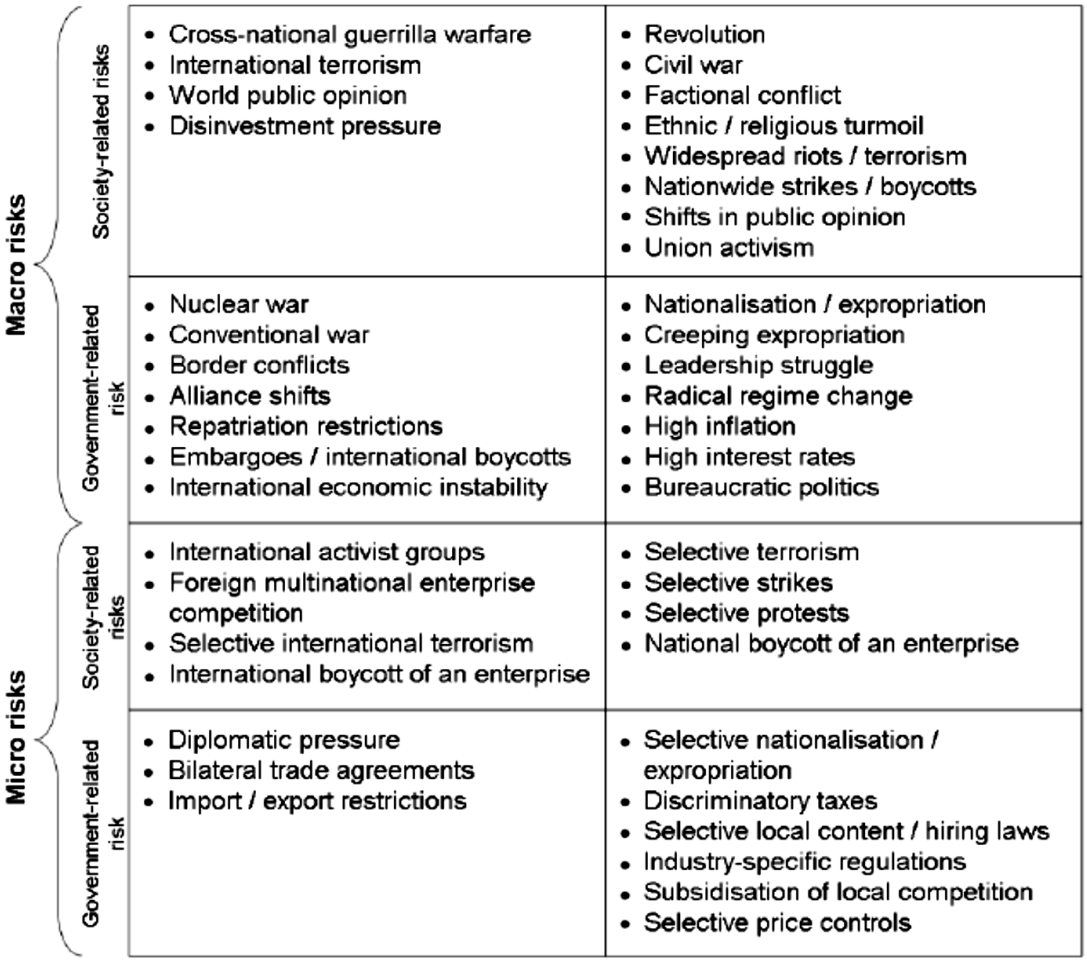

Figure 2.2 Macro and micro classifications of political risk factors

Source: Lindeberg & Mörndal (2002:24)

Although there is no consensus between the two camps of scholars, a discussion on industry-specific political risk (macro and micro risks) has brought clarity to the definition of political risk. The common traits from both camps of scholars, in terms of the definition of political risk, are government policies and decisions, loss of profitability, and an unstable economic

environment. Therefore, for the purpose of this study, political risk should be defined, conducted and analysed from the standpoint of an industry or a company, and be project specific. Therefore, the working definition for political risk in this study will be that 'political risk is the risk that actions by government, whether influenced by government or societal factors, will ultimately have an effect on the business, and this will result in a loss of profit' (Robock, 1971; Rummel & Heenan,; Kennedy, 1991:v–vii; O'Leary, 1994:2; Alon *et al*., 2006; Alon & Herbert, 2009; Boshoff, 2010; Jakobsen, 2012 and Garcia, 2014).

The process of identifying political risk, which includes defining political risk, its sources and types of political risk, serves as the first step in the full analysis of political risk. The whole process of risk identification is for the business to be able to employ proper risk management processes and mitigation strategies (Bremmer & Keat, 2009:165). The following section discusses political risk management and mitigation.

2.3.4 Risk management

2.3.4.1 Political risk management

The purpose of risk management process is to identify potential risks, assess them, and take proper mitigation strategies. The same applies to political risk analysis, which is the process of identifying potential political factors, assessing them, and taking proper mitigation strategies for a specific foreign investment (Brink, 2004:31). Before 1950, the concept of political risk was treated as the risk of international political relations, particularly international diplomacy and international law (Chermak, 1992: 167).

There is not much theoretical background on the concept of political risk management. However, Gregory (1988:101) presents the concept of protective and integrative techniques when one looks into political risk management. These concepts were also revisited by Brink (2004). According to Brink (2004), protective techniques reduced the loss and strengthened the internal strategies of multinational corporations (MNC), and likewise, the integrative techniques also focus on reducing the loss, but the main aim is to strengthen the MNC relations with the political factors in the country in which it operates. However, these concepts are based on, and are only relevant to the MNC, ignoring the new developments that have taken place in political risk and political risk management.

Over the past years, the concept of political risk has shifted from its international risk status to more of an industry-, company- and project-specific risk. These days political risk is a multidisciplinary field and includes events such as the Iran revolution in 1979; the international debt crisis of the 1980s in many developing countries; the September 11 attacks; the presidential elections of the United States of America (USA); xenophobic attacks; corruption and nationalisation; the horrors of the Islamic State in Syria and Iraq; Boko Haram in Nigeria; the Arab Spring and country rating downgrades; and the tension between ambitious government plans and narrowing fiscal space (Aggarwal, 1996; Aggarwal, 1998; Alon & Martin, 1998:12; Chiodo & Owyang, 2002; Galeano, 2002; Ryan, 2004; Sieder *et al*., 2005; Enderlein *et al*., 2008; Acharya *et al*., 2009; Bremmer & Keat, 2009:88).

All of the aforementioned events have changed the perspective and definition of political risk and its management. Therefore, private companies, governments and interested parties had to redefine political risk according to its effects on specific companies, and the definition of risk management has to be adjusted in order to suit the definition of political risk according to its purpose. Therefore, Hough (2008:5) defines risk management as measures to protect the organisation (its people, assets, and profits) from any form of risk, either financial or physical.

This is the general definition of risk management that can be used, regardless of the industry and types of risks faced, including political risk. Although political risk might differ from other risks, it can be managed like other risks. The effective management of political risk will not only reduce the cost of risk management, but will also increase the company's competitive advantage. This can be done by integrating political risk into the organisation's enterprise risk management (ERM). As mentioned at the beginning of this section, the process of risk management can be summarised in three steps, which are identification, assessment and control. The first step, the identification of risk is covered in sections 2.3.1 to 2.3.4. The second step, 'assessment of the identified risk', and the third one, 'control', is discussed in the following subsection.

2.3.4.2 Political risk assessment

In this second step of risk management, armed with a very specific set of political risk scenarios, and using factors and sources identified in the first step of the risk management process, political risk analysts and risk managers critically assess and quantify the potential impact of each scenario on the business and its profitability. The first step in the assessment

process is the assessment of the political environment. A global political environment analysis involves international transactions, whereas country political environment analysis is based on a country with the intentions to invest, or analysis of a certain industry, company or project.

The key participants in the political environment are the government in question, the political and economic structure adopted by the government in power, and the society that puts the movement in power, as well as the reaction to the elected government. These are the most important players to be assessed when the political environment is analysed (Schmidt, 1986:43). At the heart of the political environment, you find a political system. Easton (1953: 123–48; 1965:21) defines the political system as the human interaction where values, power and authority are shared. A political system is a system made up of different human relations ruled by a common law, a civil law, or a religion (Lewis, 1979:63).

The political system is the component that holds the other three major participants together and forms a political environment. Different countries follow different forms of the political system and economic ideologies. These include monarchy, constitutional monarchy, limited monarchy, oligarchy, theocracy, aristocracy, democracy, parliamentary democracy, representative democracy absolutism, feudalism, communism, socialism and fascism (Greatneck, 2016). Within a political system, different religions and beliefs are connected, and furthermore, different countries follow different legal procedures and investments, foreign exchange and tax laws differ in each country. This should be taken into account when the political environment assessment is performed. The relationship between these subsystems within a political system plays a critical role in the political risk assessment results.

The political risk assessment methods can be broadly divided into subjective and objective methods (Duncan, 2003:22–28). Subjective methods include qualitative approaches or research. Under the objective method, a quantitative approach is used. Subjective methods involve a host of qualitative approaches that can be used in the process of political risk assessment, and all of them are subjective by nature because they use subjective experts' views in their analysis.

A qualitative approach is the process whereby the researcher collects and analyses information from all types of sources, and attempts to gain in-depth knowledge from them (Burnham *et al*., 2008:40). This is because results from the qualitative research are subjective views, intuition,

experience and opinions from experts regarding the political environment, and are exposed to the subjective judgment of the research (Lindeberg and Mørndal, 2002:17).

2.3.4.2.1 Subjective (qualitative) approach

Notwithstanding the concerns previously mentioned, the qualitative approach gives the researcher an ability to analyse the entire risk environment and get to the root cause of the problem. Since political risk analysis involves a number of variables that are somehow interconnected, the use of a qualitative approach in political risk allows for the separation of these variables and the ability to focus on the specific factor. This is very important when assessments are carried out in a specific sector, company or project. Brink (2004:42) argues that for political risk assessment and management to improve, a collective view of different stakeholders in the political arena should be taken into account when setting up political risk management (Frei & Ruloff 1987:6; Lindeberg and Mørndal, 2002:31). Qualitative approaches that can be used include the 'grand tours' and 'old hands' approach, the Delphi technique, and comprehensive methods, Bayesian methods and the expert methods, namely the Business Environment Risk Index (BERI) method, the World Political Risk Forecast, and Business International and Data Resources Inc. (POLICON) (Chermak, 1992: 173; Duncan, 2003:22–28; Essel, 2012:37).

2.3.4.2.1.1 Grand tours and old hands

These are two of the classical subjective approaches to political risk assessment. Both approaches are based on companies' efforts to make sense of the political environment, and the investment and business climate, in order to establish the potential to do business. 'Grand tours' is the approach whereby the company will select a group of representatives to visit the potential investment country so that they can develop a sense of the political and business climate in that country, and also try to build strong relationships with the country's local business and political leaders. The main disadvantage of this approach is that the conclusion about the host country's political environment will only be based on the representative's subjective judgment, opinion and limited information (Rummel & Heenan, 1978; Leopold & Wafo, 1998:26; Duncan, 2003; Sottilotta, 2003).

Landmark events, such as the Cuban revolution that took place in 1959 when the prime minister, Fidel Castro, nationalised all foreign investments and the Shah of Iran instituted the Iranian revolution of 1978, reviled the shortcomings of the grand tours approach. The USA lost

billions due to these unexpected events that could not be captured by the reports provided by the company's representatives who took 'grand tours' in these countries. (Simon, 1982:137; Duncan, 2003:24).

Due to the shortcomings of the grand tours, companies then advocated for expert help, with the management of political risk, specifically the political risk assessment in other countries. Experts included diplomats, consultants, academics, journalists, and business and government officials with vast experience in and knowledge of the country in question. These experts would either be consulted or employed permanently by the company, depending on their level of commitment to political risk analysis. The assessments carried out by these experts include, but are not limited to the country's leadership, its political and economic objectives, and also identification of possible weaknesses and strengths in the political system (Rummel & Heenan, 1978; Leopold & Wafo, 1998:26; Duncan, 2003; Sottilotta, 2003).

Although both approaches are good for providing the overview of a country's political environment, both approaches are vague by nature, inaccurate, incomplete, and have biased judgment in political risk. As emphasised by Tarzi (1992:435), the greatest unsystematic character in both approaches is the lack of a systematic element, therefore making them more subjective. In an attempt to provide systematic use of human judgment and experience, numeric values were used to quantify subjective and unsystematic elements of the grand tours and old hands approach. To do this, the Delphi technique was developed. This technique is discussed below.

2.3.4.2.1.2 The Delphi technique

Originally formed by the RAND Corporation in the 1950s, the Delphi technique provides a systematic approach to political analysis, compared to the two subjective and unsystematic approaches mentioned above. Therefore, the Delphi technique is defined as the technique that "solicits the opinions of experts through a series of carefully designed questionnaires, interspersed with information and opinion feedback, in order to establish a convergence of opinion" (Helmer, 1967:5). While the grand tours and old hands approach uses unstructured interviews to collect their information for analysis, the Delphi approach uses structured interviews to elicit experts' knowledge on political risk, and to help identify possible political risk variables.

From the information obtained, common variables will be identified and ranked according to their importance (Simon 1982:140; Chermak 1992:173). Since then, the Delphi technique has been widely used by commercial and research companies, for example, the PRS Group uses a modified Delphi technique to obtain its country ratings. Since this technique uses information gained from interviews, its shortcomings lie in the ability to gain the right information by asking the right questions, and the inability to incorporate social, cultural and economic variables in its political risk variables. Consequently, the results of this technique are inaccurate and subjective in judgment.

In concluding the three classical subjective qualitative techniques, i.e. the grand tours, the old hands approach, and the Delphi technique, the greatest shortcoming of these is they rely on human opinion and judgment, which could be influenced by a number of aspects, such as the surroundings, belief, association, culture and power (Linstone, 1975; Rummel & Heenan, 1978; Simon 1982:140; Chermak, 1992:173; Leopold & Wafo, 1998:26; Duncan, 2003; Sottilotta, 2003; Helmer, 1967:5; Tarzi,1992:435).

2.3.4.2.1.3 Bayesian method

Although the three classical subjective qualitative techniques, i.e. the grand tours, the old hands approach and the Delphi technique are comprehensive and widely used, recent decades have seen changes. The development of political risk has forced researchers, analysts, companies and banks to look at additional techniques that will reduce the subjective element found in the classical models. There is a trend towards using techniques that provide more probability, measure the likelihood of political risk events, and improve the political risk assessment.

This led to the development of the Bayesian method. This method modifies the result of the classical techniques mentioned above by adding probability estimates to the political risk variables. This model will rank all the variables according to their importance, in such a way that the experts' judgment of the political risk will be more objective in the sense that it will be checked against set variables. In this manner, the subjective nature of the classical techniques will be reduced and proper forecasting can be performed and improve the analysis of political risk assessment (Whitford, 2003:909).

2.3.4.2.1.4 Business environmental risk index, the world political risk forecast and POLICON

The ability to incorporate probability estimates into the qualitative assessment results of political risk resulted in improvement of the qualitative assessment techniques. Since then, some models were created, including the BERI (Business Environmental Risk Index), the World Political Risk Forecast and POLICON (Chermak, 1992:173; Duncan, 2003:22–28; Essel, 2012:37). In his study, Duncan (2003:27) defines BERI as a method that uses a group of selected political risk variables to assess the country, based on their score out of 100 points, with the score closest to 100 as a reflection of lower risk.

An international research company based in the USA uses this method. They use the BERI index, provide ratings, and do analysis and forecasting on political and country risk ratings for more than 140 countries. The advantage of using this method is associated with the probability estimates attached to each variable, and the ability to provide a score on the level of political risk.

Using the same comparative rating systems in the BERI index, the consulting firm, Frost & Sullivan, developed similar methodologies, namely the World Political Risk Forecast and POLICON. These models allow for the modification of variables according to the parameters of the environment in question, and the ratings can be adjusted according to the environmental status and forces. However, the judgments based on these methods are as good as their ratings and variable probability estimates. Although all the qualitative methods mentioned above have contributed to the assessment and analysis of political risk, they all rely on expert judgment and opinion. Therefore, they are subjective by nature and present a number of shortcomings associated with the subjective methods.

Although much has been done to improve the qualitative methods, by assigning probability estimates to the political variables identified, the lack of empirical and statistical testing of qualitative results is one of the biggest shortcomings of subjective methods (Chermak, 1992:174, Frei & Ruloff 1987:7). Personal opinion, judgment, bias and influence have been reduced in these models, but cannot be eliminated from the analysis. This is the second shortcoming of subjective methods. In addition, the results of these models are as good as their rivals in the same industry, therefore leaving no room for the ever-changing economic variables. Despite the rating and grouping of variables by an expert, this does not mean that

they are accurate and generally acceptable. The selection and judgment of the variables, and the grading, depends on the expert's qualification and experience. This is the fourth shortcoming of subjective methods (Frei & Ruloff 1987:7).

For the above-mentioned reasons, the credibility and accuracy of subjective methods is a debatable issue in political risk assessments and analysis. The shortcoming of the qualitative methods to provide a numerical and statistical testing led to the development of more objective (quantitative) methods in the analysis of political risk. These quantitative methods are discussed below.

2.3.4.2.2 Objective (quantitative) methods

Objective methods make use of measurable variables to make a quantitative assessment of political risk by using various mathematical, statistical, econometrics and economics processes (Duncan, 2003:28). According to Tjin (1988:145), quantitative assessment is defined as a means of collecting data and scaling it using mathematical and statistical tools to provide economic and investment value. A number of quantitative methods have been developed. The common element for all of these models is the ability to predict future political risk events and incorporate them into the current analysis. This element enables the decision-making and improves the ability to mitigate the identified risks.

One of the most important elements employed by the objective methods is multivariate analysis (MVA). This econometric technique allows for the analysis of complex issues such as political risk, and improves the multidimensional decision that comes with political risk (Leopold & Wafo, 1998:26). Although this econometric technique has improved, the objective assessment and analysis of political risk, due to its social science nature, the fundamental problem of political risk assessment is that political risk is not easily numerically quantified (Lindeberg & Mørndal, 2002: 3; Brink , 2004:117).

Brink (2004) further elaborates on this matter by indicating that though political risk assessment and analysis may use mathematical words such as 'likelihood', 'chance' and 'probability', political risk is a social science and not purely a mathematical phenomenon, and he attributes that political risk involves judgment more than mathematical or statistical calculation (Brink 2004 117; Garcia 2014:22).

In the multidimensional field of social science, the debate between qualitative and quantitative methods of political risk analysis is an ongoing issue, as well as consensus on which method is best. Both qualitative and quantitative methods offer valuable elements that can be combined and thereby provide a better understanding of political risk assessment and analysis. Such a model is called a hybrid model, and an example of such a model is the model developed by Brink (2004), who asserts that integrating these two models will improve political risk assessment, analysis and management.

This research study focuses on the South African banking sector, and includes political risk factors, social factors, cultural factors and economic factors, which will provide improved analysis of political risk with other variables. The specifics of the model used to calculate the political risk index is discussed in detail in chapter 3 of this study. Now that the political risk assessment has been discussed, the following section will provide a debate on the third and final process in political risk management, the control or hedging stage.

2.3.4.3 Risk management responses

Not much has been written about political risk management, and therefore this research study will adopt the general risk management methods, hedge responses, and incorporate them into political risk. Apart from obtaining insurance as a control measure to deal with risk, other common methods used by risk managers include risk retaining, reducing, avoiding or transferring. One of the first principles of risk management maintains that the higher the risk, the higher the return, and therefore risk avoidance is seen as a defensive approach to risk. While it protects the company from the potential risks, it also affects the company's opportunity cost of taking that risk to improve its profit. Conversely, being able to identify the risk, assessing it, and then taking the risk and trying by all means to retain or reduce it by employing other measures, is seen as the offensive approach to risk (Baker *et al*., 1999:207–211).

The development and innovation in both political risk and risk management has allowed for new instruments to be used to try and manage and control political risk. Other instruments that can be used include "financial derivatives and options, legal agreements, commercial treaties, and negotiations" (Bremmer & Keat, 2009:197). Brink (2002:233) asserts that companies and banks should develop an integrated risk management approach to political risk management. This will require political risk management be incorporated into the enterprise's ERM. Supporting this view are Lewis (1979:262) and Lindeberg and Mörndal (2002:32–38) who

allude that a proper and ideal risk management strategy should be one that incorporates all the above-mentioned methods and instruments.

Since it is a multidimensional aspect, political risk is an ever-changing concept, and developments over the past five decades support this. Chambers and Jacobs (2007:61) and Heinz and Zelner (2004:168) emphasise that political risk management should be a contentious process that allows for new developments in both political risk and risk management practices. This practice will assist those managing the risk management strategy to be able to capture other changes occurring in social, cultural and economic environments, as these affect the political risk analysis and assessment (Kobrin, 1982:42; Bremmer & Keat, 2009:197; Lindeberg & Mörndal, 2002:87).

2.3.4.3.1 Risk retention

With a proper and integrated risk management framework in place, companies, banks and governments will be able to increase their risk retention. Retention means that the enterprise will take the risk faced and try to minimise it or totally prevent the loss associated with the risk. With so much development in risk management practices, there is a range of derivative techniques that the company can use to hedge against political risk factors (Clark & Marois, 1996:226).

2.3.4.3.2 Risk reduction

This is the action taken by a company to use all its financial, non-financial and legal tools in an attempt to try and reduce the risk associated with the event. The process of risk reduction requires an integrated risk management framework to be in place, involving all the risk management methods available, well equipped to reduce the risk exposure to the enterprise. In political risk, the analysis of the political environment will enable the enterprise in question to gain more information about the country, company or project-specific political risks. This will increase the company's ability to deal with the identified risk, and employ proper measures to reduce it (Leopold & Wafo, 1998:26; Lindeberg & Mörndal, 2002:52).

2.3.4.3.3 Risk avoidance

While risk reduction is more concerned with minimising the risk exposures from the identified risk factors, risk avoidance is the risk management technique that most enterprises use when

they want to avoid risk exposure. In this approach, the enterprise refrains from certain business opportunities because of the risks associated with them. Although the enterprise is safe from the risk factors by applying this method, it also loses the profit associated with the opportunity. In political risk, assessing the political environment of the potential investment will enable the enterprise to create corrective measures according to the enterprise's risk tolerance level. Risk tolerance is the level of risk that the company is willing to take, based on its own risk framework and mitigation tools available (Lindeberg & Mörndal, 2002:38).

Seen as the multidimensional risk, the common treatment of political risk is to avoid it. It is recommended that political risk, although diverse, should not be avoided. Instead of risk avoidance, the enterprise might perform risk transfer. Risk transfer is when the enterprise transfers the risk exposure to a third party. For example, by acquiring proper insurance that covers unexpected risk events, such as damage due to strikes, protests, terrorism, vandalism and kidnapping.

2.3.5 Sub-section conclusion

In section 2.3, conceptualising political risk, the theoretical aspects of political risk were explored in detail. This included the relevance of problem-solving and decision-making theory, and political risk. A clear differentiation between a country and political risk, and the concept of industry-specific political risk was explored and discussed. After the discussion on industry-specific risk analysis, the model used in chapter 4 will be microanalysis, since the focus of this study is on the South African banking sector. This section concluded with a discussion on political risk management, including the identification, assessment and control measures for risk factors. The following section will provide a discussion on credit risk.

2.4. CREDIT RISK

The purpose of this section is to discuss the underlying theory of credit risk. The conceptualisation of credit risk will be explored in detail and will include a discussion on what credit risk is, the types of credit risk, and what the sources of credit risk are. Credit risk management will be addressed next, including a look into the management of credit risk, the credit risk assessment and credit risk analysis. The five C’s of credit, mitigation strategies available to the banks, and how to apply them, will also be covered.

2.4.1 The concept of credit risk

All financial institutions, especially banks, are subjected to a number of risks, such as country risk, interest rates risk, market risk, purchasing or inflationary risk, operational risk, business or liquidity risk, and financial or credit risk (Bessis, 2002:2).

Country risk is defined as any potential financial loss due to economic events in a country, or the existence of potential uncertainty in the host country (Calverly, 1985:3; Krayenbuehl, 1985:3–20; Kennedy, 1991:194–241; Coplin & O'Leary, 1994:4–11; Ferreira, 1997:13). Country risk is also a combination of all risks, whether economic, financial or political risk, faced by a specific country (Leavy, 1984:142; Howell, 1998:33; Jakobsen, 2012:37).

Interest rates risk refers to the effects of the market interest rates' volatility on the bank's assets and liabilities. The volatility creates a mismatch in the bank's books between assets and liabilities, and leads to two types of interest rates risk termed 'price risk' and 'reinvestment rate risk' (Saha *et al.*, 2009).

Market risk is the risk associated with the fluctuations in the macroeconomic factors affecting all the risky assets or securities influencing their returns or trading prices. This includes the assets and liabilities, as well as all off balance sheet items. Market risk includes risks such as absolute risk, non-directional risk, basis risk, directional risk, volatility risk and relative risk (Bessis, 2002; Saunders & Cornett, 2003).

Purchasing power risk, also known as the inflation risk, is the risk that the return on the investment will be reduced by inflation, especially if the security is not linked to inflation. This will reduce the expected cash flow from the investment assets. Examples of inflationary risks include cost inflation risk and demand inflation risk.

Operational risk is the risk that arises due to the internal failure of organisational operations, and caused primarily by human error, system error or a failed model. Examples of operational risk are people risk, model risk, political risk and legal risk (Muehlenbrock *et al.*, 2012:4)

Liquidity risk, also known as business risk, is the risk of an economic agent (organisation, government or individual) being unable to generate economic cash flow from its assets, or change it for the services of another asset. This risk includes funding liquidity risk and asset liquidity risk (Nikolaou, 2009:10).

Although all of the above-mentioned risks affect banks in different departments, banks, in their banking activities of lending and borrowing, are faced with the dilemma of the client defaulting on loan payments and the agreed upon interest rate agreed upon between the bank and the client. This situation is referred to as credit risk, and is also known as counterparty risk or default risk. The inability to meet the loan payment creates the probability that the bank's assets (loans) may decline in value and end up creating bad debt for the bank (Rose & Hudgins, 2008). According to Saunders and Cornet (2008) and Al-Smadi and Ahmed (2009), credit risk can be defined as the risk that the expected cash flow (loan and interest earned on it) from the bank's assets (loans) will not be paid in full by the client to the bank. Brown and Moles (2014:1) define credit risk as the potential that their party will be unable to fulfil its financial obligations as per the agreement.

Credit risk also remains one of the crucial risks in modern finance. According to Caouette *et al.*, (1998:1), "credit risk is as old as lending itself", which can be traced back to 1800 BC. A group of banks started in Florence more than seven decades ago, suffered from the same credit risk (Meyer, 2005:19). Credit risk is the risk that arises from the potential of the counterparty defaulting on its repayment of the principal and the interest agreed upon in the stipulated period (Brown & Moles, 2012; Sobehart *et al*., 2003). Over the years credit risk and its management have become the bank's core competency, however, many banks still failed and filed for bankruptcy due to the unsecured and unregulated overextension of credit (Caouette *et al*., 1998:2).

The 2007–2009 global financial crisis led to the fall of large banks and other financial institutions regarded as too big to fail. The fall of Lehmann brothers is a good example of the unsecured and unregulated overextension of credit by banks. Studies (Acharya *et al.*, 2009; Marer, 2010; Chang, 2011; Schøning, 2011) also confirm that the issuing of unsecured mortgage loans to borrowers, without a financial background check, is one of the main factors that contributed to the unforeseen global financial meltdown (Diamond & Rajan, 2009; Rakazi *et al*., 2010). The effects of credit risk can cause damage, and even lead to the liquidation of a financial institution (bank) if not properly mitigated, due to direct links to the capital structure and profitability of the bank (Godspower-Akpomiemie, 2013:2).

Credit risk is the only risk that affects the capital structure of the bank, since it is the risk that the borrower might default on in terms of payment or not meeting the terms of the credit agreement. Unlike organisations in other industries, banks are highly leveraged organisations.

The capital structure of a bank comprises three components. First, banks own funds, and these include share capital. Secondly, retained earnings are the reserves and surplus of the bank, and lastly borrowed funds, and these are loan funds, the main source of income to the bank through interest earned on them. Therefore, loans are the biggest source of credit risk for banks, and have remained the most important risk faced by banks, even today (Gup *et al.*, 2009:8).

2.4.2 Sources and forms of credit risk

Credit risk can take many forms, depending on the source of risk. Although credit risk emerges primarily from lending activities and unfunded lending commitments of banks, other sources of credit risk include, but are not limited to, outstanding loans and leases, trading account assets, derivative assets, loan commitments, letters of credit, and financial guarantees. This risk is also found in financial activities, such as bank acceptances, interbank transactions, trade finance, and retail and investment settlements (Van Gestel & Baesens, 2008:23; Monetary Authority of Singapore, 2013:1).

Examples of credit risk include recovery rate risk, settlement risk, non-directional risk, sovereign risk, exchange rate risk, and credit event risk. Recovery rate risk is the rate at which the expected return on the loan might not reach the bank on the agreed terms and at the right time, due to lack of funds or bankruptcy. Settlement risk is the risk that payments, funds, or cash flow exchange made through a third party, might default in their payment to the counterparty. Non-directional risk is defined as indirect exposure to volatility (Wilson, 2011). Sovereign risk is the risk that arises when the government fails to honour its debt payment to the counterparty. The Economics Times (2016) stated that exchange rate risk, due to the fluctuation in the exchange rate, might affect the banks' returns on investments and assets, and also increase it liabilities when engaged in foreign trade or on its foreign cash flows (Bessis, 2002). Lastly, credit event risk is the risk of how likely it is that the credit event will take place, i.e. how possible is it for the third party to default on its payment (Bessis, 2002).

Now that the underlying theory of credit risk has been discussed, the following section will focus on credit risk management. This will look into the management of credit risk, the credit risk assessment and credit risk analysis, and lastly, the mitigation strategies available to the banks and how to apply them.

2.4.3 Credit risk management

Credit risk management has become an integral part of the survival, growth and functionality of modern banks (Afriyie & Akotey, 2012:3). Due to the interdependency characteristic nature of risk, credit risk always happens in conjunction with other risks, such as interest rate risks or market risks. The 2007–2009 financial crisis exposed the weakness of the banks' strategies and management when dealing with credit risk. Therefore, this requires banks to come up with a comprehensive strategy to deal with credit risk (Gestel & Baesens, 2008:39). Figure 3 depicts the main steps in a risk management process.

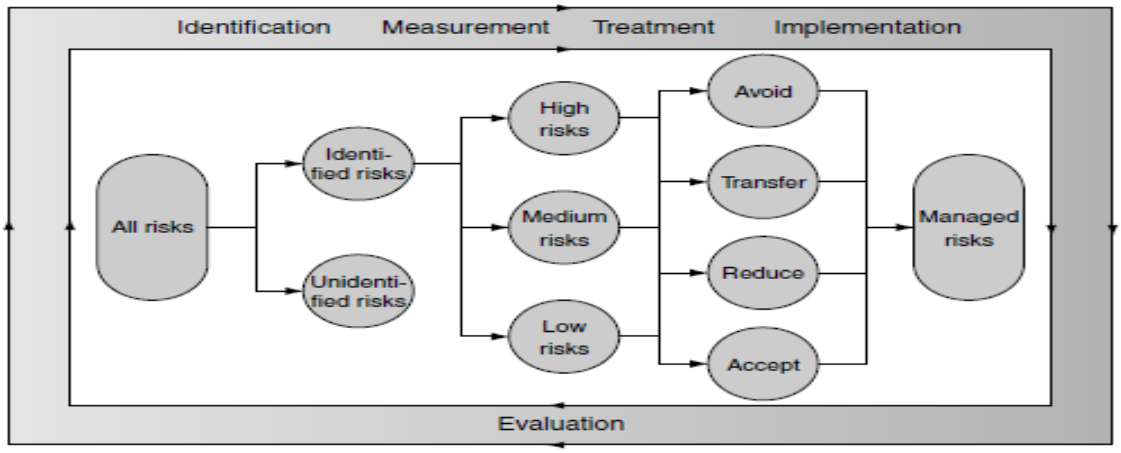

Figure2.3 The main steps in a risk management process

Source: Van Gestel & Baesens (2009:41)

As explained in section 2.3.5 and illustrated in figure 2.3, the purpose of the risk management process is to identify potential risks, assessment/measurement of identified risks, and then implementing proper steps in mitigation. The same applies when dealing with the management of credit risk. Since credit risk has been, and still is, the primary and most vital risk faced by banks, due to their nature, the management of credit risk is the fundamental component in the foundation of a holistic approach towards sound risk management in banks (Rose, 2002). However, risk management strategies and frameworks will differ from bank to bank, depending on the amount of risk they are exposed to, and the level of risk they are willing to take on. The primary objective of credit risk management is to lower losses due to counterpart defaulting, and to increase the return on loans and other investments.

Although credit risk strategies will differ, depending on the bank, a sound and safe credit risk management strategy is one that includes the ability to prudently identify the risk, be able to assess the reward associated with the risk, find ways to minimise the effects of the risk, and

ultimately eliminate the risk where possible. Challenges faced by banks in achieving this cohesive credit risk include, firstly, the expectations by shareholders to receive increasing returns, and secondly, to comply with the international standards in terms of the minimum capital reserves to be kept by the bank, following the New Capital Accord's (Basel II) minimal capital requirements (Belmont, 2004).

The process of a sound and safe credit risk management process starts with the establishment of an appropriate credit risk environment. This process involves the entire company in the management of risk. The board of directors approves the framework and the senior managers implement the framework and makes risk management part of the bank's policies and credit analysis procedures. With the credit risk management environment and culture now adopted by the whole bank, this will enable the bank to fulfil the first step in credit risk management, which is the identification of potential risks inherent in all its credit products and activities. Therefore, after the successful identification of credit risks and their sources, the second step to follow is the assessment of credit risk. The discussion on credit risk assessment is provided in the subsection below, titled 'credit risk assessment and analyses.

2.4.3.1 Credit risk assessment and analysis

Credit risk assessment is the process whereby the bank assesses whether there is a possibility of the potential investment, business opportunity or loan, defaulting or resulting in a loss for the bank. According to Nsereko (1995), the credit assessment and analysis process starts when the borrower submits their documentation to the bank to be evaluated for the approval of credit or a loan. Feder *et al.*, (1980) asserts that a proper credit assessment is crucial, as most borrowers are unable to commit to their loan payments. Therefore, Derban *et al.*, (2005) argue that a proper credit analysis, with the use of both qualitative and quantitative credit risk assessment methods, will enable the bank to look into the background of the counterparty, establish a solid financial analysis of the counterparty, and enable fulfilment of the credit commitment.

This process helps the bank to determine whether it wants to go on with the transaction (credit granting), as the decision will be based on the risk associated with the investment or loan, and the level of risk tolerance the bank is able to take on. According to Polizatto *et al.*, (1990) credit appraisal, which is the process of assessing the risks associated with the granting of credit to the borrower, is still the most effective procedure to be followed by any financial institution

that provides credit. In addition to this, Simson and Hempel (1999) highlight the importance of incorporating credit appraisal, with the use of simplified language, into the bank's credit risk philosophy and methodologies. Therefore, the process of credit risk assessment will start by looking at the creditworthiness of the counterparty. There are a number of credit risk assessments. These include, but are not limited to, the 5C's, 5P's, PAPERS criteria of credit lending, CAMPARI method, Liquidity, Activity, Profitability, Potential (LAPP) method, PACT method, and Financial Analysis and Previous Experience Methods (FAPE).

2.4.3.1.1 The 5C's of credit risk assessment

According to Peavlere (2016), for security purposes, banks uses the five C's of credit, i.e. Capacity, Capital, Collateral, Conditions and Character. These five C's will be revisited and explained later on in this section. Loans are the greatest source of capital and credit risk for banks. This method will provide a clear and comprehensive understanding of all risks and rewards involved in the lending activities of the bank, thereby improving the credit granting decisions (Beckman & Bartels, 1955; Reed, *et al*., 1976; Sinkey, 2002).

This credit analysis process method (five C's of credit), although previously used by the first traditional banks, the same principles are still relevant in modern banking and the credit analysis process (Caouette, *et al*., 1998; Rose, 2002). Moreover, Cade (1999) and Murphy (2004) assert that the principles of this method form the cornerstone and foundational elements in credit risk management and analysis. According to Peavlere (2016), the five C's of credit risk assessment can be summarised as follows:

Capacity is the most important element of the assessment process and refers to the ability of the borrower to be able to pay back the agreed amount of money borrowed, as well as any interest. In the criteria of capacity, the borrower's credit record and payment history plays a very important role, and at this stage, the bank will look into the borrower's cash flow accounts and other liable sources of income that will enable the counterparty to repay the financial commitments (Sinkey, 2002; Koch & MacDonald, 2003). However, if this process reveals results that are not satisfactory to the lender (the bank in most cases), the bank will proceed to the next C, which is capital.

Capital refers to the borrower's level of liquid financial investments. If the borrower is an individual, then fixed capital cash flow from different property investments, and shared in various companies, will serve as a form of capital. If the borrower is an institution or the credit

is made on behalf of an institution or company, then the owner's interest or equity contribution to the company serves as a good indication of the source of capital and the ability to repay the financial commitments within the agreed terms of credit.

Collateral, also known as security, serves as a form of a pledge to the bank by the borrower that, in the case of a payment default, the bank can sell the collateral, usually in a form of fixed property or land, and use the proceeds from the sale to cover the borrower's debt. Examples of acceptable collateral include fixed property, financial investments, personal savings, land ownership, capital equipment and equity debtors.

Conditions; here the focus is on the purpose and importance of the loan required because conditions will focus on the evaluation of both external and internal economic conditions and check how the changes may affect the borrower's ability to repay its financial commitments. In this process, the fundamental top-down approach will be used to analyse the economic conditions before a decision is made regarding the financial commitment request at hand. Lastly, the bank will look at the borrower's character.

Character, in financial terms, is closely related to capacity. Character refers to the willingness, ability, trustworthiness, faithfulness and creditworthiness of the borrower. This will reflect on the ability to pay the loan. Here, like in capacity, a clean credit record and sound financial position will improve the borrower's character (Rose, 2000).

2.4.3.1.2 The 5P's process

Developed by Mildred Golden, Chris J. White and Leslie A. Toombs, the 5P's is another method available or credit granting evaluation process. The five P's represent People, Purpose, Payment, Protection and Perspective, and can be summarised as:

- People: this looks at the borrower's history of being reputable, financially honest, and the ability to honour his financial commitment timeously;
- Purpose: a detailed and clearly specified description and explanation of how the borrowed money will be used, should be provided and accessed;
- Payment: with the purpose of the funds borrowed identified, the bank is able to clearly ascertain the source of repayment for the loan, and this helps the bank to structure the repayment schedule in a manner that will benefit both the lender and borrower;

- Protection: like in the 5's of credit protection in a form of collateral is the second best source of repayment, This is a pledge by the borrower to the bank that in case of a payment default, the bank can sell the collateral and use the proceeds from the sale to cover the borrower's debt; and
- Prospective (Plan): the most important part of the analysis is the mitigation strategy of the bank, in case the borrower defaults and the collateral cannot cover the remainder of the loan, and the interest. A bank should have a plan in place that facilitates regular reporting and monitoring of the borrower and payment.

2.4.3.1.3 PAPERS criteria of credit lending

To grant credit, a bank needs to have a process in place to follow. Most banks use or follow the PAPERS criteria of credit lending, i.e.: P – Person, A – Amount, P – Purpose, E – Equity, R – Repayment, S – Security (Olayinka, 1999, cited by Agu and Okoli, 2013).

2.4.3.1.4 The CAMPARI method

The bank can use seven variables to evaluate credit applications. The CAMPARI method uses some of the 5C's and 5P's (Paul Simister' Business coaching blog, 2008).

- Character: ability to pay, similar to the one in 5C's and people in 5P's, similar to capacity;
- Ability to pay: similar to capacity in 5C's and repayment in 5P's;
- Margin of finance: this is the amount the customer contributes from the loan;
- Purpose of the loan: a clear description of the loan purpose and its contribution to the repayment structure;
- Amount: depending on the purpose and ability to repay, the appropriate amount of the loan will be set;
- Repayment terms: same as repayment; and
- Insurance: similar to collateral in the 5C's; an example would include income from property or other tangible assets.

2.4.3.1.5 The Liquidity, Activity, Profitability, Potential (LAPP) method

Developed by Benz (1979), the LAPP method was developed to be used in the analysis and evaluation of corporate credit applications, rather than individual ones. Compared to other methods, this method can be used by both commercial banks and investment banks, and is summarised as follows:

- Liquidity, which measures the ability of the firm to repay its short-term obligations;
- Activity, which measures the size of the firm and its operations;
- Profitability, which measures how profitable the firm is; used in the analysis of this component are return on assets (ROA), return on equity (ROE), and gross or profit margin; and
- Potential, which measures the resources and strengths that the firm has.

2.4.3.1.6 PACT method

This is another credit evaluation method where P is the Person, A is Activity, C is Collateral and T is Terms. Each variable in the model carries several elements that are weighted and then estimated to simplify the usage, analysis and interpretation of this method.

2.4.3.1.7 The financial analysis and previous experience methods (FAPE)

Developed by Abu Karsh (2005), the Financial Analysis and Previous Experience Methods is defined as the method where the bank's decision of credit granting depends on the results from analysing the borrowers' financial statements. In most cases, the FAPE methods are used in conjunction with the above-mentioned methods as it lacks some information about the borrower. Banks will use the abovementioned credit risk assessment methods according to their risk framework and philosophy, as well as the level of risk tolerance. Table 2.1 summarises the seven methods discussed above.

Table 2.1 Credit risk assessment methods

No	5'Cs	5P's	PAPERS	CAMPARI	LAPP	PACT	FAPE
1	Capacity	People	Person	Character	Liquidity	Person	Liquidity Ratios
2	Capital	Purpose	Amount	Ability to Pay	Activity	Activity	Profitability Ratios
3	Collateral	Payment	Purpose	Margin	Profitability	Collateral	Operation Ratios
4	Conditions	Protection	Equity	Purpose	Potential	Terms	Debt Ratios
5	Character	Prospective	Repayment	Amount			Character
6			Security	Repayment Term			Credit Record
7				Insurance			

Source: Compiled by author

The 2007–2009 financial crisis exposed the weakness of risk management in financial institutions, but most importantly, the mismanagement of credit risk. Qualitative methods have

existed and been utilised for more than 50 years. The five C's of credit are the most important and comprise vital principles that are still relevant today. Other assessment methods were also developed, including the 5P's, PAPERS criteria of credit lending , the CAMPARI method, the LAPP method, and the PACT method, as discussed above. However, banks started to adopt more mathematical methods to deal with credit risk, in order to improve and support the qualitative methods in credit risk assessment.

After the credit risk assessment has been completed, banks now make use of both qualitative and quantitative analysis methods in the analysis and management of credit risk (Davis & Williams, 2004). Van Gestel and Baesens (2008:43), allude that there are various ways of dealing with credit risk. These methods are explored in the following subsection, namely qualitative and quantitative credit assessment models.

Table 2.2 Different approaches to the credit risk management evaluation process

Approach	Methodology
Subjective methods	
Judgmental methods	Apply the assessor's experience and understanding of the case to the decision to extend or refuse credit.
Expert systems (e.g. lending committees)	Use a panel approach to judge the case or formalise judgmental decisions via lending system and procedures.
Behavioural models	Observe behaviour over time to derive appropriate relationships for reaching a decision.
Market models	Rely on the informational content of financial market prices as indicators of financial solvency.
Objective methods	
Analytic models	Use a set of analytical methods, usually on quantitative data, to derive a decision.
Statistical models (e.g. credit scoring)	Use statistical inference to derive appropriate relationships for decision-making.

Source: Brown & Moles (2014:12)

2.4.3.2 Qualitative and quantitative credit risk assessment/analysis models

Credit risk analysis methods can be divided into two main categories, namely quantitative and qualitative methods (Rose, 2002). Qualitative methods, also known as the expert system, are methods whereby the borrower's background, financial position, security conditions and covenant information is collected, and the decision will be made depending on the outcome of the information collected, i.e. whether it is satisfactory to the person making the final lending decision (Rose, 2002; Sinkey, 2002; Koch & McDonald, 2003; Nathenson, 2004). Subjective judgment is the main characteristic of these methods and can lead to biased decision-making, as an investor's decision is based on a number of factors, including feelings and background, which influence a person's decisions. Although subjective judgment is found at the centre of these methods, one advantage of these methods is the fact that economic and personal factors are taken into consideration when the credit decision is made (Saunders & Cornett, 2003).

The fundamentals of credit risk qualitative methods are found in assessment methods, such as the 5P's, PAPERS criteria of credit lending, the CAMPARI method, the LAPP method, and the PACT method. With these methods and their principles, the lender (in most cases, the bank) is able to assess the borrower's capacity, capital, collateral, conditions, and character, and include the economic factors that affect the credit (Strischek, 2000). Based on the fundamental principles provided by the five C's of credit, each bank develops its credit risk qualitative methods, depending on its risk tolerance, and the bank's credit structure.

Due to developments in the global banking industry, the types of borrowers expanded and improved, and therefore credit was no longer only extended to individuals, but now included other banks, companies, government, foreign companies and countries. As a result of this development, qualitative methods were no longer effective, so banks developed quantitative methods to improve the shortcomings of the qualitative methods.

Quantitative methods are numerical by nature and use measurable variables in order to assess the borrower's creditworthiness. Most credit risk quantitative methods use various mathematical, statistical, econometrics and economics processes (Duncan, 2003:28). According to Tjin (1988:145), the quantitative assessment/method is defined as "any analytical procedure that is based on data that can theoretically lend itself to statistical or mathematical operations" (Tjin, 1988:145). A number of credit risk quantitative methods have been developed, and the common element among all these models is the ability to predict the default

probability of the borrower. Quantitative methods are more objective than subjective, and therefore, by incorporating this trait into qualitative results, it improves the credit granting decision-making, and leaves room for the mitigation of risks identified, even before the credit is granted.

The foundation of quantitative credit risk models is found in the mathematical and VaR models, such as Merton's model of corporate debt and the Black and Cox approach. The intensity-based approach to credit risk, hybrid models, the implied probabilities of default, the Markov models of credit ratings, market risk and term structure models, CreditMetrics (RiskMetrics), CreditGrades (RiskMetrics), Credit Monitor/EDF (KMV/Moody's), CreditRisk+ (Credit Suisse FB) and CreditPortfolioView (McKinsey) (Cade, 1999; Anderson, *et al*., 2002; Saunders & Cornett, 2003).

The foundation of credit risk quantitative methods is found in the two classical models, namely Merton's model of corporate debt and the Black and Cox approach (Merton, 1974; Black & Cox, 1976). In Merton's model of corporate debt, the main assumption is that the company or bank concerned has a certain amount of debt in a form (zero-coupon debt) that will mature at a future date (time) T. Therefore, if the bank or company expected that future debt payments would exceed its assets, then the company will default. This model can be used to measure the probability of default and the magnitude of the credit spared on the debt taken by the company.

Although Merton's model serves as the cornerstone of credit risk analysis, the model is far from realistic, due to the following assumptions and shortcomings as presented by Elizalde (2006:1):

- In Merton's model, a company could only default at its debt maturity date;
- The constant interest rate assumption is not reliable; and
- Mapping all debts into a single zero-coupon bond is not always feasible.

As a result of the above-mentioned shortcomings, a number of authors, such as Black and Cox (1976), Geske (1977), Longstaff and Schwartz (1995), Leland and Toft (1996), and Collin-Dufresne and Goldstein (2001), have developed and presented several sophisticated structural models in an attempt to improve Merton's model. Work was completed by Eom *et al*., (2002) and Gemmill (2002), using bond spreads and comparing the performance of different models

reveals that none of them emerged clearly as a superior. However, the Merton's model still works well where the zero-coupon bonds are used.

One of the greatest shortcomings of the original Merton model is the fact that a company could only default if its debt maturity was unpaid. Black and Cox therefore considered models where the time of default is given as the first passage time of the value process V to a deterministic or random barrier (Black and Cox, 1976). The Black and Cox approach assumes that a company's asset value follows the lognormal process, that the barrier grows at the same growth rate, and assumes that the company's growth is equivalent to its debt growth (Black and Cox, 1976). Based on the first passage time approach, the Black and Cox approach was later developed by Brigo, (2005); Kim *et al*., (1988); Brennan and Schwartz (1977, 1980); Leland (1994, 1996); Longstaff & Schwartz (1995) and Nielsen (1993).

According to Nelson and Schwedt (2006), the global financial development has made the banking industry take steps to find solutions and management strategies dealing with the effects of credit risk. Until the early 1990s, most banks still employed traditional credit risk analysis, focusing only on the individual loans, where banks hold the loan until maturity, and in the event a borrower defaults, the bank had to account for the remainder of the unpaid loan. This affected the bank's capital reserves and increased its credit risk rating negatively (downgrading), as well as decreasing the liquidity ratio.

The 2007–2009 financial crisis exposed the weakness of the bank's strategies and management in dealing with credit risk. Today, banks have developed credit risk movement strategies that no longer only focus on individual loans, but also look into portfolio analysis and take other risks into account that might affect a bank's credit risk. Technological innovation and development has introduced more platforms for the buying and selling of credit risk cover and these have improved the bank's management of credit risk from the traditional way to the more active management of credit risk.

2.4.3.3 Credit risk management mitigation strategies

As noted earlier, the purpose of the risk management process is to identify potential risks, assessment/measurement of identified risks, using proper mitigation strategies, and lastly implementing them. This subsection provides a discussion on the credit risk management mitigation strategies. Credit risk mitigation strategies are employed by banks in an attempt to reduce the likelihood of the risk event from happening, or to reduce the effects, in case the

event does take place. As part of the ongoing risk management plan and framework, the mitigation strategy comes after the qualitative and quantitative risk assessment, to complete the risk management process. As the third and second last step in the credit risk management process, the treatment stage of credit risk needs a very inclusive approach. In developing suitable credit risk mitigation strategies, Van Gestel and Baesens (2008:43) present four handling options that can be used to treat credit risk management, namely risk avoidance, risk reduction, risk acceptance and risk transfer (Van Gestel & Baesens, 2008:43).

Van Gestel and Baesens (2008:43) elaborate and state that risk avoidance is simply avoiding the risk by investing in less risky investment opportunities. In credit terms, if the counterparty expresses more risk of default, it will not be advisable for the banks to invest in such a client. However, this is not a rule of thumb for all banks and financial institutions. Risk reduction, as the name suggests is a way of reducing the risk exposure to both the bank and the counterparty. For example, the borrower's risk can be reduced by using collateral, should the borrower default. Risk acceptance is applied mostly to low-risk clients in the credit risk assessment process.

If it is revealed in the assessment that the borrower possesses low risk of default, the bank can confidently approve the credit and focus on managing other high-risk investments, and lastly risk transfer. This means that the bank will transfer the risk associated with the investment in question, to the other parts of the market, for example, the derivatives market, and make a profit out of the transaction. Options available include insurance, derivatives, and, most effective, securitisation (Van Gestel & Baesens, 2008:43).

The above-mentioned handling options in the treatment of credit risk are not a rule of thumb, but guidelines that each bank will apply according to their risk management philosophy, credit risk framework and risk culture. Strategies used in the above-mentioned handling options include, but are not limited to, credit derivatives, credit securitisation, compliance to the Basel accords, adoption of a sound internal lending policy, and using credit bureaux.

2.4.3.3.1 Credit derivatives

According Morgan (2013:4), derivatives are financial instruments that gain their value from the worth of the underlying asset, for example, commodities or equities can also be traded or exchanged between two parties. For example, agriculture, equity, interest rates, forex, gold,

credit and weather derivatives have different underlying assets. The derivatives used most are options, futures, forwards, swaps and swap options (Morgan, 2013:4).

According to Choudhry (2002), credit derivatives are financial instruments that are able to separate the hedging of credit risk management from other risks, and can be used as a hedging or speculation instrument. Choudhry (2002) elaborates that the types of credit risk derivatives that banks can use include, but are not limited to, credit default swap, total return swap, credit-linked notes, credit spread products and credit spread options.

With the use of credit derivatives as a credit risk management tool, banks are not obliged to readjust their loan portfolios. Unlike traditional hedging methods of diversification where banks are required to diversify their risk by investing in different stocks from different industries, which might increase the risk since the bank might not be familiar with the potential industries (Shao & Yeager, 2007). The benefits of using credit derivatives are summarised by Choudhry (2002) as the tailor-made products that preserve bank from the risk, and provides more flexibility in credit products trading.

Moreover, Shao and Yeager (2007) discuss two additional advantages of using credit risk derivatives. Firstly, credit derivatives provide banks with a new source of income, and instead of buying insurance, the bank can sell the credit (loans) and use the instruments in return to trade on the derivatives market. Secondly, credit derivatives offer banks opportunities to reduce their regulatory capital.

2.4.3.3.2 Credit securitisation

Securitisation is the process that starts when the individual approaches a bank for a loan and the bank approves the loan for the individual, but the bank incurs a cost and the risk of non-payment by the borrower (Shenker & Colletta, 1991). As a mitigation activity, the banks will then group a number of different loans according to their different characteristics and then pool these loans into different securities that can then be sold on the open market; this is done to transfer the risk associated with these loans and to protect the bank liquidity and profitability (Shenker & Colletta, 1991:1373).

Moyo and Firrer (2008:27) define securitisation as the process whereby the bank places its convert loans into securities, sells them in an open market and uses the proceeds to hedge against the possibility of the borrower defaulting. In the process of securitisation, there are a

number of parties involved, and these parties include the originator, the obligators, the Special Purpose Vehicle (SPV) and the investors. See figure 2.4.

The engagement of banks in the securitisation process lies in the benefits associated with this process, as there are three benefits associated with securitisation. The first benefit is the efficient source of funding. By removing certain stocks (loans) from the bank's books, more capital is realised, and financing costs are reduced. Furthermore, this will improve the capital requirements and provide more loans, leading to new customers (Griffin, 1997:19). The second one is the bank's improved Statement of Financial Position. In the securitisation process, risky assets, including loans, are removed from the bank's Statement of Financial Position, and this tends to improve the financial, economic and capital measures. In this process, risk such as credit risk, liquidity risk, systematic risk and interest rate risk, are also transferred to the owner of these securities (Liaw & Eastwood, 2000:5).

The third and most important benefit of securitisation is being able to use securitisation as a risk management tool (Davis, 2000:4). Among the risks faced by the banks, credit risk is one of the risks directly related to the bank's performance and profitability, and therefore banks take advantage of securitisation to provide additional funding required to cover credit risk. Banks that secure more loans are able to provide additional loans and funding, even during stressed economic situations, such as the 2007–2009 financial crisis (Loutskina, 2011; Cabiles, 2011).

Securitisation can be explained in four steps, Step 1: The securitisation process starts when the obligator or borrower, usually an individual or an institution, approaches the originator, usually a bank, for a loan. The bank then issues different loans to different borrowers. These loans include mortgage loans, personal loans, automobile loans, and credit receivables (Moyo & Firrer, 2008:28). Step 2: The originator initiates the securitisation process by creating a separate investment vehicle, known as the special purpose vehicle (SPV) (Prinsloo, 2009:2; Gorton & Souleles, 2005:15). Step 3: After the asset-backed securities are re-ranked into a stable formation, the SPV issues them as different securities to the potential investors. This is done by issuing a paper certificate as a symbol of ownership (Saayman, 2003:7). Step 4: The originator services these loans by collecting payments from the loan owners and transferring the proceeds to the SPV, so that the SPV can pay the investors who have invested in the different securities (Prinsloo, 2009:2).

The process of securitisation can be explained in four steps and these steps are clearly illustrated in Figure 2.4.

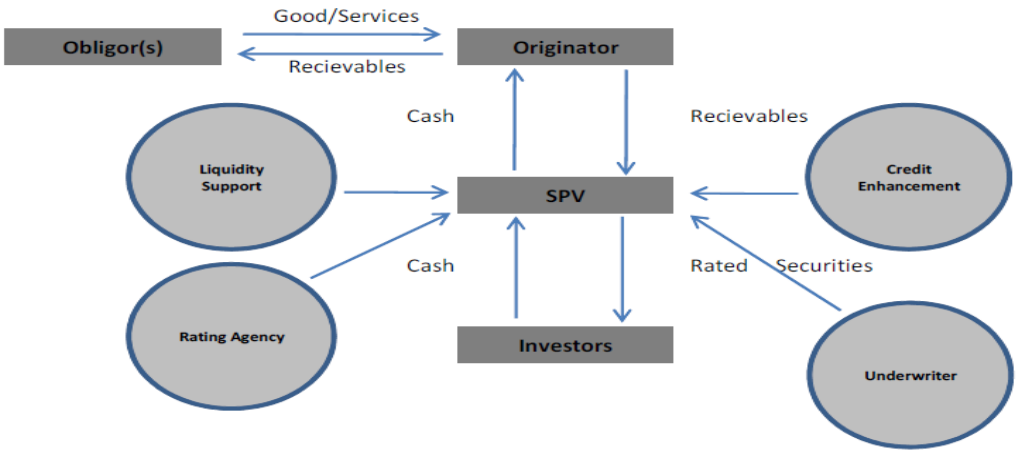

Figure 2.4 An illustration of a typical securitisation transaction

Source: White (2011:18)

With the above process in mind, the relationship between securitisation and credit risk can be clearly understood, as the originator (usually a bank) transfers loans from its Statement of Financial Position to the SPV books. This means that the risks (credit risks) associated with the loans are now transferred to the SPV. In return, banks make a profit by issuing securities to the investors who invest in these securities and, in the end, the bank has additional funding to use for its day-to-day activities.

2.4.3.3.3 Compliance with the Basel accords

Following the mid-1974 financial crisis, the Basel Committee on Banking Supervision (BCBS) was established by the central bank governors (BCBS, 2010). Due to the disturbance that the banking sector experienced, the BCBS was formed to design and supervise the rules that will govern the global financial system. With the ever-changing global banking environment, this led to the development of the Basel accords over time. The first Basel accord, referred to as Basel I, was introduced in 1988. Realising that credit risk is one of the primary risks faced by banks, the purpose of Basel 1 was to sustain minimum capital requirements and reduce credit risk and the effect on the banks (Lounsbury, 2010).

The new capital requirements were proposed by the Basel committee in 1996, with the intention to improve Basel I, and this led to the development and introduction of the Basel II Accord in

2004 (BCBS, 2014). Due to the lack of proper risk management and governance in banks in the years leading up to the global financial crisis of 2007–2009 and the fall of Lehman Brothers in 2008, the Basel committee and regulators, and the bank managers demonstrated the need for strengthening Basel II (BCBS, 2014).

Basel II.V was introduced with the aim being to strengthen the bank's risk tolerance and deal with the market risk that is found in the banks' trading books. This was done by increasing the capital requirements (Perez, 2014:1). Although it was improved from Basel II, Basel II.V's shortfall was the inability to address and account for the interest rate risk found in the banks' banking books. Therefore, Basel III was introduced with a five-year plan from 2013 to 2018 to continuously improve, manage, and ensure the capital requirements, regulations and accords standards are followed (BCBS, 2014).

Compliance with the Basel accord improves a bank's credit risk management strategies, and increases the monitoring of credit losses while improving the bank's credit risk position. The standards set by The New Basel Capital Accord assert that banks should have in place a sound internal credit risk management practice to assess their capital adequacy requirements.

2.4.3.3.4 Adoption of a sound internal lending policy

The lending policy is the first point of reference when banks initiate their internal credit risk assessment guidelines. Adhering to the strict risk management methods and procedures in the lending policy will limit incorrect investment choices, and increase the bank's credit supervision and credit clients. Internal methods or processes that can be included as part of the internal lending could include 'Risk-based internal (RBI)' and 'Manage credit risk using ratios' (Kolapo *et al.*, 2012; Olawale, 2015). Having the above-mentioned methods as part of the internal lending policy will bring about effectiveness in credit risk management.

2.4.3.3.5 Credit bureau

According to Olawale (2015), the credit bureau can be defined as the provider of credit information for the bank on countries, companies, organisations, government departments and individuals. With the existence and use of the credit bureau, the data provided by this agent can help the bank to make a sound credit decision because they have the financial and credit history of the client.

After a clear outline and discussion of credit risk treatment, a full risk management profile can be formally identified, implemented and evaluated (Van Gestel & Baesens, 2008:43). The implementation process starts with the acknowledgement of senior management who will incorporate the credit risk management policy and strategy as part of the bank's risk philosophy, then as part of the risk culture, and lastly as part of the mission and vision of the bank. For effective risk management in general and credit risk, the implemented credit risk management strategies must continuously be evaluated and monitored (Van Gestel & Baesens, 2008:43).

2.4.4. Sub-section conclusion

This section has provided a discussion on some of the basic concepts of credit risk. Attention was given to its origins and sources, the concept of credit risk was introduced and discussed in detail, and the underlying theoretical background was expanded upon. The second major concern raised in this section was the risk management side of credit risk, which includes identifying the risk, measuring and quantifying risk, and then developing a strategy to manage risk (Van Gestel & Baesens, 2008:39). The importance and effects of credit risk on banks' profitability cannot be emphasised enough. Ignorance, misinterpretation and lack of proper risk management philosophy and proper credit risk management policy can cause great harm, and even lead to bank failure, as credit risk is the biggest risk faced by banks (Godspower-Akpomiemie, 2013:2).

Major types of credit risks faced by banks include, but are not limited to recovery rate risk, settlement risk, non-directional risk, sovereign risk, exchange rate risk, and credit event risk (Wilson, 2011). As part of the holistic integrated risk management approach to bank risk, credit risk management strategies, such as credit derivatives, credit securitisation, compliance to the Basel accord, adoption of a sound internal lending policy, credit bureaux and policy strategy, play a vital role in the bank's profitability prospects and protection of the bank from failure.

In conclusion, it is important to note that banks should first establish a proper and effective credit risk management philosophy and credit risk culture, and then endeavour to develop and implement a comprehensive credit risk strategy that will be aligned to the bank's vision and mission. Lastly, banks need to use profitable mitigation strategies, such as securitisation and credit derivatives in their management of credit risk.

2.5 PROFITABILITY

This section provides a discussion on empirical studies that serve as the basis for analysing the relationship between political risk, credit risk and profitability. Section 2.3 focused on political risk, while section 2.4 focused on credit risk. In this section, both political and credit risk discussions will be incorporated into the bank profitability discussion. The outcome of this section will lead to the development of the hypothesis that will be set in chapter 3 and tested in chapter 4. This section begins by providing a brief explanation of what profitability is, and its importance, and then discusses profitability determinants. Types of measurement are discussed, as well as the concepts of external 'political risk' and internal 'credit risk' by looking at the findings of different scholars. These discussions will contribute to the development of the final research model presented in chapter 3.

2.5.1 Conceptualisation of profitability

According to Tulsian (2014:1), the word 'profitability' is a conjunction of two words, 'profit' and 'ability'. Profit refers to the amount left after all a company's expenses have been taken into consideration, while ability refers to the company's potential to earn profits (Tulsian, 2014:1). Therefore, Harward (1961) defines profitability as the return earned by the investor on the amount invested. Although, profitability may be an outcome of profit, not every profit may drive towards profitability; this means that the different companies might have the same amount of profit, but experience different profitability (Trivedi, 2010). Supporting this view is Kulshrestha (1973), who asserts that companies in the same industry may have identical profit, but different profitability, due to the size of the business and investment.

The aim of any business, apart from service and product provision, is to make a profit. As financial institutions, banks aim to make a profit for their owners and operate profitably in order to improve their financial system stability, soundness, economic growth and expansion (Aduda & Gitonga, 2011; Hatter *et al*., 2015). A stable, sound and profitable banking system improves the financial system, which also enhances the economy in order to withstand negative shocks (Athanasoglou *et al*., 2008; Banga, 2013; Hatter *et al*., 2015). Furthermore, Levine (1997) states that the countries with a stable and profitable banking system improve faster than countries with a weak banking system.

Profitability is an important element that contributes toward a productive and efficient banking system (Chen & Liao, 2011). Since this study is based on banks, one of the most important and

significant uses of profitability in a bank is that it is the measure of the bank's aptitude to carry its risks, while increasing its capital and shareholders' equity, and it measures the competitiveness and quality of the bank's management (Magbagbeola & Adelokun, 2003). It is therefore important for banks to identify factors determining profitability and ways to measure their impact on the bank's profitability.

2.5.2 Determinants of profitability

Over the years, studies have been carried out in different parts of the world regarding the determinants of profitability and the effects thereof. The crux of profitability studies is found in the work done by Short (1979), followed by Bourke (1989). Since then, different authors have studied banking profitability in terms of single countries and panels of countries. Studies that focused on panels of countries include Molyneux and Thornton (1992); Molyneux and Forbes (1995); Demerguç-Kunt and Huizinga (1999, 2001); Hassan and Bashir, (2003) for 21 developing countries where Islamic banking has been practised; Goddard *et al.,* (2004); Athanasoglou *et al.,* (2005, 2006); Masood and Ashraf (2012) for 12 Muslim countries; Francis (2013) for Sub-Sahara Africa, and Pereira *et al*., (2013) for four South Asian countries.

Examples of single country studies are those of Berger (1995) and Angbazo (1997) for the United State of America; Vivas (1997) for Spain; Chen and Yeh (1998) for Taiwan; Guru *et al*., (1999) for Malaysia; Barajas *et al*., (1999) for Colombia; Afanasieff *et al*., (2002) for Brazil; Kaya (2002) for Turkey; Mamatzakis, (2003) for Greece; Naceur (2003) for Tunisia; Samad (2004) for Bahrain; Kosmidou *et al*. (2005) for UK; Badola and Verma, (2006) for India; Tunay and Silpar (2006) for Turkey; Burki and Niazi (2006) for Pakistan; Kosmidou (2008); Athanasoglou *et al.,* (2008); AL-Omar and AL-Mutairi (2008) for Greece and Kuwait; Heffernan and Fu (2010) for China, Sufian and Chong (2008) for the Philippines; Alexiou and Sofoklis (2009) for Greece; Ramlall (2009) for Taiwan; Horvath (2009) for Czech Republic; Sayilgan and Yildirim (2009) for Turkey; Dietrich and Wanzenried (2011) for Switzerland; Lui and Wilson (2010) for Japan; Andries and Cocris (2010) for Romania; Wasiuzzaman and Tarmizi (2010) for Malaysia; Kundid *et al.,* (2011) for Croatia; Javaid (2011) for Pakistan; Korea Sufian (2011) for Korea; Qin and Dickson (2012) for Tanzania; and lastly, Wasiuzzaman and Gunasegavan (2013) for Malaysia. These studies reveal that profitability determinants can be split into two groups: internal 'bank-specific' factors and external 'industry-specific' and macroeconomic factors.

All of the above-mentioned studies on determinants of profitability and their relation to profitability were done outside South Africa, and their results could not be generalised in the South African context with its different economic landscape and political system. This study will be on internal and external determinants. Guru *et al.*, (1999) asserts that internal determinants reflect on the banks' management policy cover, credit risk, capital, liquidity and expenses, while external determinants reflect on the economic state from where the bank operates (Guru *et al.*, 1999: 3–4).

Therefore, internal and external profitability determinants, including political risk in terms of the political risk index (PLTRI), credit risk as measured by non-performing loans ratio (NPLR), bank size, operating expenses, GDP and inflation, are discussed and tested in this study. This study focuses primarily on credit and political risk, since the main purpose of this study is to analyse the relationship between political risk, credit risk and profitability in the South African banking sector. Credit risk, political risk and several other determinants are discussed in detail.

2.5.2.1 Political risk

Loikas (2003) draws the originality of political risk from the relationship outcome of political authorities and economic agents. Brink (2004:11) asserts that the country's business and financial environment are influenced and affected primarily by the political culture, political system, political climate and political risk.

As result of the importance of political risk in the country's economy, a number of studies have been carried out on political risk; these studies can be grouped into two categories: one that looked at the effects of political risk on the entire economy, and one that looked as the specific sector, firm or project effects. According to Meyer (1985) and Ciarrapico (1984), who define political risk as non-economic risk, it was banks and firms, which started viewing political risk as an important risk requiring special attention, and could not be treated as a business risk (Meyer, 1985; Ciarrapico, 1984).

Therefore, since this study uses the political risk index, this means that an inverse relationship is expected between profitability and political risk. The higher the index, the less the political risk, resulting in a more stable business environment and further investment, and this increases the bank's activity and profitability.

2.5.2.2 Credit risk

The credit risk is one of the main variables affecting bank performance. Inability to pay loans creates the probability that the bank's assets (loans) will decline in value and end up creating bad debt for the bank (Rose & Hudgins, 2008). According to Saunders and Cornet (2003) and Al-Smadi and Ahmed (2009), credit risk can be defined as the risk that the expected cash flow (loan and interest earned on it) from the bank's assets (loans) will not be paid in full by the client to the bank.

In this study NPLR are used as the proxy for credit risk. The International Monetary Fund (IMF, 2006) describe a non-performing loan as any loan that is not paid within 90 days or more, and this includes the interest and principal payments. Similarly, the Basel Committee (2001) categorises non-performing loans as loans unpaid by the counterparty for a period of 90 days. The studies that used NPLR as a measure of credit risk include Ara, Bakaeva, and Sun (2009); Brewer and Jackson (2006); Kithinji (2010) and Boahene *et al*., (2012). NPLR is the ratio of non-performing loans to total loans (Yang, 2010:2011).

There are a number of studies that have been done on the relationship between the NPLR and profitability. Boahene *et al*., (2012) carried out a study using panel data from six selected commercial banks covering a five-year period (2005–2009) in Ghana, with NPLR as the proxy for credit risk, and measuring its relation to profitability. The authors found that there is a positive relationship between NPLR and profitability. They further suggest that this uncommon relationship could be attributed to a number of internal factors, such as interest rates charged, banking fees, commissions and other non-interest charges (Boahene *et al*., 2012:12).

Kithinji (2010), who conducted the credit risk and profitability study in Kenya for the period 2004 to 2008, found a positive relationship between profitability and non-performing loans, and also reports similar findings. The above findings are supported by the view that profit maximisation is accompanied by high levels of risk. Using a panel of 129 banks in Spain for the period 1993–2000, Garciya-Marco and Robles-Fernandez (2008) found that the positive relationship between profitability and NPLR are followed by a greater future risk.

Contrary to the findings of the abovementioned studies, other findings reveal different results (Kithinji, 2010 and Boahene *et al*., 2012). There are a number of empirical studies that support the common view that credit risk and profitability have an inverse relationship. Some of these studies include Boudriga *et al*., (2009); Klein (2013); Shingjerji (2013); Ahmad and Bashir

(2013) and Makri *et al.*, (2014). All these studies used aggregate country data in their analysis and found that there is a negative significant relationship between profitability and NPLR. Similarly, Louzis *et al.*, (2010) conducted a study to examine the determinants of NPLR in the Greek financial sector, using the fixed-effect model from 2003 to 2009, and found that NPLR has a significant effect on profitability. Therefore, in conclusion, mixed results can be expected from this study, depending on the results of the tests.

2.5.2.3 Bank size

In this study, the bank size is measured by the logarithm of a total asset as conferred by Aggarwal and Jacques (2001). A number of studies have identified bank size as one of the internal factors that directly affect bank profitability (Athanasoglou *et al*., 2008; AL-Omar & AL-Mutairi, 2008; Masood & Ashraf, 2012; Perera *et al*., 2013; AL-Omar & AL-Mutairi, 2008). However, the effect of size on profitability are not clear as other scholars believe that bank size creates economies of scale, meaning that as the size of the bank grows so does the performance of the bank. On the contrary, other scholars believe that greater size may lead to diseconomies of scale, meaning that as the size increases so does the cost of doing business, and in this case providing bank services also increases (Kosmidou, 2008; Athanasoglou *et al*., 2006).

There are a number of empirical studies on the relationship between bank size and profitability, using ROE as the proxy, and these present mixed results of either a positive or a negative relationship (Staikouras & Wood, 2004; Athanasoglou *et al*., 2008; Dietrich & Wanzenried, 2011; Naceur & Omran, 2011). Using data extracted over ten years in Tunisia, Alper and Anbar (2011) found that there is a positive relationship between the bank size and its profitability, and these findings are also supported by Athanasoglou *et al*., (2006); Masood and Ashraf (2012) and Perera *et al*., (2013) who also found that there is a positive and significant relationship between profitability and bank size.

However, other studies found a negative relationship between profitability and bank size. Also using Tunisian bank data, this time for a period of twenty years, Naceur (2003) found that bank size has a negative effect on the bank's profitability. Similarly, findings by Athanasoglou *et al*., (2008) also support this view. The results of the study by Shepherd (1972), found that growth in a bank's size (measured by the logarithm of total assets) causes diseconomies of scale. Similarly, using the banking sector the United Kingdom (UK), and analysing the impact

of the business model on the bank stability between the period of 2002 and 2011, Köhler (2015) reveals that there is a negative relationship between profitability and bank size.

Furthermore, Darrat and Yousif (2002) analysed the impact of size on profitability in Kuwait and also found a negative relationship between profitability and bank size. Investigating the banking industry of Singapore, Leong and Dollar (2002) also reported negative results regarding profitability and bank size. Redmond *et al*., (2007) reported a negative effect of bank size on profitability. Therefore, based on the above theoretical and empirical evidence, mixed results can be expected regarding bank size and profitability.

2.5.2.4 Operating expenses

Operating expenses are all the expenses incurred in the day-to-day running of the bank, but excluding the interest (Athanasoglou *et al*., 2008). Having studied more than twenty European countries, Athanasoglou *et al*., (2008) found that there is a negative relationship between operating expenses and profitability. This is because the cost of doing business must be kept to a minimum in order to encourage growth and profitability. Supporting the negative relationship of operating expenses are the studies by Bourker (1997); Miller and Noulas (1997); Odldel *et al*., (2012) and Sufian and Habibullah (2010). Operating expenses are measured by operating expenses/total assets. Athanasoglou *et al*., (2008) assert that a negative relationship between profitability and operating expenses is expected.

2.5.2.5 Gross domestic product

GDP measures the economic growth of a country and is explained as "a sustained increase in the trend level of either (a) aggregate production, or (b) per capita GDP" (Fourie & Burger, 2010:12). As the economic growth decreases, incomes fall, unemployment increases and some businesses fail, and this will increase credit risk, as it will be difficult for the customers to repay their loans to the banks. However, if the economic growth increases, credit risk will also decrease.

A number of studies provide mixed results of positive or negative effects on banks' profitability, depending on the state of the economy. Goddard *et al*., (2004) conducted a study using 583 European banks. A cross-sectional regression was performed on the profitability, and the results revealed a positive effect of GDP on profitability. Hassan and Bashir (2003) present similar results where eight years of data was used to analyse the determinants of

profitability in 43 Islamic banks. The results revealed a positive relationship between GDP and profitability. Also using eight years of data on Islamic banks between the years 1993 to 1998, the findings of Bashir (2003) shows that there is a positive effect of GDP on profitability.

In other studies, a contrary conclusion to the positive effect of GDP on profitability was reached. Studies supporting this include Anwar and Herwany (2006) who focused on the Indonesian banking industry, and by analysing the determinants of successful bank profitability, found that GDP negatively affected banks' profitability.

Sufian and Habibullah (2010) performed the same study as Anwar and Herwany (2006), but used different time zones. They reached the same conclusion as the study done in Indonesia. Similar to these studies, are the findings by Kosmidou *et al*., (2005). After investigating commercial banks' profitability in the UK, the results also revealed the negative effect of GDP on profitability. The same study was conducted in 2006 using the 2002 unbalanced panel data and a similar result as in 2005 was found. Havrylchyk and Jurzyk (2006) and Flamini *et al*., (2009), also generated similar results.

2.5.2.6 Inflation

Inflation is a continuous increase in the price of a certain product in a given period, usually one year (Dwivedi, 2010). Inflation might have a positive or negative effect on profitability and there are two schools of thought when it comes to inflation (Griffiths, 1979). The positivists' theory by Griffiths (1979) asserts that inflation has a positive significant effect on investment decisions of organisations, which in turn increases the profitability of the organisation. The thinking behind this theory is that inflation results in more rapid economic growth, which encourages more savings and investment, as the investors will expect good returns. Therefore, a bank that makes more investments and savings will generate more returns and increase profitability.

The findings by Edward and Ping (1999) in their study investigating relationship banking, liquidity and investment in the industrialised economy, found that higher inflation rates lead to improved economic growth and have a positive effect on banks' profitability. Supporting this finding is Bentsen (2000) who also identified the positive effect of inflation on profitability, and reported that higher inflation increases wealth creation. Using data from 1984–2002 on five major Islamic banks, Haron and Azmi (2004) proved a direct relationship between

inflation and profitability. Anwar and Herwany (2006) also established the positive effect of inflation on profitability.

Contrary to the positive effect of inflation on profitability, are findings by Flamini *et al*., (2009) who, by investigating 387 banks' annual data in 41 countries in sub-Saharan African between the years 1998 to 2006, found that higher inflation negatively affects profitability. Similarly, Sufian and Chong (2008) looked at the bank profitability in the Philippines and found a negative effect of inflation on profitability. Other studies that support the negative effect include Hager (1977); Cameron, (1972); Francis (2011) Khrawish (2011); Sufian (2011) and Sharma and Mani (2012). Therefore, mixed results can be expected between profitability and inflation.

2.5.3 Measuring profitability

Profitability is one of the key focus areas of this study, as the topic is about the relationship between political risk, credit risk and profitability, and therefore a clear explanation of profitability is crucial for this study to be beneficial, and for readers to fully understand the implications. In this study, four dependent variables are used as the proxies for profitability, i.e. ROE, ROA, NIM and EPS. These ratios have been widely used as the proxies of profitability by different studies (Ho & Saunders, 1981; Allen, 1988; Huizinga, 2000; Goddard *et al*., 2004; Mirzaei *et al*., 2011; Masood *et al*., 2012; Ifeacho & Ngalawa, 2014; Maredza, 2014; Petria *et al*., 2015; Ramlan & Adnan, 2016; Sun *et al*., 2016). This study will use these ratios and compare the results.

2.5.3.1 Return on equity

ROE has been widely used as the measure of profitability by financial institutions and researchers alike. According to Ramadan *et al*., (2011), and Saunders and Marcia (2011), ROE measures how much the investor will gain in return, after tax has been accounted for in the net income for each rand that the investor has invested in the company. Therefore, ROE can be calculated as follows: ROE = (Net Income)/(Total Equity Capital).

The aim of every investor is to get good returns on their investment, and therefore investors prefer a higher ROE (Saunders & Marcia, 2011:24). Higher ROE is normally associated with good bank performance and greater return. However, the higher the ROE, the greater the return and the greater the risk.

2.5.3.2 Return on assets

According to Guru *et al.,* (1999), ROA is the ratio that measures a bank's management efficiency and profitability, and is denoted by net income to total assets. The ratio can be calculated as follows:

ROA = (Net Income)/(Total operating income) × (Total operating income)/(Total assets)

ROA and ROE are used as a common measure of profitability (Chirwa, 2003:567). Using the Gulf Cooperation Council (GCG) banking sector data set, Al-Khouri (2011) investigated the performance of banks using ROA as the proxy for profitability. Research results found a positive relationship between profitability and credit risk. A significant relationship is evident between banks' profitability, measured by ROA and credit risk, and bank size. A study by Atwater *et al*., (2009) evaluated the top five Palestinian Commercial Banks. Other studies used ROA as the measure of profitability and found positive results, include Tafri *et al*., (2009) who used the Malaysian commercial banks to test the effect of financial risk on profitability, and the results revealed a positive relationship. Similarly, Ruziqa (2013) applied the same topic as Tafri *et al*., (2009), but using the Indonesian Conventional Banks, and the results also demonstrated a positive relationship between financial risk and profitability. Ongore and Kusa (2013:239) assert that both ROE and ROA are considered major profitability measures among all the measures of profitability. Therefore, positive results can be expected when ROA is used to measure profitability.

2.5.3.3 Net interest margin

Net interest margin (NIM) is defined as the net interest income, which is expressed as a percentage of average interest-earning assets. A number of studies have used NIM as the measure of profitability in their research, and these studies include Bashir (2000); Heffernan and Fu (2010); Chortareas *et al*., (2012); Nguyen (2012) and Lee *et al*., (2014). The NIM formula is expressed as follows:

NIM = Net interest (Investment returns – Interest expenses)/(Average earning assets)

Similar to EPS, there is no rule of thumb for NIM. However, Basir (2000) asserts that a higher NIM ratio is beneficial as it is a good indication that the management quality over profitability using assets is efficient and effective. A number of studies have been carried out, using NIM

as a measure of profitability, in order to investigate the relationship or reaction of profitability when using NIM as the profitability proxy.

Using 299 observations of 35 banks in Bangladesh during 2003 to 2013, Abu (2015) reports negative results when profitability is measured by NIM. The results support Choon *et al*., (2012); Kolapo *et al*., (2012); Sufian (2009); and Wasiuzzaman and Tarmizi (2010) who concluded with similar results. The implication of these results is that banks' profitability reduces as other factors, such as the bank size, economic growth declines, or inflation increases. Therefore, negative results can be expected when profitability is measured by NIM.

2.5.3.4 Earnings per share

EPS ratio is described as the measure of the amount per rand that is earned by the values of each common stock of the company. The fundamental purpose of a share is to make a profit (whether in the form of dividends or selling them at a higher price). Therefore, EPS can be a good measure of profitability. Studies that used EPS as the measure of profitability include Livnat and Dan (2000); Ebrahimi and Arezzo (2011); Felix (2012); Largani *et al*., (2013), and Balaputhiran (2014). The earnings per share ratio (EPS ratio) is computed using the following formula:

EPS = (Net income-Preferred dividend)/(weighted average number of shares outstanding)

There is no rule of thumb of how to interpret earnings per share. Since investors are more interested in the information about the earnings per share of the company, the higher the EPS ratio and the better for both the bank and the investors. This is because the bank will be able to provide better returns for its investors, and the investors will be making a profit from their share. The retained amount after the allocation can be reinvested into the company and increases profits (Felix, 2012). Higher earnings, because of higher EPS, is also a good indication of a sound and strong financial position of a company, and this increases investor confidence and reliability.

Mixed results are found when looking at the study on the relationship between EPS and profitability (Dimitropoulos *et al*., 2009), where the authors used data from the Athens Stock Exchange for the period, 1994 to 2004. For the 105 companies applying cross-sectional and time series data, the study revealed that there is a positive relationship between EPS and the profitability of banks in Athens. Similarly, with the data sample for a period of ten years (2001–

2010), the study by Ebrahimi and Arezzo (2011), who applied the cross-section and panel data regression models on the listed stock exchange companies of Tehran. The results concur with Dimitropoulos *et al*., (2009), and found a positive relationship between EPS and profitability.

Other studies found results contrary to those of the above-mentioned studies. Harrison *et al*., (2010) studied 485 big Australian companies using panel data, and investigated the reaction of companies' profitability in relation to EPS. The findings of this study demonstrated a negative relationship between EPS and profitability, as the higher EPS could not be associated with profitability. Making use of panel data analysis, Hunjra *et al*., (2011) investigated the effect of EPS on profitability in Pakistan, using the data set of 63 companies listed on the KSE from 2006 to 2011. The outcome revealed mixed results. EPS and the stock price had a positive relationship, while with dividend payout; the results demonstrated a negative relationship.

Supporting the positive effect of EPS on profitability is the study by Balaputhiran (2014), which analyses the relationship between the banks' performance (using profitability) and EPS. Balaputhiran (2014) used data from the top seven stock exchange listed banks in Sri Lanka, for a period of five years (2008–2012). The findings of this study reveals no significant relationship between EPS and banks' performance. Therefore, mixed results can be expected for this study when EPS is used as a measure of profitability.

2.5.4 Sub-section conclusion

Section 2.5 endeavoured to capture the theoretical aspects of profitability. The first subsection provided the underlying theoretical background on profitability and a clear definition of profitability, and then moved on to seek the determinates of profitability. Therefore, internal and external profitability determinants were identified, including political risk by the political risk index (PLTRI), credit risk as measured by a non-performing loans ratio (NPLR), bank size, operating expenses, GDP and inflation were identified and discussed as the main determinants of profitability, and ROE, ROA, NIM and EPS as the measures of profitability in this study.

2.6 CONCLUSION

This chapter made an effort to cover the theoretical aspects of political risk, credit risk and profitability. Problem-solving and decision-making theory was used to explain the importance of political risk. Over the years, a number of studies have been done to find an appropriate definition of political risk, however, there is no consensus between scholars pertaining to

political risk. As a result, there are two camps of scholars with regard to political risk definition. The one camp distinguishes political risk as a general political event influenced by human actions, and the other as the actions of the government. Therefore, the working definition for this study will be that political risk is the risk that actions by the government, whether influenced by government or societal factors, will ultimately have on business, and this will result in loss of profit. The political risk section concluded, by discussion, political risk management. This included the identification of risk factors, the assessment, and lastly, the control measures.

Credit risk is described as the risk that arises from the potential of the counterparty defaulting on its repayment of the principal and the interest agreed upon in the stipulated period. The importance and effect of credit risk on banks' profitability cannot be emphasised enough. Ignorance, misinterpretation and lack of proper risk management philosophy and proper credit risk management policy can cause great harm, and even lead to bank failure, as credit risk is the greatest risk faced by banks. Major types of credit risk faced by banks include, but are not limited to, recovery rate risk, settlement risk, non-directional risk, sovereign risk, exchange rate risk, and credit event risk.

Lastly, a clear definition of profitability and the theoretical background of profitability was provided, and the determinants of profitability were discussed. Therefore, internal and external profitability determinants, including political risk by the political risk index (PLTRI), credit risk as measured by the non-performing loans ratio (NPLR), bank size, operating expenses, GDP and inflation, were identified and discussed as the main determinants of profitability, and ROE, ROA, NIM and EPS as the measures of profitability. The use of these methods provides good outcomes with regard to the profitability of firms and have been used frequently as the measures of profitability in a number of different studies.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter provides the research methods used in this study to meet the objectives set out in chapter 1. The research design and methodology provided in this chapter sets out the framework for testing the relationship between political risk, credit risk and profitability in the South African banking sector. This chapter starts by discussing the research approach and design. The next section presents and discusses population and sample size, nature of data and data collection, and a description of research variables. Finally, data analysis and model specification are presented, and the chapter concluded.

3.2 RESEARCH APPROACH AND DESIGN

The research approach is a methodology adopted by the researcher when conducting this research investigation. It serves as the foundational layer for answering the research question of the study (Creswell, 1994). It is very important for a research approach to be selected and implemented, as this will provide guidance in terms of the actual research design that the study will use. There are two research approaches that can be followed, namely the deductive and inductive approaches (Creswell, 1994).

Therefore, since this study examines the causes and effects of social phenomena, and the objectivism and positivism position will suit this study. Positivism has been selected as the epistemological position for this study, and objectivism is chosen as the ontological standpoint for this study. This study uses purely quantitative data from the banks' financial statements, meaning that it is explicit and clearly defined. The data will be analysed quantitatively and focus on the top four banks in South Africa and therefore provide a clear picture of the South African banking industry. This study employs a quantitative research design in order to see the regression result analysis, with respective empirical literature on political risk, credit risk and profitability.

3.3 POPULATION AND SAMPLE SIZE

The research population for this study comprises all operational commercial banks in South Africa. Although regarded as the most advanced and sophisticated banking sector in Africa, the South African banking sector is oligopolistic by nature and concentrated in terms of four

large banks, namely, Absa Bank, FirstRand Bank, Nedbank and Standard Bank (PWC, 2015), i.e. the population sample of this study is the four big banks in South Africa. Although the four banks differ, they represent 83% of the South African banking sector (BASA, 2014:3), and focusing on them will provide a good view of the South African banking sector.

3.4 NATURE OF DATA, DATA SOURCE, AND DESCRIPTION OF VARIABLES

3.4.1 Data source and description of research variables

To effectively study the relationship between political risk, credit risk and profitability in the South African banking sector, this study will employ secondary data. Different measures of profitability include return on equity (ROE), return on assets (ROA), net interest margin (NIM) and earnings per share (EPS). These ratios have been widely used as the proxies of profitability by different studies (Ho & Saunders, 1981; Allen, 1988; Huizinga, 2000; Goddard *et al*., 2004; Mirzaei *et al*., 2011; Masood *et al*., 2012; Ifeacho & Ngalawa, 2014; Maredza, 2014; Petria *et al*., 2015; Ramlan & Adnan, 2016; Sun *et al*., 2016). This study will use these ratios and compare their results.

Credit risk is presented by NPLR and political risk is measured by the PLTRI provided by the International Country Risk Group (ICRG). In the formation of a political risk index, ICRG made use of the following components: government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability and bureaucracy quality (Howell, 2011). Each component is rated according to its importance, and then summed up to hundred percent (Howell, 2011). Bank size (measured by Logarithm of total assets), operating expenses, and economic activity, gross domestic product (GDP), inflation and interest rate, are used as control variables.

For the effectiveness of the study, the annual secondary data of four major banks in South Africa (Absa Bank, FirstRand Bank, Nedbank and Standard Bank) is collected for 2001 to 2015. The reason for the chosen period is due to the availability of data. The bank-specific variable data was collected from the INET BFA dataset and the banks' official websites. Political risk data was provided by ICRG, while the South African macroeconomic variable data was obtained from the South African Reserve Bank (SARB) and Statistics South Africa (Stats SA).

3.4.2.1 Description and measurement of dependent variables

Profitability is one of the key focus areas of this study. In this study, four dependent variables are used as the proxies for profitability, and they are ROE, ROA, NIM and EPS.

3.4.2.1.1 Return on equity

ROE has been widely used as the measure of profitability by financial institutions and researchers alike. According to Ramadan, *et al*., (2011), Saunders, and Marcia (2011), ROE measures how much the investor will gain in return, after tax has been accounted for in the net income for each rand the investor has invested in the company. Therefore, ROE can be calculated as follows:

ROE = (Net income)/(Total equity capital)……..……..…….…… (3.1)

Where:

- Net income is the amount left after all the operating expenses and the taxation have been deducted
- Total equity is the retained earnings that are added back to company's capital.

The aim of every investor is to get good return on their investment, and therefore investors prefer higher ROE because this will increase their returns on their investments (Saunders & Marcia, 2011:24). Higher ROE is normally associated with good bank performance and greater return. However, the higher the ROE the greater the return, and the greater the risk.

3.4.2.1.2 Return on assets

According to Guru *et al.*, (1999), ROA is the ratio that measures the bank's management efficiency and profitability, and is denoted by net income to total assets. The ratio is split into the following supporting elements:

ROA = (Net income)/(Total operating income) × (Total operating income)/(Total assets)……...…… (3.2)

3.4.2.1.3 Net interest margin

Net interest margin is defined as the net interest income, which is expressed as a percentage of average interest-earning assets. A number of studies have used NIM as the measure of profitability in their research and these studies include Basir (2000); Heffernan and Fu (2010); Chortareas *et al*., (2012); Nguyen (2012) and Lee *et al*., (2014). The NIM formula is expressed as follows:

NIM = (Net interest (Investment returns – Interest expenses))/(Average earning assets)……...……..…….. (3.3)

Similar to EPS, there is no rule of thumb to NIM. However, Basir (2000) asserts that a higher NIM ratio is beneficial, as it is a good indication that the management quality over profitability using assets is efficient and effective.

3.4.2.1.4 Earnings per share

The earnings per share (EPS) ratio is described as a measure of the amount per rand that has been earned by the values of each common stock of the company. The fundamental purpose of a share is to make a profit (whether in the form of dividends or selling them at a higher price). Therefore, EPS can be a good measure of profitability. Studies that used EPS as the measure of profitability, include Livnat and Dan (2000); Harrison *et al*., (2010); Ebrahimi and Arezzo (2011); Felix (2012); Largani *et al*., (2013), and Balaputhiran (2014). Earnings per share ratio (EPS ratio) is computed by using the following formula:

EPS = (Net income preferred dividend)/(Weighted average number of shares outstanding).....(3.4)

There is no rule of thumb on how to interpret earnings per share. Since investors are more interested in the earnings per share information of the company, the higher the EPS ratio, and the better for both the bank and the investors. This is because the bank will be able to provide better returns for its investors, and the retained amount after the allocation can be reinvested into the company and profits increased (Felix, 2012). Higher earnings, because of higher EPS, is also a good indication of a sound and strong financial position of the company, and this increases investor confidence and reliability.

3.4.2.2 Description and measure of independent variables

This study uses two key independent variables, namely political risk and credit risk.

3.4.2.2.1 Political risk

In this study, political risk is defined as the actions by government, whether influenced by corporate or societal factors that will ultimately have an effect on the business and result in loss of profit (Robock, 1971; Simon, 1982:4; Coplin Frei & Ruloff, 1988:2; Alon *et al*., 2006; Alon & Herbert, 2009; Boshoff, 2010; Jakobsen, 2012 and Garcia, 2014).

The political risk index for South Africa is used as a proxy for political risk. Political risk is measured by the political risk index (PLTRI) provided by the International Country Risk Group (ICRG). The political risk index uses the following components: government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability and bureaucracy quality (Howell, 2011). Each component is rated according to its importance and then summed up to hundred percent (Howell, 2011).

The political risk measure or procedure used in calculative political risk is outlined by ICRG as follows: the political risk index is based on 100 points, with 50 points of financial risk and economic risk respectively. The total score out of 100 points is then divided by two to produce scores that range from zero to 100. Scores close to 100 symbolise low risk, while scores close to zero means high-risk (Howell, 2011). Therefore, the following proposition is made:

P1: There is a negative relationship between political risk and profitability.

3.4.2.2.2 Credit risk

Credit risk is one of the main variables that affect the banks' performance. Inability to repay loans creates the probability that the bank's assets (loans) will decline in value and end up creating bad debt for the bank (Rose & Hudgins, 2008). In this study, the nonperforming loans ratio (NPLR) is used as the proxy for credit risk, The International Monetary Fund (IMF, 2006), describes a non-performing loan as any loan that is not paid within 90 days or more. This includes the interest and principal payments. Similarly, the Basel Committee (2001) categorises non-performing loans as loans unpaid by the counterparty for a period of 90 days. The studies that used NPLR as a measure of credit risk include, Ara *et al*., (2009); Brewer and

Jackson (2006); Kithinji (2010), and Boahene *et al*., (2012). NPLR is the ratio of non-performing loans to total loans (Yang, 2010:2019). Therefore, the NPLR equation can be defined as:

NPLR = NPLs/(Total loans)……...…….…….(3.5)

Where:

- NPLs are non-performing loans.
- Total loans is the sum of the bank's loans.

P2: there is either a positive or a negative relationship between credit risk and profitability.

3.4.2.3 Description and measure of control variables

According to Chandra and Sharma (2004), control variables are factors that the researcher can control in order to bring about balance to the research. This study employs bank size, operating expenses, GDP and inflation as control variables.

3.4.2.3.1 Bank size

In this study, the bank size is measured by the logarithm of total asset, as conferred by Aggarwal and Jacques (2001). A number of studies have identified bank size as one of the internal factors that directly affect the banks' profitability (Athanasoglou *et al*., 2008; AL-Omar & AL-Mutairi, 2008; Masood & Ashraf, 2012; Perera *et al*., 2013; AL-Omar & AL-Mutairi, 2008). However, the effect of size on profitability is not clear, as other scholars believe that bank size creates economies of scale, meaning that as the size of the bank grows, so does the performance of the bank. On the contrary, the other group of scholars believe that a greater size may lead to diseconomies of scale, meaning that as the size increases, the cost of doing business, in this case providing bank services, also increases (Kosmidou, 2008; Athanasoglou *et al*., 2006).

P3: There is either a positive or a negative relationship between bank size and profitability.

3.4.2.3.2 Operating expenses

Operating expenses are all the expenses incurred in the running of the day-to-day operations of the bank, but excluding the interest (Athanasoglou *et al*., 2008). Having studied banks in more

than twenty European countries, Athanasoglou *et al*., (2008) found that there is a negative relationship between operating expenses and profitability. This is because the cost of doing business must be kept to a minimum in order to encourage growth and profitability. Supporting the negative relationship of operating expenses are the studies by Bourker (1997), Miller and Noulas (1997), Odldel *et al*., (2012), and Sufian and Habibullah (2010). Operating expenses are measured by operating expenses/total assets (Athanasoglou *et al*., 2008), and therefore, a negative relationship exists between profitability and operating expenses, and is expected.

P4: There is a negative relationship between operating expenses and profitability.

3.4.2.3.3 Economic activity

Gross Domestic Product measures the economic growth of a country and is explained as a continuous stable increase in the level of aggregate production or per capita (Fourie & Burger, 2010:12). As the economic growth decreases, incomes fall, unemployment increases, and some businesses fail. This will increase credit risk, as it will be difficult for the customers to repay their loans to the banks. However, if the economic growth increases, credit risk will also decrease.

P5: There is either a positive or a negative relationship between economic activity and profitability.

3.4.2.3.4 Inflation

Inflation is a continuous increase in the prices of a certain product in a given period of time, usually a year (Dwivedi, 2010). In this study, inflation is measured as consumer price index − annual inflation rate. Inflation might have a positive or negative effect on profitability, and therefore there are two schools of thought when it comes to inflation (Griffiths, 1979). The last proposition is set as:

P6: There is either a positive or a negative relationship between inflation and profitability.

A summary of the variables used in this study is reflected in Table 3.1.

Table 3.1 Definition of variables

Variables		Designation	Description
Dependent variables:			
Profitability		ROE	Net income after tax/Shareholder's equity
		ROA	Net income/average total assets
		NIM	(Investment Returns – Interest Expenses)/Average Earning Assets
		EPS	Net income/average outstanding common shares)
Independent variables			
	Credit risk	NPLR	Non-performing loans/total loans
	Political risk	PLTRI	Political risk index for South Africa
Bank-specific Variables	Size	LOGTA	Logarithm of total assets
	Operating expenses	OPE	Operating expenses/total assets
Macro-Economic Variables	GDP	GDP	A sustained increase in the trend level of either (a) aggregate production, or (b) per capita GDP)
	Inflation	INF	Consumer price index – annual inflation rate

Source: compiled by author

3.5 DATA ANALYSIS

3.5.1 Statistical tests

Several statistical tests are done before the model regression is run, in order to determine whether the data fits the selected model. Tests run include trend analysis, descriptive statistics, a correlation (multicollinearity) test and a unit root test. All the statistical tests, including the model used in this study, are performed using EViews 9 statistical software.

3.5.2 Unit root test

Since this study is using the ARDL cointegration approach, the unit root test is not required. Nevertheless, the test is performed to ensure that none of the variables are integrated of order 2nd difference meaning I(2) because, in the case where the variables are integrated at I(2), the ARDL model makes no sense and may lead to ambiguous results (Rafindadi & Yosuf, 2013).

In a case where the variables are integrated at I(2) variables, the F-statistics by Pesaran *et al*., (2001) and Narayan (2005) become invalid. Therefore, for the purpose of a panel unit root test, this paper will employ the Levin, Lin & Chi (LLC), Im, Pesaran and Shin (IPS), ADF Fisher Chi-square (ADF Fisher) and PP-Fisher and the Hadri (1999) panel unit root test.

3.5.2.1 Levin, Lin and Chu (2002)

Levin, Lin and Chu (2002) start a panel unit root test by considering the following basic ADF specification:

$$DYi\ t = \alpha Yit\text{-}1 + \Sigma pij = 1\ ßi\ t\ DYi\ t\text{-}j + Xi\ t\ \delta + \varepsilon i\ t \quad (3.6)$$

Where, DYi t = difference term of Yi t, Yi t1 = Panel data, $\alpha = \rho\text{-}1$, pi = the number of lag order for difference terms, Xi t exogenous variable in model and $\varepsilon i\ t$ = the error term

3.5.2.2 Im, Pesaran and Shin (2003)

Let Yi t be the observation on the ith cross-section unit at time t, and suppose that it is generated according to the following simple dynamic linear heterogeneous panel data model:

$$Yit = (1\text{-}\varphi\ i) + \varphi\ i\ Yi\ t\text{-}1 + \varepsilon\ i\ t \quad (3.7)$$

Where: Yit = panel data, i = 1,…, N are cross-section unit or series; t = 1,…., t are observed over periods; ε it = error term

3.5.2.3 Fisher-Type Test using ADF and PP-Test (Maddala & Wu, 1999; Choi, 2001)) Madala and Wu (1999)

$$P\lambda = -2\ \Sigma Ni = 1 \log epi \quad (3.8)$$

$$Z = (1/\sqrt{Ni = 1})[\ \Sigma Ni = 1 \varphi i\ \text{-}1(pi\ )] \dashrightarrow N(0,1) \quad (3.9)$$

Where, Pλ = Fisher (Pλ) panel unit root test, -2 ΣNi = 1logepi = it has a $\chi 2$ distribution with 2N degree of freedom, Z = Z-statistic panel data unit root test, N= all N cross-section in panel data, φi -1 = the inverse of the standard normal cumulative distribution function and pi = it is the P-value from the ith test. Levin, Lin & Chi (LLC) (2002) and Im, Pesaran; Shin (IPS) FAPEas follows:

- Null hypothesis (H_0): panel data has unit root (assume common unit root) (Non-stationary)
- Alternative hypothesis (H_1): panel data has no unit root (stationary).

3.5.2.4 Hadri (1999) panel unit root

The Hadri (1999) panel unit root test was performed. Hadri (1999) also uses the same generalisation properties of the Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) fluctuations test (Kwiatkowski *et al*., 1992). Two main advantages of the Hadri (1999) panel unit root test is that firstly, the null hypothesis is set as stationary, compared to other unit root test methods. As a result, it can be used to confirm the results of other methods. Secondly, it can correct for heterogeneous error and serial correlation, whereas other methods, such as the IPS test cannot correct (Hadri & Larsson (2000). The Hadri test is based on the residuals from the individual OLS regressions of Yi t on a constant, or on a constant and trend. Therefore, the following equation is set:

$$Yi\ t = \delta\ i + \eta i\ t + \varepsilon\ i\ t \quad \text{(3.10)}$$

Where:

- Yi t = panel data where i = 1,2,…., N are cross-section units or series and t = 1,2, …,Ti are observed over periods
- δ i = constant term
- ηi t = coefficient of t or trend
- ε i t = the residual's term.

Hadri (1999) set the following hypothesis:

- Null hypothesis (H_0): panel data has no unit root (assume individual unit root) (stationary)
- Alternative hypothesis (H_1): panel data has unit root (Non-stationary).

3.6 MODEL SPECIFICATION

To fulfil the process of determining the relationship between, political risk, credit risk and profitability, this study used the panel pooled mean group (PMG) model based on the ARDL by Pesaran *et al*., (1999). The Pesaran *et al*., (1999) PMG ARDL approach has been employed by other studies, including Garces-Ozanne (2006), Shittu *et al*., (2012), Ahmed *et al*., (2013),

Rafindadi and Yosuf (2013), Samargandi *et al*., (2013), Doğan *et al*., (2014), and Bidirici and Bohur (2015), to determine the long-term relationship between panel data.

When the ARDL approach is used in a study, certain assumptions or requirements should be met by the data in order for the PMG ARDL approach to be performed. Outlined by Pesaran *et al*., (1999; 2001), the data in the study must be free of autocorrelation and heteroscedasticity, and the data must be normally distributed. In addition to that, the data variables must not be cointegrating or stationary at level 2 or I (2). There are advantages that are associated with the use of ARDL compared to other models.

One of the most important advantages for using ARDL is that all the traditional cointegration methods, such as Engle-Granger (1987) or Johansen's (1991, 1995), and the single equation methods, such as the Fully Modified OLS or Dynamic OLS, all require the variable to be stationary at the same level (Ahmed *et al*., 2013). The ARDL model can be used when variables are integrated at order zero I (0), at order one I (1), or even when there is a mixture of order zero and order one I (0) and I (1) (Pesaran & Shi, 1998:371). Secondly, based on the ability to use a mixture of I (0) and I (1), ARDL overcomes the issue of the mixture and non-stationary series (Dube & Zhou, 2013:204). Thirdly, the ARDL approach can be employed whether the data used is small or large (Pesaran & Shin, 1999; Haug, 2002). Lastly, the presence of long-run relationships automatically suggests the error correction model (ECM).

The ARDL approach used the unrestricted model of ECM that captures the data generating process and allows for uneven lag orders (Laurenceson & Chai, 2003). Therefore, since the ARDL, unlike traditional cointegration methods, can be used when variables are integrated at order zero I (0), at order one I (1), or even when there is a combination of order zero and order one I (0) and I (1), and therefore the previous unit root testing of the variables is unnecessary. However, this method is just performed to make sure that none of the variables are integrated at level 2 I (2) (Ahmed *et al*., 2013).

Nonetheless, like any other models, the ARDL model also has its own disadvantages. Firstly, since ARLD uses a single equation, it overlooks the possibility of other cointegration equations (Muchapondwa & Pimhidzai 2011). Secondly, the ARDL model cannot estimate the variables that are cointegrated at second level I(2). However, the advantages outweigh the disadvantages, and this study instils confidence that, by using ARLD, the model will provide unbiased and

efficient cointegration analysis, and will overshadow the serial correlation and endogeneity problems. Since this study used panel data, the PMG is utilised in this study.

In addition to the above-mentioned assumptions, advantages and disadvantages of ARDL, the PMG also has its own additional assumptions. Clearly outlined by Samargandi *et al*., (2013), the following assumptions guide the use of PGM in the ARDL approach. The main characteristic of the PMG is the ability to take the normal ARDL cointegration model, and adapt it for a panel setting by allowing the intercepts, short-run coefficients, and cointegrating terms to differ across banks. It is assumed that the long run slope is the same across banks.

There are several requirements that the data needs to fulfil in order for the results, provided by the methodology, to be consistent and efficient. Firstly, the existence of a long-run relationship among the variables of interest requires the coefficient on the error-correction term to be negative and significant. Secondly, an important assumption for the consistency of the ARDL model is that the resulting residual of the error-correction model be serially uncorrelated, and the explanatory variables treated as exogenous. Such conditions can be fulfilled by including the ARDL (p, q) lags for the dependent (p) and independent variables (q) in error correction form. Lastly, the size of the data is crucial, since it will help to avoid the bias in the average estimators, and resolves the issue of heterogeneity (Garces-Ozanne, 2006; Shittu *et al*., 2012; Ahmed *et al*., 2013: Samargandi *et al*., 2013; Doğan *et al*., 2014; Bidirici & Bohur, 2015).

In this study, the cointegration test was carried out using the PMG ARDL approach by Pesaran *et al*., (1999; 2001). Since the study has four dependent variables, there are four unrestricted error-corrections, considering each variable as a dependent variable. For the purpose of this study, the following PMG ARDL model was adopted:

Profitability = f (Credit risk, Political risk, Control variables)……..…(3.11)

The data used in this model has been transformed into logs, except for ROE, ROA, OPE and NIM, since they have negative values. The ability to look at the relationship between political risk, credit risk and profitability is achieved by using the following PMG ARDL model:

$$\Delta ROE_{it} = \theta_i \left(ROE_{i,t-j} - \beta_i X_{i,t-j}\right) + \sum_{j=1}^{p-1} \gamma_j^i \, \Delta \left(ROE_i\right)_{t-j} + \sum_{j=1}^{q-1} \delta_j \, \Delta(X_i)_{t-j} + u_i + e_t \quad \text{(3.12)}$$

$$\Delta ROA_{it} = \theta_i \left(ROA_{i,t-j} - \beta_i X_{i,t-j}\right) + \sum_{j=1}^{p-1} \gamma_j^i \, \Delta \left(ROA_i\right)_{t-j} + \sum_{j=1}^{q-1} \delta_j \, \Delta(X_i)_{t-j} + u_i + e_t \quad (3.13)$$

$$\Delta NIM_{it} = \theta_i \left(NIM_{i,t-j} - \beta_i X_{i,t-j}\right) + \sum_{j=1}^{p-1} \gamma_j^i \, \Delta \left(NIM_i\right)_{t-j} + \sum_{j=1}^{q-1} \delta_j \, \Delta(X_i)_{t-j} + u_i + e_t \quad (3.14)$$

$$\Delta EPS_{it} = \theta_i \left(EPS_{i,t-j} - \beta_i X_{i,t-j}\right) + \sum_{j=1}^{p-1} \gamma_j^i \, \Delta \left(EPS_i\right)_{t-j} + \sum_{j=1}^{q-1} \delta_j \, \Delta(X_i)_{t-j} + u_i + e_t \quad (3.15)$$

Where ROE, ROA, NIM and EPS are used as the proxies for profitability. **X** represents a set of independent variables, including political risk, credit risk, bank size, operating expenses, GDP and inflation. The full description of each variable is provided in Table 3.1. Coefficients **γ** and **δ** represent the short-run coefficients of both dependent and independent variables accordingly. Moreover, **β** represents the long-run coefficients, while the θ represents the measures of adjustment of the system to equilibrium. The subscripts **i** and **t** represent the bank and time respectively, **u** represents the fixed effect, and **e** represents error term.

The model presents both long- and short-run regressions. Firstly, the term in the square brackets contains the long-run profitability regression. In addition, the remainder of the model represents the short-run regression, also known as the Error Correction Model (ECM), or equilibrium correction model. Most economic systems are rarely in equilibrium, as they are affected by many factors, both internal and external. Brooks (2014:375–377) defines ECM as a model that measures the adjustment of the system to equilibrium. Likewise, Schøning (2011:23) also defines ECM as a model that can measure the movement and relationship gap of the variables from the long-run equilibrium. Therefore, for the purpose of this study, the ECM is represented by the second part of the model. Both the long-run and short-run models have been used by Shittu *et al*., (2012); Ahmed *et al*., (2013); Mahmood *et al*., (2014); Chudik and Pesaran (2015); and Kabongo and Mbonigaba (2016).

3.6.1 Lag length and model selection

The first step in the ARDL cointegration test is the selection of the optimal lag length to be used in the model. Pesaran *et al*., (2001) caution that it is important to choose the appropriate optimal lag length. The larger one is enough to lessen the residual serial correlation problem, and the smaller one is used so that the error correction model is not over-parameterised. Therefore, before the equation estimation can be performed, the selection of the lag-length is

important. In this study, the Akaike Information Criterion (AIC) is used to determine the best model (optimal lag length). When estimating panel ARDL, EViews 9 uses the automatic model selection.

3.7 CONCLUSION

This chapter provided the research methodology that is applied in this study; this study employs both literature review and the use of statistical empirical literature to accomplish the set objectives. This study employs quantitative research design to see the regression result analysis with respective empirical literature on political risk, credit risk and profitability. This study uses, operational commercial banks in South Africa as the population sample, consisting of the four large banks in South Africa, namely. Absa Bank, FirstRand Bank, Nedbank and Standard Bank (PWC, 2015). The four banks are used as the sample size.

Several statistical tests are done before the model regression. The tests run include, trend analysis, descriptive statistics, a correlation (multicollinearity) test and a unit root test. Quantitative methods, such as the PMG ARDL model and ECM model were discussed, as they will be used to determine the relationship between political risk, credit risk and profitability in the South African banking sector.

This study uses four types of variables: ROE, ROA, NIM and EPS. Moreover, NPLR and PLTRI were used as the two independent variables. Bank size, operating expenses, economic activity, gross domestic product, inflation and interest rates were used as control variables. The bank-specific variable data was collected from the INET BFA dataset and the banks' official websites. Political risk data was provided by ICRG, while South African macroeconomic variable data was obtained from SARB and Stats SA from 2001 to 2015. All the statistical tests, including the model in this study are performed using EViews 9 statistical software. The research methodology explained in this chapter will be applied in chapter 4, and the results interpreted and discussed.

CHAPTER 4: RESULTS AND DISCUSSION

4.1. INTRODUCTION

Over the years, several studies have analysed profitability, its determinants, and the effect they have on profitability. As indicated in chapter 2, the crux of profitability studies is found in the work done by Short (1979) and Bourke (1989). Since then, different authors have studied banking profitability with a focus on both single countries and a panel of countries. These studies include, but are not limited to Molyneux and Thornton (1992), Molyneux and Forbes (1995), Demerguç-Kunt and Huizinga (1999, 2001), and Hassan and Bashir (2003).

Although much research has been done beyond the borders of South Africa, few studies have been conducted in South Africa regarding profitability. Studies have been carried out by Okeahalam and Maxwell, (2001); O'Donnell and Van der Westhuizen (2002); Greenberg and Simbanegavi, (2009); Ncube, (2013); Ifeacho and Ngalawa, (2014), and Maredza, (2014). Most of these studies have applied Stochastic Frontier Analysis (SFA), Data Envelopment Analysis (DEA) and the capital adequacy, asset quality, management, earnings, and liquidity (CAMEL) model. However, these models have been criticised for being vague and subjective (Yang & Chen, 2004). Recent South African studies, which relate to this study, include Kumbirai and Webb (2010), Godspower-Akpomiemie (2013), Chin'Anga (2015) and Du Plessis *et al*., (2015). The difference of this study, compared to the aforementioned studies, is the use of the panel ARDL model.

This chapter presents the empirical results of the study, which are divided into two main sections. The first section covers the graphical analysis of the research and the variables are analysed. Following this are descriptive statistics, together with the correlation analysis for the research variables, in order to provide a better understanding of the link between profitability and its determinants. The last section presents the test results and analysis, starting with the unit root test and then analysing the short-run and long-run relationships between political risk, credit risk and profitability. This will be done by analysing the ARDL results first and ECM results last.

4.2. GRAPHICAL ANALYSIS OF PROFITABILITY MEASURES

In this section, trend analysis of both dependent and independent variables is presented and discussed. Trend analysis is important because it gives an overview of how the variables relate

to each other. Trend analysis looks to see whether there is a pattern or not between the variables. Figure 4.1 plots the four profitability measures, ROE, LROA, NIM, and LEPS used in this study for each of the four banks in South Africa during the observed period (2001–2015).

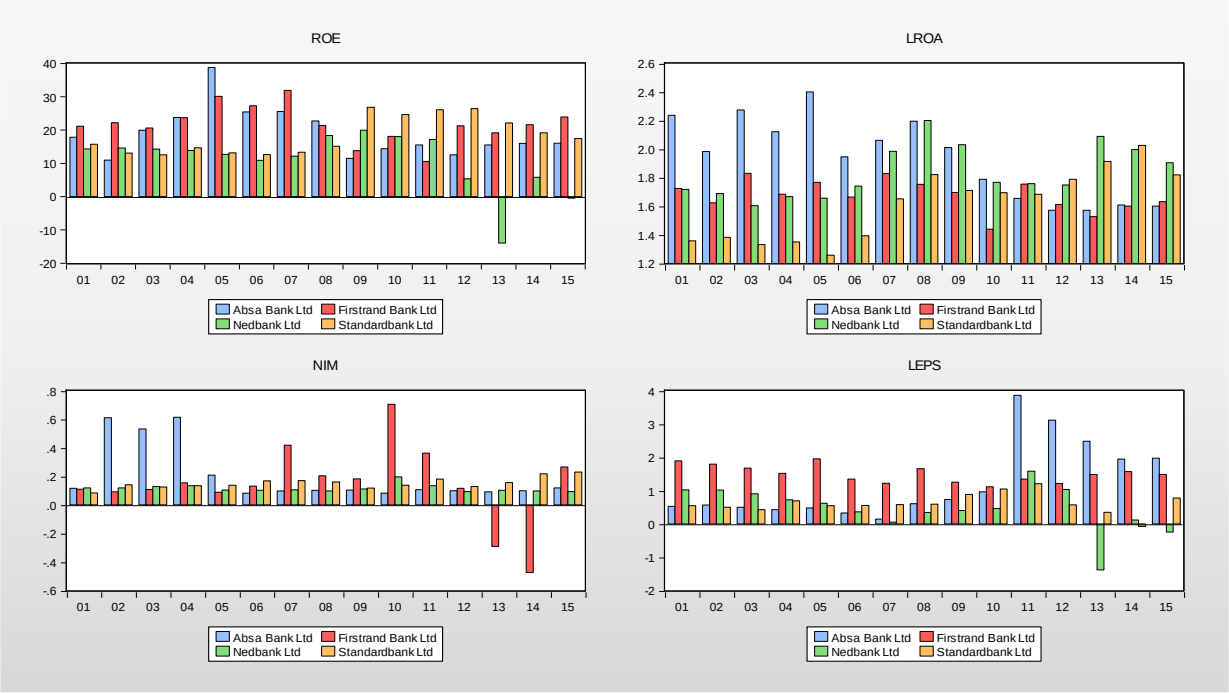

Figure 4.1 Profitability measures in the four banks

Source: Compiled by author

4.2.1 Trend in return on equity

ROE looks stable and follows the economic cycles of the country when compared to the other measures; ROE stayed positive for all the banks except for Nedbank in 2013, and this move could have been caused by other internal policies, as the other three banks performed well during that period. Absa Bank experienced high ROE in 2005, reaching 39% and a low of 10% in 2009, and then showed a moderate growth rate for the remainder of the year. In summary, the same percentage was reached in 2008 and a similar trend is mostly observed during the financial crisis (2008–2010), however, post the 2008 finaancial crisis, Nedbank is below other banks.

4.2.2. Trend in return on assets

ROA performed well for all the banks throughout the period under study, with Standard Bank experiencing the lowest ROA returns from 2001 to 2005, but which increased up to 2015. As with ROE, Absa Bank also had the biggest ROA compared to all the other banks, reaching the

highest point of 2.40% in 2005 and declining to 2.19% in 2008, which was high, taking the effect of the global economy into consideration. There is an increase in most of the banks' ROA during the financial crisis. This can be attributed to the participation of banks in the 2010 FIFA World Cup, when banks had to do a great deal of corporate and infrastructure financing.

4.2.3. Trend in net interest margin

Figure 4.1 shows the NIM trend analysis for all four banks, with FirstRand Bank, Nedbank and Standard Bank all starting at a relatively constant trend, with an average of between 0.08 and 0.17 between 2001 and 2006. For the same period, Absa Bank shows a gradual upward trend, signified by a 0.53% increase. From there on it declined and joined the rest of the backs from 2006 to 2015, and experienced a constant trend, averaging between 0.00 and 0.20%, with the exception of FirstRand Bank, which started to experience a cyclical trend from 2006 until 2015.

FirstRand Bank fluctuated amid upward and downward trends between 2006 and 2015. It increased to 0.42% in 2007, declined to 0.18% in 2009, and then continued the upward trend and reached 0.71 by 2010 and declined to -0.47% by 2014, closing 2015 with a positive value of 0.27%.

4.2.4. Trend in earnings per share

All the banks experienced a relatively constant trend from 2001 to 2010. Each bank started fluctuating in a different direction. FirstRand Bank shows more fluctuation than the other three banks. Starting at 1.9% in 2001, it increased to 2.0% in 2005, declined to 1.7% in 2008 and reached a low of 1.1% in 2010.

From 2010, Absa Bank shows a gradual upward trend, reaching 3.9% in 2011 and declining to 1.9 in 2014, closing at 2.0% in 2015. Nedbank experienced a slight increase between 2010 and 2011 and then experienced a downward trend, reaching a low of -1.4% in 2014, increasing to 0.1% in 2014 and closing with a negative value of -0.2% in 2015. Likewise, Standard Bank also experienced a downwarrd trend from 2010, reaching a low of -0.1 in 2014 and closing 2015 with 0.8%.

In summary, ROE for all the four banks showed a flat and constant trend with the same percentage reached in 2008. A similar trend is observed during the financial crisis (2008 to 2010), but post-crisis, where Nedbank is below other banks. Likewise, the ROA also had a

constant flat trend; however, there is an increase for most of the banks' ROA during the financial crisis. The NIM trend for all four banks for the period of 15 years was relatively constant for three of them, and cyclical for FirstRand Bank. Lastly, EPS was generally constantly in trend from 2001 to 2010, and then a mix of upward and downward fluctuations for each bank until 2015.

4.3 RESULTS OF DESCRIPTIVE STATISTICS

This section presents and describes the descriptive statistics of the data used in this study. The importance of descriptive statistics analysis is to provide a better understanding of the characteristics of the data collected and used in the study. To provide an overview of the data used, the following descriptive statistics are analysed and discussed: mean, median, maximum, minimum and standard deviation of all variables (LROA, LNPLR, LPLTRI, LOGTA, OPE, LGDP, LINF, ROE, NIM and LEPS). Table 3 summarises the descriptive statistics for the four big banks' specific and control variables in South Africa from 2001 to 2015.

Albright (2011) defines 'mean' as the average of the combined values of a specific variable and describes maximum and minimum as the biggest and smallest values of the data set that is observed. Macfie and Nufrio (2006) and Brooks (2014:65) define 'standard deviation' as the measure of the distance of the data from its mean of the data. Based on the above definition, a large standard deviation means that the values of the observed set of data are distributed away from the data set, while the values of the small standard derivations are distributed close to the mean.

From Table 4.1, it is observed that ROE, which "measures the amount of net income after taxes earned for each dollar of equity capital contributed by the bank's shareholders" (Saunders & Marcia, 2011:3). ROE has the biggest mean average of 17.48%, compared to NIM, EPS and ROA at 0.156%, 0.96% and 1.76% respectively.

Table 4.1 Descriptive statistics

	LROA	LNPLR	LPLTRI	LOGTA	OPE	LGDP	LINF	ROE	NIM	LEPS
Mean	1.764	-3.647	4.203	19.534	0.110	14.701	1.669	17.487	0.155	0.957
Median	1.732	-3.560	4.207	19.982	0.001	14.712	1.732	17.295	0.119	0.753

Max.	2.401	-2.746	4.257	21.337	1.990	14.875	2.446	38.760	0.706	3.866
Min.	1.256	-5.270	4.148	16.528	-0.376	14.468	0.326	-13.96	-0.475	-1.380
Std. Dev.	0.247	0.550	0.036	1.349	0.374	0.136	0.467	7.869	0.169	0.808
N	60	60	60	60	60	60	60	60	60	60

Source: Compiled by author

At some point, during the period of 15 years, the average ROE for the four banks reached a maximum of 38.7% and minimum of -13.96% The minimum observation of -13.96% can be attributed to the global financial crisis of 2007 to 2009, that affected the global financial system. Although high ROE is associated with high risk, shareholders prefer higher ROE compared to NIM, EPS and ROA, as ROE indicates how well management is employing the investors' capital invested in the company. It is also used as a measure of the company's growth rate (Saunders & Marcia, 2011:24). From the standard deviation value, it can be observed that the indicator with the widest spread is ROE, which has a standard deviation of 7.86%, and which is less than the mean, and there is no high variability. This means that ROE is not distributed away from the data set mean, i.e. it is low in volatility.

ROA measures how profitable and efficient a bank's management is, compared to ROE, which has a mean of about 1.76% for all four banks. There is a maximum observation of 2.40% and a minimum observation of 1.25%, and a standard deviation of 0.24%, meaning that the ROA is around the mean of 1.76% and less volatile. Faced with these different results from ROA and ROE, both ROE and ROA can be employed as they provide an efficient evaluation of profitability (Alimazari, 2012:88). In conclusion, NIM and EPS reflect average and acceptable values, and therefore, we can conclude that the four indicators to measure profitability can be used and analysed in this study.

4.4 CORRELATION ANALYSIS

Correlation analysis is the most important analysis in research where there are more than two variables. Correlation analysis is performed to check the linear association between variables.

Albright (2011) defines correlation as the strength of linear association or dependency of one variable on the other. Similarly, Brooks, (2014:151) defines correlation as a measure of strength association between variables, indicated by -1 and + 1. When the correlation confident value is positive and very close to 1, this reflects the existence of a strong positive linear between two variables, and since it is positive, it means that the variables grow or move in a similar direction. On the other hand, when the correlation coefficient value is negative and close to -1, this reflects the existence of a negative linear relationship between the variables, due to the negative relation. This means that variables increase in different directions, reflecting an inverse relationship. However, in a case where the correlation confident value is neither -1 nor + 1, and is zero, there is then no form of relation between the variables (Brooks, 2014:151).

Table 4.2 depicts the correlation between the banks' profits measured by ROE, LROA, NIM and LEPS and bank-specific variables and external variables (LNPLR, LPLTR, OPE, LINF, LGDP and LOGTA). Using ROE as the measure of profitability, Table 4.2 shows a negative association exists between ROE and four out of the six independent variables, i.e. credit risk (non-performing loans), operating expenses, inflation and bank size. The correlation coefficient between ROE and credit risk (non-performing loans) is -0.262, indicating a negative but not strong association between the two variables.

Similarly, operating expenses, inflation and bank size have -0.018, -0.076 and -0.001 as the correlation coefficients respectively, also indicating a negative but not strong association, since all the coefficients are not close to -1. However, political risk and GDP growth show positive association with ROE, with correlation coefficients, 0.277 and 0.209 respectively. These associations agree with the economic theory, which states that higher GDP growth encourages investment and banking activities, which in return encourages debtors to repay their loans and increases ROE (Fourie & Burger, 2010:10–15). In terms of political risk, since this study uses the political risk index, this means that the higher the index, the lower the political risk (ICRG, 2016). The lower political risk is associated with a stable economic environment that influences investment both locally and internationally. This, in return, increases banks' activities and increases profitability.

Likewise, when ROA and NIM are used to measure profitability, political risk also indicates a positive association with correlation coefficients of 0.049 and 0.092 respectively. Conversely, ROE shows a negative association with profitability when it is measured by EPS. Similarly, operating expenses and credit risk (non-performing loans), are also negatively associated with

profitability when measured by ROA and NIM. Bank size shows a negative association with profitability across all the measures of profitability. In addition, inflation has a negative association to profitability when measured by ROE, NIM and EPS, while positive when measured using ROE.

In addition to the linear association analysis, the correlation analysis can also be used to measure multicollinearity among variables. Therefore, if the variables are nearly linear dependent or perfectly correlated to each other, this situation is known as multicollinearity (Kervin, 1992; Gujarati, 2009; Jurczyk, 2011: 262). A common rule of thumb is that there is an existence of multicollinearity among variables if the correlation coefficient is higher than 0.8 (Kervin, 1992; Gujarati, 2009; Jurczyk, 2011: 262; Studenmund, 2011:258).

Table 4.2 summarised correlation results of all the independent and dependent variables (LROA, LNPLR, LPLTRI, LOGTA, OPE, LGDP, LINF, ROE, NIM and LEPS) and the results are satisfactory, considering the fact that all of them are below 0.8, it can be concluded that there is no problem of multicollinearity among the variables. Therefore, the variables can be analysed or regressed in the same regression equation.

The first part of this chapter analysed the trends of variables, and then descriptive statistics, together with the correlation analysis for the research variables. Multicollinearity and correlation tests were performed to prepare the variable for the second step of the analysis. All variables passed the aforementioned tests.

Table 4.2 Correlation results

Correlation coefficients	ROE	LROA	NIM	LEPS	LNPLR	LPLTR	OPE	LINF	LGDP	LOGTA
ROE	1.000									
LROA	0.132	1.000								
Prob.	0.316	-----								
NIM	0.068	0.204	1.000							
Prob.	0.604	0.118	-----							
LEPS	0.300	-0.386	-0.134	1.000						
Prob.	0.020	0.002	0.306	-----						
LNPLR	-0.262	-0.360	-0.115	0.127	1.000					
Prob.	0.044	0.005	0.384	0.335	-----					
LPLTR	0.277	0.049	0.092	-0.090	-0.023	1.000				
Prob.	0.032	0.712	0.485	0.495	0.860	-----				
OPE	-0.018	-0.090	-0.073	0.330	0.096	-0.170	1.000			
Prob.	0.894	0.494	0.582	0.010	0.466	0.193	-----			
LINF	-0.076	0.179	-0.131	-0.020	-0.261	-0.466	0.021	1.000		
Prob.	0.563	0.170	0.318	0.878	0.044	0.000	0.871	-----		
LGDP	0.209	-0.027	0.244	-0.107	-0.048	0.561	-0.265	-0.202	1.000	
Prob.	0.109	0.838	0.060	0.416	0.717	0.000	0.041	0.122	-----	
LOGTA	-0.001	-0.400	-0.048	-0.307	0.155	0.171	-0.610	-0.017	0.317	1.000
Prob.	0.993	0.002	0.716	0.017	0.236	0.190	0.000	0.895	0.014	-----

Source: Compiled by author

4.5 ANALYSIS OF LONG AND SHORT RUN RELATIONSHIPS

This section provides empirical statistical test results and discussion using EViews 9. This section starts with the unit root test and then proceeds to analyse the short-run and long-run relationships between political risk, credit risk and profitability. This will be done by analysing the ARDL results first and the ECM results last.

4.5.1 Panel unit root tests results

As the first step in the estimation of the model, the panel unit root test is conducted to determine whether the variables are stationary or non-stationary. Unit root is also used to establish the order of integration between variables. This means checking if the variables are stationary at level or integrated of order, I(0), and whether a variable is stationary at the first difference or integrated of order 1, I(1). This test is performed to prevent the use of non-stationary variables, which can result in a spurious regression (Brook, 2014). However, since this study is using the ARDL cointegration approach, the unit root tests are performed to ensure that none of the variables are stationary at the second difference or integrated of order 2, I(2).

This is because, in the case where the variables are integrated of 2, the I(2) ARDL model produces misleading results ((Rafindadi & Yosuf, 2013). In the case where the variables are I(2), the F-statistics by Pesaran *et al*., (2001) and Narayan (2005) become invalid. Therefore, for the purpose of the panel unit root test, this study uses Levin, Lin & Chi (LLC), Im, Pesaran and Shin (IPS), ADF Fisher Chi-square (ADF and PP-Fisher (PP) and the Hadri (1999) panel unit root tests. The first four tests set the null hypothesis as non-stationary, meaning that panel data has a unit root and alternative hypothesis as stationary, assuming that panel data has no unit root. Table 4.3 summarises the panel unit root test results, based on the first four tests.

The panel unit root test results reveal that some of the data sets (variables) are integrated of I(0) or I(1). The panel unit root test results indicate that at level, a p-value of LLC, IPS, ADF Fisher and PP-Fisher methods for ROA, EPS, OPE, INF and LOGTA are less than 0.05. Therefore, the null hypothesis is rejected at 0.05 significance level and it is concluded that ROA, EPS, OPE, INF and LOGTA are all stationary at level or I(0). Since ROA, EPS, OPE, INF and LOGTA are all stationary at level or I(0), there is no need to test them at first difference.

Moreover, the results of the panel unit root test for ROE, NPLR and GDP reveal that at level, LLC, IPS, ADF Fisher and PP-Fisher methods' p-values are greater than 0.05 when estimated with an individual intercept or individual intercept and trend. This means that the null hypothesis cannot be rejected; implying that ROE, NPLR and GDP have unit root at level and are therefore not stationary. With variables not being stationary at level, this leads to further tests for stationarity at the first difference. For all four methods, i.e. LLC, IPS, ADF Fisher and

PP-Fisher, p-values less than 0.05 mean therefore that the null hypothesis is rejected at 0.05 significance level. Therefore, ROE, NPLR and GDP are stationary at first difference or I(1).

The results of the panel unit root test for NIM and PLTR reveal that at level, LLC, IPS, ADF Fisher methods, p-values are less 0.05, and therefore the null hypothesis is rejected at 0.05 significance level, while the PP-Fisher method p-value is greater than 0.05, which means the null hypothesis cannot be rejected. With the mixed results, the conclusion can be reached by choosing the majority results (source). Therefore, the null hypothesis for a unit root is rejected. However, when NIM and PLTR are converted to the 1st difference, all four methods, i.e. LLC, IPS, ADF and PP p-values at 1st difference are less than 0.05. The null hypothesis is rejected at 0.05 significance level, as all models' p-values are significant at 1st difference, compared to level, and the alternative hypothesis is accepted, meaning that NIM and PLTR are stationary at 1st difference or I(1).

Table4.3 Panel unit root tests (LLC, IPS, ADF Fisher and PP-Fisher)

Series	Methods		LLC	IPS	ADF	PP	
ROE	At level	Intercept	0.2627	0.3092	0.4392	0.4157	I(1)
		Intercept & trend	0.3543	0.6454	0.7466	0.7355	
	1st difference	Intercept	0.0000	0.0000	0.0000	0.0000	
		Intercept & trend	0.0000	0.0007	0.0024	0.0001	
ROA	At level	Intercept	0.0383	0.2180	0.1284	0.1427	I(0)
		Intercept & trend	0.0001	0.0026	0.0063	0.0250	
	1st difference	Intercept	0.0177	0.0000	0.0000	0.0000	
		Intercept & trend	0.0000	0.0000	0.0000	0.0000	
NIM	At level	Intercept	0.0001	0.0104	0.0210	0.1686	I(0)
		Intercept & trend	0.0743	0.1834	0.2556	0.2461	
	1st difference	Intercept	0.0008	0.0001	0.0003	0.0000	
		Intercept & trend	0.0000	0.0011	0.0028	0.0000	
EPS	At level	Intercept	0.0001	0.0037	0.0093	0.0496	I(0)
		Intercept & trend	0.0003	0.0154	0.0313	0.2626	
	1st difference	Intercept	0.0000	0.0000	0.0000	0.0000	
		Intercept & trend	0.0000	0.0001	0.0006	0.0000	
NPLR	At level	Intercept	0.0689	0.1342	0.1236	0.6732	I(1)
		Intercept & trend	0.1949	0.4044	0.4363	0.9573	
	1st difference	Intercept	0.0001	0.0359	0.0605	0.1215	
		Intercept & trend	0.0006	0.3374	0.4070	0.6576	
PLTR	At level	Intercept	0.0006	0.1025	0.1559	0.3501	I(0)
		Intercept & trend	0.0000	0.0017	0.0034	0.9400	
	1st difference	Intercept	0.0000	0.0000	0.0000	0.0000	
		Intercept & trend	0.0000	0.0000	0.0000	0.0000	
OPE	At level	Intercept	0.0000	0.0000	0.0003	0.0002	I(0)
		Intercept & trend	0.0000	0.0000	0.0014	0.0005	
	1st difference	Intercept	0.0000	0.0000	0.0000	0.0000	
		Intercept & trend	0.0000	0.0000	0.0000	0.0000	
INF	At level	Intercept	0.0000	0.0000	0.0002	0.1446	I(0)
		Intercept & trend	0.0000	0.0075	0.0110	0.7568	
	1st difference	Intercept	0.0000	0.0000	0.0003	0.0003	
		Intercept & trend	0.0000	0.0297	0.0345	0.0188	
GDP	At level	Intercept	0.9991	1.0000	1.0000	1.0000	I(1)
		Intercept & trend	0.2778	0.8620	0.9563	0.9451	
	1st difference	Intercept	0.0000	0.0133	0.0277	0.0398	
		Intercept & trend	0.0000	0.1743	0.2434	0.3940	

LOGTA	**At level**	Intercept	0.8590	0.9415	0.1450	0.2753	**I(0)**
		Intercept & trend	0.0000	0.0000	0.0037	0.0044	
	1st difference	Intercept	0.0000	0.0000	0.0007	0.0003	
		Intercept & trend	0.0000	0.0000	0.0023	0.0034	

Source: Compiled by author

According to the study done by Strauss and Yigit (2003), the authors reveal that the panel unit root test results of IPS may be potentially biased. Therefore, this required that another panel unit root test method be used, and consequently, the Hadri (1999) panel unit root test was performed. Hadri (1999) also uses the same generalisation properties of the Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) fluctuations test (Kwiatkowski *et al*., 1992). There are two main advantages of the Hadri (1999) panel unit root test. Firstly, the null hypothesis is set as stationarity , unlike other unit root test methods. As a result, it can be used to confirm the results of other methods. Lastly, it can correct for heterogeneous error and serial correlation, which other methods, such as the IPS test, cannot correct the Hadri and Larsson (2000) test, and can be used to confirm the results presented by ADF and PP (Maddala & Kim, 1998:126). The Hadri (1999) panel unit root test results are summarised in Table 4.4.

According to Hadri (1999), stationarity is set as the null hypothesis, and this means that if the probability value is less than 0.05, then the null hypothesis is rejected or panel data has a unit root. However, if the probability value is not significant or more that 0.05, then the null hypothesis is accepted or the panel data has no unit root.

With reference to the results in Table 4.4, the panel unit root test indicates that ROE, NIM, NPLR and INF are stationary at level meaning I(0), while ROA, EPS, PLTR, OPE, GDP and LOGTA are all not stationary at level I(0). However, when converted into 1st difference they are all stationary at 1st difference I(1). Like the other four methods of panel unit root testing, LLC, IPS, ADF Fisher and PP-Fisher, the Hadri unit root test also shows mixed results of I(0) and I(1). Therefore, the conclusion is that variables are integrated of I(0) and I(1) and none are integrated of I(2). Consequently, the conclusion is that cointegration analysis can be performed.

Table4.4 Panel unit root tests (Hadri, 1999)

Variable	Method	Prob.	Decision
ROE	Hadri Z-stat	1.29833 (0.0971)	I(0)
	Heteroscedastic Consistent Z-stat	1.17883 (0.1192)	
ROA	Hadri Z-stat	-0.70210 (0.7587)	I(1)
	Heteroscedastic Consistent Z-stat	-0.14951 (0.5594)	
NIM	Hadri Z-stat	1.35135 (0.0883)	I(0)
	Heteroscedastic Consistent Z-stat	1.57081 (0.0581)	
EPS	Hadri Z-stat	-0.31748 (0.6246)	I(1)
	Heteroscedastic Consistent Z-stat	0.77509 (0.2191)	
NPLR	Hadri Z-stat	0.36745 (0.3566)	I(0)
	Heteroscedastic Consistent Z-stat	-0.00506 (0.5020)	
PLTR	Hadri Z-stat	-1.11357 (0.8673)	I(1)
	Heteroscedastic Consistent Z-stat	-1.11357 (0.8673)	
OPE	Hadri Z-stat	-1.31894 (0.9064)	I(1)
	Heteroscedastic Consistent Z-stat	0.44026 (0.3299)	
INF	Hadri Z-stat	-1.20176 (0.8853)	I(0)
	Heteroscedastic Consistent Z-stat	-1.20176 (0.8853)	
GDP	Hadri Z-stat	0.25735 (0.3985)	I(1)
	Heteroscedastic Consistent Z-stat	0.25735 (0.3985)	
LOGTA	Hadri Z-stat	-0.31748 (0.6246)	I(1)
	Heteroscedastic Consistent Z-stat	0.77509 (0.2191)	

Source: Compiled by author

4.5.2 Cointegration results

Since the panel unit root test results reveal that some of the data sets (variables) are integrated of I(0) and I(1), this means that there is a possibility that they may be cointegrated. Therefore, a normal panel regression cannot be estimated (Gujarati & Porter, 2008). Therefore, the next step is to test for the cointegration to check if there is a long-run relationship between the variables (Brooks, 2014:373–379). For the purpose of this study, since the data has a mixture of I(0) and I(1), an ARDL approach to cointegration is employed.

The full discussion on the advantages and reasons for using ARDL are broadly discussed in chapter 3. One of the most important reasons for using ARDL is that all the traditional cointegration methods, such as Engle-Granger (1987) or Johansen's (1991, 1995) method; and the single equation methods, such as the Fully Modified OLS, or Dynamic OLS, all required all the variables to be stationary at the same level (Ahmed *et al*., 2013). As a solution to this problem, Pesaran and Shin (1998) showed that cointegrating variables with either I(0) or I(1)

can be estimated as the ARDL models, and this can be done without the need for specification, whether the variable is I(0) or I(1). The results reveal that all of the variables are integrated of I(0) and I(1) and now is I(2). At this point, the ARDL cointegration tests can be conducted.

The first step in ARDL cointegration tests is the selection of the optimal lag length to be used in the model, Pesaran *et al*., (2001). It is important to choose the appropriate optimal lag length before the equation estimation can be performed. In this study, the Akaike Information Criterion (AIC) is used to determine the best model (optimal lag length). EViews 9 in the estimating panel ARDL uses automatic model selection.

4.5.2.1 Analysis of the long-run relationship

This study uses four dependent variables to measure profitability. This means that four equations are tested and analysed. Table 4.5 presents long-run relationship analysis results, while Table 4.6 provides short-run relationship results of the ARDL cointegration using AIC model selection criteria.

First, the long-run equation will be discussed to see if there is a long-run relationship between the dependent variable and the independent variable. From the results presented in this study for every dependent variable, the important values to look at are the probability value (p-value) and the significance value. The p-value looks at the prospect in which the independent variable explains the movement of the dependent variable. The ability to influence the dependent variable is always compared to three significance levels: one percent, five percent and ten percent, respectively. However, five percent is always preferred as the standard for checking the significant level (Ara *et al*., 2009). Since the data used in this model has been transformed into logs, except for ROE, OPE and NIM, this means that a one percent change in an independent variable will lead to the percentage change in the dependent variable based on the independent variable coefficient value and direction.

4.5.2.2 Long-run relationship analysis with ROE as a measure of profitability

In testing the long-run relationship between political risk, credit risk and profitability, using ROE as a measure of profitability, the following model was formulated:

Model 1: ROE = 2206.8800 + 2.3809LNPLR - 16.4682LPLTRI-0.508 LOGTA + 8.6509OPE + 189.66 LGDP + 8.006LINF

Through the examination of the results presented in Table 4.5, LNPLR has a positive impact on the bank's profitability when it is measured by ROE. Having a coefficient of 2.38 means that a one percent increase in credit risk (NPLR) will increase profitability by 2.83 million, as there is a positive relationship. However, LPLTRI and LOGTA both show a negative impact on profitability, with coefficients of -16.47 and -0.35 respectively, Since there is a negative relationship, this indicates that if there is a one percent change in LPLTRI and LOGTA, this will result in a decrease of profitability (ROE) by 16.47% and 0.35% respectively. The three remaining variables, OPE, LGDP and LINF, all have a positive impact on profitability. With coefficients of 8.65, 189.66 and 8.01, this means that a one percent change, either in LGDP or LINF, will increase profitability by 189.66 million and 8.01% respectively, while an increase of the same unit change in OPE will increase profitability by 8.65 million.

In terms of the significance levels, four out of the six independent variables are significant, meaning that four variables affect profitability, while the other two do not. Statistically, significant variables include LNPLR, OPE, LGDP and LINF with p-values of 0.0980, 0.0266, 0.0013 and 0.0017 respectively. LNPLR has a weak significant level affecting ROE at a 10% level, compared to OPE, LGDP and LINF, which all have a strong significance on ROE at 5% level. LPLTRI and LOGTA are both statistically insignificant with the p-values of 0.7598 and 0.9598; this means that they have no impact on ROE.

Table 4.5 Long-run results

Long-run								
	ROE Model		**ROA Model**		**NIM Model**		**EPS Model**	
Variable	**Coeff.**	**Prob.**	**Coeff.**	**Prob.**	**Coeff.**	**Prob.**	**Coeff.**	**Prob.**
LNPLR	2.3809	0.0980***	-0.0625	0.0002**	0.0723	0.0012**	-0.2319	0.0000*
LPLTRI	-16.4682	0.7598	0.5017	0.3587	-2.995	0.0000**	-3.0566	0.0015*
LOGTA	-0.3508	0.9598	0.1774	0.1397	-0.1394	0.2849	0.4322	0.2188
OPE	8.6509	0.0266**	0.0229	0.8268	0.0723	0.0196**	1.2131	0.1100
LGDP	189.6618	0.0013**	-3.5799	0.0000*	2.6112	0.0000**	4.3021	0.0017**
LINF	8.0062	0.0017**	-0.1101	0.0201**	-0.0837	0.0039**	0.1746	0.0630***

Note: *, **, and *** indicate significance at 1%, 5% and 10% respectively.
Source: Compiled by author

4.5.2.3 Long-run relationship analysis with ROA as a measure of profitability

In testing the long-run relationship between political risk, credit risk and profitability, using ROA as a measure of profitability, the following model was formulated:

Model 2: ROA = 55.2137 - 0.0625 LNPLR + 0.5017 LPLTRI + 0.1774 LOGTA + 0.0229 OPE -3.5799LGDP -0.1101 LINF

With reference to Table 4.5, which provides ROA, and equation ARDL cointegration results using AIC model selection criteria. From these results, credit risk has a negative impact on the bank's profitability when it is measured by ROA. The coefficient of -0.062% means that a 1% increase in credit risk (NPLR) will decrease profitability by 0.062% since there is a negative relationship. These results are contrary to those reflected in Table 4.8 when profitability is measured by ROE, reflects the positive effect of credit risk on profitability. However, LPLTRI, LOGTA and OPE all reflect a positive impact on profitability with coefficients of 0.50%, 0.18% and 0.02% respectively. The positive relationship means that 1% (unit in terms of OPE) increase in LPLTRI, LOGTA and OPE will increase profitability by 0.50%, 0.18% and 0.02 million respectively. The last two variables, LGDP and LINF, both indicate a negative relationship on profitability, with coefficients of -3.58% and -0.11% respectively. This indicates that 1% change, either in LGDP or LINF, will increase profitability by -3.58% and -0.11%.

4.5.2.4 Long-run relationship analysis with NIM as a measure of profitability

In testing the long-run relationship between political risk, credit risk and profitability using NIM as a measure of profitability, the following model was formulated:

Model 3: NIM = 29.778 + 0.0723 LNPLR - 2.995 LPLTRI - 0.1394 LOGTA + 0.0723 OPE + 2.6112 LGDP - 0.0837 INF

Table 4.5 also provides the results that NIM is the third dependent variable for this equation. Results provided in Table 4.5 indicate that LNPLR, OPE and LGDP have a positive effect on banks' profitability when measured by NIM. With the coefficients of 0.07%, 0.07 units and 2.61% respectively, this implies that 1% change, either in LNPLR, OPE or LGDP, will increase profitability by 0.07%, 0.07 million and 2.61%, respectively. While LNPLR, OPE and LGDP show positive effect, LPLTRI, LOGTA and LINF all reflect a negative effect on profitability, and have coefficients of -3.00%, -0.14% and -0.08% respectively.

4.5.2.5 Long-run relationship analysis with EPS as a measure of profitability

In testing the long-run relationship between political risk, credit risk and profitability using EPS as a measure of profitability, the following model was formulated:

Model 4: EPS = 78.7462 - 0.2319 LNPLR -3.0566 LPLTRI + 0.4322 LOGTA + 1.2131 OPE + 4.3021 LGDP + 0.1746 LINF

The EPS shows that LNPLR and LPLTRI have a negative effect on profitability, each having the coefficients of -0.23% and -3.06% respectively. This indicates that a 1% change, either in LNPLR or LPLTRI, will decrease profitability by 0.23% and 3.06% respectively. Conversely, LOGTA, OPE, LGDP and LINF are all positively related to profitability, with the coefficients of 0.43%, 1.21%, 4.30% and 0.17% respectively. This means that a 1% change, either in LOGTA, OPE, LGDP or LINF, will increase profitability by 0.43%, 1.21 million, 4.30% and 0.17% respectively.

4.5.3 The error correction model results

Now that the long-run relationship (cointegration) has been established between profitability, and bank specific and external variables, most economic systems are rarely in equilibrium, as they are affected by many factors, both internal and external, and the South African economy is not immune to this economic condition. Therefore, since equilibrium is important, yet infrequently analysed, the short-run evolution of variables, also known as the Error Correction Model (ECM) or equilibrium correction model, is important. This study proceeds to look at the short-run equation or equilibrium correction model. Schøning (2011) and Brooks (2014) define ECM as a dynamic model to determine the adjustment of the system to the equilibrium. Table 4.6 summarises the overall short-run relationship analysis results for all the banks, and the measures of profitability. Thereafter, the short-run results for each bank are presented and compare how each banks' profitability responded to the changes in dependent variables.

Table 4.6 Short-run relationship results

Short-Run								
	ROE Model		ROA Model		NIM Model		EPS Model	
Variable	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
ECT	-0.8062	0.0025*	-1.1194	0.0005**	-1.3045	0.0332**	-1.2959	0.0046*
D(LNPLR)	3.4015	0.5601	-0.1729	0.0180**	-0.3747	0.2202	0.8268	0.0000*
D(LPLTRI)	90.4999	0.1734	1.5207	0.2120	2.1848	0.3406	8.9666	0.0005*
D(LOGTA)	-13.9999	0.4434	-0.2094	0.3961	-0.1098	0.0100**	-1.1305	0.3308
D(OPE)	-30.0318	0.7675	-0.5597	0.4616	0.6909	0.3140	-0.1157	0.9520
D(LGDP)	-22.5064	0.7325	3.8090	0.0449**	-5.1784	0.4352	-10.5485	0.2406
D(LINF)	3.8288	0.4203	0.2299	0.0385**	-0.0426	0.8664	0.0676	0.8444
C	-2206.8800	0.0025**	55.2137	0.0004*	-29.7780	0.0329**	-78.7462	0.0049**
@TREND	3.8794	0.0009*	-0.0891	0.0135**	0.0253	0.0010*	0.1801	0.0157**

Note: *, **, and *** indicate significance at 1 %, 5 % and 10 % respectively.

Source: Compiled by author

4.5.3.1 Return on equity error correction model results

Table 4.6 provides the error correction model of the ROE equation. The most important term in the ECM results is the sign and coefficient of the ECM term. The rule of thumb is that the error term should be negative and significant. Therefore, the error term for the ROE equation is -0.8062 and it is significant with the p-value of 0.0025. The negative sign of the ECM term confirms the process of reaching equilibrium in the end between profitability and independent variables.

According to Bannerjee *et al*., (1998), the high significant error correction term is evidence of a stable long-run relationship between the variables. The error term of - 0.81, provided by the ROE model, implies that the about 81% of the previous year's disequilibrium is corrected in the current year. Therefore, 1 divided by 0.806172 results in 1.2404, meaning that it takes approximately 1.2 years for the whole banking system to reach profitability equilibrium when measured by ROE. All the independent variables in the short-run equation are statistically insignificant. This means that collectively they have no impact on ROE in the short run.

4.5.3.2 Return on assets error correction model results

As indicated in Table 4.6, the error term for the ROA equation is -1.1194 and it is significant with the p-value of 0.0005. The negative sign of the ECM term confirms the process of reaching equilibrium in the end between profitability, measured by ROA, and independent variables. The error correction model shows a high error coefficient of -1.12%, with the significant level of 0.0005%. This finding is supported by Bannerjee *et al*., (1998), who assert that a highly significant error correction term, with a high coefficient value, is evidence of a stable long-run relationship between the variables. While investigating the traditional ARDL and the ARDL approach to cointegration for the analysis of short-run and long run relationships when series are different in Nigeria, the authors found the error term to be error term -1.27. Similar results are also presented by Shittu *et al*., (2012).

The error term of -1.12, simply implies that about 112% of the last year's disequilibrium is corrected in the current year, or the deviation from the long-run equilibrium is corrected by 112% by the following year. Therefore, 1 divided by 1.12 results in 0.89, meaning that it takes approximately 0.89 years for the whole banking system to get to a profitability equilibrium when measured by ROA. In the short run, only LNPLR, LGDP and LINF are significant variables, with the significant values of 0.0180, 0.0449 and 0.0385 respectively. This means that in the short run, LNPLR, LGDP and LINF can explain the movements in profitability when measured by ROA.

4.5.3.3 Net interest margin error correction model results

The NIM short-run equation results, using the AIC model selection criteria, reveals that the error term for the NIM equation is -1.3045 and is significant with the p-value of 0.0332. The negative sign of the ECM term confirms the process of reaching equilibrium in the end between profitability measured by NIM and independent variables. Like the ROA error term, the NIM error term is also high at -1.30. This error term indicates that about 130% of the last year's disequilibrium is corrected in the current year, or the deviation from the long-run equilibrium is corrected by 130% by the following year. Therefore, 1 divided by 1.304536 results in 0.766556, meaning that it take approximately 0.76 years for the whole banking system to reach profitability equilibrium when measured by NIM. When NIM is used as the measure of profitability, only LOGTA is significant with the coefficient of -0.109823 and p-value of 0.0100. This means that the LOGTA explains the movements in profitability in the short-run.

Since there is a negative relationship, a 1% change in LOGTA will result in 10.1% decrease in profitability.

4.5.3.4 Earnings per share error correction model results

The error term of -1.2959 indicates that approximately 130% of the last year's disequilibrium is corrected in the current year, or the deviation from the long-run equilibrium is corrected by 130% by the following year. Therefore, 1 divided by 1.295921 results in 0.771652, meaning that it takes approximately 0.77 years for the whole banking system to reach profitability equilibrium when measured by EPS. The same results are found when measuring profitability using NIM. However, the difference is that under the NIM equation only LOGTA contributes to portability in the short-run. Whereas under the EPS equation, LOGTA is not significant. This implies that a bank's size has no effect on profitability when EPS is used as a measure of profitability. LNPLR and LPLTRI with the coefficient values of 0.8268 and 8.9666, as well as 0.0000 p-values respectively, means that a 1% increase in LNPLR or LPLTRI will increase profitability by 0.8268% and 8.9666% respectively. Although the short-run equations for NIM and EPS provide similar outcomes, the results show that the in the short run, profitability is influenced by different variables.

4.5.4 Results of residuals tests

To test if the models used did not provide spurious results, it is important to apply the model diagnostics tests. These important tests are serial correlation, multicollinearity, and normality tests. In EViews 9, the requirements outlined by Pesaran *et al*. (1999; 2001) are that the data in the study must be free of autocorrelation, heteroscedasticity, and must be normally distributed in order for the PMG ADRL approach to be performed. If the data does not meet the above requirement, then panel PMG ADRL regression will not run.

Therefore, since this study's data was able to perform the panel PMG ADRL regression, the data is found to be free of autocorrelation and heteroscedasticity. Since the autocorrelation and heteroscedasticity are met by the data, EViews 9 only provides the normality test, which the data also passes (see the figure 4.2 for the normality results). Therefore, the results provided in Tables 4.5 and 4.6 and discussed in subsection 4.5.4 below, are authentic.

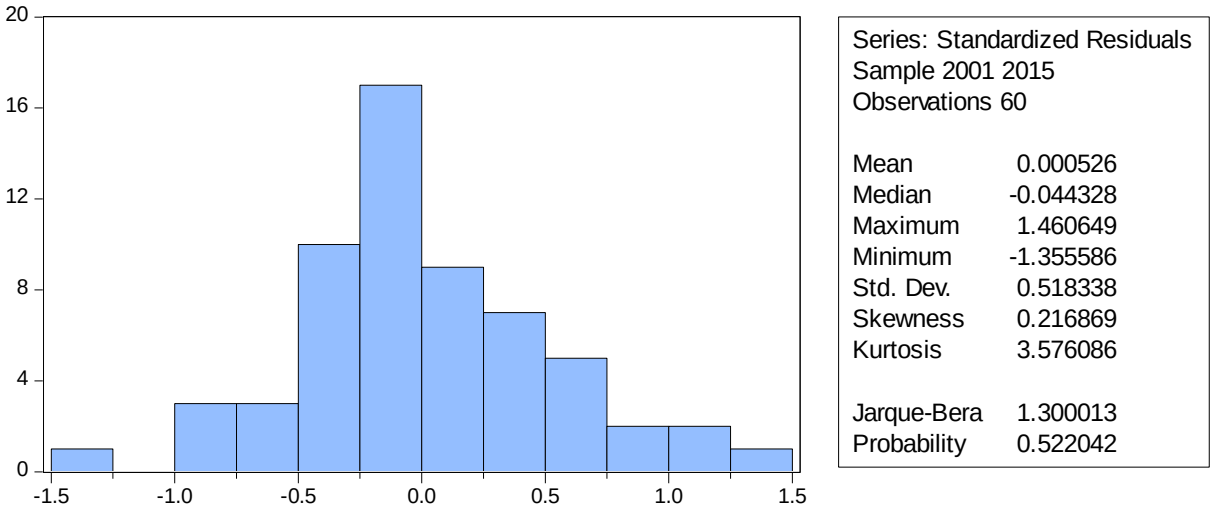

Figure 4.2 Normality results

Source: Compiled by author

4.5.5 Discussion of the results

Based on the combined results of the previous empirical studies on the relationship between profitability (measured by ROE, ROA, NIM, EPS) and independent variables (LNPLR, LPLTRI, LOGTA, OPE, LGDP and LINF) and the results of this study, the study's key dependent variables represent profitability. This is linked to the management efficiency of the banks and two key independent variables, i.e. credit risk and political risk. Both can add insight into how the bank's management can manage these risks to improve their profitability. This sub-section discusses the overall result obtained. With reference to previous empirical findings and the findings of this study, each independent variable is discussed.

The primary objective of this study (chapter 1) is to analyse the relationship between political risk, credit risk and profitability in the South African banking sector. Based on the literature findings discussed in chapter 2, the following propositions were developed regarding the effect of an independent variable on profitability (ROE, ROA, NIM, and EPS) and are discussed, based on the results, to establish whether the findings of this study correspond to the set propositions based on literature.

These propositions are outlined as follows:

(P1): There is a negative relationship between political risk and profitability;
(P2): There is either a positive or negative relationship between credit risk and profitability;
(P3): There is either a positive or negative relationship between bank size and profitability;
(P4): There is a negative relationship between operating expenses and profitability;
(P5): There is either a positive or negative relationship between economic activity and profitability; and
(P6): There is either a positive or a negative relationship between inflation and profitability.

4.5.5.1 Results of political risk effect on profitably

With regard to political risk, this study reveals that there is a negative effect on profitability by political risk. These results are not contrary to the researcher's expectation, as political risk has a direct effect on firms, including banks' profitability. This confirms the first proposition (P1) set by the study. Supporting this view is Yew (1997:1) who asserts that the root cause of the economic crisis is not economic, but political. These findings are in line with the studies by Ciarrapico (1984), Meyer (1985), Brink (2004:11), and Du Toit (2014), who also found PLTRI to have a negative effect on profitability.

This means that the South African banks are sensitive to the reaction to political events in the country, as they direct influence on profitability. Therefore, the South African banks should have an integrated risk management system that will no longer only focus on business or financial risks, but will incorporate all the risks in a risk framework developed by the bank for proper mitigation and management processes and strategies.

4.5.5.2 Results of credit risk effect on profitability

The results in Table 4.5 and 4.6 confirm the second proposition (P2), as the results revealed that credit risk has a positive long-run relationship with profitability when measured by ROE and NIM. However, it shows a negative impact when measured with ROA and EPS. The positive effects results are contrary to the general view and common understanding of the relationship between credit risk and profitability, which state that higher credit risk results in higher losses and affects the banks' capital structure, thereby affecting its profitability (Kwambai & Wandera, 2013:169).

The significance level of credit risk indicates a scenario where credit risk positively affects banks' profitability seldom occurs, however, this result corresponds with the findings by Garciya-Marco and Robles-Fernandez (2008), Kithinji (2010), and Boahene *et al*., (2012). The findings are supported by the view that profit maximisation is accompanied by high levels of risk (Garciya-Marco and Robles-Fernandez, 2008, and Ongore and Kusa, 2013:239). This uncommon relationship could be attributed to a number of internal factors, such as interest rates charged, banking fees, commissions and other non-interest charges (Boahene *et al.*, 2012:12).

Moreover, this study also found that credit risk has a negative impact on profitability when measured with ROA and EPS. This result concurs with the studies by Boudriga *et al*., (2009), Kithinji (2010), Louzis *et al*., (2010), Boahene *et al*., (2012), Klein (2013), Shingjerji (2013), Ahmad and Bashir (2013), and Makri *et al.*, (2014).

Since the aim of the banks is also to make a profit, all bank strategies, activities and decisions must work together to reach profitability. The profit maximisation objective requires banks to take on high-risk decisions in order to improve the returns. This means that the high-risk loans will also form part of different portfolios that the banks will develop. However, banks should be encouraged to reduce other costs incorporated into loans and banking facilities. This approach will simplify and encourage borrowers to fulfil their financial commitments and reduce credit risk (Aduda & Gitonga, 2011; Hatter *et al*., 2015). The results reveal the existence of weak management of the funds invested by shareholders via poor agency relationships in commercial banks in South Africa.

4.5.5.3 Results of bank size effects on profitability

The empirical results of the bank size reveal the negative impact on profitability. These results are in line with the third proposition (P3). The results from Table 4.5 indicate that, in the end, ROE and NIM are positively affected by size, while ROA and EPS are negatively affected. However, not all of them are significant, so the long-run effect is not attributed to bank size. On the contrary, the empirical results in Table 4.6 show that profitability is affected negatively by bank size in all the measures of profitability. However, only net interest margin can explain the short-run effect as it is the only one that is significant. The insignificant results presented by this study concur with the findings by Isik and Hassan (2002) and Girardone (2004), while the negative effects were found by Shepherd (1972), Darrat and Yousif (2002), Staikouras and

Wood (2004); Redmond *et al*., (2007), Athanasoglou *et al*., (2008), Dietrich and Wanzenried (2011), Naceur and Omran (2011), and Köhler (2015).

The main reason for these empirical findings, regarding the bank size, can be attributed to the fact that the South African banks are oligopolistic by nature and highly concentrated, represented by the four large banks, namely Absa Bank, FirstRand Bank, Nedbank and Standard Bank (PWC, 2015). Therefore, the bank size might not have much consequence except when the study was comparing the profitability between different bank sizes.

4.5.5.4 Results of operating expenses influence on profitability

Unlike the previous results discussed, OPE has a positive effect on profitability. These results are contrary to the fourth proposition (P4) and to the general economic understanding of profitability. As part of the daily business operations, OPE cannot be avoided, but can be managed. In a situation where the proposition provided in LOGTA, of increasing its profitability by exploring new markets and expanding and improving services, the bank can reduce its OPE by shifting to more technologically-advanced software and reducing the amount spent on labour, while providing better and improved service. The results are opposite to the findings by Bourker (1997), Miller and Noulas (1997), Odldel *et al*., (2012), and Sufian and Habibullah (2010).

Therefore, the results presented in this study regarding the influence of OPE on profitability in South Africa could be as a result of the fact that the South African banking sector is oligopolistic by nature, and highly concentrated in four large banks, namely Absa Bank, FirstRand Bank, Nedbank and Standard Bank (PWC, 2015). The technological improvement increased productivity and provided product diversification. This study reports positive relations between OPE and profitability. Therefore, to increase profitability, South African banks should invest more in capital operating expenses that will yield positive results.

4.5.5.5 Results of gross domestic product and inflation

The LGDP results confirm the fifth proposition (P5) as based on economics theory. The results revealed a positive influence of GDP on profitability. Goddard *et al*., (2004), confirm the results of this study, using 583 European banks, a cross-sectional regression was performed on the profitability, and the results revealed a positive influence of GDP on profitability. Hassan

and Bashir (2003), Kosmidou *et al*., (2005), Havrylchyk and Jurzyk (2006), and Flamini *et al*., (2009), present similar results.

Likewise, the sixth and last proposition (P6) is confirmed by the inflation results, which also show a positive impact on profitability. This result relates to the positivists' theory by Griffiths (1979). According to this theory, inflation has a positive significant impact on investment decisions of organisations, which in return will increase the profitability of the organisation. The thinking behind this theory is that inflation results in more rapid economic growth and this encourages the move away from income from wages, and more to savings and investments. Therefore, more bank investments and savings means more returns and an increase in profitability.

The results relate to the findings by Edward and Ping (1999), Bentsen (2000), Haron and Azmi (2004), and Anwar and Herwany (2006) who found a positive outcome of inflation on profitability. The main reason for these positive outcomes of inflation on profitability could be an association between the banks' lending rate and the general economic climate globally, as well as locally. Due to higher inflation, banks provide attractive rates and returns, and this enables individuals with funds to save and invest with the hope of receiving good returns on their investments. Banks take advantage of this and use these funds to participate in the securitisation process and tap into the derivatives market to make a profit out of these investments and savings.

4.6 CONCLUSION

This chapter provided the empirical analysis of the relationship between political risk, credit risk and profitability in the South African banking sector. This chapter began by performing the trend analysis of the dependent variables, namely ROE, ROA, NIM and EPS, which measure profitability. ROE for all four banks showed a flat and constant trend during the financial crisis (2008 to 2010), but post-crisis, Nedbank is below other banks. Likewise, ROA also had a flat constant trend, but increasing for most of the banks' ROA during the financial crisis. The NIM trend for all four banks for the 15-year period was relatively constant for three of the banks, and cyclical for FirstRand Bank. Lastly, EPS was generally a constant trend from 2001 to 2010, and then a mixture of upward and downward fluctuations for each bank, respectively, until 2015.

Descriptive statistics covered the mean, median and standard deviation of the dependent and independent variables. The results revealed that ROE has the greatest mean average of 17.487%, compared to NIM, EPS and ROA at 0.1546%, 0.957445% and 1.764235%, respectively. ROE, ROA NIM and EPS shows average and acceptable values, and therefore can provide an efficient evaluation by decomposing the most frequently used measure of profitability. Correlation analysis and unit root tests were performed. The correlation analysis results revealed that there is a negative relationship between political risk and credit risk. This suggests that their level of credit risk has a negative effect on the credit level of the bank. The unit root test revealed that none of the variables were cointegrated at level 2 I(2).

The prerequisite for the ARDL model to perform is that the data in the study must be free from autocorrelation and heteroscedasticity, and the data must be normally distributed in order for the PMG ADRL approach to be performed. If the data does not meet the above requirement, then panel PMG ADRL regression will not run. Therefore, since this study's data was able to perform the panel PMG ADRL regression, then the data is found to be free of autocorrelation and heteroscedasticity. Since the autocorrelation and heteroscedasticity are met by the data, EViews 9 only provides the normality test, which the data also passed.

Finally, the panel PMG ARDL model was performed and the results presented and discussed. The study finds that political risk and credit risk have an effect on South African banks' profitability. Regarding political risk, results reveal that there is a negative influence on profitability by political risk. These results are not contrary to the researcher`s expectation, since political risk has a direct influence on firms, including banks' profitability. Conversely, credit risk shows both positive and negative significant influence on profitability at five percent level. These findings suggest that political risk should also be treated as an economic risk by banks.

Other variables were also analysed, and the results reveal that bank size has both positive and negative significant influence on South African banks' profitability, while operating expenses show a positive significant influence. GDP growth and inflation both showed a positive effect on profitability. These findings are an indication that only political risk and credit risk have an influence on profitability.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. INTRODUCTION

The aim of any business, apart from service and product provision, is to make a profit. Likewise, banks, as financial institutions, also aim to make a profit for their owners, and operate profitably in order to improve financial system stability, soundness, economic growth, and expansion. Countries with stable and profitable banking systems prosper faster than countries with a weak banking system. However, all financial institutions, especially banks, are subjected to a number of risks, such as country risk, interest rate risk, market risk, purchasing or inflationary risk, operational risk, business or liquidity risk, and financial or credit risk. Therefore, the primary objective of this study was to analyse the relationship between political risk, credit risk and profitability in the South African banking sector.

The current chapter summarises the findings and concludes the study. Section 5.2 proceeds with a summary of the study. Section 5.3 provides an overview of the objectives of the study. Section 5.4 presents the conclusion, while Section 5.5 provides recommendations. Section 5.6 concludes this chapter by outlining the study limitations and highlighting the direction for future research.

5.2 SUMMARY

Chapter 1 identified, and subsequently elaborated upon, the introductory subjects leading to the study. It provided the 'map' for the study by outlining the background of the study, the problem statement and research objectives of the study, the research design and methodology, and societal and ethical considerations, limitations of the study, and concluded by providing the outline of the research chapters.

Chapter 2 provided an overview of the theoretical aspects of political risk, credit risk and profitability. Problem-solving and decision-making theory were used to explain the importance of political risk. The concept of risk was discussed, and differentiation between risk, uncertainty and instability was provided. The definition and distinction of country risk from political risk was also provided, due to the ongoing debate among scholars, academics, practitioners and governments pertaining to the definition, relation and use of country risk and political risk as one concept. The decision-making theory is discussed in section 2.2, i.e. the distinction between risk, instability and uncertainty, and how political risk can be seen as a

connected to risk by being used in the process of problem-solving and decision-making when investing.

Over the years, a number of studies have been carried out to find an appropriate definition of political risk. However, no consensus has been reached between scholars pertaining to the definition of political risk. Therefore, there are two camps of scholars regarding the definition of political risk. The first distinguishes political risk as a general political event, and the other as the action by the government. In order to fully understand the concept of political risk, concepts relating to political risk, such as industry-specific and macro and micro risks were discussed. Finally, the working definition of political risk for this study is the risk that actions by government, whether influenced by corporate or societal factors, will ultimately have an effect on the business, which will result in loss of profit. The political risk section concluded by discussing political risk management. This included the identification of risk factors, the assessment, and lastly, the control measures.

The second section of chapter 2 discussed credit risk. Credit risk is described as the risk that arises from the potential of the counterparty defaulting on its repayment of the principal and the interest agreed upon in the stipulated period. The importance and effect of credit risk on banks' profitability could not be emphasised enough. Chapter 2 reveals that ignorance, misinterpretation and lack of proper risk management philosophy and proper credit risk management policy, could cause great harm and even lead to bank failure.

Since credit risk is the biggest risk faced by banks, major types of credit risks faced by banks include, but are not limited to, recovery rate risk, settlement risk, non-directional risk, sovereign risk, exchange rate risk, and credit event risk. Each of the abovementioned risks are briefly explained. The credit risk section concluded with credit risk management. Providing credit derivatives, credit securitisation, compliance to the Basel accord, adoption of a sound internal lending policy, and use of credit bureaux, as the mitigation strategies that can be applied in mitigating the influence of credit risk on profitability.

Chapter 2 concludes by providing the underlying theoretical background on profitability. The chapter reveals that profitability determinants can be split into two groups, i.e. internal (bank-specific) factors and external (industry-specific and macroeconomic) factors. Political risk, credit risk, bank size, operating expenses, GDP and inflation were identified and discussed as the main determinants of profitability. Moreover, ROE, ROA, NIM and EPS were found to be

the measures of profitability. The use of these methods provides good outcomes regarding the profitability of firms, as they have been frequently used as the measures of profitability in a number of different studies.

Chapter 3 provided the research methodology applied in this study. The study started by providing a brief description of the research approach and design. A quantitative approach was chosen as the appropriate research method for this study. The research population for this study covered all the operating commercial banks in South Africa. Although regarded as the most advanced and sophisticated banking sector in Africa, the South African banking sector is oligopolistic in nature and highly concentrated in four large banks, namely Absa Bank, FirstRand Bank, Nedbank and Standard Bank, which were used as the sample size of this study. Therefore, for the effectiveness of the study, the annual secondary data of the four major banks in South Africa was collected from 2001 to 2015.

The data collected included four types of variables, i.e. ROE, ROA, NIM and EPS, which were used as the proxies for profitability. NPLR and PLTRI were used as the two independent variables. Bank size, operating expenses, economic activity, gross domestic product, inflation and interest rates were used as control variables. The bank specific variable data was collected from the INET BFA dataset and official bank websites. Political risk data was provided by ICRG, while South African macroeconomic variable data was obtained from SARB and Stats SA.

Prior to the model discussion, unit root test was explained first. The test was used to ensure that none of the variables are integrated of order 2nd difference meaning I(2). Levin, Lin and Chi (LLC), Im, Pesaran and Shin (IPS), ADF Fisher Chi-square (ADF Fisher) and PP-Fisher and the Hadri (1999) panel unit root tests were explained and discussed. The PMG ARDL model was discussed. The PMG ARLD was chosen due to its advantages, which are: the model can be used when variables are integrated at order zero I (0), at order one I (1), or even when there is a mixture of order zero and order one I (0) and I (1) The PMG ARDL allows the intercepts, short-run coefficients and cointegrating terms to differ across banks; and assumes the long-run slope to be the same across banks. All the statistical tests, including the model in this study, are performed using EViews 9 statistical software. Chapter 3 concluded with the lag length and model selection used by the PMG ARDL model.

Chapter 4 provides the empirical analysis of the relationship between political risk, credit risk and profitability in the South African banking sector. This chapter began by performing the trend analysis of the dependent variables, namely ROE, ROA, NIM and EPS, which measure profitability. ROE for all four banks, showed a flat and constant trend during the financial crisis (2008 to 2010). However, post-crisis Nedbank is below Absa Bank, FirstRand Bank and Standard Bank. Likewise, ROA also had a flat constant trend, with an increase in ROA for most of the banks during the financial crisis. The NIM trend for Absa Bank, FirstRand Bank and Standard Bank was relatively constant over the 14-year period, and cyclical for FirstRand Bank over the same period. Lastly, EPS generally had a constant trend from 2001 to 2010, with a mixture of upward and downward fluctuations for each bank until 2015.

Descriptive statistics covered the mean, median and standard deviation of the dependent and independent variables. The results revealed that ROE has the biggest mean average of 17.487%, compared to NIM, EPS and ROA at 0.1546%, 0.957445% and 1.764235%, respectively. ROE, ROA NIM and EPS shows average and acceptable values, and therefore can provide an efficient evaluation by decomposing the most frequently used measure of profitability. Correlation analysis and unit root tests were performed. The correlation analysis results revealed that there is a negative relationship between political risk and credit risk. This suggests that the level of credit risk has a negative effect on the credit level of the bank. The unit root test revealed that none of the variables were cointegrated at level 2 I(2).

The prerequisite for the ARDL model to perform is that the data in the study must be free from autocorrelation and heteroscedasticity, and the data must be normally distributed, in order for the PMG ADRL approach to be executed. If the data does not meet the above requirement, then panel PMG ADRL regression will not run. Therefore, since this study's data was able to perform the panel PMG ADRL regression, the data was found to be free of autocorrelation and heteroscedasticity. Since the autocorrelation and heteroscedasticity are met by the data, EViews 9 only provides the normality test, which the data also passed.

Finally, the panel PMG ARDL model was performed and results presented and discussed. The study finds that political risk and credit risk do have an effect over South African banks' profitability. Regarding political risk, results reveal that there is a negative effect on profitability by political risk. These results are not contrary to the researcher`s expectation as political risk has a direct effect on firms, including banks' profitability. Conversely, credit risk

shows both positive and negative significant effect on profitability at five percent level. These findings suggest that political risk should also be treated as an economic risk by banks.

Other variables, such as bank size, GDP and inflation, were also analysed. The results reveal that bank size has both a positive and a negative significant effect on South African banks' profitability, while operating expenses show a positive significant influence. GDP growth and inflation both showed a positive effect on profitability. These findings are an indication that political risk and credit risk are not the only two factors that have an effect on profitability.

5.3 REALISATION OF OBJECTIVES OF THE STUDY

This section provides an overview of the research objectives and indicates how they were achieved. This study only had one primary objective. The primary objective of this study was to analyse the relationship between political risk, credit risk and profitability in the South African banking sector. This primary objective was achieved through the econometric model that was constructed in chapter 3 of the study and then estimated, analysed and discussed in chapter 4 of the study. The results confirm that there is a relationship between political risk, credit risk and profitability in the South African banking sector. Regarding political risk, these results reveal that there is a negative effect on profitability by political risk, while credit risk shows both a positive and a negative relationship with profitability. The primary objective was achieved through the achievement of both theoretical and empirical objectives.

5.3.1 Theoretical objectives

In accordance with the primary objectives of the study, this study formulated the following four empirical objectives. Firstly, to review theoretical concepts of political risk. Secondly, to study the theoretical concepts of credit risk. Thirdly, to provide conceptual explanations of bank profitability and its measurement, and lastly, to review empirical studies and the link between political risk, credit risk and profitability during different economic periods. All the theoretical objectives were achieved by chapter 2. This chapter provided the underlying theoretical aspects of political risk, credit risk and profitability. The problem-solving and decision-making theory was used to explain the importance of political risk. Credit risk was also discussed in relation to profitability, and lastly, the underlying theoretical background of profitability was discussed. A clear definition of profitability was provided, and the determinates of profitability were discussed.

5.3.2 Empirical objectives

This study followed the four empirical objectives of the study as set out in chapter 1 and listed as follows. Firstly, to determine the relationship between credit risk and political risk in the South African banking sector. Secondly, to analyse how credit risk affects bank profitability in South Africa; thirdly, to determine how political risk affects bank profitability in South Africa; and lastly to compare how different measures of profitability affect the relationship between credit and political risks and banks' profitability. The econometric model was 'built' in chapter 3 and then estimated, analysed, and tested in chapter 4.

The first objective was achieved by performing the correlation analysis to see if there is a relationship between the variables, then the results revealed that there is a negative relationship between political risk and credit risk. This suggests that the level of credit risk has a negative effect on the credit level of the bank. The second and third objectives were achieved by performing the ARDL cointegration analysis to check if there is a long-run relationship between the dependent variable (profitability) and independent variables (political risk and credit risk). The results reveal that indeed both political risk and credit risk have a long-run effect on profitability. The last objective is achieved through the discussion of the analysis, which is based on the six propositions that were developed in chapter 3 of the study.

The first proposition (P1), was achieved by the findings that there is a negative effect on profitability by political risk. The second proposition (P2) was achieved as the results revealed that credit risk has a positive long-run relationship to profitability when measured by return on equity and net interest margin. However, political risk shows a negative impact when measured with return on assets and earnings per share. Confirming the third proposition (P3), the results indicated that return on equity, net interest margin are positively affected by bank size, while return on assets, and earnings per share are negatively affected by political risk and credit risk. Operating expenses showed a positive effect on profitability and this is contrary to the fourth proposition (P4). The gross domestic product results confirm the fifth proposition (P5), by revealing a positive effect of gross domestic product on profitability. The sixth and last proposition (P6) was confirmed by inflation's results, which also showed a positive impact on profitability. In conclusion, all the set objectives of the study, theoretical or empirical, were achieved by this study through a combination of different elements.

5.4 CONCLUSION

Political risk and credit risk seem to be the major factors that affect the South African bank's profitability among other factors. As indicated in the literature review, banks play a very important role in the development of a country's economy. However, the effect of political risk and credit risk is a major concern for bank managers, investors and policymakers alike. Therefore, the management of profitability should be aligned with the reaction and performance of political risk and credit risk.

This study investigated the relationship between political risk, credit risk and profitability in the South African banking sector. The study findings revealed that South African banks are sensitive to political and credit risk. This confirms the PMG ARDL model assumption of pooling the mean across the banks. This means that in the end, both political risk and credit risk affects the bank's profitability. Since the results of these risks can be measured over time, the effects are mostly reflected on policy changes, which take time to reflect the effects. The study also found that credit risk could be a double-edged sword in improving and enhancing profitability or decreasing profitability. The profit maximisation objective requires banks to take on high-risk decisions in order to improve returns.

The results of this study reveal that return on equity and return on assets are the most sensitive measure of profitability in terms of political risk and credit risk. The findings, together with the recommendations of this study, can be used to help understand the relationship between profitability and political risk, and how to improve it or deal with the effects. Nonetheless, this study still encourages further research on the relationship between political risk, credit risk and profitability. Therefore, the following section discusses the study's limitations and areas for future research.

5.5 RECOMMENDATION

Profitability is the primary objective of every business; however, the developments in the global economy put political risk and credit risk as a threat to profitability sources of banks. The results of this study reveal that both political and credit risk have a negative effect on profitability. This suggests that the management of profitability should be aligned with the performance of political and credit risk.

Based on the findings of this study, the following recommendations are suggested:

- **An integrated ERM framework that incorporates political risk as part of the business risk**

Over the years, political risk has been treated as an international concept. However, tough economic development in emerging economies, such as the South African economy, places political risk at the centre of the business transaction. Therefore, South African banks should have an integrated risk management system that will no longer only focus on business or financial risks, but have a system that will incorporate all the risks in a risk framework on the bank for proper mitigation and management processes and strategies.

- **Promoting the use of credit derivatives**

With the biggest risk faced by banks emerging from credit risk, banks should establish internal strategies and procedures to deal with the effect of risk. Therefore, managers are encouraged to participate in the derivatives markets where the defaulting risk can be hedged by taking an opposite position in the derivatives market if the borrower defaults so that the bank can benefit from the derivatives output. However, this position should be based on the riskiness of the borrower; high-risk clients need full hedging while the effect on low-risk clients' can be absorbed by the bank's reserves.

- **Ensuring growing and stable macroeconomic conditions**

Bank profitability is the concept of both internal and external environmental factors. Therefore, stable macroeconomic conditions encourage a stable, sound and profitable banking system. As a result, this improves the financial system, which also enhances the economy, in order to withstand negative shocks. Since profitability is regarded as one of the important elements contributing to a productive and efficient banking system, an efficient banking system will contribute to successful countries' credit ratings and improve political stability.

5.6 STUDY LIMITATIONS AND AREAS FOR FUTURE RESEARCH

5.6.1 Study limitations

Although this study managed to achieve all the set objectives, the study also accepts and acknowledges the following as its limitations. Firstly, a single country (South Africa) was used.

Different results could be found if more countries are considered. Secondly, only the four major banks of South Africa were used, as the four banks represent 83% of the South African banking sector. Although the presented four banks are not the same, they are all commercial banks. Therefore, other retail, investment, and development banks operating in South Africa are not included in this study.

Thirdly, the timeframe of the study only covers fifteen years (2001–2015). Including data from 1994 would give a good picture of South African banking, taking into account the political transformations of this country. Lastly, only four measures of profitability are used in this study, meaning that other measures, such as the capital adequacy ratio (CAR) and loan to deposit (LTD) ratio are not included.

5.6.2 Areas for future research

To address some of these limitations presented above, the following areas may be explored for future research:

- The study can be extended to include more countries;
- A comparison can be made by using locally and foreign-owned banks in South Africa in the study;
- Comparing retail, investment or development banks, and
- More measures of profitability and credit risk can be used in order to provide more light on the relationship between these two concepts.

REFERENCES

Acharya, V., Philippon, T., Richardson, M. & Roubini, N. 2009. The financial crisis of 2007-2009: Causes and remedies. *Financial markets, institutions & instruments*, 18(2):89–137.

Aduda, J. & Gitoga, J. 2011. The relationship between credit risk management and profitability among the commercial banks in Kenya. *Journal of Modern Accounting and Auditing*, 9 (7): 934–946.

Afanasieff, T., Lhacer, P. & Nakane, M. 2002. The Determinants of Bank Interest Spreads in Brazil. Banco Central di Brazil Working Papers.

Afriyie, H. O. & Akotey, J.O. 2012. Credit Risk Management and Profitability of Selected Rural Banks in Ghana. Ghana: Catholic University College of Ghana.

Aggarwal, R. & Jacques, K.T. 2001. The impact of FDICIA and prompt corrective action on bank capital and risk: Estimates using a simultaneous equations model. *Journal of Banking & Finance*, *25*(6):1139–1160.

Aggarwal, V. K. 1996. Debt games: Strategic interaction in international debt rescheduling: Cambridge University Press.

Aggarwal, V. K. 1998. Debt Rescheduling in Comparative Perspective. Paper presented at the World conference on "Capital Flows in Crisis," Washington, D.C. 27–28 October.http://basc.berkeley.edu/pdf/articles/Debt%20Rescheduling%20in%20Comparative%20Perspective.pdf Date of Access: 20 May. 2016.

Agu, O.C. & Okoli, B.C. 2013. Credit management and bad debt in Nigeria commercial banks – implication for development, *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 12(3):47–56.

Ahmed, F. & Bashir, T. 2013. Explanatory Power of Macroeconomic Variables as Determinants of Non-Performing Loans: Evidence Form Pakistan. *World Applied Sciences Journal*, 22(2):243–255.

Ahmed, M.U., Muzib, M. & Roy, A. 2013. Price-Wage Spiral in Bangladesh: Evidence from ARDL Bound Testing Approach. *International Journal of Applied Economics*, 10(2):77–103.

Albertazzi, U. & Gambacorta, L. 2009. Bank profitability and the business cycle. *Journal of Financial Stability*, 5(4):393–409.

Albright, S.C., Zappe, C.J. & Winston, W.L. 2011. Data analysis, optimization, and simulation modelling. Mason: South-Western Cengage Learning.

Alexiou, C. & Sofoklis, V. 2009. Determinants of bank profitability: Evidence from the Greek banking sector. In: Ekonomski anali 54 (182): 93–118.

Al-Khouri, R. 2011. Assessing the risk and performance of the GCC banking sector. *International Research Journal of Finance and Economics*, 65(1):72–81.

Allen, F. & Santomero, A.M. 1997. The theory of financial intermediation. *Journal of Banking & Finance*, 21(11):1461–1485.

Allen, L. 1988. The determinants of bank interest margins: a note. *Journal of Financial and Quantitative analysis*, 23(02):231–235.

AL-Omar, H., & AL-Mutairi, A. 2008. Bank-Specific Determinants of Profitability: The case of Kuwait. Journal of Economic and Administrative Sciences, 24(2):20–34.

Alon, I. & Herbert, T.T. 2009. A stranger in a strange land: Micro political risk and the multinational firm. *Business Horizons*, 52:127–137.

Alon, I., & Martin, M. A. 1988. A Normative Model of Macro Political Risk Assessment. *Multinational Business Review, 2* (6):10–19.

Alon, I., Gurumoorthy, R., Mitchell, M.C. & Steen, T. 2006. Managing Micropolitical Risk: A Cross-Sector Examination. *Thunderbird International Business Review*, 48(5):623–642.

Al-Smadi, M.O. & Ahmad, N.H. 2009. Factors affecting banks' credit risk: Evidence from Jordan. Collage of Business, University Utara Malaysia, Malaysia.

Andrie, A. M. & Cocris, V. 2010. A Comparative Analysis of the Efficiency of Romanian Banks. *Romanian Journal of Economic Forecasting*, 13:54–75.

Angbazo, L. 1997. Commercial Bank Interest Margins, Default Risk, Interest-rate Risk, and Off-balance Sheet Banking. *Journal of Banking and Finance*, 21:55–87.

Anwar, M. & Herwany, A. 2006. The determinants of successful bank profitability in Indonesia: empirical study for provincial government's banks and private non-foreign banks. http://ssrn.com/abstract=1670707 Date of access: 28. Sep. 2016.

Ara, H., Bakaeva, M. & Sun, J. 2009. *Credit Risk Management and Profitability in Commercial Banks in Sweden.* Gothenburg. UG: (Master-thesis).

Athanasoglou, P., Brown, D. & Cristos, S. 2005. Banking-specific industry specific and macroeconomic determinants of bank profitability. *International financial markets institutions and money*, 20(2).

Athanasoglou, P., Delis, M.D. & Cristos, S. 2008. Banking-specific industry specific and macroeconomic determinants of bank profitability. *International financial markets institutions and money*, 29(8):121-136.

Athanasoglou, P., Jordan, J.S. & Daniels, T.B. 2006. Commercial banks and macroeconomic factors correlation on bank profitability. *International financial markets institutions and money*, 25(1).

Atwater, B.D., Thompson, V.P., Vest, R.N., Shaw, L.K., Mazzei, W.R., Al-Khatib, S.M., Hranitzky, P.M., Bahnson, T.D., Velazquez, E.J., Califf, R.M. & Lee, K.L., 2009. Usefulness of the Duke Sudden Cardiac Death risk score for predicting sudden cardiac death in patients with angiographic (> 75% narrowing) coronary artery disease. *The American journal of cardiology*, 104(12):1624–1630.

Badola, B.S. & Verma, R. 2006. Determinants of Profitability of Banks in India: A Multivariate Analysis. *Delhi Business Review*, 7(2):79–88.

Balaputhiran, B. 2014. Corporate Governance and Banking Performance: a Comparative Study between Private and State Banking Sector in Sri Lanka. Šri Lanka, University of Jaffna: Jaffna.

Balkan, E.M. 1992. Political stability, country risk and profitability of default, *Applied Economics*, 24(9):999–1008

Banerjee, A., Dolado, J. & Mestre, R. 1998. Error-correction mechanism tests for cointegration in a single-equation framework. *Journal of time series analysis*, *19*(3): 267–283.

Banga, S. 2013. Socio-Economic Significance of Commercial Banks in India: With Special Emphasis on Public Sector Banks. *International Journal of Advanced Research in Management and Social Sciences,* 2(1): 1–22.

Barajas, A., Steiner, R. & Salazar, N. 1999. Interest Spreads in Banking in Colombia 1974–96. IMF Staff Papers.

BASA (Banking Association of South Africa), 2014. South African banking overview. http://www.banking.org.za/docs/default-source/publication/banking-sector-overview.pdf?sfvrsn=6 Date of access: 15 May 2016.

Basel Committee, 2001. Sound Practices for the Management and Supervision of Operational Risk. Basel Committee on Banking Supervision. Basel, Switzerland: Bank for International Settlements.

Bashir, A. H. M. 2003. Determinants of Profitability in Islamic Banks: Some Evidence from The Middle East. *Islamic Economic Studies, 11*(1):32–57.

Basir, D.T. 2000. Net interest margin effect on portability in Islamic banks. Islamic Economic Studies, 9(1):27–32.

Baskin, J.B. & Miranti Jr, P.J. 1999. 1st ed. A history of corporate finance. United Kindom: Cambridge University Press.

BCBS (Basel Committee on Banking Supervision). 2010. Basel III: A global regulatory framework for more resilient banks and banking systems. http://www.bis.org Date of access: 02 Sep. 2016.

BCBS (Basel Committee on Banking Supervision). 2014. A brief history of the Basel Committee. http://www.bis.org/bcbs/history.pdf Date of Access: 01 Aug. 2016.

Beck, T., Demirguc-Kunt, A., Levine, R., & Maksimovic, V. 2001. Financial Structure and Economic Development: Firm, Industry, and Country Evidence. Cambridge, Massachusetts: The MIT Press.

Beckman, T.N. & Bartels, R. 1955. Credits and Collections in Theory and Practice. 6th ed. New York: McGraw-Hill.

Belmont, D.P. 2004. Value added Risk Management in Financial Institutions. 1st ed. Singapore: John Wiley & Sons Pte Ltd.

Bentsen, G. 2000. A Transaction Cost Approach to the Theory of Investment Decision. *Journal of Finance*, 31: 215–231.

Benz, G.V. 1979. International trade credit management. Great Britain. Grower Press Limited.

Berger, A. N. 1995. The relationship between capital and earnings in banking. *Journal of Money, Credit and Banking*, 432–456.

Berlin, J.A., 2003. Rhetorics, poetics, and cultures: Refiguring college English studies. Parlor Press LLC.

Bidirici, M. & Bohur, E. 2015. Design and Economic Growth: Panel Cointegration and Causality Analysis. *Procedia-Social and Behavioral Sciences, 210*:193–202.

Black, F. & Cox, J. C. 1976. Valuing corporate securities: Some effects of bond indenture provisions. *Journal of Finance*, 31: 351–367.

Boahene, S. H., Dasah, J. & Agyei, S. K. 2012. Credit risk and profitability of selected banks in Ghana. *Research Journal of finance and accounting*, 3(7): 6–14.

Borio, C.E., Gambacorta, L. & Hofmann, B. 2015. The influence of monetary policy on bank profitability. Basel, Switzerland: Bank for International Settlements.

Boshoff, M. 2010. Investing in Troubled Territories: Industry Specific Political Risk Analysis and the Oil and Gas Industry. Stellenbosch: US. (Thesis – Masters).

Boslaugh, S. 2007. An introduction to secondary data analysis. *Secondary data sources for public health: a practical guide*, 1:2–10.

Boudrig, A., Boulila T. N. & Jellouli, S. 2009. Bank Specific, Business and Institutional, Environment Determinants of Nonperforming Loans: Evidence from MENA Countries. *Journal of Financial Economic Policy*, 1(4):286–318.

Bourke, P. 1989. Concentration and other determinants of bank profitability in Europe,North Amrica and Australia, *Journal of Banking and Finance*, 13(1):65–79.

Bremmer, I. & Keat, P. 2009. The Fat Tail: The Power of Political Knowledge for Strategic Investment. New York: Oxford University Press.

Bremmer, I. 2005. Managing risk in an unstable world. *Harvard Business Review,* 83(6):51–60.

Brennan, M.J. & Schwartz, E.S. 1977. Convertible bonds: Valuation and optimal strategies or call and conversion. *The Journal of Finance, 32*(5):1699–1715.

Brennan, M.J. & Schwartz, E.S. 1980. Analyzing convertible bonds. *Journal of Financial and Quantitative analysis, 15*(04):907–929.

Brewer, E. & Jackson, W.E. 2006. A note on the risk-adjusted price–concentration relationship in banking. *Journal of Banking & Finance,* 30(3):1041–1054.

Brewer, T. L. & Rivoli, P. 1990. Politics and perceived country creditworthiness in international banking. *Journal of Money, Credit, and Banking*, 22(3):357–369.

Brigo, D. 2005. Candidate Market Models and the Calibrated CIR++ Stochastic Intensity Model for Credit Default Swap Options and Callable Floaters. *SSRN Working Paper Series*.

Brink, C.H. 2004. Measuring political risk: risks to foreign investment. University of Stellenbosch, South Africa: Ashgate Publishing Ltd.

Brooks, C. 2014. Introductory Econometrics for Finance. 3rd ed. United Kingdom: Cambridge University Press.

Brown, K. & Moles, P. 2012. Credit Risk Management. United Kingdom: Edinburgh Business School, Heriot – Watt University.

Brown, K. & Moles, P. 2014. Credit risk management. Edinburgh Business School–Heriot Watt University, United Kingdom.

Bunge, M. 1998. Social Science under Debate: A Philosophical Perspective. University of Toronto Press. Toronto.

Bunn, D. W. & Mustafaoglu, M. M. 1978. Forecasting political risk. *Management Science,* 24:1557–67.

Burki, A. A. & Niazi, G.S.K. 2006. The Effects of Privatization, Competition and Regulation on Banking Efficiency in Pakistan, 1991 – 2000.Regulatory Impact Assessment: Strengthening Regulation Policy and Practice, Chancellors Conference Centre, University of Manchester,Manchester, UK.

Cabiles, N. A. S. 2011. Hedging illiquidity risk through securitization: evidence from loan commitments. Proceedings of the Annual Meeting of the Midwest Finance Association. Mimeo. http://www.wbiaus.org/5.%20Neil.pdf Date of access. 20 Aug. 2016.

Cade, E. 1999.Managing Banking Risks. Chicago: Glenlake Publishing Company, Ltd.

Cade, E.C. 1987. Managing banking risks in an uncertain future. Illovo, South Africa: Institute of Bankers in South Africa.

Calverly, J. 1985. Country Risk Analysis. London: Butterworths.

Cameron, R. 1972. Banking lending and Economic Development: Some Lessons of History-New York: Oxford University Press.

Campbell, J.Y., Lo, A.W., MacKinlay, A.C. & Whitelaw, R.F. 1998. The econometrics of financial markets. *Macroeconomic Dynamics*, 2(4):559–562.

Caouette, J. B., Altman, E.I. & Narayanan, P. 1998. Managing Credit Risk: The Next Great Financial Challenge. New York: John Wiley & Sons, Inc.

Chandra, S.S. & Sharma, R.K. 2004. Research in education. New Delhi: Atlantic Publishers & Distributors.

Chang, W.W. 2011. Financial crisis of 2007–2010. http://dx.doi.org/10.2139/ssrn.1738486 Date of Access: 19 May. 2016.

Chen, S. H. & Liao, C. C. 2011. Are foreign banks more profitable than domestic banks? Home-and host-country effects of banking market structure, governance, and supervision. *Journal of Banking & Finance, 35*(4):819–839.

Chen, T.Y. & Yeh, T.L. 1998. A study of efficiency evaluation in Taiwan's banks, International Journal of Service Industry Management, 9(5):402– 415.

Chicken, J.C. 1996. Risk Handbook. International Thomson Business Press. London.

Chin'Anga, F.I. 2015. The effect of credit risk management on the profitability of the four major South African banks Johannesburg: UJ (Dissertation –Masters).

Chiodo, A.J. & Owyang, M.T. 2002. A case study of a currency crisis: The Russian default of 1998. (*In* Kliesen, K.L., ed. Federal Reserve Bank of St. Louis Review November/December 2006 511 Rising Natural Gas Prices and Real Economic Activity. United State of America: St. Louis. p. 465–537.)

Choi, I. 2001. Unit Root Tests for Panel Data. Journal of International Money and Finance, 20: 249–272.

Choon, Y., Thim, C. K., & Kyzy, B. T. 2012. Performance of Islamic Commercial Banks in Malaysia: An Empirical study. *Journal of Islamic Economics, Banking and Finance*, 8(2): 67–79.

Chortareas, G.E., Girardone, C. & Ventouri, A. 2012. Bank supervision, regulation, and efficiency: Evidence from the European Union. *Journal of Financial Stability*, 8(4): 292–302.

Choudhry, M. 2002. An Introduction to Credit Derivatives. London Guildhall University. http://www.yieldcurve.com/mktresearch/files/lgucreditderivs_jun02.pdf Date of Access: 15 Sep. 2016.

Chudik, A. & Pesaran, M.H., 2015. Common correlated effects estimation of heterogeneous dynamic panel data models with weakly exogenous regressors. *Journal of Econometrics*, *188*(2):393–420.

Ciarrapico, A.M. 1992. Country risk: a theoretical framework of analysis, Aldershot. Brookfield: Dartmouth.

Citron, J.-T. & Nickelsburg, G. 1987. Country risk and political instability. *Journal of Development Economics*, 25(2):385–392.

Clark, E. & Tunaru, R. 2003. Quantification of Political Risk with Multiple Dependent Sources. *Journal of Economics and Finance*, 27(1): 25–135.

Collin-Dufresne, P. & Goldstein, R.S. 2001. Do credit spreads reflect stationary leverage ratios?. *The Journal of Finance*, *56*(5):1929–1957.

Çomakoğlu, A. 2009. Credit risk modelling and quantification. *Istanbul, Turkey:* Boğaziçi University. (Dissertation–PhD).

Control Risks. 2007. Political and security risk in emerging markets threatens business stability http://www.control-risks.com/default.aspx?page=1185 Date of access 19 May. 2016.

Cooper, M.J., Jackson, W.E. & Patterson, G.A. 2003. Evidence of predictability in the cross-section of bank stock returns. *Journal of Banking & Finance*, 27(5):817–850.

Coplin, W.D. & O'Leary, M.K. 1994. The Handbook of Country and Political Risk Analysis. East Syracuse, New York: Political Risk Services, International Business Communications.

Creswell, J.W. 1994. Research design: qualitative and quantitative approaches. London: Sage.

Darrat, A.F & Yousef, T. 2002. Assessing cost and technical efficiency of banks in Kuwait. *The ERF 8th Annual Conference, January, Cairo*. (Unpublished paper).

Darškuvienė, V. 2010. Financial Markets. Kaunas: Vytautas Magnus University.

Davis, N. 2000. Securitisation: a public policy tool? (Working paper, New Zealand Treasury, No.00/08). https://ideas.repec.org/p/nzt/nztwps/00-08.html Date of access: 25 Aug. 2016.

Demerguç-Kunt, A. & Huizinga, H. 2001. Financial Structure and Bank Profitability, in Financial Structure and Economic Growth: A Cross- Country Comparison of Banks, Markets, and Development. In: Demirguc-Kunt, A., Levine, R. (Eds.). MIT Press, Cambridge.

Demirgüç-Kunt, A. & Huizinga, H. 1999. Determinants of commercial bank interest margins and profitability: Some international evidence. *The World Bank Economic Review*, 13 (2): 379–408.

Diamond, D.W. & Rajan, R. 2009. The credit crisis: Conjectures about causes and remedies. United States. *American Economic Review*, 99: 606–610.

Dietrich, A. & Wanzenried, G. 2011. Determinants of bank profitability before and during thecrisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21(1):307–327.

Dimitropoulos, A., Molinari, L., Etter, K., Torresani, T. & Kontoleon, A. 2009. Assessing the determinants of local acceptability of wind-farm investment: A choice experiment in the Greek Aegean Islands. *Energy policy*, 37(5):1842–1854.

Doğan, İ., Tülüce, N.S. & Doğan, A., 2014. Dynamics of Health Expenditures in OECD Countries: Panel ARDL Approach. *Theoretical Economics Letters*, *4*(08):649.

Dougherty, D.M. & Specter, C. 1982. Intervention analysis: A tool for improved risk analysis in international business. *Management International Review*, 22(3):9–21.

Drehmann, M., Sorensen, S. & Stringa, M. 2006. Integrating credit and interest rate risk: A theoretical framework and an application to banks' balance sheets. (In Bank for International Settlements Conference on "Risk management and regulation in banking". Switzerland: Basel. p. 29–30).

Du Plessis, S., Katzke, N., Gilbert, E. & Hart, C. 2015. Mark-ups and competition: a comparison of the profitability of listed South African industrial companies. *Department of Economics, Stellenbosch University*.

du Toit, G., 2013. Political risk factors: what Chinese companies need to assess when investing in Africa. Stellenbosch: US. (Thesis – Masters).

Dube, S. & Zhou, Y., 2013. Interest rate pass-through to bank mortgage and participation bond rates in South Africa: Evidence from ARDL and FMLS models. *Journal of Economics and International Finance*, *5*(5):161.

Duncan, S.M. 2003. Political risk analysis and economic reform: investing in the Indian electricity sector. Stellenbosch: US. (Dissertation –Masters).

Dwivedi, J. 2010. Macroeconomics 3rd ed. Noida, UP, India: Tata McGraw-Hill Education.

Easton, D. 1953. The Political System, New York: Alfred A. Knopf.

Easton, D. 1965. A Systems Analysis of Political Life, New York: John Wiley & Sons, Inc.

Ebrahimi, M. & Arezzo, A. C. 2011. The relationship between earning, dividend, stock price and stock return: evidence from Iranian companies. *Humanities, Society and Culture, IPEDR*, (20).

Edwards, S. 1983. LDC's foreign borrowing and default risk: An empirical investigation. *American Economic Review*, 74(4):726–734.

Elizalde, A. 2006. Credit risk models I: Default correlation in intensity models. *Documentos de Trabajo (CEMFI)*, (5):1.

Elizalde, A. 2006. Credit risk models II: Structural models. *Documentos de Trabajo (CEMFI)*, (6):1.

Enderlein, H., Müller, L., Trebesch, C. & Welcome, C.V. 2008. Sovereign Debt Disputes. Testing the role of politics and institutions in financial crisis resolution. Paper presented at the Political Economy of International Finance (PEIF) Conference, Claremont, CA, 2 May. 2008. http://www.cmc.edu/sites/default/files/lowe/events/EnderleinMullerTrebesch.pdf Date of access: 17 May. 2016.

Engle, R. F. & Granger, C.W.J. 1987. Co-integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 55, 251–276.

Eom, Y.H., Helwege, J. & Huang, J.Z. 2004. Structural models of corporate bond pricing: An empirical analysis. *Review of Financial studies*, *17*(2): 499–544.

Essel, R. 2012. Short-term insurance of political risks in South Africa. Stellenbosch: US. (Dissertation –Masters).

Fatehi-Sedeh, K. & Safizadeh, H.M. 1989. The association between political instability and flow of foreign direct investment. *Management International Review*, 29(4):4 –13.

Feder, G., Just, R.E. & Schmitz, A. 1980. Futures Markets and the Theory of the Firm Under Price Uncertainty. *The Quarterly Journal of Economics*, 94(2):317–328.

Felix, A. O. 2012. Credit risk management system of a commercial bank in Tanzania. *International Journal of Emerging Markets*, 3(3):323–332.

Fitzpatrick, M. 1983. The Definition and Assessment of Political Risk in International Business: A Review of the Literature. *Academy of Management Review,* 8(2):249–254.

Flamini, V., McDonald, C. A., & Schumacher, L. B. 2009. The determinants of commercial bank profitability in Sub-Saharan Africa. *IMF Working Papers* (9):1–30.

Fofack, H. 2005. Nonperforming loans in Sub-Saharan Africa: causal analysis and macroeconomic implications. Policy Research Working Paper; No. 3769. Washington, DC:World Bank.

Fourie, F.C v N. & Burger, P. 2010. How to think and reason in macroeconomics. 3rd ed. Republic of South Africa: Juta and Co. Ltd.

Francis, M. E. 2011. Determinants of commercial banks' profitability in Sub-Saharan Africa. Economic perspectives for least developed countries. Kampala. http://daadpartnership.htwberlin.de/fileadmin/Workshops/2011_Uganda/Abstracts_and_Papers/Munyambonera_Commercial_bank s__Profitability_in_SSA.pdf Date of access: 29. Sep. 2016.

Francis, M. E. 2013. Determinants of commercial bank profitability in Sub-Saharan Africa. *International Journal of Economics and Finance,* 5(9):134.

Frei, D. & Ruloff, D. 1987. The Methodology of Political Risk Assessment. *World Futures,* 25:1–24.

Frynas, G. J. & Mellahi, K. 2003. Political Risks as Firm-Specific (Dis) Advantages: Evidence on Transnational Oil Firms in Nigeria. *Thunderbird International Business Review,* 45(5):541–565.

Galeano, E. 2002. Terrorism and the Fate of Democracy After September 11. *Cultural Studies Critical Methodologies,* 2(1): 9–14.

Garces-Ozanne, A., 2006. A bounds test approach to the study of level relationships in a panel of high-performing Asian economies (HPAES). Department of Economics, University of Otago.

Garcia, A.V.T. 2014. The (none)-Impact of Democracy on Levels of Political Risk. An Evaluation of the Relationship between Levels of Democracy and the Political Risk facing the Oil and Gas Industry in Angola. Stellenbosch: US. (Thesis – PhD).

García-Marco, T. & Robles-Fernández, M. D. 2008. Risk-taking behaviour and ownership in the banking industry: The Spanish evidence. *Journal of Economics and Business*, *60*(4):332–54.

Gemmill, G. 2002. Testing Merton's Model for Credit Spreads on Zero-coupon Bonds, Working paper, London: City University Business School.

Geske, R. 1977. The valuation of corporate liabilities as compound options. *Journal of Financial and quantitative Analysis*, *12*(04):541–552.

Gestel, T. V. & Baesens, B. 2009. Credit Risk Management. New York: Oxford University Press.

Girardone, C., Molyneux, P. & Gardener, E.P. 2004. Analysing the determinants of bank efficiency: the case of Italian banks. *Applied Economics*, *36*(3):.215–227.

Goddard, J., Molyneux, P. & Wilson, J.O. 2004. The profitability of European banks: a cross-sectional and dynamic panel analysis. *The Manchester School*, 72(3):363–381.

Godspower-Akpomiemie, E.I. 2013. Market interest rate fluctuations: impact on the profitability of commercial banks. Johannesburg: WITS (Dissertation -Masters).

Goldsmith, R. 1969. *Financial Structure and Development*. New Haven, CT: Yale University Press.

Gordon, M. & Barthel, D. 1994. The Concise Oxford dictionary of sociology, University of Michigan, United States: Oxford University Press.

Greatneck, 2016. http://www.greatneck.k12.ny.us/gnps/shs/dept/special_ed/nystrom/documents/politicalsystems.pdf Date of access: 25 July. 2016.

Green, S. 2002. Rational Choice Theory: An Overview. Seminar on Rational Choice. <http://business.baylor.edu/steve_green/green1.doc> Date of accesses: 10 Sep. 2016.

Greenberg, J.B. & Simbanegavi, W.v2009. Testing for competition in the South African banking sector. *Faculty of Commerce University of Cape Town*, 4.

Griffin, M. 1997. Securitisation. *Reserve bank bulletin*, 5(2):18–21.

Griffith, J.A. 1979. The political constitution. *The Modern Law Review*, 42(1):1–21.

Gujarati, D. N. & Porter, D. C. 2008. Basic Econometrics. 5th ed. New York: McGraw-Hill/Irwin.

Gujarati, D. N. 2009. Basic econometrics. India: Tata McGraw-Hill Education.

Gup, B. E., Avram, K., Beal, D., Lambert, R., & Kolari, J. W. 2007. Commercial Banking: The Management of Risk. 3rd ed. Australia: John Wiley and Sons Incorporated.

Gurley, J. & Shaw, E. 1967. Financial Structure and Economic Development. *Economic Development and Cultural Change*, 15(3): 257–268.

Guru, B.K., Staunton, J. & Balashanmugam, B. 1999. Determinants of commercial Bank profitability in Malaysia. Paper presented at the Proceedings of the 12th Annual Australian Finance and Banking Conference, Sydney, Australia, 16–17 December.

Hadri, K. & Larsson, R. 2000. Testing for Stationarity in Heterogeneous Panel Data where the Time Dimension is Finite. (Unpublished manuscript, Liverpool University).

Hadri, K. 1999. Testing the null hypothesis of stationarity against the alternative of a unit root in panel data with serially correlated errors, Manuscript. Department of Economics and Accounting, University of Liverpool: Liverpool.

Haendel, D. 1979. Forging investments and management of political risk. Boulder: Westview Press.

Haggler, A.J. 1977. Inflation Theory and Policy, Great Britain: London: Macmillan.

Hair, J.F., Ringle, C.M. & Sarstedt, M. 2011. PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2):139–152.

Hancock, D. 1985. Bank profitability, interest rates, and monetary policy. *Journal of Money, Credit and Banking*, 17(2):189–202.

Hanweck, G.A. & Kilcollin, T.E. 1984. Bank profitability and interest rate risk. *Journal of Economics and Business*, 36(1):77–84.

Haron, S. & Azmi, W.N. 2004. Determinants of Islamic bank profitability. *Global Journal of Finance and Economics*, 1(1):11–33.

Haron, S., & Azmi, W. N. 2004. Profitability determinants of Islamic banks: a cointegration approach. Paper presented at Islamic Banking Conference, Union Arab Bank. Beirut, Lebnon: Kuala Lampur Business School. http://klbs.com.my/v1/wp-content/uploads/2012/04/004-Profitability-of-Islamicbank.pdf Date of access: 29 Sep. 2016.

Harward, U. 1961. Introduction to Business Finance. New York: Mc Graw Hill.

Hassan, M.K. & Bashir, A.H.M. 2003, December. Determinants of Islamic banking profitability.(In the 10th ERF annual conference, Morocco .p. 16–18)

Haug, A. A. 2002. ―Temporal Aggregation and the Power of Cointegration Tests: a Monte Carlo Study,‖ *Oxford Bulletin of Economics and Statistics*, *64*(4), 399–412.

Havrylchyk, O. & Jurzyk, E. 2006) Profitability of foreign banks in Central and Eastern Europe:does the entry mode matter? *BOFIT- Institute for Economies in Transition Discussion Papers*, 5–28.

Heffernan, S.A. & Fu, X. 2010. Determinants of financial performance in Chinese banking. *Applied Financial Economics*, 20:1585–1600.

Helmer, O. 1967. Analysis of the future: The Delphi method. Santa Monica, California: Rand corp.

Ho, T.S. & Saunders, A. 1981. The determinants of bank interest margins: theory and empirical evidence. *Journal of Financial and Quantitative analysis*, 16(04):581–600.

Hong, J.H., Jones, P. & Song, H., 1999, May. Political risk and foreign investment decision of international hotel companies. Paper presented at First Pan-American Conference--Latin American Tourism in Next Millenium: Education, Investment and Sustainability, Panama. 12 July.

Horvath, R. 2009. The Determinants of the Interest Rate Margins of Czech Banks. *Czech Journal of Economics and Finance*, 59(2):128–136.

Howell, L.D. 2011. International country risk guide methodology. East Syracuse, NY: PRS Group.

Howell, L.D. 1998. The handbook of country and political risk analysis. 2nd edition. New York: PRS Group.

Hsiao, C. 2003, Analysis of Panel Data 2nd ed. London: Cambridge University Press.

Huizinga, H. 2000. Financial structure and bank profitability. Washington, D.C., United States: World Bank Publications.

Hunjra, A. I., Williams, B.D. & Bashir, A. 2011. Comparative Financial Performance Analysis of Conventional and Islamic Banks in Pakistan. *Bulletin of Business and Economics*, 3 (4):196-206.

Ifeacho, C. & Ngalawa, H. 2014. Performance of the South African banking sector since 1994. *Journal of Applied Business Research*, 30(4):1183.

Im, K.S., Pesaran, M.H. & Shin, Y. 2003. Testing for Unit Roots in Heterogeneous Panels. Journal of Econometrics, 115: 53–74

IMF (International Monetary Fund). 2006. Spain: Financial Sector Assessment Program–Technical Note–Stress Testing Methodology and Results, IMF Country Report No.06/216. - Date of access: 15 May. 2016.

Jakobsen, J. 2012. Political Risk and the Multinational Company: Concepts, Theories, Evidence. Trondheim: Tapir Academic Press.

Javaid, S., Anwar, J., Zaman, K. & Gafoor, A. 2011. Determinants of Bank Profitability in Pakistan: Internal Factor Analysis. *Mediterranean Journal of Social Sciences,* 2(1):59–78.

Johansen, S. 1991. Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models. *Econometrica*, 59, 1551–1580.

Johansen, S. 1995. Likelihood-based Inference in Cointegrated Vector Autoregressive Models, Oxford: Oxford University Press.

Jurczyk, T. 2012. Outlier detection under multicollinearity. *Journal of Statistical Computation and Simulation,* 82 (2):261–278.

Kabongo, W.N.S. & Mbonigaba, J. (2016). Demand-side determinants of access to healthcare service: Empirical evidence from Africa. *Economic Research Southern Africa (ERSA) working paper,* 64:1.

Kamga Wafo, G.L. 1998. Political risk and foreign direct investment. Germany: University of Konstanz. (Masters – thesis).

Kaya, T.Y. 2002. Determinants of Profitability in Turkish Banking Sector. Turkish Banking Regulation and Supervision Agency, No: 2002/1.

Kennedy Jr, C. R, 1991. Managing the International Business Environment: Cases in Political and Country Risk. New Jersey: Prentice Hall.

Kervin, J. B. 1992. Methods for business research. New York: HarperCollins.

Khan, W.A. & Sattar, A. 2014. Impact of Interest Rate Changes on the Profitability of four Major Commercial Banks in Pakistan. *International Journal of Accounting and Financial Reporting*, 4(1):142.

Khrawish, H. A. 2011. Determinants of commercial banks performance: evidence from Jordan. *International Research Journal of Finance and Economics,* (81):148–159.

Kim, I.J., Ramaswamy, K. & Sundaresan, S. 1988. The valuation of corporate fixed income securities (No. 32-89). Wharton School Rodney L. White Center for Financial Research.

Kithinji, A. M. 2010. Credit risk management and profitability of commercial banks in Kenya. School of Business, University of Nairobi, Nairobi.

Klein, N. 2013. Nonperforming loan in CESEE: Determinants and Impact on Macroeconomic Performance, *IMF working Papers,* 13(72).

Kobrin, S. 1979. Political Risk: A Review and Reconsideration. *Journal of International Business Studies*, 10(1):67–80.

Kobrin, S. J. 1978. When does Political Instability Result in Increased Investment Risk? *Colombia Journal of World Business*, 17(1):113–122.

Kobrin, S. J. 1981. Political assessment by international firms – Models or methodologies. *Journal of Policy Modeling*, 3(2):251–270.

Koch, T.W. & Scott MacDonald, S. 2003. Bank Management. 5th ed. Ohio: South-Printers.

Köhler, M. 2015. Which banks are more risky? The impact of business models on bank stability. *Journal of Financial Stability,* 16:195–212.

Köhler, M. 2015. Which banks are more risky? The impact of business models on bank stability. *Journal of Financial Stability*, 16:195-212.

Kolapo, T. F., Ayeni, R. K. & Oke, M. O. 2012. Credit risk and commercial banks' performance in Nigeria: A panel model approach. *Australian Journal of Business and Management Research*, 2(2):31–38.

Kosmidou, K., Pasiouras, F., Doumpos, M. & Zopounidis, C. 2006. Assessing performance factors in the UK banking sector: a multicriteria methodology. *Central European Journal of Operations Research*, *14*(1):25–44.

Kosmidou, K., Tanna, S., & Pasiouras, F. 2005. Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995–2002. In *Money Macro and Finance (MMF) Research Group Conference,* 45: 1–27.

Kosmidou, V.K. & Spathis, T.C. 2000. Euro and profitability of Greek banks. *European Research Studies Journal*, *3*(3–4):43–56.

Koziol, N. & Arthur, A. 2011. An Introduction to Secondary Data Analysis.*Research Methodology Series*. http://r2ed.unl.edu/presentations/2011/RMS/120911_Koziol/120911_Koziol.pdf Date of access: 30 Sep. 2016.

Krayenbuehl, T.E. 1985. Country Risk: Assessment and Monitoring. Cambridge, U.K.: Woodhead-Faulkner Publishers Ltd.

Kulshrestha, R.S. 1973. Profitability in India's steel industry during the decade 1960–70. Jaipur: University Of Rajasthan (Doctoral-Dissertation).

Kumbirai, M. & Webb, R. 2010. A financial ratio analysis of commercial bank performance in South Africa. *African Review of Economics and Finance*, *2*(1):30–53.

Kundid, A., Škrabi, B. & Ercegovac, R. 2011. Determinants of Bank Profitability in Croatia. *Croatian Operational Research Review*, 2(1):168–182.

Kwambai, K. D. & Wandera, M. 2013. Effects of credit information sharing on nonperforming loans: The case of Kenya commercial banks. *European Scientific Journal*, 9(13).

Kwiatkowski, D., Phillips, P.C., Schmidt, P. & Shin, Y. 1992. Testing the null hypothesis of stationarity against the alternative of a unit root: How sure are we that economic time series have a unit root?. *Journal of econometrics*, 54(1-3):159–178.

Largani, M.S., Zamani, M., Imeni, M. & Kaviani, M. 2013. Determine the Effects of Fundamental Variables and Mass Behaviors in Changes of Stock Price (Evidence from Iran Stock Exchange). *Asian Journal of Finance & Accounting*, 5(1): 274.

Laurenceson, J. & Chai.C.H. 2003. Financial Reform and Economic Development in China, China: Edward Elgar Publishing.

Lax, H.L. 1983. Political Risk in the Oil and Gas Industry. Boston: International Human Resource Development Corporation.

Leavy, B. 1984. Assessing country risk for foreign investment decisions. *Long Range Planning*, 17(3):141–150.

Lee Kuan Yew. 1997. Senior Minister and former Prime Minister of Singapore addressing a Fortune 500 Forum Boston, Mass, November 1997. www.grai.com. Date of access: 15 Aug. 2016.

Lee, C.C., Hsieh, M.F. & Yang, S.J. 2014. The relationship between revenue diversification and bank performance: Do financial structures and financial reforms matter. *Japan and the World Economy*, 29:18–35.

Leland, H.E. & Toft, K.B. 1996. Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads. *The Journal of Finance*, *51*(3):987–1019.

Leland, H.E. 1994. Corporate debt value, bond covenants, and optimal capital structure. *The journal of finance*, *49*(4):1213–1252.

Leong, W. H., & Dollar, B. 2004. The productive efficiency of singapore banks: an application and extension of the Barr *et al*., (1999) approach. *The Singapore economic review*, *49*(02): 273–290.

Leopold, G. & Wafo, K., 1998. Political Risk and Foreign Direct Investment. Germany. University of Konstanz, Faculty of Economics and Statistics.

Levin, A., Lin, C.F. & Chu, C. 2002. Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties. Journal of Econometrics, 108: 1–24.

Levine, R. 1997. Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*, *35*(2):688–726.

Levine, R. 2002. Bank-based or market-based financial systems: Which is better? *Journal of Financial Intermediation*, 11:398–428.

Lewis, M.1979. Does Political Instability in Developing Countries affect Foreign Investment Flow? An Empirical Examination. *Management International Review*, 19 (3): 59–68.

Lewis, W.M. 1979. The evaluation and reduction of political risk in foreign investment decisions made by multinational corporations. South Africa: UNISA. (MBL– thesis).

Liaw, A. & Eastwood, G. 2000. The Australian securitisation market. (Working paper, Australian Prudential Regulation Authority, No. 6). http://www.apra.gov.au/AboutAPRA/Research/Documents/The Australian Securitisation MarketOct 2000.pdf. Date of access: 15 Aug. 2016.

Linstone, H.A. & Turoff, M., eds. 1975. The Delphi method: Techniques and applications. MA: Addison-Wesley.

Livnat, J. & Dan, S. D. 2009. The impact of earnings on the pricing of credit default swaps. *The Accounting Review,* 84(5):1363–1394.

Loikas, A. 2003. A government analysis of political risk: exploring equilibrium, instability, and pluralism at the local, national and supranational level in Europe. Turku, south-western Finland: UT. (Thesis – PhD)

Longstaff, F.A. & Schwartz, E.S. 1995. A simple approach to valuing risky fixed and floating rate debt. *The Journal of Finance*, *50*(3):789–819.

Lounsbury, J. 2010. Basel III to tighten capital requirements. http://www.creditwritedowns.com/2010/09/basel-iii-tightens-capital-requirements.html Date of access: 30 Aug. 2016.

Loutskina, E. 2011. The Role of Securitization in Bank Liquidity Funding and Management. Journal of Financial Economics, 100: 663-684.

Louzis, D. P., Vouldis, A. T. & Metaxas, V. L. 2010). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance*, *36*(4):1012–1027.

Lui, H. & Wilson, J. 2010. The Profitability of Banks in Japan. *Applied Financial Economics,* 20(24):1851–1866.

Luther, K.A.N. & Prakash Sethi, S. 1986. Political risk analysis and direct foreign investment: Some problems of definition and measurement. *California Management Review,* 28(2):57–68.

Macfie, B.P. & Nufrio. P.M. 2006. Applied statistics for public policy. New York: ME Sharpe Inc.

Maddala, G.S. & Wu, S. 1999. A Comparative Study of Unit Root Tests with Panel Data and a New Simple Test. *Oxford Bulletin of Economics and Statistics*, 61: 631–52.

Maddala., G.S. & Kim, I.M. 1998. Unit roots, cointegration, and structural change (No. 4). Cambridge University Press.

Magbagbeola, N.O. & Adelokun, O.O. 2003. Waifem West African financial and economic review. *West African Financial and Economic Review*, 1(1):95–123.

Makhubela, S. 2010. Causes of bank failure in the post democratic South Africa:UKZN (Dissertation–Masters).

Makri. V., Tsagkanos, A. & Bellas, A. 2014. Determinants of Nonperforming Loans: The Case of Eurozone. *Panoeconomicus*, 61(2):193–206.

Mamatzakis, E. C. & Remoundos, P. C. 2003. Determinants of Greek Commercial Banks Profitability, 1989 – 2000. *SPOUDAI*, 53(1):94–94.

Maredza, A. 2014. Internal Determinants of Bank Profitability in South Africa: Does Bank Efficiency Matter? *The International Business & Economics Research Journal*, 13(5):1033.

Marer, P. 2010. The global economic crises: Impacts on Eastern Europe. *Acta Oeconomica*, 60(1):3–33.

Masood, M., Afify., L.H. & Al-Naffouri, T.Y. 2015. Bank-Specific and Macroeconomic Determinants of Bank Profitability: Evidence from Member States of the OIC. *Journal of Islamic Financial studies*, 1(1):39–46.

Masood, O., & Ashraf, M. 2012. Bank-specific and macroeconomic profitability determinants of Islamic banks: The case of different countries. *Qualitative Research in Financial Markets*, *4*(2/3): 255–268.

Mayer, E., 1985. International lending: country risk analysis. Reston: Reston Pub Co.

McKinnon, R.I. 1973. Money and capital in economic development. Washington: Brookings Institution Press.

Mehmood, B., Raza, S.H. & Mureed, S. 2014. Health expenditure, literacy and economic growth: PMG evidence from Asian countries. *Euro-Asian Journal of Economics and Finance*, *2*(4):408–417.

Merton, R. C. 1974. On the pricing of corporate debt: The risk structure of interest rates. *Journal of Finance*, 49:1213–1252.

Messai, A.S. & Jouini, F. 2013. Micro and macro determinants of non-performing loans. *International journal of economics and financial issues*, 3(4):852.

Meyer, P.G. 2005. Determinants of credit risk mitigation in lending to Black Economic Empowerment (BEE) companies, from a banker's perspective. Pretoria: UNISA (Masters – dissertation).

Miller, K.D. 1992. A framework for integrated risk management in international business. *Journal of International Business Studies*, 23(2):311–331.

Mirzaei, A., Liu, G. & Moore, T. 2011. Stability? Emerging versus Advanced Economies. United Kingdom: Brunel University.

Mlambo, K. & Ncube, M. 2011. Competition and efficiency in the banking sector in South Africa. *African Development Review, 23*(1):4–15.

Molyneux, P. & Forbes, W. 1995. Market Structure and Performance in European Banking, *Applied Economics*, 27(2): 155–159.

Molyneux, P. & Thornton, J. 1992. Determinants of European bank profitability: A note. *Journal of banking & Finance*, 16(6):1173–1178.

Moran, T.H. 1999. Political and Regulatory Risk in Infrastructure Investment in Developing Countries: Introduction and Overview. Paper presented at International Conference entitled Promoting Infrastructure in Developing Countries by Reducing Political and Regulatory Risks. Rome, Italy, 20 September.

Morgan, J.P. 2013. Derivatives and Risk Management Made Simple. https://www.jpmorgan.com/jpmpdf/1320663533358.pdf Date of access: 29 Aug. 2016.

Moyo, Z. & Firrer, C. 2008. Securitisation in South Africa: 2000 2007. South African journal of business management, 39(1):27–34.

Murphey, L.B. 2004. Focusing on the Fundamentals (Again). *The RMA Journal*, 86(8):18–19.

Murthy, S.R., Nandakumar, P. & Wagué, C. 2008. Forecasting and managing profitability in the gulfstates banking industry. *International journal of business research*, 8(4): 81–87.

Naceur, S. B. & Omran, M. 2011. The Effects of Bank Regulations, Competition and Financial Reforms on Mena Banks' Profitability. *Emerging Markets Review*, 12:1–20.

Naceur, S.B. 2003. The Determinants of the Tunisian Banking Industry Profitability: Panel Evidence. Universite Libre de Tunis. Working Papers.

Narayan, P. K. 2005. The Saving and Investment Nexus for China: Evidence from Cointegration Tests. *Applied Economics*, 37(17):1979–1990.

Ncube, M. 2013. Impact of working capital on the profitability of South African firms listed on the Johannesburg Stock Exchange. Johannesburg: WITS (Dissertation –Masters).

Nel, H.F. 2003. Financial-system stability as a central bank objective. Paper presented at the Biennial Conference of the Economic Society of South Africa, Somerset-West, Cape. 17–19 September.

Nel, D. 2007. Revisiting three political risk forecast models: An empirical test. South Africa: UJ. (Thesis – MA).

Nelson, C.R. & Schwert, G.W. 2006. Short-term interest rates as predictors of inflation on testing the hypothesis that the real rate of interest is constant, American Economic Review, 67 (1): 478–486.

Newell, A., Shaw, J. C., & Simon, H. A. (1958). Elements of a theory of human problem solving. *Psychological review*, *65*(3): 151.

Newman, C.M. 1981. Managing and evaluating country risk, Business International Corporation, New York.

Nguyen, P. 2012. Deep neural networks for acoustic modelling in speech recognition: The shared views of four research groups. *IEEE Signal Processing Magazine*, 29(6):82–97.

Nielsen, I.T., Saa-Requejo, J. & Santa-Clara, P. 1993. Default risk and interest rate risk: The

Niggle, C.J., Wray, L.R. & Moore, B. 1989. Two Reviews of Basil Moore: Horizontalists and Verticalists: The Macroeconomics of Credit Money. *Journal of economics Issues*, 23(4): 1181–1189.

Nsereko, J. 1995. Problems of Non-Performing Advances. *The Ugandan Banker, 3*(1):26–35.

Oberholzer, M., Van der Westhuizen, G. & Van Rooyen, S. 2010. The influence of banks' internal performance on market performance: A non-parametric approach. *Southern African Business Review, 14*(2):65–88.

O'Donnell, C. & Van der Westhuizen, G. 2000. Regional comparisons of banking performance in SouthAfrica. *South African Journal of Economics, 70*(3):224–240.

Okeahalam, C.C. & Maxwell, T. 2001. Deposit insurance design and bank regulation in South Africa. *Journal of Financial Regulation and Compliance*, 9(2):136–150.

Oladejo, M.O. & Oladipupo, A.U. 2011. Capital regulation and the performance of the Nigerian banks: Need for review. *Journal of Emerging Trends in Economics and Management Sciences,* 2 (3):215–224.

Olawale, L.S. 2015. The effect of credit risk on the performance of commercial banks in Nigeria. African J. Accounting, Auditing and Finance, 4(1):29–52.

Olokoyo, F. 2011. Determinants of Commercial Banks' Lending Behavior in Nigeria. *International Journal of Financial Research,* 2(2): 1–72.

Ongore, V. O. & Kusa, G. B. 2013. Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics & Financial Issues*, 3 :(1).

Paul Simister' Business coaching blog, 2008. What is The CAMPARI Bank Loan Assessment? http://businesscoaching.typepad.com/the_business_coaching_blo/2008/04/how-to-get-a-sm.html Date of Access: 01 Aug. 2016.

Pausch, T.H. & Welzel, P. 2002, Credit Risk and the Role of Capital Adequacy Regulation, Discussion Paper in Economics, No. 224. Germany: University of Augsburg.

Peavlere, R. 2016.The 5 C's to Qualify for a Business Loan Demonstrating the Creditworthiness of your Business to a Bank. https://www.thebalance.com/demonstrating-business-creditworthiness-to-bank-393108. Date of Access: 15 Aug. 2016.

Perera, S., Skully, M., & Chaudhry, Z. 2013. Determinants of commercial bank profitability: South Asian evidence. *Asian Journal of Finance & Accounting,* 5(1):365–380.

Perez, S. 2014. Basel Banking accord: The accord that shaped and will shape banking. http://marketrealist.com/2014/09/basel-iis-pillar-two-incorporated-regulatory-framework/ Date of access: 22 May. 2016.

Pesaran, M. H. & Y. Shin. 1999. An Autoregressive Distributed Lag Modeling Approach to Cointegration Analysis, In Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium. Cambridge: Cambridge University Press.

Pesaran, M. H., Shin, Y & Smith, R.J. 2001. Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of applied econometrics*, *16*(3):289–326.

Pesaran, M.H. & Shin, Y., 1998. An autoregressive distributed-lag modelling approach to cointegration analysis. *Econometric Society Monographs*, 31:371–413.

Peter, M. 2002. Estimating default probabilities of emerging market sovereigns: A new look at not-so new literature. Economics section, the graduate institute of international studies, HEI working paper 06–2002.

Petria, N., Capraru, B. & Ihnatov, I. 2015. Determinants of banks' profitability: evidence from EU 27 banking systems. *Procedia Economics and Finance*, 20:518–524.

Polit, D.F. & Hungler, B.P. 2004. Evaluating research reports. Nursing research: *Principles and methods*, 7: 655–672.

Polizatto V. 1990. Prudential Regulation and Banking Supervision: Building an Institutional Framework for Banks. Economic Development Institute of the World Bank, The World Bank: Washington D.C.

Poynter, T. A. 1982. Government intervention in less developed countries: the experience of multinational companies. *Journal of International Business Studies*, 13:9–25.

Prinsloo, H.F. 2009. Real estate securitisation in South Africa. (Contribution at the European Real Estate Society conference on 24 27 June 2009.) Stockholm. (Unpublished.).

PWC (Price Waterhouse and Coopers). 2015. Resilient through challenging times Major banks analysis – South Africa. https://www.pwc.co.za/en/assets/pdf/bank-analysis-15-September-2015.pdf Date of access: 20 Mar. 2016.

Qin, X. & Dickson, P. 2012. Commercial Banks Profitability Position: The Case of Tanzania. *International Journal of Business and Management*, 7(13):136.

Rabab'ah, M. 2015. Factors affecting the bank credit; an empirical study on the Jordanian commercial banks. *International journal of Economics and Finance*, 7 (5):1916–9728.

Rafindadi, A.A. & Yosuf, Z. 2013. An application of panel ARDL in analysing the dynamics of financial development and economic growth in 38 Sub-Saharan African continents. (In Proceeding-Kuala Lumpur International Business, Economics and Law Conference. Malaysia: Hotel Putra, Kuala Lumpur. p. 118–135).

Ramadan, I.Z., Kilani, Q.A. & Kaddumi, T.A. 2011. Determinants of bank profitability: Evidence from Jordan. *International Journal of Academic Research*, 3(4):180–191.

Ramlall, I. 2009. Bank-specific, industry-specific and macroeconomic determinants of profitability in Taiwanese banking system: under panel data estimation. *International Research Journal of Finance and Economics*, 34(2):1450–2887.

Ramlan, H. & Adnan, M.S. 2016. The Profitability of Islamic and Conventional Bank: Case Study in Malaysia. *Procedia Economics and Finance*, 35:359–367.

Razaki, K.A., Koprowski, W., Alonzi, P. & Irons, R. 2010. Centering the business capstone course on the banking crisis: concrete integrated pedagogy. *Research in Higher Education Journal*, 9:1.

Redman, L.V. and Mory, A.V.H., 1923. The Romance of Research, *10*.

Redmond, A., Giradeau., B & Bonhnsac. A. 2007. Bank size and profitability: one nation, one bank. *International of business research*, l 8:1.

Reed, E.W., Cotter, R.V., Gill, E.K. & Smith, R.K. 1976: Commercial Banking. 1st ed. New Jersey: Prentice-Hall.

Rehman, A. & Cheema, A. 2013. Financial Development and Real Sector Growth in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 5(1):618–636.

Robock, S. 1971. Political Risk: Identification and Assessment. *Columbia Journal of World Business*: 6–20.

Rose, P.S. 2002. Commercial Bank Management. 5th ed. New York: McGraw-Hill/Irwin.

Rose, S. & Hudgins, C. 2008. Navigating the legal and ethical foundations of informed consent and confidentiality in integrated primary care. *Families, Systems, & Health*, 31(1):9.

Rummel, R.J. & Heenan, D.A. 1978. How multinationals analyze political risk. *Harvard Business Review*, 56(1):67–76.

Ruziqa, A. 2013. The impact of credit and liquidity risk on bank financial performance: the case of Indonesian Conventional Bank with total asset above 10 trillion Rupiah. *International Journal of Economic Policy in Emerging Economies*, 6(2):93–106.

Ryan, D. 2004. Framing September 11. *European Journal of American Culture*, 23(1):5–20.

Saiegh, S. 2005. So countries have a "democratic advantage"? political institutions, multilateral agencies and sovereign borrowing. *Comparative Political Studies*, 38 (4):366–387.

Samad, A. 2004. Performance of Interest-free Islamic banks vis-à-vis Interest-based Conventional Banks of Bahrain. *International Journal of Economics, Management and Accounting*, 12(2).

Samargandi, N., Fidrmuc, J. & Ghosh, S. 2013. Is the relationship between financial development and economic growth monotonic for middle-income countries. *Economics and Finance Working Paper*, (13–21).

Sandström, A. 2008. Political Risk in Credit Evaluation: Empirical Studies and Survey Results. Helsinki: SSEBA. (Dissertation – MBA)

SARB (South African reserve bank). 2016. Financial stability review first edition 2016. https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/7278/FSR%20First%20edition%202016.pdf Date of access: 06 May. 2016.

Saunders, A. & Cornett, M.M. 2003. Financial institutions management: A risk management approach. Irwin/McGraw-Hill.

Saunders, A. & Schumacher, L. 2000. The determinants of bank interest rate margins: an international study. *Journal of international Money and Finance*, 19:813–832.

Sayilgan, G. & Yildirim, O. 2009. Determinants of profitability in Turkish banking sector: 2002-2007. *International Research Journal of Finance and Economics*, *28*:207–214.

Schøning, R.G. 2011. The importance of credit and capital in the Norwegian banking system during crisis: A comparative study of the Norwegian banking crisis and the recent financial crisis. Norwegian, Norway: UIO. (Dissertation- Masters)

Schultz, K & Weingast, B. 2003. The democratic advantage. Institutional foundations of financial power in international competition. *International organization*, 57(1):3–42.

Selltiz, C. 1965. Research methods in social relations. New York, Holt, Rinehart and Winston.

Sethi, S.P. & Luther, K.A.N. 1986. Political Risk Analysis and Direct Foreign Investment: Some Problems of Definition and Measurement, *California Management Review*,28 (2):57–67.

Shao, Y. & Yeager, T.J. 2007. The effects of credit derivatives on US bank risk and return, capital and lending structure. Unpublished working paper.

Sharma, E., & Mani, M. 2012. Impact of Macroeconomic and Financial Market Indicators on the Banking Sector: Some Evidence from India. *International Journal of Research in Finance & Marketing*, *2*(2):171–185.

Shaw, E. 1973. Financial Deepening in Economic Development. New York: Oxford University Press.

Shenker, J.C. & Colletta, A.J. 1991. Asset securitization: evolution, current issues and new frontiers. *Texas law review*, 69**(**1):1373–1374.

Shingjerji. A. 2013. Impact of Bank Specific Variables on the Nonperforming loans ratio in Albanian Banking System. *Journal of Finance and Accounting*, 4 :(7).

Shittu, O.I., Yemitan, R.A. & Yaya, O.S. 2012. On autoregressive distributed lag, cointegration and error correction model [An Application to Some Nigeria Macroeconomic Variables]. *Australian Journal of Business and Management Research*, 2(8):56.

Short, B.K. 1979. The relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. *Journal of Banking & Finance*, 3(3):209–219.

Sieder, R., Schjolden, L. & Angell, A. 2005. The judicialization of politics in Latin America: Springer.

Simon, J.D. 1982. Political Risk Assessment: Past Trends Future Prospects. *Colombia Journal of Foreign Business*, 17(1):62–70.

Simson D.N. & Hempel G.H. 1999. Bank Management, text and Cases. 5th ed. New York: .JohnWesley and Sons Inc.

Sinkey, J.F. 2002. Commercial Bank Financial Management in the Financial-Services Industry. 6th ed. New Jersey: Prentice Hall.

Smith, E.Y. 2002. Risk management in banking: theoretical overview. Johannesburg:UJ (Dissertation – Masters)

Sobehart, J. R., S. C. Keenan & R. M. Stein. 2003. Complexities and Validation of Default Risk Models. (*In Frontiers in Credit Risk*. G. Gaeta., ed. Frontiers in Credit Risk: Concepts and Techniques for Applied Credit Risk Measurement. New York, United States: John Wiley and Sons Ltd. p. 179.).

Somers-cox, T. J. (2014). Political Risk in the Oil and Gas Industry in Emerging Markets: A comparative study of Nigeria and Mexico. Stellenbosch: US (Master-Thesis).

Staff, W. 2016. Rand vs. the dollar: 1978 – 2016. Businesstech, http://businesstech.co.za/news/finance/116372/rand-vs-the-dollar-1978-2016/ Date of Access: 10 May. 2016.

Staikouras C. & Wood G. 2004. The Determinants of European Bank Profitability. *International Business and Economics Research Journal* .3(6):57–68.

Stein, P.J. 1983. Should your firm invest in political risk insurance? *Financial Executive*, 51(3):18–22.

Strauss, J. & Yigit, T. 2003. Shortfalls of Panel Data Unit Root Testing. Economics Letters 81: 09–13.

Studenmund, A. H. 2011. Using econometrics: a practical guide. 6th ed. Boston, Mass: Pearson.

Sufian, F. 2011. Profitability of the Korean banking sector: Panel evidence on bank-specific and macroeconomic determinants. *Journal of economics and management*, 7(1):43–72.

Sufian, F., & Chong, R. R. 2008. Determinants of bank profitability in a developing economy: Empirical evidence from the Philippines. *Asian Academy of Management Journal of Accounting and Finance, 4:* 91–112.

Sufian, F., & Habibullah, M. S. 2010. Assessing the impact of financial crisis on bank Performance, empirical evidence from Indonesia. *ASEAN Economic Bulletin*, 27:245–262.

Sun, P.H., Mohamad, S. & Ariff, M. 2016. Determinants driving bank performance: A comparison of two types of banks in the OIC. *Pacific-Basin Finance Journal*: 1–11.

Tafri, F.H., Hamid, Z., Meera, A.K.M. & Omar, M.A. 2009. The impact of financial risks on profitability of Malaysian commercial banks: 1996-2005. *Strategies*, 232:2111.

Tarzi, S.M. 1992. International Political Analysis and International Business: A New Model. *The Journal of Social, Political, and Economic Studies*, 17(3): 433.

The economics times, 2016. http://economictimes.indiatimes.com/definition/sovereign-risk Date of access: 15 Aug. 2016.

Thunell, L. H. 1977. Political Risks in International Business: Investment Behavior of Multinational Corporations, New York: Praeger.

Trivedi, S. M. 201). An analysis of financial performance of state road Transport Corporation in Gujarat. Gujarat: S U. (Thesis – PhD).

Tulsian, M. 2014. Profitability Analysis (A comparative study of SAIL & TATA Steel). *Journal of Economics and Finance:* 2321–5933.

Tunay, K.B. & Silpar, M.A. 2006. Performance Analysis Based on Profitability in Turkish Banking Sector. Banks Association of Turkey, Research Papers, No: 2006-I.

Van Gestel, T. & Baesens, B. 2008. Credit Risk Management: Basic concepts: Financial risk components, Rating analysis, models, economic and regulatory capital. United Kingdom, oxford: Oxford University Press.

Vartanian, T.P. 2010. Secondary data analysis. Oxford University Press.

Vertzberger, Y. Y. 1998. Riak Taking and Decisionmaking: Foreign Military Intervention Decisions. Stanford: Stanford University Press.

Vivas, A. L. 1997. Profit Efficiency for Spanish Savings Banks. *European Journal of Operational Research*, 98:381–394.

Wagner, D. 2000. Defining Political Risk. http://www.irmi.com/expert/articles/2000/wagner10.aspx Date of access: 20 May 2016.

Wasiuzzaman, S. & Gunasegavan, U. 2013. Comparative study of the performance of Islamic and conventional banks: The case of Malaysia. *Humanomics*, 29(1):43–60.

Wasiuzzaman, S. & Tarmizi, H.A.B.A. 2010. Profitability of Islamic banks in Malaysia: an empirical analysis. *Journal of Islamic Economics, Banking and Finance*, 6(4):53–68.

Weston, J. & Brigham, E. 1975. Managerial finance. 5th ed. New York: Holt, Rinehart and Winston.

White, J. P. L. 2011. The role of securitisation and credit default swaps in the credit crisis: a South African perspective. Potchefstroom: NWU. (Dissertation – Masters).

Wilson, R. 2011. Finance training society. http://financetraining.com/directional-non-directional-risk/ Date of access: 15 Aug 2016.

Wooldridge J.M. 2001. Econometric Analysis of Cross Section and Panel Data. Cambridge: The MIT Press.

Yang, C. C., & Chen, B. S. 2004. Key quality performance evaluation using fuzzy AHP. *Journal of the Chinese Institute of Industrial Engineers, 21*(6):543–550.

Zikmund, W.G., Babin, B.J., Carr, J.C. & Griffin, M. 2010. Business Research Methods. 8th ed. Canada: South-Western. Cengage Learning.