

**PROTECTING DEPOSITORS AND PROMOTING FINANCIAL  
STABILITY IN SOUTH AFRICA: IS THERE A CASE FOR THE  
INTRODUCTION OF DEPOSIT INSURANCE?**

A thesis submitted in partial fulfilment of the  
requirements for the degree of

**MASTERS OF COMMERCE  
(Financial Markets)**

of

**RHODES UNIVERSITY**

by

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November 2003

## ABSTRACT

Banks play a pivotal role in economic growth and development of all countries and therefore the stability of the banking system is a vital goal of bank supervisors. Banks act as delegated monitors of depositors' funds and this relationship, like all principal-agent relationships, presents agency problems. In the case of banks agency problems arise because depositors cannot accurately assess the financial health of banks due to the asymmetry of information existing between banks and depositors. Because banks possess private information on their borrowers, which depositors cannot access, it exposes depositors to risk of loss of deposits in cases of bank failures originating from non-repayment of such loans. This asymmetry of information also exposes banks to runs by depositors and these runs can lead to bank failures with devastating effects for the financial system and the economy at large. It is for this reason that banks are regulated and supervised more than other institutions.

Bank failures are a worldwide phenomenon and South Africa is no exception as evidenced by historical and recent bank failures in South Africa. This thesis investigates the desirability of introducing an explicit deposit insurance scheme in South Africa as a means of protecting small, unsophisticated depositors who are almost always the losers when banks fail, and promoting financial stability. The study finds that bank failures in South Africa are mainly attributable to mismanagement of banks, liquidity problems and fraud. Bank failures as a result of the aforementioned reasons have led to depositors losing their deposits in South Africa. The absence of a clearly defined depositor protection scheme in South Africa, the inadequacy of the hitherto implicit guarantee system to protect depositors, and the poor record of the South African Reserve Bank in bank failure resolution, form the basis of the conclusion of the study, *i.e.*, there is a case for the introduction of deposit insurance in South Africa. In order to assist South African policymakers in designing an effective deposit insurance scheme for the country, the thesis further provides a guide on how the *most important* design features of deposit insurance should be handled. This is in an attempt to ensure that the moral hazard problem inherent in deposit insurance is overcome.

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## ACKNOWLEDGEMENTS

I would like to thank DAAD through TUCSIN for the funding that made this work possible. In particular, Martina Williams at TUCSIN deserves a special word of thanks for all the hassles she went through for ensuring that the accounts were settled timeously during the three years of my stay at Rhodes University. I would like to express my sincere gratitude to my supervisor Professor Pierre Faure for constant encouragement constructive criticism and guidance during the write-up of this thesis. A big thank you to Professor Geoff Antrobus for acting as my co-supervisor. I appreciate the kind help of Dr. Penny Hawkins of Feasibility and Professor Lilla Stack of the Accounting Department at Rhodes University for helping me in many various ways with some aspects of this thesis. I am grateful to Mr. Andrew Cook for his editorial assistance with this thesis.

I say thank you to my whole family back in Namibia, and especially my mother for the emotional support, I hope you coped well in my absence. *Metja okuhepa tjinene ku avihe.* To my colleague Tsitsi Mutambara, thank you for the long hours we spent together in the office and for making the burden bearable. I am grateful to all the people who made my stay in Grahamstown pleasant and interesting: everybody in the Economics Department, everybody at Oakdene House, I cannot mention all by name. The following individuals deserve special mention for their contributions in various ways towards the fulfilment of this study: Michael Humavindu, Esau Kaakunga, Kaunahama Kandjou, Charles Mungunda, Vetja Haakuria, Itumeleng Seotsanyana-Mokhosi, Allan Zimbwa, Pulane Matlaba, Tebogo Molefi, Daniel Munene, Pieter Grootes, Godlove Enongene, Jabulani Mthombeni, and last but not least, Peter Milongo.

# CHAPTER ONE

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## INTRODUCTION

### 1.1. CONTEXT OF THE STUDY

Economic growth and development in modern day economic systems rely heavily on the proper functioning of the financial system. The financial system is regarded as a critical engine for growth, in that funds from surplus units (savers) to deficit units (borrowers) are transferred through the financial system. This transfer of funds from savers to borrowers allows for projects to be undertaken by entrepreneurs, and that in turn translates into investment, employment and production of output, all of which are important constituents of economic growth (Nel, 2003). From the aforementioned, it can be clearly discerned that the importance of the financial system and the elements that make up such a system cannot be underestimated for economic growth and development.

Banks are the most important institutions within the financial system. Their significance is derived from their ability to create money and fulfil the intermediation function of accepting liquid deposits and transforming such deposits into illiquid loans for borrowers. This function is termed asset transformation and is said to be welfare enhancing, because it allows funds to be accessed by entrepreneurs for investment purposes, while depositors' liquidity is maintained through demand and other term deposits (Gorton and Pennacchi, 1990).

However, the illiquid nature of bank assets (loans) which are financed by liquid liabilities (deposits) threatens the stability of banks by exposing them to runs by depositors who cannot accurately assess the financial health of banks, because of the existence of asymmetric information between depositors and banks (Diamond, 1984). Runs on banks, especially those driven by rumours, can result in bank failure. Runs that result from information asymmetry about the quality of bank assets lead to depositors' panic as they

consider all banks to be illiquid or insolvent. Massive withdrawal of deposits at banks ensues as a result of panic. These massive withdrawals of deposits may be limited to one bank only or can spread to other banks in the system via contagion, and these manifold failures of banks can have destabilising effects on the financial system and the overall economy, because of the inherent systemic risk they present to the system (Hoggarth and Saporta, 2001:148-150).

The dire consequences on banking and financial systems and ultimately the overall economy brought about by bank failures pose serious policy challenges to policymakers all over the world. Bank failures have afflicted almost all countries, be they developed or developing and will continue to do so into the foreseeable future. Financial crises arising and/or resulting from bank failures and their costs are well documented (Hoggarth and Saporta, 2001). South Africa has also been a victim of bank failures over the years, although no financial crises have ever been recorded (see, for example, Falkena *et al*, 2001). Despite that, depositors have lost money because of failed banks.

The lack of a well-defined and explicit depositor protection scheme for depositors (with its obvious link to banking and financial stability) in South Africa provides justification for the undertaking of this study (see, for example, Steward, 1993). This kind of study is also very relevant and timely, given the recent collapse of Saambou Bank and a run on BOE Bank as well as criticisms of selective intervention and inconsistency in resolving bank failures (Okeahalam, 1998) levelled against the South African Reserve Bank (SARB).

## **1.2. GOAL OF THE STUDY**

The principal goal of the study is to investigate whether or not there is a case for the introduction of deposit insurance in South Africa. This is important in light of the fact that deposit insurance is given as one of the components of the regulatory safety net aimed at preventing bank runs by maintaining depositors' confidence and protecting their savings (Carisano, 1992). Given the increased adoption of deposit insurance schemes by

many countries in recent years and the absence of such a scheme in South Africa, it is important to explore whether and how such a scheme would benefit South African depositors and consequently the banking and financial systems of the country.

### **1.3. STRUCTURE OF THE STUDY**

This study consists of four chapters following this introductory chapter which lays the context of the research and identifies the goal of the study. Furthermore, this chapter sets out how the subsequent chapters are planned and organised and what they are going to address.

*Chapter two:* the aim of this chapter is to provide an exposition of banking regulation by mining the literature and theoretical foundations. This is important since deposit insurance is aimed at ensuring the stability of the banks and the financial system as a whole and such a review paves the way for subsequent chapters. Also addressed is the nature of financial crises and the role played by banks in starting and/or perpetuating them. Furthermore, the role of banks in the economy is placed in perspective and banks are discussed as to why they are special or different from other institutions in the economy. Since deposit insurance is one of the instruments of the regulatory safety net for banks, this chapter will review the arguments advanced in favour of and against banking regulation.

*Chapter three:* this chapter investigates the role and place of deposit insurance in the regulatory safety net for banks. In it the roles and functions of banks are analysed within a delegated monitoring framework and this analysis seeks to illustrate why banks are exposed to runs and failures. The relationship between deposit insurance and the lender of last resort function of the central bank as safety net instruments is dissected, so as to point out the differences between them and elucidate the intended purpose of each. Moreover, the chapter aims to show how deposit insurance can be used to counter the effects of bank runs and panics and also to highlight the moral hazard problem that exists in deposit insurance and the measures employed to overcome that problem.

**Chapter four:** following the groundwork laid in chapter three on the role and aims of deposit insurance as a safety net component and its implication for banking and financial system stability, chapter four presents a case for the introduction of deposit insurance in South Africa. The case for the introduction of deposit insurance in South Africa as advanced in this chapter is argued on the basis of the incidence of bank failures in this country as well as the potential stabilising effect that this scheme would have on both the banking and financial systems of South Africa. The structure of the South African banking sector as well as evidence of bank failures in South Africa and reasons for these failures is outlined in this chapter. In addition, the chapter provides proposals for the implementation of deposit insurance in South Africa. Special attention is drawn to the most critical design features aimed at making deposit insurance effective with the aim of aiding policymakers in designing an effective deposit insurance scheme for the country.

**Chapter five:** this chapter contains a summary of conclusions of the study. It also presents recommendations for further research on the subject that might help making deposit insurance in South Africa ideal.

## CHAPTER TWO

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### BANKING REGULATION: THEORY AND LITERATURE

#### 2.1. INTRODUCTION

The principal role played by the financial system in any country is to provide the infrastructure to allow surplus resources to be allocated to those individuals and companies with deficits. Another key function of financial markets is to identify, allocate and price risk. The positive impact of a well-functioning financial system upon the economic growth of any country is well documented (Shaw, 1973 and McKinnon, 1973). A sound, stable and robust financial system is fundamental for sustained economic performance and growth. Thus, given the importance of the financial system, weak financial systems can break down in periods of distress, provoking the ultimate collapse of the financial system and leading to economic hardships. Therefore, the preservation of the financial system should be high on the agenda of policymakers in order to avoid the costs associated with weak financial systems.

The fragility and vulnerability of a financial system without proper regulation is captured well by the following quote:

A financial system is a closely interlinked system of financial relationships based extensively on confidence and trust by all participants and in which the danger of a domino effect, is to be resolutely guarded against by a country's regulatory authorities. This progressive self-inducing collapse resulting from institutional or market failure would cause the public to lose confidence in the financial system (Kelly, 1993:227).

“Weaknesses in the financial system can have far-reaching economic and social consequences, and it can be a long and difficult battle for both the authorities and financial institutions to restore confidence, once erosion has taken place” (Knight, 1999:2). The mere existence of comprehensive financial regulation legislation the world

over is a sign that there is a need to supervise and monitor the activities of financial service providers (Borio *et al.*, 2001:49 and Falkena *et al.* 2001:v). Despite such existing legislation, constant revision and updating is witnessed. The reason for this is that the supervised institutions are constantly introducing innovative products and methods with the aim of circumventing legislation, *e.g.*, the development of financial derivatives products (Board *et al.*, 1998:291).

Because the financial sector plays an important role in the overall economic sphere of a country, its stability is therefore very important (Mishkin, 1999:17). Financial stability manifests itself via the absence of disturbances to the financial system. Therefore, it goes without saying that for stability to prevail there should be an “effective regulatory infrastructure, effective financial markets and effective and sound financial institutions” (Polizatto, 1991:173).

The banking sector is the most important component in the financial sector and the one mostly studied by academics and resolutely guarded by policymakers; as a result, comprehensive regulation in the financial sector has been directed at the banking sector (see, for example, Goodhart *et al.*, 2003:xvii; Bossone, 2000: 5-6 and Kaufman, 1996:1). With this in mind, this chapter is aimed at reviewing the theory of banking regulation given in the literature. This is important since the study is concerned with deposit insurance, which is inseparable from banking and its regulation. Deposit insurance is part of many countries’ regulatory safety nets, and, as such, banking regulation should form part of any study that is aimed at examining deposit insurance as part of a regulatory safety net. The next section gives a brief overview on financial crises and the role played by banks in perpetuating such crises, while the subsequent sections will explore the theory of banking regulation as given in the literature.

## **2.2. FINANCIAL CRISES AND THE ROLE OF BANKS**

### **2.2.1. Market economy, banks and financial crises**

Before delving deeper into the issues surrounding financial and banking regulation, it is important to gain an understanding of financial crises. This is to illustrate the intricate relationship between the operation of the market economy, banks and such crises. Financial crises are well-known phenomena in the theory of financial economics and the study of financial systems around the world. Many crises have occurred in almost all major regions of the world and no doubt will continue to occur in the future. Financial crises are said to be a result of the “peaks of business cycles” (Kindleberger, 1978:3). This sounds normal enough in the context of a free market system, which is supposed to correct itself in time, since the business cycle represents the level and direction of economic activity in the economy. However, with financial crises, this normality is disturbed because of the adverse effects on the economy brought about by a financial crisis.

According to Minsky (1977), a financial crisis does not happen in a vacuum, but should rather be understood from the context of the necessary conditions needed to make a crisis occur. In Minsky’s (1977:139-140) theory of systemic fragility, two conditions are identified, namely, financial fragility and systemic fragility. Financial fragility is said to be inherent in the financial system, *i.e.*, because of the fragility of the financial system, disruption to such a system need not be triggered by some exogenous event. Similarly, systemic fragility is said to stem “from the normal functioning of the economy” (Minsky, 1977:139) and not as a result of bad policy choices and/or accidental events outside the economic environment. Consequently, the problem that needs to be investigated *vis-à-vis* financial crises is why economies are susceptible to financial crises as Minsky’s theory of financial fragility attempts to explain. In this regard, Minsky is credited with developing the so-called “Financial Instability Hypothesis”.

According to Tse (2001:4), “Minsky’s financial instability hypothesis is designed to explain instability as a result of the normal functioning of a capitalist economy”. Tse further contends that according to the financial instability hypothesis, “over a period of good times, the financial structures of a dynamic capitalist economy endogenously evolve from being robust to being fragile” (2001:4). After a point, fragility is reached, leading to weak financial institutions that eventually affect the whole economy. According to Minsky (1991:58), “the economy is taken to be a capital-using capitalist economy with complex, sophisticated, and ever-evolving financial institutions and usages”.

The core message from Minsky is that weaknesses in capitalist economies are ingrained in the financial system and that free markets in general, and financial markets in particular, are inherently unstable and require government regulation. Linked to this is how banks or the banking system promote financial fragility and precipitate financial crises.

During an economic boom, firms’ expectations about expected future returns become increasingly optimistic. Firms undertake more risky investment projects and therefore increase their debts. The role of banks in this situation is that they participate in this euphoria of expectations by supplying the loans required to undertake such investments (in fact, since banks are profit-seeking institutions, they are willing to give loans at a higher price to high risk customers). The problem that arises here is that there comes a point where firms’ expected returns start declining leaving the firms with precarious financial positions, as they cannot repay the bank loans acquired earlier to finance the projects undertaken. The asset portfolios of banks are consequently negatively affected, since the loans advanced earlier to those firms are unpaid. This leads to an unstable banking sector. This is what is termed as an endogenous explanation of economic instability. The economic system is inherently unstable because of the overoptimistic behaviour of economic agents.

### **2.2.2. Containing financial crises: the need for government intervention**

From the above analysis, it is apparent that financial crises are intricately linked to the actions of banks in times when the economy is doing well. These take the form of increased lending to high-risk entrepreneurs during that exuberant period. However, when the tide turns and the economy starts sliding, investment spending is reduced and workers are retrenched. As a consequence there is an observed fall in effective demand, which results in a decline in firms' profits (as well as in households' income).

When firms default on their debt payment commitments (because of minimal profits), an escalation of bankruptcy occurs that could lead to a collapse of the financial system (Canova, 1994:104), because banks have lent heavily to the affected firms. Government intervention (via the central bank) becomes necessary at this point in order to contain the crisis. The central bank is forced to play its role of lender of last resort to the banking industry (preventing the failure of mainly the big banks) and to supply the volume of reserves necessary to the system.

The problem that might arise in this situation is that the big banks know that the central bank will always intervene and rescue the banking industry from an imminent collapse; therefore, they have an incentive to give loans to more risky customers. This is the moral hazard problem. This incentive makes capitalism systematically unstable and vulnerable to financial crises. Minsky recognized this symptom in financial capitalism and proposed what might be the cure (his anti-laissez-faire theorem). The anti-laissez-faire theorem states that in an inherently unstable economy, government intervention is necessary to prevent financial crises. This implies that in a system in which the dynamics imply instability, government intervention is needed to maintain stability (Papadimitriou and Wray, 1999). Because of this inherent instability of the market economy and its ability to propagate financial crises in which banks play an important role, economists and policymakers have brought the debate on the regulation of banks to the fore. The next section expands on that issue.

## **2.3 BANKS IN THE ECONOMY**

In order to examine and explore the economics of banking regulation, an understanding of the economic role of banks is important. To many non-specialists, it is still baffling why banks receive so much attention and are so heavily regulated. The simple answer is that banks perform important functions in the economy and have special characteristics that distinguish them from other firms in the economy, and thus justify regulation that is somewhat different from that of the other sectors of the economy. The following sections will attempt to place the role of banks in the economy and ultimately economic growth and development in perspective.

### **2.3.1. Banks and the real economy**

The importance of the financial system for the country has already been alluded to (section 2.1). The banking sector is the most important role player in the financial system, because banks take centre stage when it comes to the allocation of financial resources, intermediation, payments system and deposit taking.

The role and importance of banks (as financial intermediaries) in the economy has taken shape since economists moved away from analysing the economy from the Arrow-Debreu general equilibrium model that predicts perfectly competitive markets, freely available information and no market failure (Arrow and Debreu, 1954). In the world envisioned by Arrow-Debreu, financial intermediaries do not feature, since there is no need for intermediation, because buyers and sellers have perfect knowledge of each other and their products as well as coincident needs. It is obvious that such a world is non-existent and only exists in the realm of mathematical and econometric modelling of economic theoreticians and is best left there. In the real world, the assumptions of a perfectly competitive market economy and theorems of welfare economics do not hold. As a result, economists who model the modern economy rightfully take cognisance of the

existence of many market imperfections and therefore recognise the important role and influence of intermediation in the economy.

As economies develop and modernise, financial institutions (especially banks) play an increasingly important role in directing financial resources to their most productive use. Through their greater size and scope, they are better able to safeguard deposits, provide liquidity to borrowers and depositors, and achieve economies of scale in evaluating projects and providing financial services (Bossone, 2000). In fact, contrary to the Arrow-Debreu view that financial system development does not matter in economic growth and development, Levine (1997) amongst others argues that the development of financial markets and institutions is a critical and inextricable part of the growth process (see also, Shaw, 1973 and McKinnon, 1973). As a result of the importance of banks and especially the intermediation function they perform in the economy, and recognising the presence of market failure, the existence of banks is justified (see, for example Santomero, 1984; Bhattacharya and Thakor, 1993; Freixas and Rochet, 1997).

### **2.3.2. Banks and the intermediation and liquidity provision functions**

Banks play a very important role in the economic set-up and development in any country, not least because the main function of banks is to transfer funds to the production sectors of the economy. This is done via the process of intermediation, whereby surplus units in the economy deposit their surplus funds with banks and the banks on-lend such funds to the deficit units in the economy and allows savers to defer consumption (Gurley and Shaw, 1969<sup>1</sup>). The intermediation function of the banking sector is probably its most important function, in that it entails banks creating assets that finance private sector expenditures for assets that are used in the production process to produce consumption goods (Santomero, 1997).

According to Santos (2000:4) the existence of banks as financial intermediaries is based on two main fundamental tasks performed by banks, that is, “provision of liquidity and

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<sup>1</sup> Cited in Villalpando-Benitez (2000: 9)

monitoring services”. For the latter task, banks use their acquired expertise to screen applications for financing private sector projects and give credit to the most viable projects (Diamond, 1984 and Leland and Pyle, 1977). To that end, Howells and Bain (2002:505) argue that for the intermediation function to be successful, the integrity of the banking system should be guaranteed and failure of the intermediation process be avoided.

The provision of credit by banks to the private sector by way of utilising idle deposits forms essentially the mechanism which represents the payment system of the country. In this regard, banks make loans and assume liabilities (deposits of customers). This process involves the use of relatively liquid liabilities to finance illiquid and long-term risky investment projects (Santomero, 1997:5 and Gorton, 1988). What the banks basically do is to transform deposits into loans – by interposing themselves in-between – to borrowers who in turn use these loans for the productive purpose of generating goods and services. This role of banks is what forms the kernel of transforming savings into productive real investment in the economy (Santomero, 1997).

There is a view among economists that banks are more special in comparison with other firms in the economy (see, for example, Santos, 2000; Santomero, 1997; Carmichael, 2001). This special status derives from the fact that banks are the only institutions that possess the ability to create money and fulfil the intermediation role. Bossone (2000:25) summarises this “specialness” of banks as follows: “*Banks are special because they can finance new production by creating money; this makes production financing cheaper than if banks were only able to intermediate claims backed by pre-existing real resources*” (emphasis in the original). This special nature of the banking sector is limited not only to the abovementioned roles the sector performs, but also to the inherent instability of banks, as taken up in the next section.

## **2.4. RATIONALE FOR BANKING REGULATION**

### **2.4.1. The instability of the banking sector**

Given the above discussion on the roles and functions of the banking sector in the economy, it goes without saying that the importance of the banking sector in the economy cannot be overstated. Consequently, the collapse or instability of the banking sector has serious consequences for the overall economy. The banking sector is said to be inherently unstable and to present a threat to the economy in case of collapse and thus to require extensive regulation to guard against such collapse. This inherent instability is due to the nature of the functions performed by banks. The fact that banks finance long-term projects (that are often risky and cannot be perfectly valued), with short-term liabilities presents a case for regulation of the banking sector (Santomero, 1997).

Another cause of the instability of banks is given as the maturity transformation function performed by banks. Kareken and Wallace (1978) argue that although this function is very important in that it allows savers to defer consumption, while allowing borrowers to undertake their projects, it exposes banks to runs, because of the mismatch in maturity of deposits and loans. This mismatch of the term structure of assets and liabilities means that assets (loans) tend to have longer maturities than liabilities (deposits).

Since this mismatch does not allow depositors to assess the true value of a bank's assets, and therefore to be sure about the safety of their deposits, they can easily panic. This panic can lead to massive withdrawals, which leaves the bank facing a massive liquidity crisis. The crisis ensues because, if a large number of depositors simultaneously seek to withdraw their funds from any given bank, there is a high possibility that the bank will not have enough liquid funds to meet their claims. The effect of this sudden demand for withdrawals on the banking sector is explored in the next section.

## 2.4.2 Bank insolvency, illiquidity and regulation

This section discusses the two main aims /objectives of banking regulation: solvency and the maintenance of liquidity.

Miller and Van Hoose (1997:204-206) identify limiting bank insolvency and failures as goals of banking regulation. Solvency is defined as a state existing when an institution has a positive net worth, *i.e.*, assets exceed liabilities; insolvency<sup>2</sup> is the opposite of solvency, *i.e.*, liabilities exceed assets. In the case of a banking institution, the liabilities consist of funds deposited by customers and surely an insolvent bank does not augur well for the security of the depositors. It goes without saying that if most banks in a country simultaneously become insolvent, there will be adverse effects on the economy.

According to Santomero (1997:8), massive withdrawals of deposits results in banks becoming insolvent and not being able to honour their liabilities (deposits). When this situation occurs, and if it encapsulates most banks in the system, a banking panic erupts. A banking panic is detrimental in that it destroys the capital of many banks and also reduces the capacity of the banking sector to fulfil efficiently its intermediation role, because there are no savings to be turned into investments (Bernanke and Gertler, 1989; 1990). Also, it must be taken into consideration that a bank's solvency depends on its ability to retain the confidence of both depositors and other institutions on which it must rely for funding. Maintenance of confidence in banks and the avoidance of bank runs are major benefits to the entire banking system.

A somewhat different approach on the solvency issue is adopted by de Juan (1991). In the view of de Juan (1991:43), the conventional approach of attributing problems experienced in the financial system to macroeconomic difficulties is not complete and leaves a lot to be desired and thus does not sufficiently address the issue of failing banks. De Juan (1991:43) argues that the "macroeconomic context is a necessary, but not a

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<sup>2</sup> Insolvency is hereby used synonymously with bankruptcy, *i.e.*, inability to honour obligations due to a lack of funds.

sufficient condition to address the problems of unhealthy banks and their effects on the overall economy”. De Juan (1991:46-47) then identifies three major microeconomic causes for insolvency, namely “mismanagement, lack of supervision and political pressure”. Sundararajan *et al* (2002:426) further add “[that] financial and banking crises have taught us the lesson that vulnerabilities stem from weaknesses in management of financial institutions and in the structural environment in which they operate”.

Although these microeconomic factors are more prevalent in developing countries, especially in Africa, there is no reason to believe that developed countries with sophisticated financial systems will not be affected by the aforementioned microeconomic factors explaining bank insolvency. The conclusion reached by de Juan (1991) is that bank insolvency matters to the overall economy, mainly because when banks become insolvent, they become bankrupt and ultimately this bankruptcy is felt in the overall economy in the form of misallocated resources and crowding out of productive lending. This scenario results from the actions of banks when faced with imminent bankruptcy because of their insolvent positions. These actions mainly take the form of banks selling their assets at “fire-sale” prices to pay out running depositors (Diamond and Dybvig, 1983).

Banking regulation is also aimed at “maintaining bank liquidity” (Miller and Van Hoose, 1997: 205). The maintenance of liquidity refers to the avoidance of a situation whereby a bank finds itself experiencing temporary cash flow problems. Illiquidity in this regard should not be confused with insolvency as defined above. An illiquid bank is one that is having cash flow problems of a short-term nature, whilst it is solvent, *i.e.*, still able to meet its obligations (Latter, 1997:25). Guttentag and Herring (1983), as well as Miller and Van Hoose (1997), suggest that to ameliorate the effects of illiquid banks, central banks could make available loans to the affected institutions. This will have the effect of preventing banks from becoming insolvent and avoid runs on other banks (at least in the short run). A *caveat* here is that, in so doing, the central bank should take into account the ever-present problem of moral hazard, as banks might take on more risk, if they are aware of the possibility of cash injections from the central bank.

## **2.5. THE CASE FOR AND AGAINST BANK REGULATION**

### **2.5.1. Introduction**

Despite the threat posed by the instability of the banking sector and the dangers of the collapse of banks to the economy as discussed above, the argument for regulating the banking sector seems to be not convincing to all economists and some public policy practitioners, as discussed in this section. In it will be presented arguments of the supporters and opponents of bank regulation and the main motivations for accepting or rejecting bank regulation.

The overall precarious position of the financial sector, especially financial intermediaries (banks) has always been used as a justification for regulating this sector more than any other sector in the economy. Historical and recent bank failures add further impetus for strictly regulating the banking sector. This argument is linked to the concept of financial fragility as discussed earlier.

The general argument for bank regulation has been given as the correction of market failure in banking and rests on the principles of the public interest theory of regulation as given by Dixit (1996) which views regulation as a means to correct market failure. According to Carmichael (2001:314), “the case for regulatory intervention rests on market failure and the impact of that failure on economic efficiency. This view asserts that it is beneficial to regulate banks, because the failure to do so will result in economic costs and inefficiencies, since the market left to its own does not yield economically efficient outcomes, *i.e.*, “market outcomes differ from Pareto efficient allocations” (Villalpando-Benitez, 2000:12). However, although banks are regulated in almost all countries around the world, the idea of bank regulation is not universally embraced and accepted. The conflicting arguments for and against bank regulation will be discussed below.

## 2.5.2. The case for bank regulation

### Overview

Dow (1996:698) argues that “the case for regulation rests on the very special economic role of money and the uncertainty associated with money”. The argument for regulation of the banking system, as advanced by Dow (1996), emphasises on functions of money in modern economic systems. The fact that banks create money through deposits, which are liabilities on their balance sheets, supplies a good enough reason for banks to be regulated. The ability of banks to create money is termed “moneyness” by Dow (1996:698) and is regarded as a *public* good, hence the need for regulation. With regulated banks, the public would have confidence in money, as money is the “denominator of contracts” in today’s market driven economies.

Without regulation, banks might fail and their unique function of moneyness would die with them, resulting in a disturbance to the normal functioning of a market economy, as the public loses confidence in money as store of value and unit of account, as well as contracts not being efficiently negotiated. Therefore, regulation and supervision of banks act as measures that are aimed at preserving the stability of the banking sector. In essence, the above argument for regulation is an argument on the grounds that moneyness, which is necessary to the working of the monetary system, is a public good and like other public goods calls for government intervention in order to achieve optimal efficiency.

Goodhart *et al* (2003:4-6) point out the following reasons for bank regulation:

- To protect the customer against monopolistic exploitation.
- To provide smaller clients with protection.
- To ensure systemic stability.

Goodhart *et al* (2003) are of the opinion that customer protection against monopolistic exploitation as a reason for bank regulation is really insignificant, mainly because it is not

such a major issue in the banking sector because of high competition in banking. However, the protection of depositor and systemic stability arguments are the main tenets of the bank regulation arsenal. Traditionally, governments have performed the role of banking regulation. That is the case because governments are the only institutions with power to enforce laws and regulations with a view to correcting the failures of the free market system. Polizatto (1991:173) further adds, “governments [should] establish public policy for banks in the public interest”.

The protection of clients has taken centre stage in the argument for bank regulation. According to Goodhart *et al* (2003:4-5), the case for client protection arises because of the risk of bank failure (and clients losing their funds) and because of the “adverse behaviour of a bank with its customers”. The bank failure argument has a bearing on systemic stability, that is, failure of one institution might lead to runs on other institutions, thus precipitating a collapse of the whole banking (financial) system. When it comes to the specific regulations intended to prevent the adverse effects of failing banks and to protect the client, the literature distinguishes between prudential and systemic regulation:

Systemic regulation is about the safety and soundness of financial institutions for purely systemic reasons (*i.e.*, because the social costs of the failure of an institution exceed the private costs). On the other hand, prudential regulation is about the safety and soundness of financial institutions *vis-à-vis* consumer protection, in that the consumer loses when an institution fails, even if there are no systemic consequences (Goodhart *et al*, 2003:5).

Polizatto (1991:173) defines prudential regulation as a “set of laws, rules, and regulations that is designed to minimise the risks banks assume and to ensure the safety and soundness of both individual institutions and the system as a whole”. In this regard, regulation is aimed at sustaining the integrity of the payment system. This is an important function, because today the payment system (executed via the banking system) has become part and parcel of modern economic systems and any perceived disturbance to the smooth functioning of the banking system can have gross consequences on a macro scale as evidenced by historical events (see, for example, Kindleberger, 1978).

The case for prudential regulation is based on the argument of the difficulties created by the old principal-agent problem (see, for example, Milgrom and Roberts, 1992). In the case of the relationship between clients and financial institutions, the principal-agent problem arises because clients cannot judge the safety and soundness of financial institutions (Bhattacharya and Pfleiderer, 1985; Goodhart *et al*, 2003 and Bossone, 2000).

### ***2.5.2.1. Systemic risk and bank regulation***

The following is an apt introduction to this section:

Bank (depository institutions) failures are widely perceived to have greater effects on the economy and thus are considered more important than the failure of other types of business firms. In part, bank failures are viewed to be more damaging than other failures because of a fear that they may spread in domino fashion throughout the banking system, felling solvent as well as insolvent banks. Thus, the failure of an individual bank introduces the possibility of systemwide failures or systemic risk (Kaufman, 1996:1).

Systemic failure as a form of market failure is almost unique to the financial markets (especially the banking sector). This is so because it is mainly in the banking sector where the failure of one bank leads to the collapse of other banks in the absence of measures aimed at preventing such contagious effects. Systemic failure in the financial sector has the consequence of the financial system not performing its functions, leading to the loss of confidence in the system. According to Villalpando-Benitez (2000:13), systemic failure arising from the failure of one or more banks puts the whole payment system at risk.

The regulation of banks based on the systemic risk argument is probably the most forceful one from the side of the regulators. The case for regulation arises because of the inherent capacity of bank failures to transmit instability to the real economic sectors and as a result inducing undesired effects on output, employment and inflation. Given the unique position of banks in the economy, especially their intermediation role, regulators justify this fear on the basis of the possible adverse effects in case of major bank failures

and the eventual collapse of the whole payment mechanism leading to a sub-optimal allocation of resources in the economy, because funds are not transferred from the surplus units to the deficit units (Corrigan, 1982<sup>3</sup>). This has an unintended effect of reducing national output and thus slower rate of economic growth.

Kaufman and Scott (2000:3) define systemic risk as follows: “systemic risk refers to the risk or probability of breakdowns in an entire system, as opposed to breakdowns in individual parts or components, and is evidenced by co-movements (correlation) among most or all the parts”. “Systemic risk [in banking] occurs where failure of one institution to honour its promises leads to a general panic, as individuals fear that similar promises made by other institutions may be dishonoured” (Carmichael, 2001:316). From the above, one can clearly recognise that the breakdown is pervasive and thus presents a definite case for the prevention of bank failures.

Following Kaufman (1996:3-4), systemic risk is defined here as the risk that failure of one bank, in an environment of close and connected banks (*i.e.*, strong inter-bank market), may lead to the failure of other banks in a domino fashion. This systemic risk argument is stronger for banking institutions than for other industries, mainly because of the interconnectedness of banks and the nature of the inter-bank market for banks.

This interconnectedness manifests itself in the form of inter-bank loans and deposits, thus implying that a failure of one bank has the potential to lead to the failure of another bank, because the assets of the non-failing bank will be eroded as a result of the collapse of the first bank. That will occur because the non-failing bank has deposits with the failed bank and cannot claim such deposits, and similarly the failed bank might have debts owed to the healthy bank in the form of inter-bank loans and because of its failure cannot pay such loans. This failure results in the position (balance sheet) of the healthy bank being negatively affected. If this chain of events were to take place throughout the whole banking system, a wholesale collapse of the banking sector would ensue, which is why

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<sup>3</sup> Cited in Villalpando-Benitez (2000:14)

the banking sector is more prone to systemic risk than any other sector in the economy and is thus regulated as much (see, for example, Michael, 1998<sup>4</sup>).

#### **2.5.2.2. Financial instability and bank fragility**

The concept of what constitutes financial stability or for that matter instability has been debated by economists over the years and will continue to be debated well into the future, since there is no agreement on the issue (Sundararajan *et al*, 2002). The issue is mainly about the definition of financial stability and fragility, and arises because of the difference of opinions on the causes of financial instability. Crockett (1997<sup>5</sup>) defines financial stability as follows: “financial stability refers to the stability of the key institutions and markets that go to make up the financial system...stability requires (i) that the key institutions [banks] in the financial system are stable, in that there is a high degree of confidence that they continue to meet their contractual obligations without interruption or outside assistance; and (ii) that the key markets are stable, in that participants can confidently transact in them at prices that reflect fundamental forces and that do not vary substantially over short periods when there have been no changes in fundamentals”.

According to Sundararajan *et al* (2002:426) the importance of banks when it comes to financial stability issues is unsurpassed because of the central role played by banks in the payment system and the ability of banks to transmit adverse shocks to the economy in case of bank failure. Financial instability occurs when shocks to the financial system interfere with information flows, so that the financial system, essentially the banking sector, is no longer in a position to perform its primary functions, especially the provision of the payments system, risk pricing and, most importantly, channelling of funds to those with productive investment opportunities, *i.e.*, the allocation of resources in the economy (Freixas *et al*, 1999:154). A slight distinction between financial instability and financial fragility is given by Tsomocos (2003:39) who defines the latter as “when substantial

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<sup>4</sup> Cited in Freixas *et al* (1999:155)

<sup>5</sup> Cited in Tsomocos (2003:38)

default of a number of households and banks (*i.e.*, a liquidity crisis), without necessarily becoming bankrupt, occurs and the aggregate profitability of the banking sector decreases significantly (*i.e.*, a banking crisis)”.

In turn, Kaufman (1996:3) offers the following characteristics of banks that make them fragile and thus contribute significantly to overall financial fragility, as defined above: (1) low capital-to-assets ratios (high leverage), which provides little room for losses; (2) low cash-to-assets ratio (due to low reserve requirements), which may require the sale of earning assets to meet deposit obligations and (3) high demand debt and short-term debt-to-total debt (*i.e.*, deposits), which imply a high potential for a run and thus may require hurried asset sales of opaque and non-liquid earning assets with potentially large fire-sale losses to pay off running depositors. These characteristics render banks vulnerable to crises as mentioned above.

From the above, we can infer that financial fragility is associated with both liquidity crises and banking crises. However, Tsomocos (2003:39) notes that neither a liquidity crisis nor a banking crisis in isolation is a sufficient condition for a financial crisis and thus financial instability. The argument here is that a liquidity crisis does not necessarily result in bank bankruptcy and collapse, which will occur only when the profit margins of banks are so low (because of massive defaults on loans) that banks’ assets are negative, leaving banks in no position to honour their obligations (pay out deposits). This implies that a financial crisis (and eventually financial instability) is a result of the presence of *both* a liquidity crisis *and* a banking crisis. Such a situation necessitates banking regulation to guard against the negative effects emanating from financial instability.

### ***2.5.2.3. Bank runs and bank failure***

Kaufman (1996:2) describes bank failure as the situation when the “market value of the bank’s assets declines below the market value of its liabilities”. This implies that such a bank will not be in a position to service all its liabilities, *i.e.*, if all depositors demand their due deposit at the same time, the bank is no position to pay out all those deposits.

Maybe banks take comfort from the so-called “law of large numbers”, which dictates that not all depositors will demand their funds at the same time from the bank and thus insulate the bank from runs. The law of large numbers can insulate the banks up to a point however. Banks would not be protected from runs in cases where information leaks to depositors that a certain bank in the system is experiencing liquidity problems (assets less than liabilities).

This leak of information will reach the depositors of other banks and panic will ensue among the majority of depositors and such depositors will rush to withdraw their funds from the banking system (Freixas *et al*, 1999). Such a run will, unfortunately, affect both healthy and unhealthy banks and, that is why governments and supporters of regulated banking put forward a strong case for necessary regulations to curb against weak banks (Lang and Stulz, 1992). The idea is to ensure that all banks are made strong so that such runs are prevented entirely and thus prevent the concomitant systemic instability.

Santos (2000) further asserts that bank runs also happen even in the absence of adverse information on the precarious liquid position of a certain banking institution. Bank runs that occur without being necessarily triggered by negative information are mainly ascribed to panic among depositors and the fear of not being able to get deposits back because others have already withdrawn all the funds from a bank. Such fear can destabilise the whole banking sector and even drive sound banks into bankruptcy. However, not every type of banks run is bad; a run that originates from information about weak performance of a certain bank can actually be beneficial to the system because it will serve as a motivation for depositors to avoid that bank and shift their funds to other healthy banks.

In that way, the contagious effects that could have resulted if bank-specific information were not communicated, are prevented. The argument presented above assumes that the bulk of banks’ assets consist of risky assets; for example, illiquid loans and that, non-repayment of such loans put, banks in a shaky condition, especially when there is a

possibility of a sudden and huge demand for bank deposits. Moreover, the holding by banks of non-marketable and illiquid assets exposes banks to runs (Goodhart, 1989).

However, the main bone of contention between those who support banking regulation and those who oppose it is whether bank failure is really a cause for concern, that is, whether bank failure leads to instability. The proponents (Dow, 1996:698) of bank regulation have an unequivocal yes as an answer and argue that the free bankers who oppose regulation “misinterpret and misuse historical evidence of free banking to support their position”. On the other hand, one of staunchest supporters of unregulated banking, Kaufman (1996) contends that the banking sector is not much different from any other sector of the economy and its failure does not warrant the big brouhaha that envelops it at present. In fact, Kaufman (1996:3) notes that failure of a number of banks might even be beneficial to the whole sector and promote the resilience of the remaining banks, as they will expand and be able to offer better services (Lang and Stulz, 1992).

### **2.5.3. The case against bank regulation**

#### ***2.5.3.1. Financial laissez-faire***

Despite all the arguments for financial regulation in general, but banking regulation in particular, there are some economists (see, for example, Selgin, 1988) and other commentators who question the effectiveness of and need for banking regulation as a means to promote bank stability and soundness. In turn, they argue that regulation is the cause of bank instability, and not the remedy and thus is not justified. Unregulated banking is termed financial *laissez-faire* or free banking. Dowd (1996:679) sums the argument for financial *laissez-faire* as follows:

...If free trade is generally desirable, then what is wrong with free trade in the financial services sector? If nothing is wrong with it, the whole panoply of government intervention into the financial sector – the central bank, government-sponsored deposit insurance and government regulation of the financial system – should presumably all be abolished. If there is something wrong with *laissez-faire*, on the other hand, then what exactly is the problem with it? Why does

this problem justify intervention? And why does it justify the particular interventions we have, such as a central bank?

The issue raised by the free banking theorists is that the arguments voiced by those who support banking regulation are shallow and superficial. The free banking theorists argue that the systemic risk argument advanced by the opponents of financial *laissez-faire* is not necessarily true. In fact, the free banking theorists posit that there is nothing special about banking and money that warrants intervention or regulation, because banking like other sectors of the economy can be left alone to the laws of free trade and the invisible hand of the market (Dowd, 1996:679). Therefore, if that is the case, then Dowd (1996) wonders why the banking sector is regulated even more stringently than other sectors of the economy.

The proponents of regulation often argue that because the financial *laissez-faire* system does not require banks to have reserve requirements and banks are allowed to issue currency, this would lead to inflation and oversupply of currency and would render the operations of the banking sector ineffective. However, this view is dispelled by the free bankers (see, for example, Selgin, 1994 and Dowd 1996). Notably, White (1993:1) also dismisses those fears and sums up (using historical evidence) how such a system could work to allay the fears of those not in support:

Because reserve requirements constrain banks today, economists have sometimes feared that banks without reserve requirements will face no constraint against oversupplying checking deposits or banknotes. But the fear is historically groundless. A competitive market compels unregulated banks to fix the value of their deposit and note liabilities in terms of the economy's basic money [e.g., gold] by offering redeemability at par in basic money. To avoid embarrassment, in the absence of government protection, a bank could not issue too many liabilities in relation to its reserves of gold. Under redeemability, the value of money falls (price inflation occurs) only when the supply of the economy's basic money grows faster than the real demand for basic money.

For the critics of the financial *laissez-faire* model who contend that free banking is inherently associated with instability of banks, the free bankers have an answer: financial

*laissez-faire* is more stable than regulated banking, in fact it is because of intervention and regulation that instability occurs. Then, what makes free banking stable? According to Dowd (1994), the markets will ensure stability. The theory here is that in a model of banking consisting of a large number of banks and a big active inter-bank market (*i.e.*, where banks lend to each other), and in the absence of deposit insurance and lender of last resort, competition will ensure that weak banks are eliminated from the system.

Under free banking, banks would try to ensure that they are adequately capitalised and responsibly managed, because of the pressure banks would receive from customers (depositors). Because depositors would be aware of the absence of deposit insurance and lender of last resort, they would want to choose banks with enough capital to ensure that their deposits would be safe (Dowd, 1996). Citing historical and comparative evidence of different countries that had free banking regimes in the late nineteenth and early twentieth century, (White, 1993:2) extends the argument as follows: "...depositors were more careful in choosing banks, and banks correspondingly, in order to attract cautious customers, had to be more careful in choosing their asset portfolios than banks are today in the presence of deposit guarantees and a lender of last resort".

Further, the free bankers reject banking regulation on the basis that such intervention has led to the erosion of bank capital and low capital ratios for banks. According to this contention, banks maintained higher capital ratios (ranging on average between 15% and 40% during the antebellum periods) than today and thus were less likely to fail and therefore limiting losses accruing to depositors (see, for example, Kaufman, 1988 and 1992).

### ***2.5.3.2. The myth of contagion-led financial instability***

It is probably fair to say that there is considerable agreement among central bankers and other economic policymakers that banks' unique balance sheet structure creates an inherent potential instability in the banking system. Rumours concerning an individual bank's financial condition can spread if the distressed institution is large or prominent; the panic can spread to other banks,

with potentially debilitating consequences for the economy as a whole (Kelly, 1997, cited in Goodhart *et al*, 2003:9)

The above statement is a clear demonstration of the collective belief of many supporters of banking regulation with regard to financial instability originating from the banking sector. The central message contained therein is the fear of systemic instability and ultimate collapse of the banking sector because of what is termed “contagion effect”. Contagion (in banking) refers to a situation of panic among depositors stemming from news that one banking institution is having trouble (Guttentag and Herring, 1983). The depositors develop a fear that their deposits with even other banks are at risk and therefore a run on those banks is started.

This contagion effect has a potential to be even stronger in a free, competitive economy – with a strong inter-bank market in which all banks lend to and borrow from one another – like the current economic system seen all over the globe today. The contagion argument for financial instability is rooted in the view that harmful effects caused by bank runs and lack of confidence in the banking sector will trickle down to the whole economy, mainly because of the disruption of the intermediation function performed by banks. This implies that funds would not be channelled efficiently to the productive sectors of the economy as a result of the collapse of the banking system and this would ultimately hurt the output of the economy.

Be that as it may, the free banking school offers a counter argument that dispute the validity of contagion-led financial instability. White (1993) argues that during the free banking era, bank runs and failures were not of a contagious nature (see also, Benston *et al*, 1986) even when there was a strong cooperation among the banks (i.e., the inter-bank market) and thus financial instability was not a function of bank runs and contagion. Furthermore, Dowd (1996:682-683) is of the opinion that given a competitive environment, in which both banks and their customers (depositors) are concerned with their own welfare, the contagion-led instability argument does not hold.

According to this theory, the banking system would consist of weak and strong banks, where weak banks are those that are exposed to runs, are heavy risk takers and badly managed, while strong banks are the opposite of weak banks, *i.e.*, well managed and not exposed to runs. In a situation where a run is occurring on the weak banks, the strong banks would insulate themselves against the run by cutting back the amount of inter-bank credit or loans extended to those weak banks; in that way, contagion would not affect the whole banking system. Moreover, depositors would help limit the effects of runs (and thus stop contagion) by transferring their funds to the strong banks when weak banks are experiencing runs, this is what Dowd (1996:682) calls “flight to quality”.

Such flight-to-quality actions of depositors would certainly ensure that funds are moved from the more risky weak banks to less risky strong banks, thus preventing contagion in the whole banking sector, and consequently ensuring stability in the sector and more generally in the whole financial system. This led Dowd (1996:683) to conclude: “*the contagion hypothesis is implausible and empirically rejected*” (emphasis added). This is linked to the selective bank-runs models of Calomiris and Khan (1991) and Park (1991) that offer bank runs as a mechanism that improve efficiency, in that depositors transfer their funds from troubled banks to healthy banks. This is empirically supported by Saunders and Wilson (1996:422) who state that during the Great Depression period “failing-bank deposit withdrawals were redeposited in nonfailing banks”.

However, it is important to state that these views contrast strongly with those of the rejecters of the free banking hypothesis who argue for intervention in and regulation of the banking sector and financial system in general. For example, Aghion *et al* (1999<sup>6</sup>) develop a model in which they illustrate how the failure of one bank may trigger a contagious run on other banks, even when the market is made up of many banks competing with one-another and where the inter-bank market is very active.

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<sup>6</sup> Cited in Santos (2000:6)

### ***2.5.3.3. Bank and systemic failure and the role of money***

The link between systemic failure, bank contagion and ultimately the broader economy is via the interconnection of economic agents and the special place that bank deposits occupy in the money supply process. This link implies that the spending patterns of one economic agent are greatly influenced by other agents in the economy. This is reflected in the way in which the balance sheets of various economic agents are connected to each other, *i.e.*, the liabilities of each agent form the assets of others and *vice versa*.

Therefore, it follows that when one economic agent suffers losses or experiences a reduction in assets, this will have a chain reaction on all the other agents in the economy and eventually will lead to slow economic activity in the macro economy mainly because of reduced spending of most economic agents. This is especially true for depositors, because losses on the part of the bank translate into a disruption of the money supply process, and because of the intricate connection between bank deposits and money supply, any losses in bank deposits (because of bank failure) will result in depositors reducing their spending and the domino effect will ensure that the spending of all the other agents is also affected, with consequent negative impact on the broader economy.

However, the supporters of free banking argue that the impact of bank failure or bank runs on the macro economy is not big, because, in the event of a run on one bank, depositors will shift funds to other solvent banks (flight to quality), thus resulting in no disruption to the credit extension function of the overall banking sector and ensuring that the economy functions as smoothly as before the run on one bank occurred (Benston *et al*, 1986; Kaufman, 1988). The above analysis assumes the absence of any deposit insurance scheme, because depositors are able to assess the fragility of banks, and any perceived weakness of a bank can trigger withdrawal of deposits, for the reason that depositors fear that, in the event of insolvency, the capital of the bank will be eroded and they will lose part or all of their deposits. Therefore, without deposit insurance, depositors would “encourage their banks to hold sufficient capital in order to avoid adverse shocks originating at other banks” (Kaufman, 1996:8).

Dow (1996) is opposed to free banking, not only on the basis that such a system would not work, but also on the basis of difference in opinion with free bankers *vis-à-vis* the importance of money. This difference in opinion arises because of the assumptions of free bankers when it comes to the whole notion of money as the ultimate preferred method of liquidity in times of banking crises. Dow (1996:700) notes that free bankers wrongly presume that there is no need for a liquid asset (money)<sup>7</sup> as a means of payment, arguing instead that the need for money or liquidity in crises times is here to stay and banks as creators of money should therefore be stable and instil confidence in the public to deposit their funds with them, a confidence that can be achieved only by means of regulation.

This is an interesting departure from Dowd (1996:687) who asserts that historical evidence on free banking has proved that free banking has been stable and therefore there is no need for regulation and state intervention in the banking sector. The view by free bankers that the market itself is capable of ensuring a stable banking sector is rejected, because of the inability of the market (*i.e.*, banks as well as depositors) to assess risk correctly, and to identify liquidity and solvency problems, which is a difficult task even for central banks to do in spite of all their might and resources (Davis, 1992<sup>8</sup>).

Although Kaufman (1994) agrees with the supporters of regulation of the banking sector, in that bank contagion is real and presents potential adverse effects to depositors and the overall economy, he disagrees with the view that calls for an even more stringent regulation regime based on the contagion-effect argument. The disagreement is based on the conclusion that bank contagion and failure do not start economic downturns, but merely exacerbate them and also that losses to depositors as a result of bank failures tend to be smaller as supporters of regulation would like us to believe. Thus, Kaufman (1996:4-5) offers that regulation is actually the cause of bank failures, because the market left to its own ways, (as in the free banking era) will guide banks to efficient outcomes

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<sup>7</sup> Liquidity preference in the Keynesian sense.

<sup>8</sup> Cited in Dow (1996:701)

by the maintenance of high capital ratios and the avoidance of risks. This notion is justified on the basis of low failure rates of banks before the introduction of heavy regulations in the United States of America (USA) compared to higher bank failure rates after the introduction of laws designed to guard against such failures.

The belief that government regulation exacerbates systemic risk is entrenched in the minds of those who oppose such regulation as demonstrated by the following passage attributed to Black (1995<sup>9</sup>):

When you hear the government talking about systemic risk, hold on to your wallet! It means they want you to pay more taxes to pay for more regulations, which are likely to create systemic risk by interfering with private contracting ... in sum, when you think about systemic risks, you will be close to the truth if you think of the government as causing them rather than protecting us from them.

From the above we can clearly discern the scorn afforded government regulation in banking by those who oppose such regulation. Although there is some concession on their part about the possibility of systemic risk being present in the absence of government regulation, the greater blame for widespread bank failures and systemic risk on a grand scale is squarely put on the shoulders of government and its regulation policies. This argument suggests that bank instability is more a regulatory phenomenon than a market phenomenon. To quote Schwartz (1995, cited in Kaufman, 1996:18) "... omitting the government as a cause of instability in banking in a play about systemic risk is like omitting the Prince of Denmark from the first act of Hamlet". It clearly demonstrates the strong belief that government is the mother of all evils when it comes to systemic instability and bank failures.

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<sup>9</sup> Cited in Kaufman (1996:18)

## 2.6. MODERATE FREE BANKING: THE MIDDLE-OF-THE-ROAD SOLUTION?

Regardless of the arguments for and against bank regulation, there are some economists who would rather settle for a middle-of-the-road solution or adopt a moderate view of free banking. The argument advanced here is that there is a case for both bank regulation and against bank regulation. Benston and Kaufman<sup>10</sup> (1996), for example, although they are in support of free banking, are of the opinion that it is still imperative to regulate the banking sector because of the inherent fragile nature of the market economy in general and the banking sector in particular. However, such fragility does not always and necessarily justify the regulation of the banking sector, but there are certain ills of the system that need to be cured by regulation. The case against bank regulation as advanced by Benston and Kaufman rests on the refutation of the argument of the important role played by banking institutions, especially as deposit-taking institutions and financial intermediaries. The contention here is that the fear of losses stemming from bank failure does not justify regulation.

Kaufman (1994) notes that losses emanating from bank failures are not higher or more severe than losses due to failure in other industries, and that contrary to popular belief, the simultaneous collapse of many banks does not result in disruption of money supply and overall economic activity, provided that the funds withdrawn from failed institutions are deposited in healthy and strong banks. In contrast to other free bankers (for example, Dowd, 1996) who argue for the abolition of the central bank as a lender of last resort and government controlled deposit insurance scheme, Benston and Kaufman (1996:694) state that central banks may be useful in supporting the financial system as a whole and deposit insurance should rather be a private function and not be totally eliminated as the devoted free bankers would like us to believe.

So, in the end, Benston and Kaufman (1996:694-695) in trying to answer the question on why banks have been and continue to be regulated, conclude that it is done to “limit

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<sup>10</sup> It would appear contradictory that especially Kaufman would be in support of some form of bank regulation, given some of his strong views against that in some of his writings of which some are quoted in this chapter.

competition and to provide revenue and power for government officials”. Certainly this view must have been credible in the distant past when governments could exercise much power in almost all the markets, including the banking sector, but it is very difficult to imagine a situation today whereby governments would strongly push for limiting competition in the banking sector, given the deregulation mood that is sweeping the world today. Similarly, gone are the days when government officials and other “aristocrats” could use their positions to demand favourable credit terms from banks, because in the current economic set-up, there is a greater distinction between government agencies and the private sector and also corporate governance rules make it difficult for government officials to influence the decisions of the banks.

In adopting a moderate free banking view, Benston and Kaufman (1996) limit their support for bank regulation only to the extent that such regulation helps to stabilise the financial system and remove the negative effects brought about by the presence of unavoidable externalities. As such, they even argue that regulation in effect does not promote efficiency of the banking sector and that safety of the sector is not a function of imposed regulation.

The supporters of limited regulation of the banking sector also agree with the most vocal free bankers about the impotency of deposit insurance as a tool to guarantee safety of bank deposits. However, in contrast to the financial *laissez-faire* school of thought, they do not believe that deposit insurance schemes will disappear entirely because of free banking, but instead that such schemes will become meaningless. The argument advanced by this group of moderates is that of an effective regulatory agency that is able to identify weak banks early and implement the necessary corrective actions, with the least cost to government and minimum damage to the banking system as a whole; in that way it will be ensured that bank failures are minimal and thus make deposit insurance obsolete (Benston and Kaufman, 1988<sup>11</sup>).

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<sup>11</sup> Cited in Benston and Kaufman (1996).

## 2.7. CONCLUSION

Notwithstanding the arguments put forward by the free bankers against bank regulation, there is still a concession among the free bankers that regulation cannot be wished away or simply abolished and it is here to stay. Selgin (1997:1-2) sums up why the free bankers cannot completely reject regulation: “...regulation is partially supported by free bankers, not because of the belief that banking systems are inherently prone to systemic risk, but because banking is widely perceived by others to be vulnerable to systemic risk, therefore banks need to be regulated”. This is what Selgin (1997:2) terms regulation to be, a “soothing and beneficial placebo”.

The presence of actual or perceived dangers of systemic risk on the economy leaves a question on how the authorities should deal with systemic risk. According to Kaufman and Scott (2000:14) systemic risk is best dealt with via private market incentives, with government’s role limited to the creation of an enabling environment in which the private market is able to set such incentives for itself. This implies that the regulatory structures of government should be supportive of the market structures in limiting or eliminating systemic risk and not be retarding such private market efforts. To that end, government should try and rebuff macro-economic shocks that will impact negatively on the banking sector.

Banks should be left on their own to assess their risk exposures and deal with such risks via for example, maintenance of higher capital bases in order to absorb losses emanating from macro shocks in the economy. In a situation whereby the market is left to itself, government sponsored deposit insurance causes more harm than good, in that bank managers and shareholders tend to become risk lovers as a direct result of deposit insurance (Scott and Mayer, 1971<sup>12</sup>). Therefore, in order for the private market to deal

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<sup>12</sup> Cited in Kaufman and Scott (2000:16)

effectively with systemic risk, deposit insurance should be absent<sup>13</sup> and thus allow banks to account for their own risk positions.

However, Kaufman and Scott (2000:22-23) are quick to caution that there “cannot be complete reliance on private ordering”. Despite that *caveat* the emphasis is still on the absence of government sponsored deposit insurance (to prevent moral hazard problems mentioned earlier) and for bank regulators to avoid actions that impair market incentives. Therefore, what is suggested is a strategy of seeking to minimise the scope of the government’s backup role and to maximise the effectiveness of private actors (Kaufman and Scott, 2000).

Given the view that banking instability is a direct result of government regulation in the form of weak policies put in place by government with the aim of curing the inherent instability in banking, and also the fact that regulation cannot be eliminated completely, how then can the two be reconciled? The solution, as put forward by Kaufman (1996) and supported by Selgin (1997), lies in government providing the necessary and conducive environment for banks to operate in, without the unwanted consequences of badly designed policies that exacerbate, rather than ameliorate, banking instability and financial fragility. This conducive environment envisages the absence of deposit insurance and limited role of the central bank.

The idea is for the banking market to guide itself in avoiding systemic failure and thus in maintaining a stable banking sector, which translate into a strong macro economy. In such a scenario, weak banks will be allowed to fail and depositors in such banks would shift to other healthy and strong banks. In that way, problems associated with the unreliable intervention by government would be eliminated. To make the abovementioned solution possible, Kaufman (1996:19) recommends “market-oriented macroeconomic policies that achieve stability and avoid price bubbles that leave banks highly vulnerable to failure”. Such policies that are aimed at achieving a stable

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<sup>13</sup> The obsolete theorem of Benston and Kaufman (1996)

macroeconomic environment, in which banks are competing with one another, are likely to lead to a banking sector that is exposed to minimal bank failure and systemic risk.

As discussed earlier, the free bankers are in favour of the market-driven regulation, whilst the opponents of such arrangements are strongly in favour of formal regulatory mechanisms. On the evidence of most, if not all, regulatory regimes around the world, the formal stance has prevailed. Thus, it is inconceivable for a return to the free banking era. Therefore, the task is rather to try to harness the formal regulatory setting by incorporating the good features of the market-driven arrangements.

Furthermore, the reality in various countries today is that central banks are still playing a major role in ensuring banking stability, and deposit insurance schemes are prevalent in many countries and more are continuing to adopt them. The merits or demerits of such schemes *vis-à-vis* bank stability and depositor protection will be the subject of the next chapter.

## CHAPTER THREE

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### THE ROLE AND PLACE OF DEPOSIT INSURANCE IN THE REGULATORY SAFETY NET

#### 3.1. INTRODUCTION

The importance of the banking system for a country's economy and the rationale for the regulation of the banking system have been stated in the previous chapter. In the final analysis, it has been established that despite some criticisms against banking regulation, it still remains imperative for the banking sector to be regulated in order to ensure the stability of banks and the payments system and to instil confidence in the banking sector. The economic costs of bank failure that manifest themselves via the disruption of the intermediation function and reduction of money supply and thus in the disruption of the proper functioning of the economy have given rise to the establishment of regulatory regimes in order to make banks more stable (Carisano, 1992:5). In almost all countries around the world, the regulation of the banking sector is a formalised function undertaken by the central bank. This task encompasses the design and enforcement of sound prudential regulation and supervision.

Historically, the regulation and supervision of banks has included the lender of last resort function of the central bank whereby the central bank intervenes and rescues a bank that experiences solvency problems. Regulation and supervision of banks have traditionally formed the cornerstone of most countries' regulatory safety nets. However, as free market economies developed and became sophisticated, the banking sector also changed remarkably and started to innovate products and services that were more risk-prone. This caused the effectiveness of the existing regulatory tools to be questionable. This situation was exacerbated by macroeconomic events in the economies that left the banking sector

also vulnerable to shocks. As a result, banks became crisis-prone and runs on banks became the order of the day as depositors panicked.

Massive bank failures (in the 1930s) induced by runs on banks, resulted in depositors losing their deposits, loss of confidence in the banking systems and banking instability, led to governments introducing deposit insurance schemes as a measure of ameliorating the adverse effects brought about by bank runs and protecting depositors. The USA was the first country in the world to start operating a formal and explicit deposit insurance scheme in 1934 as a response to the events of the Great Depression, which saw a large number of bank failures in that country.

Subsequently, many developed and developing countries have adopted deposit insurance schemes as part of their regulatory safety nets in order to safeguard the stability of the financial system. This chapter is aimed at analysing deposit insurance as part of the regulatory safety net, to show how deposit insurance can be used to counter the effects of bank runs and panics and also to highlight the moral hazard problem that exists in deposit insurance and the measures employed to overcome that problem. The next section revises the financial intermediation of banks within a delegated monitoring framework, which justifies the need for deposit insurance to protect deposits used by banks in their lending processes.

### **3.2. BANKING AS DELEGATED MONITORING**

Banks play an important role in financial intermediation by bringing the investors (depositors) and entrepreneurs (borrowers) together. This intermediation function has been justified on the grounds that it is costly and inefficient for a borrower to search and find a lender who has the exact funds needed by the borrower and who has the exact needs in terms of investment horizon at the rate of return offered by the borrower. This is where the bank comes in and interposes itself between the two and assumes the double role of being a borrower from lender (depositor) and lender to borrower (entrepreneur) at a certain rate of interest (return). By so doing, the bank becomes a specialist in

information gathering and the monitoring of borrowers until final repayment of loans. The banks perform this function at a minimum cost compared to when the borrowers and lenders are left to find each other.

According to Van Dam (1997:35) banks are able to achieve minimum costs or cost economies in intermediation between savers and borrowers for the following reasons:

- A bank is able to achieve economies of scale as a consequence of specialisation;
- A bank can obtain [private] information such as details about a borrower's financial condition at a much lower cost, as it is expected to exhibit discretion with regard to such information; and
- Banks reduce the transaction costs associated with search, *i.e.*, matching lenders and borrowers, as they essentially provide a market through which such transactions can be accomplished.

The intermediary function of banks is unique in that they “perform a value-adding activity” by bringing together numerous borrowers and lenders who otherwise would not have met each other and monitor borrowers and gather information on the quality of borrowers, a job that cannot be performed by other institutions in the financial markets because of the excessive costs involved in that (Carisano, 1992). This view is formalised by Diamond (1984) who developed a model of financial intermediation in which the borrowers and lenders overcome the incentive problems posed by the costs of monitoring the performance of one-another *vis-à-vis* financial contracting.

According to Diamond's (1984) model of delegated monitoring, depositors leave their deposits with the bank, which in turn lend the funds to entrepreneurs at a given rate of interest. The bank assumes responsibility for monitoring the activities of the borrowers to ensure that the borrowed funds are repaid, without any cost to the depositor. The peculiar advantage of the bank as an intermediary lies in the fact that it pools funds from many depositors and, with its acquired expertise, minimises the costs of monitoring the borrowers. In this model, efficiency is enhanced, in that “as an intermediary [the bank]

deals with an increasing number of borrowers and lenders, contracting costs decline monotonically, that is, costs of delegation approach zero as the number of loans to entrepreneurs grows without bound” (Carisano, 1992:7). The conclusion reached by Diamond (1984) is that minimum costs in a delegated monitoring set-up are achieved only by the banks and not by other financial institutions in the financial system.

An implicit assumption of the delegated monitoring model is that bank assets are illiquid, because “banks have private information about the quality of assets” (Carisano, 1992:8). Banks are regarded as special firms in the economy not only because of their monitoring function, but also because of the intermediation role they perform by interposing themselves between borrowers and lenders. This intermediation function is reflected by the balance sheet structure of a bank, with loans on the asset side and deposits on the liability side. Banks are successful in acting as intermediaries because their liabilities, *i.e.*, the deposits they issue “circulate as medium of exchange” (Carisano, 1992:8).

This function of banks is made successful because the depositors are able to withdraw funds at anytime, thus enhancing their liquidity. Banks fulfil the liquidity needs of various depositors in the economy by transforming illiquid assets (loans) into liquid liabilities (deposits). This is what is referred to as the asset transformation function of the banking sector, and this asset transformation function is social welfare enhancing, in that it allows funds to be made available to entrepreneurs while depositors still have liquidity, by means of demand deposits (Bryant, 1980 and Gorton and Pennachi, 1990). Diamond (1996) offers that the reason why banks are successful in acting as intermediaries derives from the nature of the financial or debt contracts they write compared to those written by non-intermediaries.

In essence, borrowing and lending of funds in modern economies is facilitated via financial intermediaries (banks) and is not directly channelled from surplus units to deficit units because the debt contracts written by banks are superior than any other contracts in that the cost of monitoring and enforcement is substantially low or minimal (Diamond, 1996). This the banks achieve by means of their transformation function as

explained earlier, and also by investing in various financial instruments, *i.e.*, maintaining a diversified portfolio of assets.

Delegated monitoring is not without pitfalls and leads to other problems. For instance, the intermediary (bank) acting as an agent of the principal (depositor or lender) will possess private information and the principal will have difficulties observing the actions of the bank, *i.e.*, whether or not if monitoring is really taking place. Such a scenario would give rise to delegation costs. According to Diamond (1996:54), delegation costs would be minimised by the bank and the principal would enjoy the benefits of delegation, if the costs of using an intermediary were less than the costs of direct monitoring or not using an intermediary.

Following the principal-agent relationship and associated agency costs as outlined by Jensen and Meckling (1976), banks act as delegated agents of depositors in that they look after the interests of depositors when they on-lend such deposits to borrowers. However, it is well recognised that, in such a relationship between a principal and agent, there are agency costs that arise, because the principal has to monitor the actions of the agent to ensure that he is not short changed by the agent, and the relationship between a depositor and a bank is no exception. Depositors have to be on the lookout that their deposits are not lent to risky borrowers that compromise their own financial security, and obviously this comes at a cost.

Given the above, what makes depositors continue to lodge their deposits with banks then? Diamond (1984) suggests that the answer lies in the fact that banks are *good* delegated monitors on behalf of depositors whose funds are lent. What this implies is that banks acting as delegated monitors reduce depositors' agency costs, since banks are best equipped to fulfil the task of monitoring borrowers because of specialisation. Agency costs of depositors are reduced, because banks eliminate the duplication of effort of monitoring, *i.e.*, depositors do not have to monitor borrowers, but direct their efforts at monitoring the banks only (at a much lower cost) although this can be a difficult task for unknowledgeable depositors.

Because of the high costs associated with monitoring financial contracts (especially when monitoring is duplicated) and the subsequent delegation costs, Diamond (1996:54) contends that a bank is the best delegated monitor “because it borrows from small investors (depositors), using deposits to lend to borrowers (whose loans it monitors)”. However, because of the private information that accrues to the bank as a delegated monitor for all the small depositors who deposit their funds with the bank for on-lending to entrepreneurs who may undertake projects that are risky, questions arise of how certain it is that the bank carries out its function effectively. Diamond (1996:59) offers that one way to ensure that the bank fulfils its monitoring job effectively is to allow for its assets to be liquidated (in case of bank failure). In that way, the bank has an incentive to guarantee that all the small depositors are covered and thus would try by all means to avoid liquidation.

A bank will attempt to prevent liquidation, because it does not benefit the depositor or the bank itself because of the high costs involved in the liquidation of a bank. Bank liquidation is costly and welfare decreasing, since in the event of bank liquidation, the assets of the bank’s borrowers are also liquidated to ensure that the bank was not in “unholy alliance” with the borrowers to deprive depositors of their funds; also bank liquidation “consumes all of the assets” leaving nothing to be distributed to the depositors (Diamond, 1996:59-60), because its capital is eroded by liquidation.

How then can welfare be improved to ensure that both the monitoring agent (bank) and depositors do not lose in case of default by the bank’s borrowers and reduce delegation costs? Diversification has been argued to be a tool that banks can use to reduce delegation costs and to ensure that the funds of depositors are safe. According to Diamond (1996), delegated monitoring, whereby depositors deposit their funds with a bank that lends to a single borrower, is likely to fail and expose depositors to the risk of losing their funds. That is so, because in the case of a single borrower, the failure of the single borrower or non-repayment of the loan to the bank would translate into depositors

losing their funds because the bank has no other source for recovering the lent funds (deposits).

However, with diversification, the bank lends the pooled deposits from various depositors to multiple borrowers with different probabilities of non-repayment. This diversification strategy implies that the bank is in a position to recover some of its loans from some of the borrowers and the amount recovered should enable it to pay the affected depositors in case of a staged bank run or outright failure of the bank. That is so, because various borrowers have different probabilities of non-repayment, which are independently distributed.

This is akin to the risk diversification strategy proposed by Markowitz (1952) whereby specific or unsystematic risk is diversified away via diversification (not putting all eggs in one basket). The bank diversifies its risk of loan non-repayment by lending to multiple borrowers. Such a diversification strategy on the part of the bank is welfare enhancing in that the bank has a fixed cost of monitoring, while increasing the probability of honouring the deposits of depositors at the “required rate of return”, without the risk of bank liquidation. The bank is able to pay depositors their required rate of return because it lends at a higher rate than the one it offers depositors. With diversification, the likelihood of repayment is enhanced, because banks keep loans on their books and monitor them until maturity (*i.e.*, do not sell them, unlike shares that are sold anytime in the equity market) and this frees depositors from the daunting task of monitoring the borrowers, thus minimising their agency costs.

The only time when the bank would not be able to honour its liabilities (deposits) is when all borrowers default. The bank honours depositors and at the same time avoids liquidation if it monitors loans and keeps the monitoring costs to a minimum. Banks tend to monitor loans, because it is beneficial to them to monitor loans. The incentive to monitor loans arises because, if there is no monitoring there is a high probability of default on the part of borrowers, which would result in losses to both the bank and its depositors. Therefore, it pays the banks to monitor the loans it advances, in order to avoid

liquidation of the borrower and consequently the bank itself, which culminates in a deadweight loss.

Given three scenarios, *1. no monitoring, 2. monitoring by depositors and 3. delegated monitoring* by a bank with diversification, Diamond (1996:63) argues that since diversification leads to minimum delegation cost, scenario 3 is optimal or superior to the other two, “because if the bank gets sufficiently diversified across independent loans with expected repayments in excess of the face value of bank deposits, then the chance that it will default on its deposits gets arbitrarily close to zero.” This has the implication that default and liquidation is eliminated, leaving the bank with only the cost of monitoring, which cannot be diversified away. A further implication of banking or financial intermediation as delegated monitoring is that with full diversification by the bank, bank deposits are not subject to risk of losing their deposits, even in the absence of deposit insurance.

Delegated monitoring undertaken by banks is efficient, because it eliminates the inefficient liquidation of borrowers (and banks) by depositors, because banks through diversification “centralise costly monitoring and avoid the duplication of effort of monitoring borrowers by small depositors” (Diamond, 1996:65). The robustness of delegated monitoring in banking is given further credence by Stiglitz (1985) as well as James and Wier (1993) who found that firms with high levels of bank credit are best managed compared to firms making use of other forms of financing. This is attributed to the effort expended by banks on monitoring such firms (bank-leveraged ones) and the continued relationship that exists between the bank and the borrowing firm. As such, Stiglitz (1985), concludes that bank delegated monitoring is a form of a public good, because all investors benefit from the actions of the bank with regard to monitored firms; *i.e.*, the pressure exerted by the bank with regard to the repayment of the loan positively influences the performance of the managers of the firm to the overall benefit of all (shareholders and owners). However, this intermediation function performed by banks, whereby they transform illiquid loans into liquid deposits, leaves them exposed to runs by depositors who cannot assess the financial health of banks, as the next section shows.

### 3.3. BANK RUNS COSTS AND CONSEQUENCES AND DEPOSIT INSURANCE

A bank run occurs when many depositors demand their deposits from a bank as a result of a fear that the bank will fail, *i.e.* will not be able to honour its liabilities (deposits). This fear of non-repayment of deposits is sparked among depositors because of the nature of the bank's balance sheet, that is, its liquid liabilities and illiquid assets. Also, there exists asymmetric information between a bank and its depositors because the depositors do not possess the same information as bank managers on how the bank is run (Carisano, 1992:29).

Bank runs are deemed to be undesirable and costly, in that such runs lead to disturbances to the payments system and ultimately to instability of the financial system. The costly nature of bank runs is reflected by the fact that during a run a bank is forced to sell its illiquid assets at fire-sale prices in order to cover the sudden and increasing demand for deposit withdrawals as depositors rush to get their funds before the bank finally collapses (Diamond and Dybvig, 1983). One important consequence of bank runs resulting from illiquidity of assets is that the banks fail in their provision of the liquidity transformation function and this results in socially sub-optimal outcomes such as disruption to production, because during a run banks call in loans in an attempt to recover as much money as possible to satisfy withdrawal demands (Diamond and Dybvig, 1983 and Carisano, 1992).

As argued in Hoggarth and Saporta (2001:148), bank failure resulting from runs on banks affects various parties in the following way. In the first instance, the *owners* of the bank feel the cost of bank failure directly, in that the equity would be worthless or insignificant as a direct result of the failure of the bank. Surely, this represents a social welfare loss, because such equity disappears and thus cannot be used in any other productive way in the economy. In a waterfall fashion, *depositors* are affected next in that they lose all or most of their savings. The early "runners" stand a chance of salvaging some of their deposits, while those who delay get almost nothing. In the absence of deposit insurance, this can have a significant impact on the spending of many depositors, as their savings are

wiped out by bank failure. Following depositors, *other banks* operating in the inter-bank market suffer losses, as the possibility of non-repayment increases exponentially. This has a negative consequence, in a domino fashion, for all creditors as the creditors of the affected bank also face non-repayment. Finally, *borrowers and potential borrowers* who rely on bank credit would be affected and projects would not be undertaken or would be left incomplete.

The above analysis is in line with the views of Bernanke (1983) who argues that bank failure – through the credit channel – leads to a contraction of output in the economy. The reasoning here is that bank failure results in the reduction of credit extension from banks, thus adversely affecting the investment and consumption patterns of both producers and consumers. With reduced credit, producers would not be producing at optimum levels and also the spending powers of consumers are curtailed. Using the analysis given by Leland and Pyle (1977) and Fama (1985) on the importance of bank credit and intermediation to certain types of borrowers, bank failure that is due to runs also imposes other social cost with regard to information collection. This cost manifests itself in the form of lost information on clients, which has to be re-acquired in case of bank failure. Re-acquiring such valuable information on who is a good or bad borrower is no small feat and it is expensive for non-specialists (because banks specialise in that function that cannot be duplicated easily by other institutions).

The illiquid nature of bank assets is a major contributor to bank runs, in that bank assets (loans) do not have a market price attached to them, and consequently a bank cannot “develop deposit liabilities whose value vary with the value of the assets” (Carisano, 1992:10). This uncertainty in value of bank assets makes banks susceptible to runs. When such runs occur, social welfare losses are observed. Welfare losses occur, because with bank runs, assets are liquidated prematurely (sold at fire-sale prices) as postulated by Diamond (1984; 1996) and the proceeds from such sales are distributed very badly, with some depositors receiving nothing from such proceeds.

The welfare losses to the economy because of bank runs have been analysed from different viewpoints. Friedman and Schwartz (1963) offer that the economy is affected via the disruption to the money supply process, while Bernanke (1983) views the damage as transmitted through the credit allocation function banks, *i.e.*, with bank runs, output is reduced because firms do not have access to credit necessary for them to undertake investments. This is akin to the Diamond and Dybvig (1983) analysis in which loans are recalled during a bank run, thus leaving firms without capital to complete projects and produce output. Therefore, it can be argued that with bank runs, the intermediation function of banks is interrupted, resulting in inefficient outcomes *vis-à-vis* consumption and production in the economy with concomitant social costs (Carisano, 1992:11).

Banking panics associated with massive withdrawals of depositors' funds, tend to "not only destroy the specific capital of the institution under pressure, but also diminish the capacity of the financial sector to fund economically viable projects and monitor them to a satisfactory conclusion" (Santomero, 1997:8). Because of the asymmetry of information between bank managers and depositors regarding the assets of the bank, bank managers attempt to conceal the private information they possess on the value of the assets in order to try to discourage panicking depositors from staging a run on the bank to withdraw their funds, which would precipitate the collapse of the bank.

It is with the above in mind that depositor protection schemes such as deposit insurance have been developed in order to safeguard the interests of depositors and insulate them from the adverse consequences posed by bank runs. The model proposed by Diamond and Dybvig (1983) shows that, within a delegated monitoring arrangement, where banks act as monitor of loans of depositors' funds lodged with them, deposit insurance is able to reduce the number of bank runs and still allow banks to offer the function of transformation of assets, which is for economic agents to meet their liquidity needs and undertake investments. This view that deposit insurance leads to the stability of the financial system (by preventing bank runs) is supported by Friedman and Schwartz (1963) who observe that, after the introduction of deposit insurance in the USA in the

1930s, the financial system was fairly stable, compared to the period before deposit insurance.

### **3.4. BANK SOLVENCY, FAILURE AND CALL FOR DEPOSIT INSURANCE**

As mentioned earlier, bank runs lead to the liquidation of bank assets, which in turn results in bank insolvency and ultimately failure of the bank. If this failure is limited to only one bank, then the stability of the whole banking sector is not under threat. However, if panic ensues and depositors *en masse* rush to withdraw their deposits then confidence in the banking system is eroded, leading to the collapse of the banking system. Notwithstanding the actions of the bank managers to the contrary, depositors still rush for withdrawals, because they know that, if they are late, others will get there first and get all the available funds, leaving non-running depositors with nothing to salvage from the troubled bank, because the bank would be liquidating the assets at fire-sale prices, leaving the bank's net worth virtually zero.

If a troubled bank is large or runs occur at a number of large banks, which play an important role in the banking system, there exists a possibility of systemic instability. When a bank run spreads unabated and affects most or all banks in the system through contagion, systemic instability ensues, as the banking system experiences wholesale collapse. Diamond and Dybvig (1983) model bank runs in terms of the liquidity insurance banks provide to depositors by pooling risk, *i.e.*, bank assets are long-term and illiquid, and so banks engage in maturity transformation. This feature gives an incentive for panic runs on banks, even if they are solvent, because of imperfect information regarding the bank's assets, inability of the bank to sell or cash illiquid assets (loans) and the fact that deposits are redeemable at par at any time (Santos, 2000).

Given the negative effects (economic inefficiency) that arise from bank insolvencies and failure as illustrated above, there has been a call for the implementation of deposit insurance in order to promote economic efficiency; deposit insurance is said to contribute to economic efficiency. By insuring deposits and monitoring banks, government

sponsored deposit insurance relieves small, unsophisticated depositors of the costly commitment of duplicate resources in monitoring, thereby providing a saving on resources (Kane, 1985). The reasons advanced in justifying the involvement of government in providing deposit insurance for the so-called unsophisticated depositors rests on the traditional argument of regulation whereby the government is supposed to intervene and help the weak individuals in society from exploitation and thus to promote economic efficiency. To these issues we now turn.

### **3.5. DEPOSIT INSURANCE IN CONTEXT**

#### **3.5.1. The financial safety net**

Before delving further into the intricacies of deposit insurance and explaining the role and purpose of deposit insurance, it is imperative to gain an understanding of the mechanism of the financial safety net aimed at ensuring the stability of the financial system of a country. Essentially, a financial safety net is a set of arrangements set in place to promote the stability of the financial system and ensure the robustness of the banking sector (Santomero, 1997; Carisano, 1992). Because of the important role played by the banking system in the economy, it therefore is not surprising that its stability should be a priority to the policymakers in any country.

Although there are many variations of the financial safety net across countries, Carisano (1992:16) is of the opinion that, in general, a financial safety net consists of the following:

- Bank access to the lender of last resort
- Prudential regulation and supervision
- Deposit insurance

Together, these instruments/measures are aimed at ensuring that banks are insulated from failure and the financial system in general is stable. Because of their intricate relationship it is difficult to isolate the individual contribution or effect of each of these instruments

on the maintenance of a stable financial system. What this implies is that all the components of the financial safety net are complementary to one another despite the fact that each one of them is designed with a specific objective or mandate in mind. The aims, functions, merits and de-merits of regulation have already been discussed in chapter two; the remainder of this section will focus on deposit insurance.

### **3.5.2. Functions of deposit insurance**

Deposit insurance has many uses and functions within a financial safety net, all aimed at ensuring that the banking system is secure and is able to perform the necessary functions that allow the economy to operate smoothly and without hindrances. Carisano (1992) divides these roles and functions according to micro and macro externalities that arise because of bank failures. Our discussion below will focus on various roles and/or functions of deposit insurance. The following sections are covered here:

#### ***3.5.2.1. Protection of small depositors***

The protection of depositors against adverse consequences of bank failure is given as the primary reason for the existence of deposit insurance schemes (Gibson, 1972; Carisano, 1992; Garcia, 1997 and 2000; Macdonald, 1996). The motivation for this reasoning rests on the assumption that, in case of bank failure, small depositors stand to lose more than large depositors. That is so, because it is assumed that small, unsophisticated depositors do not have the ability and means to assess the financial health of banks compared to institutional depositors. Furthermore, it is also assumed that because of the high costs of gathering information on the state of banks, it is difficult for small depositors to acquire such information to enable them to evaluate the riskiness of their deposits and that therefore they deserve protection.

The protection of small depositors is also justified on the basis that, “small depositors are thought to be more seriously affected by losses incurred in a bank run” (Carisano, 1992:17). According to Gibson (1972:1581), this occurs because small depositors

concentrate the greatest portion of their wealth in savings deposited with banks as opposed to large depositors who diversify their wealth into other instruments such as equity, bonds and other money market instruments. As a result, when a bank fails, small depositors lose all or most of their savings and wealth in comparison to large diversified depositors with recourse to other means of wealth, and therefore small depositors need to be protected by deposit insurance.

On these grounds, deposit insurance seems justifiable especially in developing countries where most deposits with banks originate from small, unsophisticated depositors with the bulk of their wealth concentrated in savings accounts. Therefore, the protection of such small depositors should take priority, especially given the precarious nature of the banking sectors in many developing countries, which are prone to collapse, as was the case in Argentina in 2001. Without deposit insurance, the collapse of the banking system adds an additional burden to the resources of the state, which in many developing countries are already stretched. As the events in Argentina indicated, small depositors rely on rumours on the safety of the banks with their deposits, and upon hearing negative rumours they stage runs on banks (even the healthy ones) and accelerate the collapse of the banking system. Therefore, deposit insurance, by protecting these small, unsophisticated depositors, aims to prevent bank runs that result from rumours on the financial health of banks. In that way, deposit insurance achieves the stability of the banking and financial systems.

#### ***3.5.2.2. Fostering competition among banks***

A second function or objective of deposit insurance is to facilitate competitive equality among banks of different sizes. Competitive efficiency in banking is improved by deposit insurance in the sense that, in the absence of deposit insurance, large banks might be considered as intrinsically safer than smaller ones, as unwitting depositors might associate bank size with security, which might not necessarily be true. If the larger banks were perceived to be safer than smaller banks, competition between small and large banks would not be on equal footing since most depositors would flock to the larger

banks. As a consequence, smaller banks might become less profitable and this might lead to their failure. Therefore, deposit insurance helps improve competitive efficiency, since depositors know that their deposits at even the smaller banks are protected, they safely leave their deposits there and do not relocate to the larger banks (Choi, 2000).

### ***3.5.2.3. Protection of the payment system and money supply***

Modern economic systems have evolved in such a way that money has become the accepted means of payment and a return to the barter system of payment is now impossible. Banks provide the payment mechanism among economic agents including banks themselves, a function so fundamental to the working of the economic system. Because money plays such a critical role in the economy, it follows then that a disturbance to the flow of money would have serious repercussions on the real economy and this disturbance is a direct function of bank failure.

The protection of the money stock and supply is imperative for the proper functioning of the economy. Gibson (1972:1577) argues, “during downturns bank failures have decreased the money stock and thus, via a linkage to the real stock, have accentuated economic declines”, therefore. Carisano (1992:17) links bank failure and the decline in economic activity and offers that “net currency outflows from the banking system cause unexpected fluctuations in the aggregate stock of money resulting in a reduction of money supply, and consequently in economic recession and depression.

Since money plays an active and essential role in the proper functioning of the economy, it is imperative that its stability is guaranteed, because if money stock becomes unstable, the ripple effects would be felt throughout the whole economy. Bank failures and the consequent decline in money stock contributed significantly to the decrease in income and employment in the USA during the great depression (Gibson, 1972). Therefore, it implies that in order to maintain stable levels of income and employment, large fluctuations in money stock as a result of bank failures should be avoided. Deposit

insurance is aimed at achieving that goal in the following three ways, according to Gibson (1972:1577):

1. Deposit insurance replaces deposits directly lost when banks fail. In the event of bank failure, money stock would decline because some deposits of the failed bank would be wiped out. Deposit insurance ensures that this decline does not take place, because it replaces such deposits to the affected depositors and by doing so maintains the spending patterns of such depositors, since they can still spend on goods and services and thus avoids a reduction in incomes of the affected depositors.

In that sense, deposit insurance acts as a guarantee to depositors with regard to their accounts at banks and hence depositors would go on with their normal economic activities even in the event of bank failure. This has the effect of guaranteeing that the economy functions as normally as possible even during a wave of bank failures, because the money stock is protected.

2. Deposit insurance protects the money stock by stabilising the deposit-to-currency ratio. There is an inverse relationship between bank deposits and demand for currency, *i.e.*, the public either keeps money in cash or currency form (for transaction, speculative, and precautionary motives) or keeps money at banks as deposits; therefore, if deposits are high, then demand for currency is low and *vice versa*. With bank failure, the demand for currency increases (and for deposits decreases), as depositors fear that their deposits will be wiped out.

With deposit insurance, however, the propensity of depositors shifting from bank deposits to currency is minimised, because depositors have the peace of mind that, even when banks fail, their deposits are safe, and thus there is no reason or need to switch from bank deposits to currency. Therefore, deposit insurance guarantees that a favourable deposit-to-currency ratio is maintained. As a result, the integrity

of the payment system is guaranteed and it functions in an orderly fashion, since depositors feel that their money on deposit is as sound as currency.

3. Money stock is protected via deposit insurance since deposit insurance minimises bank runs. With bank runs minimised, the deposit-to-reserve ratio is stabilised. This has the effect of banks maintaining stable liquidity and excess reserves as well as deposit-to-reserve ratios, since without threats of bank runs, there is no incentive for banks to keep excess reserves, thus ensuring that money supply is kept constant and not reduced as in a situation without deposit insurance.

From the above discussion on the role performed by deposit insurance it is clear that deposit insurance contributes positively to the economy, by keeping the banking system stable, through the protection of the small depositor, protection of money stock and by improving competitive efficiency among banks of varying sizes. Because small depositors are protected, the risk of contagion or spread of bank runs is minimised. In the absence of such a guarantee, bank runs would be the order of the day, because depositors would run to withdraw their deposits at hearing rumours of trouble at banks.

If that happens, many banks, even the healthy ones will fail, since they would be forced to sell illiquid assets to meet the demand for deposits from panicking depositors. Deposit insurance prevents that from happening, because depositors have confidence in the banking system in meeting their obligations, since deposits are insured and thus the need for bank runs and unnecessary liquidation of bank assets is eliminated. With the money stock protected from undesired decreases, economic stability prevails and the integrity of the payment system is guaranteed. This contributes to stable economic growth, because all economic agents have confidence in the payment system and the banking system by reducing self-fulfilling or information-driven depositor runs (Demirgüç-Kunt and Detragiache, 1999).

Without bank runs and failures, the liquidation of bank assets is eliminated and bank borrowers are able to complete their projects, which lead to increased production of

output and consumption. As indicated in the discussion above, the absence of deposit insurance makes bank runs more probable; with bank runs the liquidation of bank assets in a delegated monitoring set-up is unavoidable (Diamond and Dybvig, 1983) and, if that happens, output and consumption are negatively affected since loans are recalled from bank borrowers, which leads to incomplete projects. To the extent that deposit insurance is effective by protecting bank deposits, it supports and promotes economic stability by helping to avert interruptions in bank liquidity and credit availability that could otherwise result from disruptive bank runs or bank failures.

### **3.6. DEPOSIT INSURANCE AND LENDER OF LAST RESORT FACILITY IN A REGULATORY SAFETY NET**

Carisano (1992) states that the regulatory apparatus of banks in most countries is made up of mainly three instruments or institutions: deposit insurance, lender of last resort and prudential regulation and supervision. It is important to investigate the relationship between them. The prudential regulation and supervision function have already been alluded to in chapter two; mainly they are concerned with ensuring that banks comply with the regulations that govern them in order to avoid the undue collapse of banks. However, the relationship between deposit insurance and lender of last resort function is complex and thus needs a deeper analysis, which is the purpose of this section.

The historical motivation for having a central bank and lender of last resort has been given as to provide liquidity to the banking system, if and when need arises, and to conduct monetary policy (Bordo, 1992). Since banks in their normal operations may experience a temporary liquidity problem, it is justified that the central bank should step in and provide such liquidity, especially when a bank needing liquidity cannot obtain such liquidity from the inter-bank market. According to Kahn and Santos (2001), the lender of last resort mechanism and its operation is credited to Bagehot (1873<sup>14</sup>). Kahn and Santos (2001:2) summarise how the lender of last resort function of the central bank

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<sup>14</sup> Cited in Kahn and Santos (2001:8)

should operate: “the central bank should make clear in advance its readiness to lend any amount, at a penalty rate, to a bank that is illiquid, but has good collateral and is solvent.”

Implicit in this approach is the idea that the aim of the lender of last resort facility should not be to rescue insolvent banks, but merely to prevent the collapse of illiquid, but solvent banks. Also, the penalty clause and provision of collateral is intended to discourage banks from borrowing too much and too frequently from the central bank. The idea of providing liquidity to troubled banks is to prevent panic among depositors and thus avoid bank runs and also to prevent perceived dangers stemming from illiquidity developing into full-scale contagious bank failures (van Dam, 1997).

Deposit insurance is distinguished from the lender of last resort function in that a deposit insurance scheme is established and operates with a clear mandate to *guarantee the deposits* of depositors in cases of bank failure, while the lender of last resort provides *temporary liquidity* to troubled banks. Carisano (1992) offers the following salient features of deposit insurance design that distinguishes it from the lender of last resort function of the central bank:

- **Explicit**

Unlike the lender of last resort function, deposit insurance is explicit and clear on what is aimed to accomplish, *i.e.*, protection of bank deposits and guaranteeing the losses of depositors arising from bank failure. The lender of last resort function is an implicit function and provides assistance on a case-by-case judgement, which can be very subjective at times, since the discretion on whether to provide assistance to a troubled bank rests solely with the central bank. Because of this subjectivity, intervention is not always optimal; *i.e.*, sometimes, solvent banks are allowed to go under, while apparently solvent banks (but which are actually insolvent) are allowed to operate, but later collapse.

- **Non-discretionary**

Deposit insurance is non-discretionary by design since it gives a guarantee and a firm commitment of reimbursing depositors' losses in cases of bank failure. In the case of the lender of last resort, the discretion on whether to lend assistance to a bank rests with the central bank, based on its assessment of the solvency of the institution requiring assistance. Use of this discretion can be faulty at times and this can lead to losses for depositors, this problem is effectively eliminated by deposit insurance.

- **Ex-ante**

Lender of last resort function is not a good measure of ensuring financial stability, because it is unable to allay depositors' fears *vis-à-vis* the safety of their deposits with banks; this inability can propagate runs on banks. In essence, what lender of last-resort offers depositors is an *ex-post* guarantee. In contrast, deposit insurance offer depositors an *ex-ante* assurance that their deposits are safe even in cases of bank failure. This feature of deposit insurance has the ability to ensure financial stability, because it precludes the possibility of depositors staging runs on banks.

- **Limited**

Since deposit insurance is designed with clear objectives in mind (*e.g.*, protection of depositors) there are usually stipulations as to the limit of insured deposits. This limit is usually a fixed percentage of all insured deposits and is stipulated in the laws establishing such a deposit insurance scheme. Contrary to this convention, the support given by the central bank under its lender of last resort function is not limited to any given amount, but depends on the needs of the banks requiring such assistance.

The only exception to this may be dictated by the monetary policy stance of the central bank at that particular moment, that is, how the intervention would impact on money supply and reserves, and how such an impact would affect the monetary policy stance being pursued by the central bank at that particular time.

- **Costless for the community**

By design, a deposit insurance scheme is supposed to be costless to the community (*i.e.*, general tax payers). This is so because it is a cost-selective scheme, in that only the intended users or beneficiaries are supposed to bear the full costs of maintaining such a scheme. In theory, banks bear the costs in the form of premiums they pay to the insurance fund, although in practical form depositors may also contribute to the costs of maintaining such an insurance fund in the form of lower interest earned on their deposits. In comparison, the lender of last resort is assumed to be financed directly by the government, *i.e.*, the community or taxpayers, which makes it *not* costless for the community.

Given the above distinctions between lender of last resort and deposit insurance, it appears that each apparatus of the regulatory safety net has its own unique domain. The lender of last resort facility focuses on resolving liquidity problems of banks, while deposit insurance focuses on resolving the solvency problems faced by banks in that it reimburses the lost deposits of depositors of insolvent banks. However, as Carisano (1992) points out, the distinction between liquidity and solvency problems is not always clear and that may pose problems in either agency fulfilling its duties effectively.

The problem that may arise because of this blurred distinction between illiquidity and insolvency is that the lender of last resort might intervene incorrectly (by mistaking insolvency for illiquidity) and bail out a bank that is insolvent or that will become insolvent later after the rescue. This leads to a waste of resources, in that money is spent by the lender of last resort in providing liquidity and after the inevitable collapse of the bank, the deposit insurer has to spend more money to pay out the insured depositors.

What Kanatas (1986) proposes as a solution in such a case is that the central bank should not intervene, but should rather let the bank exit the banking system and allow the depositors to take a “flight to quality”.

Some commentators, such as Kahn and Santos (2001), attribute the above problem to the separation of functions or powers between the various agencies of the financial safety net. The argument here goes like this: because two distinct institutions perform two related tasks, this might lead to conflict between them, in the sense that the deposit insurer that has to bear the final costs of bank failure is not the one with powers to supervise and regulate banks as well as to close them. Further, its task is made more difficult by the ineffective operations of the lender of last resort, which may allow an inherently insolvent bank to operate and just for that bank to collapse later.

Therefore, what Kahn and Santos (2001) suggest is that to avoid this conflict and to minimise the costs involved in bank failure resolution is the allocation of the function of lender of last resort to the institution tasked with providing deposit insurance, because it will be better equipped to judge between liquidity and solvency problems, unlike the central bank whose judgement is discretionary. In conclusion, we can say that there is a role for both lender of last resort and deposit insurance, if bank failure and the high costs associated with that is to be minimised, provided that the mandate of each apparatus of the safety net is clearly defined and the task of each is carried out well and efficiently (that is if their respective functions are not combined).

### **3.7. MORAL HAZARD IN DEPOSIT INSURANCE**

The previous sections highlighted the benefits that deposit insurance offers to the stability and safety of the banking system and ultimately the financial system. The overall conclusion is that deposit insurance helps abate the negative effects posed by bank failures and therefore it is beneficial to have such a scheme in place. However, like any insurance contract, deposit insurance inherently suffers from the problem of moral hazard.

Moral hazard as a concept is well recognised in economics and, as such, has been defined in many ways by different authors. Kotowitz (1987:549) gives a good general definition of moral hazard as follows: “actions of economic agents in maximising their own utility to the detriment of others, in situations where they do not bear the full consequences or, equivalently, do not enjoy the full benefits of their actions due to uncertainty and incomplete or restricted contracts, which prevent the assignment of full damages (benefits) to the agent responsible.” When applied to deposit insurance, moral hazard refers to “the incentive for insured banks to engage in riskier behaviour than would be feasible in the absence of insurance”(Hanc, 1999:3).

This is in line with the view of Sbracia and Zaghini (2001:251) who argue that insurance alters the incentive for the insured party to take preventative actions, thus “increasing the probability of the occurrence of the event being insured against.” In banking with deposit insurance, this implies that the insured banks have the incentive to undertake greater risks than if they were uninsured, because the costs or negative consequences arising from their risky activities are passed on to the insurer.

Essentially moral hazard is a problem most prevalent in principal-agent relationships and deposit insurance is such a relationship, in that an insured bank acts as a delegated agent of depositors in the spirit of Diamond and Dybvig (1983). Also, there exists a relationship between the insurer and the insured bank. It is also well known that principal-agent relationships are beset with asymmetric information, which precludes the agent from accurately judging the actions of the agent; in this case, the depositors and the insurer cannot fully assess the risk taking behaviour of the bank.

Within a deposit insurance framework, the moral hazard problem manifests itself in the following manner: insured banks undertake risky investments (*e.g.*, lending to high-risk clients) and if the projects of such high-risk clients fail, the solvency of the bank is threatened, and might potentially lead to depositors lose their deposits (Brownbridge, 1998 and Hanc, 1999). These risky actions of insured banks highlight the problems

inherent in principal-agent relationships, *i.e.*, the interests of the agent might be divergent from those of the principal, leading to conflict between the parties to a contract emanating from such a relationship (Cull *et al*, 2001).

For insured banks and depositors this conflict arises because banks are in the first instance concerned with maximising profits and therefore lend to high-risk, high-return ventures, while depositors are concerned with the safety of their deposits lodged with such banks. As indicated earlier, the failure of such high-risk, high-return ventures may lead to bank failure, because the affected bank might become insolvent and this is a major concern to depositors. This is what Carisano (1992:77) refers to as the fundamental dilemma of deposit insurance, *i.e.*, “it cannot protect depositors against bank failures... without protecting depositors against banks’ failures caused by poor performance of a bank’s loans and investments.”

So, what encourages insured banks to engage in risky investments, *i.e.*, lending to high-risk, high-return ventures? There is an incentive for insured banks to undertake risky investment strategies, because, if those ventures succeed, the banks stand to benefit since they have the upside risk, but bear minimum downside risk (because the bulk of the downside risk is passed on to the deposit insurer). Given the obvious risks of lost deposits to bank depositors in case of bank failure through these risky investment strategies pursued by banks, a consequent question to ask would be, why don’t depositors monitor the activities of the banks? Santos (2000) offers that depositors’ incentive to monitor banks is diminished in an environment of deposit insurance, because in such a case, the deposit insurer guarantees that their deposits are safe in case of bank failure resulting from the imprudent actions on the part of the banks.

This is not surprising, because, if we assume deposit insurance to be and treat it as a public good, we know very well that public goods are plagued by the free rider problem. In this case, most depositors would shirk the monitoring of banks, because they expect others to monitor, therefore making deposit insurance a kind of free lunch to insured depositors (Brownbridge, 1998; Brownbridge and Kirkpatrick, 1999). With such an

attitude among insured depositors, it is not difficult to see why banks engage in risky investment strategies, often at the detriment of depositors and the banking system. An implicit assumption in all these is that, if there were no deposit insurance to guarantee deposits, banks would act prudently and would not take excessive risk.

That would be the case, because, in the absence of deposit insurance, depositors would demand higher deposit rates from banks perceived to be risky, but with deposit insurance, there are no such demands, thus allowing banks to freely engage in risky ventures. The banks do this with impunity, because they know that depositors are protected and that the bulk of the downside risk is borne by the deposit insurer. Barth *et al* (1991) referred to these actions of banks as a risk-shifting game in which the banks say, “heads we win, tails the deposit insurer loses.”

### **3.8. METHODS TO OVERCOME AND MITIGATE MORAL HAZARD IN DEPOSIT INSURANCE: MARKET-BASED METHODS**

#### **3.8.1. Introduction**

As illustrated above, deposit insurance leads to moral hazard in insured banks. However, empirical evidence on whether deposit insurance *really* leads to increased risk-taking by insured banks is mixed, with some studies finding a positive relationship between deposit insurance and increased risk-taking, while others find no such relationship (Gropp and Vesala, 2001). Despite these mixed results, academics and policymakers have suggested various measures in which moral hazard can be reduced or overcome in an effort to strengthen the banking sector and minimise the adverse effects resulting from risky behaviour of insured banks. These measures will be taken up in subsequent sections below.

Often the extent to which moral hazard distorts the intended functions of deposit insurance is due to the shortcomings in the design of the deposit insurance scheme itself as well as the implementation thereof. These measures are therefore aimed at

ameliorating both the design and implementation shortcomings of deposit insurance schemes and enhance the positive contribution of deposit insurance to the stability of the banking sector and ultimately the financial system.

Market discipline is given as one of the measures aimed at mitigating the adverse consequences of deposit insurance (namely, increased risk-taking by banks). The idea here is to expose various stakeholders (*e.g.*, depositors, owners, uninsured depositors) of deposit insurance to risk of loss in cases of bank failure. If stakeholders were exposed to risk of loss, they would tend to exert market discipline on banks to act prudently and not to take excessive risks. For example, depositors would exert discipline by withdrawing their funds from banks perceived to be risky and shifting them to those perceived to be more safer or less risky, in an attempt to limit their losses in the event of bank failure. Alternatively, depositors can demand higher deposits rates from risky banks.

Other creditors, such as equity holders (in cases of listed banks) would exert discipline in the form of dumping the shares of risky banks (Demirgüç-Kunt and Huizinga, 1999). In that way, the willingness and ability on the part of the bank to take excessive risk is reduced. However, this attempt to increase depositor and creditor risk exposure in order to instil market discipline is not without *caveats* and might be accompanied by other unwanted consequences. Hanc (1999:6) points out that the following considerations should be taken into account when implementing market or depositor discipline as a means of curbing risk taking by banks and thus reducing moral hazard in deposit insurance:

- The relative cost of acquiring the information and analytical skills needed to monitor bank risk as compared with the cost of shifting funds to alternative investments entailing little risk;
- The ability of depositors (and other creditors) to monitor bank risk effectively on the basis of publicly available data, given the opaque quality of bank loan portfolios; and

- The threat to the stability of the banking system resulting when potentially ill-informed depositors have greater risk exposure [they might stage runs on banks].

Below we shall discuss proposals or measures put forward as a way to encourage market discipline via greater risk exposure to depositors and other creditors. They are:

### **3.8.2. Limited insurance coverage amount**

Since one of the most forceful arguments in favour of deposit insurance is to protect the small depositor, a limit on the amount of insurance provided is relevant. By limiting the amount of insurance coverage, it is argued that it would encourage depositors to monitor banks, while protecting small depositors. Under this system, large and sophisticated depositors are excluded from coverage, because it is assumed that they possess the necessary resources and skills to monitor banks, a feature that is lacking among the small, unsophisticated depositors. Further, it is assumed that large depositors with deposits exceeding the limit of coverage are in a better position to demand high deposit rates from risky banks. This cannot be said for small depositors, because of the small amounts they hold with banks.

As to the amount of coverage, there is no universally accepted minimum amount prescribed. Different countries adopt different minimum covered amounts and this depends on the objectives of the deposit insurance scheme and regulatory stance of a particular country (Garcia, 1999). Other factors such as the strength of supervisory, regulatory and accounting systems also influence the determination of the coverage amount. If these systems are strong and operate efficiently, moral hazard may be curtailed even if a higher limit is adopted. The absence of strong and reliable complementary systems mentioned above would imply an increased level of risk-taking by banks (or moral hazard) and a lower coverage amount is consequently needed to counter that. In essence, a limited insurance coverage has the potential to reduce the risks taken by banks since depositors would tend to monitor bank activities more closely than is the case with full coverage (as in cases of implicit deposit insurance).

### 3.8.3. Coinsurance

Coinsurance is another measure that has been suggested as a market mechanism to curtail moral hazard in deposit insurance (Wheelock and Kumbhakar, 1995). In short, the principle behind coinsurance is that insured depositors are not covered in full (100%), but instead the coverage is limited to a certain percent (*e.g.*, 90%) with depositors assuming the remaining 10%. The idea is the same as in other insurance markets (*e.g.*, medical or vehicle) where insured individuals assume part of the coverage (Boyd and Rolnick, 1988). With coinsurance, there is an understanding that with depositors exposed to the risk of insolvency of banks (because of risk-taking by banks), depositors would be induced to monitor the banks more carefully and help reduce the risk-taking activities of banks.

In countries that have adopted coinsurance, insurance is designed in such a way that if the insured amount is for example R50 000, then coverage is 100% for the first R30 000 and the remainder is uncovered. The effect of such an arrangement would be to protect those depositors that really need protection, that is, the small, unsophisticated depositors. In the words of Garcia (1999:40): “to protect *widows and orphans*, it is preferable to cover a very small deposit in full and coinsure above that level. This dual arrangement will reduce the incentive for retail runs while maintaining market discipline”. Such an arrangement is supposed to ensure that depositors monitor banks since they know that part of their funds are at risk.

As theoretically sound as coinsurance might be, Hanc (1999) cautions that its effectiveness in combating moral hazard depends largely on the ability of depositors to assess bank risk and how the coinsurance system is applied (*i.e.*, extent to which coverage is provided). For example, if coinsurance were imposed on small deposits, depositors with small balances would not be motivated to monitor banks and might rather withdraw their funds and shift those to alternative financial instruments, such as money market instruments like treasury bills and negotiable certificates of deposit. Furthermore,

coinsurance and monitoring of bank risk would only be optimal and beneficial to depositors, if the availability of information on bank activities is timeously available and at low cost to depositors. This presumes the presence of an orderly and efficient accounting-reporting regime (by independent auditors). It is important to mention here that the independence of auditors has been tainted in light of the Enron and other scandals involving auditors in the USA. This has a direct bearing on the perception of the auditors' opinions on bank health, since depositors rely on the publicly available information issued by auditors in assessing bank risk.

#### **3.8.4. Depositor preference**

Under a system of depositor preference, in the case of a bank failure, claims of both insured and uninsured depositors are satisfied before claims of other non-deposit creditors of the bank from the proceeds recovered from the liquidation of a failed bank. The main motivation behind depositor preference is that other creditors who are ranked behind depositors would have an incentive to monitor banks more vigorously since they know that they stand to lose more were the bank to fail (Marino and Bennett, 1999). This seems to be plausible, because each rational economic being aims to increase utility, in this case cutting losses, which can be achieved by increased monitoring of bank risk. Depositor preference is welfare enhancing in that moral hazard is reduced and costs to the insurer are minimised when a bank fails.

#### **3.8.5. Mandatory subordinated debt**

In order to enhance further the market monitoring of bank risk, mandatory subordinated debt has been promoted as one of the measures. With this proposal, banks are required to issue a certain mandatory subordinated debt on top of the ordinary equity capital they issue. This debt is subordinated, because it is ranked below all other forms of bank liabilities, *i.e.*, insured and uninsured deposits. Subordinated debt is sold to buyers in the capital markets and thus helps with dispersion of risk among various stakeholders with

different abilities to monitor bank risk, thus enhancing the ability of the private sector or market to monitor risk and mitigate moral hazard (Dewatripont and Tirole, 1993).

Hanc (1999:18) notes that mandatory subordinated debt is advantageous in the following ways: investors in long-term subordinated debt tend to be staunch monitors of bank risk, because they cannot shift their funds easily and on short notice; thus the financial health of the bank is important to them. Subordinated debt holders do not benefit in the same way as equity holders from upside risk taken by banks; thus they view bank risk in the same way insured depositors and the insurer view it and therefore it is beneficial for them, if risks are kept to minimum levels (Calomiris, 1999). Finally, subordinated debt offers banks cheaper capital compared to ordinary equity capital, because there are tax incentives with subordinated debt.

Subordinated debt helps in bank risk monitoring, in the sense that changing prices on such debt provides an indication on the market assessment and perception of the conditions of the issuing banks. Negative movements in the prices of subordinated debt would be an indication of excessive risk-taking and impending trouble at the issuer of such debt. This assists the insurer and other regulators to implement the necessary actions needed to counter excessive risk taking and the concomitant moral hazard problems. However, subordinated debt as a market mechanism to counter moral hazard problems in deposit insurance is not without faults or shortcomings.

In the first instance, because of the high costs associated with issuing subordinated debt, it is only suited to large banks who can afford to issue it. This implies that small banks could not afford to issue and even if they were to issue such debt, investors in the capital market would take up only limited amount of the issued debt. A possible solution to overcome this shortcoming is for the regulators to implement a two-tier regulatory system, whereby the large banks would be subject to increased market discipline and some form of supervision, while small banks for which reliance on market discipline is not effective are subjected to more stringent regulatory supervision and monitoring (Hanc, 1999).

### **3.9. METHODS TO OVERCOME AND MITIGATE MORAL HAZARD IN DEPOSIT INSURANCE: NON-MARKET-BASED MEASURES**

#### **3.9.1. Introduction**

Apart from the abovementioned measures that rely on the market to monitor and discipline banks' risk taking activities, other non-market-based measures have been proposed. Essentially, these measures centre around non-market measures such as capital and its use, the effects of the pricing (or mispricing) of deposit insurance premiums on risk taking and other measures used by the regulators to ensure that bank risk is not excessive and thus does not compromise deposits. A discussion on the various non-market measures, as well as merits and/or demerits of these non-market-based tools to counter moral hazard in deposit insurance follows below.

#### **3.9.2. Increased capital requirements and risk-based capital requirements**

Increased capital requirements for banks are argued to be one of the most effective ways to curtail excessive risk taking by banks and reduce moral hazard (Brock, 2002). The rationale for requiring banks to hold high levels of capital is to force bank owners and managers to risk more of their own funds and in this way bank managers would internalise the risks associated with the investment decisions they undertake (Steward, 1993). With increased or higher capital requirements beyond the market requirements, the cost of financing for a bank would increase, as return on equity and debt-to-equity ratios fall, because the bank would substitute equity for cheaper deposits (Berger *et al*, 1995).

Going hand-in-hand with increased capital requirements is the concept of risk-based capital requirements for insured banks. According to Steward (1993:56) "the logic behind risk-based capital requirements is that the riskier the activities undertaken by an insured institution, the greater the expected value of the insurance option, and thus the greater

should be the cost of acquiring that insurance due to the costs of raising additional equity”. From the aforementioned, it follows that banks that are judged to engage in more risky activities are compelled to carry increased levels of capital commensurate with their risk characteristics.

Since capital is the first line of defence for depositors and other creditors in case of bank failure, risk-based capital requirements serve as a buffer against depositor losses; since more of the bank’s owners’ funds are at risk, it might also discourage banks from taking excessive risk (Caprio and Honohan, 2000). Risk-based capital requirements further reduce the cost to the deposit insurer in paying out insured depositors, since higher bank capital would help to offset the claims of depositors and other creditors if the bank fails and in this way minimise the payout costs to the insurer (Bhattacharya *et al*, 1998).

The plausibility of increased- and risk-based capital requirements in reducing risk taking by banks and thus mitigating moral hazard in deposit insurance has not been without questions and complexities in the literature (Santos, 2000). According to Caprio and Honohan (2000) the main problem with capital and risk-based capital requirements lies in the measuring and definition of capital levels and the evaluation of risk. This problem led to the adoption of the so-called “Basel Capital Standards”, which purport to solve that problem by requiring banks to hold a certain percentage of capital for various risk-weighted assets.

However, critics of capital requirements argue that even capital standards *à la* Basel did not solve the problem of measuring and defining correct levels of capital that banks should hold. The shortcomings of Basel capital standards are “that they consider only credit risk; take no account of asset diversification or hedging; set inappropriate capital requirements for various categories; and prescribe the same minimum capital levels, within a particular asset category, for loans having very different risk characteristics” (Hanc, 1999:11).

Because of the abovementioned shortcomings of capital standards and the inability on the part of the regulators to assess risk accurately, there exists a window of opportunity for banks to increase risk, because high risk assets might receive lower risk weights, enabling banks “choosing those asset risk levels with the most advantageous insurance-pricing characteristics” (Steward, 1993:56). Another problem created when trying to reduce moral hazard in deposit insurance by raising capital standards and requiring risk-based capital in conditions where risk cannot be assessed accurately, is what Jones (2000) and Mingo (2000) refer to as “regulatory capital arbitrage”, whereby effective risk-based requirements of banks are lowered, while the risk is not necessarily reduced (Hanc, 1999 and Brock, 2002).

Despite the shortcomings of and criticisms levelled against increased capital requirements and risk-based capital requirements in combating bank risk taking and tackling moral hazard, there is no reason to believe that these should be done away with simply based on those shortcomings and criticisms. The shortcomings of these measures and their apparent ineffectiveness can be explained by the difficulties faced by deposit insurers and other participants of the financial safety net in accurately assessing bank risk, mainly because of the asymmetry of information between the banks and the insurer and other regulators. This asymmetry of information exists because banks possess private information on the riskiness or quality of the assets they are holding, which is not available to the insurer and other regulators (Giammarino *et al*, 1993).

This information asymmetry is further compounded by the rapid pace of technological development in the banking sector, which allows banks to trade in new innovative products like derivatives and other off-balance sheet activities, which makes it more difficult for the insurer and regulators to assess risks of banks. To overcome this information asymmetry, it has been argued that the regulators (and insurers in particular) should be equipped with the necessary technical and human capital that will enable them to keep pace with the progress made in the private banking sector. However, as is well known, such an exercise is expensive considering that in most countries deposit insurance is handled by government agencies and government budgets especially in developing

countries, do not always cater for all kinds of expenditures, moreover, even the availability of such technical skills might be minimal.

Another proposal has been to adopt market value accounting (MVA) instead of the popular historical cost accounting system, because the latter does not “accurately depict the condition and riskiness of banks” (Hanc, 1999:13). Proponents of MVA posit that unlike the historical accounting system, MVA is better suited to assess risk of bank assets especially new innovative products like derivatives that have to be marked-to-market continually, to reflect changing market values attached to them. To that end, insurers and other regulators would be able to assess bank risk better. Critics of MVA, however, retort that MVA would be more suited for big banks that deal heavily in such innovative and marketable instruments. Such big banks in many countries (especially in developing countries) are few compared to a myriad of small banks<sup>15</sup>, therefore requiring all banks to adopt MVA would impose a burden and cost to smaller banks.

Such cost would be welfare decreasing, because it might result in affected banks charging borrowers higher rates or even shifting risk from banks to borrowers (Hanc, 1999). Notwithstanding the loopholes found in implementing capital and risk-based capital requirements as well as MVA, Steward (1993) concludes that all these measures go a long way to mitigating moral hazard problems in deposit insurance since they at least allow a “deposit insurer to measure bank risk and act accordingly, rather than ignoring it”. Therefore, what is needed is to find ways to improve them and not to abandon them, if moral hazard is to be contained and deposit insurance to become effective in protecting the depositor.

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<sup>15</sup> This is the case in South Africa where big five banks dominate the market.

### **3.9.3. Deposit insurance premium pricing and risk-based premiums**

The pricing of an insurance premium charged to insured banks has a direct bearing on the risks taken by such banks. If the deposit insurance premium charged reflects the risk profile of the bank in question, then such a premium can act as a deterrent against taking risk. According to Carisano (1992:109), “as far as the insurance premium reflects the probability of bank failure, depending on the risk of bank activities, it is the right price for protection and it represents an efficient disincentive for banks to gamble”. The debate for charging correctly priced premiums according to bank risk is based on the argument that, historically, deposit insurance schemes were designed to charge flat premiums to all insured banks without taking into account the risk characteristics of individual banks and their vulnerability to failure.

A flat rate premium is problematic, because such a premium might overcharge low-risk banks, while undercharging high-risk banks, since the premium is not risk sensitive and banks do not internalise “the full cost of risk and therefore have incentives to take on more risk” (Santos, 2000:8). Because the flat premium is not risk sensitive and thus not an actuarially fair premium, it tends to be underpriced or overpriced. Van Dam (1997) notes that an underpriced insurance premium can act as a subsidy to insured banks, in that they attract insured deposits at a cheaper rate (the risk-free rate) than the market risk-adjusted rate and this put them at unfair competitive advantage against other uninsured financial institutions in the financial system. On the other hand, an overpriced insurance premium can act as a tax, in that it raises the costs of insured banks, which reduces their competitiveness against uninsured institutions, the result of which is the distortion of the allocation of resources within the financial system.

Given the perverse effects of flat premiums, academics and others have suggested the use of risk-adjusted premiums as a means to correct for those perverse effects and help ameliorate the moral hazard problem in deposit insurance. Risk-adjusted deposit insurance premiums are perceived to be fair relative to flat premiums and also to perform better in instilling bank discipline. In essence, risk-adjusted premiums are aimed at

raising the cost of funding *vis-à-vis* risk taking by banks. Carisano (1992:110) further sums the objective of risk-related insurance premiums as follows:

“...To introduce price mechanism into the insurance system so that each institution takes risk until the marginal cost of risk – measured by the insurance premium – is equal to the marginal benefit – measured by the rate of return on the investment”.

In an attempt to arrive at what constitutes a fair insurance premium (which is risk-adjusted), economists have used several methods. The seminal study was done by Merton (1977) who used the options pricing formula developed by Black and Scholes (1973) for pricing of options on common stock, to analyse the effect of deposit insurance on risk-taking behaviour of banks. In finance theory, an option is defined as a contract that gives the holder the right, but not the obligation, to buy (in the case of a call) or sell (in the case of a put) an underlying asset during a specified time period at a predetermined price or the so-called strike price, depending on the movement of price of the underlying asset (Shim and Conostas, 2001).

The model developed by Merton (1977) shows that when bank examinations by the insurer are undertaken at specific intervals, deposit insurance can be viewed as a put option on the value of bank's assets and thus can be valued like any other put option using the techniques developed by Black and Scholes (1973) to value such options (Carisano, 1992; Santos, 2000; Laeven, 2002). An insured bank purchases a put option (from the insurer) paying a premium charged by the insurer, which gives it the right to put or sell assets at a strike price that equals the expected value of its liabilities (*i.e.*, insured deposits). For the insured bank, the value of this put option cannot be overemphasised, because it allows it to attract deposits at a reasonable cost, because depositors know that in the event of bank failure they are covered.

This option would be exercised when the bank's liabilities exceed the assets (indicating insolvency), that is, the bank would allow the insurer to take over the insured deposits and theoretically it would lose the premium paid. If the premium paid is risk-based it would be disadvantageous for the bank to undertake risky activities that result in

insolvency, but as Santos (2000:8) states, “if the insurance premium is risk-insensitive, the bank can increase the value of the put option by increasing the risk of its assets”. This increase in bank asset risk is analogous to an increase in volatility in options on common stock, which in both cases increases the value of the option.

This implies that, if the insurance premium charged by the insurer is risk-insensitive, insured banks would try to increase the riskiness of their assets in order to bid up the value of the option, which is beneficial to them as holders. However, that is not good news for depositors and the insurance agency, because high bank asset risk leads to insolvency. This reason has been used as a justification for insurers to move away from risk-insensitive premiums to risk-based premiums to counter the inherent moral hazard problem in deposit insurance.

Since the determination and implementation of the fair insurance premium to be charged insured banks is not an easy task, especially for the insurer, Buser *et al* (1981) have argued that in the case of the Federal Deposit Insurance Corporation (FDIC), it has deliberately charged banks a risk-insensitive premium to lure banks to submit themselves to its regulatory regime. Such a risk-insensitive premium is typically lower than otherwise dictated by the market and is designed as such, so that regulation acts as a subsidy (or implicit premium) over and above the explicit premium charged and in that way encourages banks to desist from taking excessive risk and to preserve their solvency (van Dam, 1997).

Marcus and Shaked (1984) use the theoretical model of deposit insurance of Merton (1977) to calculate the fair value of deposit insurance using market data. Marcus and Shaked (1984) used sample data on the biggest USA traded banks for 1980 to calculate the actuarially fair insurance premium to be charged to those banks. The empirical results obtained showed startling evidence of overpriced insurance premiums. The conclusion of the study was that the premiums charged by the FDIC were either too high (relative to the actuarially fair premium) or if they were correct for the banking system as a whole, then the large banks sampled were subsidising the small banks. Furthermore, the study found

that there was a case for risk-based premiums, because, over time, fair premiums were found to vary considerably, because of the variability in asset rates of returns.

A somewhat different approach of empirically estimating deposit insurance premiums using the options pricing valuation method can be found in Ronn and Verma (1986). The method of estimating the insurance charged developed by Ronn and Verma (1986) differs from the one of Marcus and Shaked (1984) in that it is not concerned with whether the flat premium charged is fair or not, but instead is aimed at deriving insurance premiums “from market data by using isomorphic relationships between insurance and put option” (Carisano, 1992:117). Furthermore, Ronn and Verma (1986) introduce a policy variable in the option pricing formula; namely, they consider the intervention policies of the insurer (in their study, the FDIC), because such policies have a material impact on the pricing of the insurance premium.

Ronn and Verma (1986:873) emphasize that “the impact of assistance measures, periodicity of audit, and other intractable aspects of modelling market perceptions which, taken together, detract from the reliability of the absolute magnitude of insurance premiums” [are important variables in the determination of insurance premiums]. Thus, it can be argued that it is meaningless to try estimating insurance premiums charged without considering the intervention policies of the insurer (Carisano, 1992). The intervention policies by Ronn and Verma (1986) are the forbearance and closure rules, in which a bank with declining assets is allowed to operate with the assistance of the insurer (cash infusion) up to a certain point, beyond which the insurer is forced to close the bank in order to minimise the costs to itself.

This makes sense, because closure of the bank is akin to the bank exercising its put option against the insurer, and the insurer, knowing this, would try to limit the losses emanating from such an exercise. Finally, Gueyie and Lai (2003) conclude that the options pricing model of insurance premiums by Ronn and Verma (1986) is an improvement on the previous ones in calculating risk-adjusted risk premiums, because it

captures the traditional bank risk factors (such as asset risk) as well as market perceptions of regulatory closure rules.

Dreyfus *et al* (1994) show that the costs of bank failure and the eventual payout incurred by the deposit insurance body can be reduced by allowing a failing bank to continue operating for a limited time in the presence of moral hazard. This can be achieved by limiting (putting a cap or ceiling on) the amount of insurance payout available to a failed bank in circumstances where insurance premiums are mispriced (*i.e.*, underpriced or overpriced). According to Dreyfus *et al.* (1994:417) if the deposit insurance agency allows a failed bank to operate for a longer time and raising the insurance coverage cap for that bank, “*it can be shown that allowing a bank to refinance its liabilities through additional insured deposits at the riskfree rate, as opposed to closing the bank, may be an optimal or least-cost policy for the deposit insurance agency*” (emphasis in the original).

This is achieved because, by allowing the failing bank to operate for a little while longer, the sale of assets at fire-sale prices would be avoided or minimised and thus limit or reduce the amount of insurance coverage payout by the deposit insurance agency to those depositors who suffer losses from failure of that specific bank. However, as Dreyfus *et al.* (1994:433) are quick to caution, “caps on insured deposit coverage cannot be evaluated separately from the broader context of the insurer’s premium setting, forbearance and closure policies”. This implies that capping insured deposit insurance coverage in order to minimise the costs of bank failure should be used carefully and in those circumstances where the policies mentioned above are in order and supportive of the insurance cap policy. If the premium setting, forbearance and closure policies are not in order and not in harmony with the deposit insurance coverage cap policy, the insurer’s costs and thus bank failure costs would not necessarily be optimal or result in a least-cost solution.

Further to the above, Kane (1985) notes that in a mispriced deposit insurance environment, *i.e.*, where the pricing of the deposit insurance scheme is not risk-based, there is a great chance that banks will take advantage of that and increase risk. In such a scenario, aided by poorly designed closure policies of the insurer whereby the insurer

takes time to close insolvent banks, there is a chance that the payout amount to the failed bank would increase proportionally with the time it takes for the insurer to close down the failing bank.

Notwithstanding the broad-based support for risk-based premiums as a measure to mitigate the moral hazard problem in deposit insurance, there are criticisms levelled against risk-adjusted premiums. Critics argue that the calculation of risk-adjusted premiums based on bank risk requires a considerable amount of perfect information, which is difficult to obtain (Carisano, 1992). Prescott (2002:89) asserts that risk-based insurance can succeed only under conditions of perfect information and given the difficulties of obtaining such perfect information, the success of such risk-based insurance premiums is heavily compromised. Even if there were willingness to obtain all the relevant information on bank risk in calculating fair risk-based insurance premiums for all the banks in the system, the cost of undertaking such a venture would prove prohibitive.

Another problem with risk-adjusted premiums raised by Horvitz (1983) is the difficulty of measuring risk *ex-ante*. Measuring bank risk *ex-ante* in calculating the correct risk-adjusted premiums is difficult because of the information problem mentioned above. That leaves the insurer with no option, but to factor in that risk *ex-post*, which distorts the calculation of the fair risk-adjusted insurance premium. The effect of this is that such a premium utilising *ex-post* risk measurement will fail to stem risk-taking by banks and in that case risk-adjusted premiums might not do better than flat premiums in mitigating risk-taking and moral hazard.

Chan and Mak (1985) dealt a further blow to risk-based premiums in stemming bank risk. They investigated whether risk-based premiums really abate bank risk-taking or not, using welfare analysis within a set-up involving depositors, banks and an insurer that enforces regulation with the aim of maximising the welfare of depositors (*i.e.*, ensure deposits' safety by limiting or eliminating bank failures). The results of the work of Chan and Mak (1985) were that depositors' welfare was not maximised, because even when

risk-sensitive premiums were charged to the investments banks chose, such risk-based premiums were not efficient in halting risk-taking by banks. This is so, because the banks still chose more risky sub-optimal investments that increased the probability of bank failure.

All of the abovementioned limitations of and criticisms against risk-based premiums utilising the options pricing method has a bearing on the design of deposit insurance schemes for countries such as South Africa that do not yet have such schemes in place. It is thus imperative for policymakers to consider these points when designing and introducing such a scheme (see section 4.4.2. for a discussion in this regard). Of paramount importance to countries without deposit insurance is that in determining the premiums to be charged, cognisance must be taken of the fact that the options pricing method uses information on stocks of listed banks in determining their risk characteristics. For a country like South Africa with a skewed banking sector consisting of five big banks (which are listed and publicly traded) and myriads of small banks, the accurate estimation of the fair insurance premium is important in order to avoid a situation whereby the small high-risk banks are charged a low premium and the big less risky banks are charged a high premium.

Recent bank failures in South Africa have occurred mainly among the small and medium banks. One reason explaining that phenomenon might be the difficulty of correctly assessing the risk-taking behaviour of such banks (maybe because some were not listed and information could not be accessed using their stock performances).

#### **3.9.4. Narrow banking**

The ineffectiveness of the aforementioned measures to contain moral hazard and prevent bank failure has led to some academics and policymakers to suggest what Carisano (1992:144) terms “radical alternatives” in deposit insurance reform. One of these radical alternatives that had received considerable attention is a proposal for narrow banking.

The narrow banking proposal has as its central tenet that deposits covered by deposit insurance should be invested only in particular assets, which are liquid and almost risk-free (Litan, 1987). Such assets are mainly short-term government bonds such as treasury bills, which are regarded as highly liquid and risk-free, since there is a belief that government will always make good on the paper it issues. Cases of default by governments are known, for example, the case of Argentina in 2001. However, on the whole, government paper is probably the safest asset to hold. The *modus operandi* of the narrow banking proposal is to guarantee that even when a bank fails, depositors' funds are safe, because of the bank holding of risk-free assets.

Furthermore, narrow banking is seen as a substitute for deposit insurance in that there would be no need for deposit insurance since runs on banks are eliminated by the security provided by the liquid and risk-free assets held by banks. "And if runs on narrow banks occurred at all, the bank would be able to meet them by liquidating a portion of its assets without delay, significant cost, or disruptive effects" (Hanc, 1999:19). As a result, deposit insurance would be needed only to protect depositors in cases of bank failures emanating from fraudulent activities of bank owners such as theft (Carisano, 1992).

Within a narrow banking framework, the moral hazard problem is eliminated, because the banks would not use deposits to invest in risky projects, but rather would source other funds such as uninsured debt and equity to pursue such endeavours. In that way, the problem of banks using liquid deposits to fund illiquid and opaque loans is done away with, reducing or even eliminating the need for deposit insurance, as we know it today. However, the benefits derived from the narrow banks concept come with costs that cannot be ignored by any country considering introducing the concept of narrow banking. Narrow banking surely makes banks safe and eliminates the possibility of bank runs, but the downside of that is the resultant reduction in credit provision especially to small borrowers who cannot access the capital markets.

That would be the case, because banks would be forced to invest insured deposits in risk-free assets only and that would seriously constrain the banks' ability to fulfil their

intermediation function (combining payment and lending services) which is essentially the *raison d'être* for banks, and a very important function in the economy (Carisano, 1992). Therefore, before the adoption of narrow banking as a means to control moral hazard, the trade-off between the benefits and costs of such a move should be carefully weighed, because it does not help the economy much by making deposits safe and draining credit extension, which is the backbone of investment in the economy (Hanc, 1999).

### **3.9.5. Private deposit insurance**

The second radical alternative proposed to combat moral hazard in deposit insurance is the privatisation of deposit insurance. Privatising deposit insurance essentially involves removing the administration and running of deposit insurance from the realm of government and placing such functions in the “capable” hands of the private market. The proponents of such a system argue that, in order to eliminate moral hazard in deposit insurance, regulatory moral hazard (which in their view is the *only* moral hazard in deposit insurance) should be eliminated and that can be achieved only by privatising deposit insurance (see, for example, Ely, 1999). According to Ely (1999), moral hazard in deposit insurance is regulatory of nature, because under a government operated scheme the officials apply one-size-fits-all policies when dealing with banks with different risk characteristics. Furthermore, it is alleged that government officials are lax when it comes to enforcing the regulations, since by charging insurance premiums to insured banks; the risk is shifted from the insurer to the banking system.

Therefore, a relevant question arises as to how a private deposit insurance scheme is going to operate. Using the cross-guarantee model of private deposit insurance proposed by Petri and Ely (1992), Steward (1993:76) summarises the operation of such a scheme as follows:

“...Each bank would obtain its own cross-guarantee contract issued by an *ad hoc* syndicate of guarantors, consisting of other banks. This contract would insure all of the bank’s deposits from *any* loss of principal, interest or liquidity, in *any* circumstance. Each and every guarantor would be

required to obtain its own cross-guarantee contract, insuring not only its own deposit liabilities, but also its obligations as a guarantor. These cross-guarantee contracts would replace the uniform regulation of banks by government regulators, permitting the marketplace to determine premiums and other contractual terms and restrictions according to the individual needs and capabilities of each bank”.

Inherent in this structure of private deposit insurance via cross-guarantee is the assumption that government cannot accurately assess the risks of each individual bank leading to wrongly priced insurance premiums. In contrast, with private deposit insurance the banks would be able to price insurance premiums correctly, because of their ability to measure risk accurately. The insurance premiums envisaged under a private deposit insurance scheme are risk-based premiums based on leading indicators of bank risk paid by banks to their guarantors, unlike insurance premiums based on lagging indicators of bank risk as charged by the FDIC. The use of leading indicators of bank risk is justified on the grounds that it allows the guarantors to intervene and take corrective action as soon as solvency trouble is detected at any particular member bank.

This corrective action might involve the guarantors taking over the troubled bank (and recapitalising it) before it becomes insolvent and in that way ensuring that depositors’ funds are safe. Unlike government regulators and insurers who are restricted by bureaucratic rules and reporting structures, private insurers would have strong incentives to “act promptly in the case of troubled banks in order to minimise failure resolution costs” (Hanc, 1999:15). However, as demonstrated by Campbell and Glenn (1984), it is very difficult to measure with precision the insolvency of banks, because of the failure of the market to value bank assets perfectly mainly because of their opacity. In that sense, private deposit insurance might not do better than a government-run deposit insurance scheme in preventing bank failure and exercise closure rules and thus stem moral hazard.

Another concern with regard to private deposit insurance as raised by Benston *et al.* (1986) revolves around the capacity of private deposit insurance in dealing with systemic instability arising from bank failure. It is inconceivable that private deposit insurance will have all the necessary resources to deal with systemic instability resulting from massive

bank failures. In contrast, the government with its powers of taxation is more suited and able to absorb massive losses stemming from a number of bank failures. Given the limited resources of private insurance in absorbing huge losses, public confidence in such a scheme would not be high and this might propagate bank runs, defeating the very objective of private deposit insurance.

At least on the abovementioned criterion alone, the superiority of government-run deposit insurance is demonstrated and preferred, because systemic instability is socially undesirable and should be limited or eliminated, which private deposit insurance seems incapable of doing. According to Hanc (1999) the credibility of private deposit insurance has been tainted by the collapse of many private deposit insurance programmes that were operating in the savings and loan industry as well as other depository institutions in states of the USA during the early nineteen eighties. Most of those private schemes lacked credibility and did not have public support and also failed to honour their obligations.

### **3.10. CONCLUSION**

This chapter has attempted to place the role and use of deposit insurance within a regulatory safety net in perspective. It has been showed that deposit insurance is necessary to protect depositors in cases of bank failure and to ensure overall banking system stability. As mentioned in the chapter, deposit insurance has fulfilled that function, at least for a long stretch of time in the U.S.A. It is undeniable that banks perform important functions in the economy and therefore their stability is imperative for the smooth functioning of the economy, which deposit insurance purports to do.

However, deposit insurance leads to moral hazard in banking, *i.e.*, it increases the probability of risk-taking by banks, which in turn may lead to bank failures. This points to a paradox in deposit insurance, *i.e.*, instead of reducing bank failure; deposit insurance might actually lead to increased failure of banks. Countries with existing deposit insurance schemes, but most notably the USA have proposed (and even implemented) reforms aimed at improving such schemes, with the aim of overcoming moral hazard.

Many of the reforms suggest the increased use of market instruments (such as market discipline and privatising deposit insurance) as means to achieve that goal by arguing that existing schemes were not effective because they were government-run (Ely, 1999).

However, as forcefully argued by Stiglitz (1993), the removal of government from such a venture with so many (and often conflicting objectives as bank regulation and deposit insurance) would be inadvisable and self-defeating. This is so, because the market is not perfect and information is not complete and costless. Berger (1994) further argues that the market-oriented reforms proposed by some economists and policymakers to attenuate the adverse consequences of deposit insurance, would not do better than existing schemes, because of political influences and interventions.

In the final analysis, however, Hanc (1999:22) points out that it should be noted, "...no regulatory regime is or will be perfect, all are likely to have occasional unforeseen or unintended consequences". That is a very important observation to consider especially for countries like South Africa without deposit insurance in the design and introduction of such a scheme. The discussion of issues such as the need for introducing and the design of a deposit insurance scheme in South Africa is taken up in the next chapter.

## CHAPTER FOUR

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### THE CASE FOR THE INTRODUCTION OF DEPOSIT INSURANCE IN SOUTH AFRICA

#### 4.1. INTRODUCTION

Chapter three dealt with the place and role of deposit insurance within a regulatory safety net aimed at stabilising the banking sector and ensuring overall stability of the financial system. The unique problems posed by banks acting as delegated monitors or agents of depositors has been highlighted and it was concluded that the nature of delegated banking exposes banks to runs by depositors who act on rumours about the financial positions of troubled banks, which they cannot assess with certainty. These runs can lead to bank failures that can have devastating effects on the intermediation function performed by banks with repercussions for the entire economy if these failures spread via contagion.

Bank failures are detrimental to the proper functioning of the economy through their costs in terms of welfare losses and disruption to the intermediation function of banks, which leaves the economy not performing optimally, because of lack of credit availability to entrepreneurs. As demonstrated in the previous chapter, deposit insurance has been introduced in many countries as a measure to ameliorate that negative impact emanating from the failures of banks.

It was also noted that deposit insurance is not a panacea in that regard, because of the inevitable moral hazard problem inherent in deposit insurance. To that end, various proposals have been put forward to try and mitigate that moral hazard problem. The effectiveness of such proposals has yielded mixed results in countries that have adopted them. In the final analysis, however, many countries have opted to have deposit insurance schemes in place rather than not having such, despite the shortcomings of deposit insurance.

It is a well-established fact that bank failures have been part of banking since the beginning of the formal banking system and there is no reason to believe that they will not continue. It is also well known that bank failures affect the banking systems of both developed and developing countries. There might be a difference in how bank failures influence the financial stability and economies of the different affected countries (developed and developing) depending on the sophistication of the regulatory safety nets in place in those respective countries. In general, it is given that developed countries have advanced regulatory safety nets and thus can withstand major impacts brought about by bank failures, while developing countries are still lagging behind in that regard.

South Africa, with her well-developed financial system, is also prone to bank failures like any other country and history has proven that to be the case, as a number of bank failures have been observed over the years. With the above in mind, and given the beneficial roles of deposit insurance in a regulatory safety net, as advanced in section 3.5.2, this chapter set out to present a case for the introduction of deposit insurance scheme in South Africa. Underlying this is the need and desirability for such a scheme for South Africa, given the advantages attached to the adoption of such a scheme. Furthermore, this chapter will also present proposals for the effective implementation of such a scheme for South Africa including the desirable design features of such a scheme. The next section gives a brief description of structure of the South African banking sector as well as an analysis of bank failures in South Africa.

## **4.2. A SYNOPSIS OF THE BANKING INDUSTRY AND BANK FAILURES IN SOUTH AFRICA**

### **4.2.1. Structure of the South African banking sector**

At present, South Africa “has the largest and most sophisticated banking system in Africa” (Competition Commission, 2001:3). This sophistication and the level of advancement in the South African banking industry are reflected in the level of

technology employed and products offered by South African banks (which is comparable to world standards). According to Claasen and Brooks (2003:5), the sophistication and modernity of the South African banking sector can be explained by the “colonial history of the country whereby the country’s banks were modelled according to European standards” and have maintained close links with their counterparts in Europe, thus enabling them to stay up to date with the latest technological advancements and product offerings.

The South African banking sector offers its clientele a variety of services found in the most developed markets of Europe and the USA. These services range from basic deposit taking and lending to sophisticated services such as corporate finance and derivatives trading. As such, South Africa has a large number of banking institutions. According to the latest figures available from the SARB (2003), the banking sector has in total 41 licensed deposit-taking institutions comprised as follows:

- 19 domestic controlled banks
- 6 foreign controlled banks
- 2 mutual banks
- 14 local bank branches of foreign banks.

Over and above these institutions, there are also 30 foreign bank representative offices present in South Africa. The picture painted by the abovementioned numbers is one of a fiercely competitive banking sector and access to banking services by most South Africans. However, as we shall discover below, that is not the case at present in South Africa.

The South African banking sector is dominated by five major banking institutions (the so-called “Big Five”) namely ABSA, Standard Bank, First National Bank, Nedcor and Investec. These banks dominate all spheres of banking, from retail banking to corporate and merchant banking. These “big five” banking institutions “control up to 86% of the total banking assets and deposits” (Claasen and Brooks, 2003:5). The other players in the

banking industry are left to scramble for the remaining 14% of the banking business among them, with foreign controlled and specialist banks, targeting certain segments of the market especially the high net worth individuals and corporates.

Given the above scenario of the South African banking industry, it is clear that there is a high level of concentration in the banking sector. A high level of concentration in any industry is said to be not favourable to consumers, in that the big or dominant players in that particular industry might set their pricing in such a manner that hurts consumers (Chirwa, 2001). Following the seminal work of Bain (1951) on industry concentration, the structure-conduct-performance (SCP) framework has been used to test levels of concentration in industries. The SCP is also known as the collusion hypothesis, in that the dominant firms in an industry collude in setting up their pricing structures.

Although the original SCP model was applied to the manufacturing industry, it has been later extended to other industries including the banking industry (see, for example, Mullineaux, 1978; Gilbert, 1984; Clark, 1986). As emphasised by Civelek and Al-Alami (1991), the application of the SCP to the banking industry is very important because of the importance of banks to the economy, since high levels of concentration in banking might lead to high costs of credit to firms and individuals. If that were to occur, it would have a negative impact on the intermediation function of banks, a function that is important for the growth of the economy (see chapter 3).

Chirwa (2001:6) defines concentration as “the extent to which most of the market’s output is produced by a few firms in the industry.” As shown above, the South African banking industry exhibits a high level of concentration, although there is no empirical evidence of collusion among the big five banks or threat of reduced intermediation using the SCP framework mentioned above. The only discernible attribute present in the South African banking industry is the low levels of competition between the biggest banks and the smaller ones. For the purpose of this study, competition is taken to be the most relevant aspect, because one of the roles of deposit insurance is the promotion of competition among banks of different sizes.

An implicit assumption of that role of deposit insurance is that smaller banks fail, because depositors stage runs on them upon hearing rumours of liquidity trouble, which is not the case with the bigger banks. This shows that depositors have more confidence in the bigger banks than in smaller banks. This lack of confidence in smaller banks is not conducive to the stability of the banking sector, because, in the absence of deposit insurance, the smaller banks would pose confidence problems for the banking system as a whole, which can undermine the stability of the financial system (Okeahalam, 1998).

The Herfindahl-Hirschmann Index (HHI) is one of the most commonly used measures of concentration in industries. The HHI is used as one possible indicator of market power or competition among firms. It measures market concentration by adding the squares of the market shares of all firms in the industry. The higher the HHI for a specific market, the more output is concentrated within a small number of firms. The HHI has a minimum value of zero for a perfectly competitive industry and a maximum value of 10000 for a pure monopolistic industry. In general, an HHI below 1000 the market concentration can be characterised as low, between 1000 and 1800 as moderate and above 1800 as high (Pass *et al*, 1993). Regulators and other agencies calculate the HHI index for a specific industry using the method pointed to above and dividing that result by the maximum value of 10000 to arrive at a concentration index for a specific industry. The SARB undertake that task for the banking industry in South Africa. An industry is said to be highly concentrated if the index level is equal to 0.18 and higher.

Wiese (2003:4) notes that the HHI for the South African banking industry increased from 0,132 to 0,136 after the collapse of Saambou Bank in the second half of 2001 and again to a critical level of 0,175 in 2002 when BOE Bank was taken over by Nedcor Bank. This rise in the HHI indicates increased concentration in the industry. This figure of HHI equal to 0,175 places the South African banking industry among the highly concentrated banking sectors in the world.

As mentioned earlier, a high level concentration is generally not good for consumers and the small players in any industry. In the case of the South African banking sector, the observed high concentration does not augur well for competition among banks in South Africa, and provides more reason for the introduction of deposit insurance in South Africa in order to promote competition in the sector (see section 4.3.3.). The next section briefly describes bank failures in South Africa in order to examine the trend of bank failures and assess the role deposit insurance can play in reducing and/or avoiding bank failures in South Africa.

#### **4.2.2. Bank failures in South Africa**

This section does not attempt to provide an authoritative and elaborate account of bank failures in South Africa, but merely attempts to examine the recorded cases of bank failures in South Africa and their major causes. There have been a number of bank failures and instances of troubled banks in South Africa starting from the 1970s to the present. Notably, these failures have affected mainly the smaller, second tier banks and not the bigger banks. The only possible exception to this is the close failure of Trustbank (through Bankorp) in the middle 1980s, which was rescued by a controversial “lifeboat<sup>16</sup>” extended by the SARB. Trustbank and Bankorp both now form part of ABSA.

Before 1990, bank failures in South Africa are not well documented in the literature. However, Okeahalam (1998) and Okeahalam and Maxwell (2001) document the failures of South African banks since 1990. A summary<sup>17</sup> of bank failures in South Africa since 1990 is given in table 4.1 below.

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<sup>16</sup> The ABSA lifeboat cost the taxpayers approximately R1.2 billion that ABSA Bank never repaid. The Heath Commission appointed to investigate the issue found that to require ABSA to repay the money would result in the collapse of ABSA with systemic implications for the banking and financial systems (Daily Dispatch, 1999).

<sup>17</sup> Over and above the bank failures mentioned in the table, there are other banks whose licences were withdrawn by the SARB (e.g., Southern Bank of Africa Limited in 2001) and others who voluntarily surrendered their licences. Owing to a lack of full details in that regard, they are not included here.

**Table 4.1: A summary of recent bank failures in South Africa**

<i>Name of Bank</i>	<i>Year of failure</i>	<i>Reason for failure</i>	<i>Curatorship</i>	<i>Final liquidation</i>
Alpha Bank	1990	Fraud-Insider lending	4 years	Depositors paid according to implied BSD <sup>18</sup> standard in 1994
Cape Investment Bank	1991	Fraud-Disclosure irregularities	1 year	A total of R5m paid to all depositors in 1992
Pretoria Bank	1991	Poor strategic management (linked to the failure of Masterbond)	6 months	In 1991 the SARB repaid all depositors (reasons unclear)
Sechold Bank	1993	Derivatives exposure (R180m loss)	<1 year	Acquired by Investec Bank Holdings (1994)
Prima Bank	1994	Liquidity problems and non-performing loans	1 year	1994 assets transferred to UniBank
African Bank	1995	Inadequate management and capital	<1 year	Assets acquired by NBS
Community Bank	1995	Liquidity and inefficient management	<1 year	Acquired by UniBank
Islamic Bank of South Africa	1997	Bad management, fraud-insider unsecured lending, non-performing assets	1 year	Depositors compensated to a maximum of R50,000
New Republic Bank	1999	Failure of strategic alliance with Mawenzi Holdings led to run on deposits	<2 years	All depositors paid out R1.04 for every R1.00 held (reflecting interest during period of inactivity)
FBC Fidelity	1999	Non performing loans	<18 months	Acquired by Nedcor
Regal Treasury Bank	2001	Fraud and mismanagement (lack of corporate governance) led to run on deposits	<18 months	Depositors repaid partly
Saambou Bank	2001	Fraud, Non performing loans	>2 years	Part of assets sold to FNB
BOE Bank	2002	Liquidity problems led to run on deposits	<6 months	Taken over by Nedcor Bank

Source: Okeahalam, 1998; Okeahalam and Maxwell (2001:143); and Manuel and Mboweni (2002).

<sup>18</sup> BSD= Bank Supervision Department of the SARB.

In analysing the causes of bank failures mentioned above, certain common themes emerge. According to Okeahalam (1998), many of the failed banks experienced liquidity problems prior to their failure. These liquidity problems stemmed from heavy lending to certain sectors of the economy, for example, the property market when it was booming in the late 1980s. Liquidity troubles (as a result of non-performing loans) started when the borrowers could not repay the banks, leading to a mismatch between assets and liabilities of the banks. As discussed in chapter three, the opacity of bank assets within a delegated banking framework makes an accurate assessment of a bank's financial health on the part of depositors difficult or impossible. This leads depositors to panic and stage runs on banks perceived to be in liquidity trouble, ultimately resulting in their failure. This appears to be the case with some bank failures cited above.

Two other themes emerging strongly from the analysis of bank failures in South Africa are mismanagement and fraud. Mismanagement entails poor lending decisions, weak credit monitoring and lack of robust corporate governance structures. Mismanagement was particularly a major contributing factor in the case of the Islamic Bank of South Africa, which was characterised by “a large amount of insider unsecured lending” (Okeahalam, 1998:37). The fact that poor lending decisions lead to bank failure is corroborated by Brownbridge (1998) who found a positive relationship between the two in the study of financial distress in selected African countries.

Brownbridge (1998:182) found that “insider lending and imprudent management” was a common problem among the failed banks in the study and offers that proper management and a reduction in such activities could have helped in avoiding bank failures. To that end, a capable management team in banks is a prerequisite. One criterion of assessing capable management is to ensure that bank managers are fit and proper for their jobs and are not subject to undue outside influence and pressure. It is the task of regulators to ensure that banks are staffed with competent managers who would guarantee that all risk management tools are in place in order to make certain that banks are not exposed to risks that might lead to their failure. However, as Maimbo (2002:272) posits, it is a difficult task for regulators to determine whether the abilities of bank managers are enough in

preventing bank failures. This is where the role of board of directors<sup>19</sup> and external auditors comes in, *i.e.*, to complement the regulators in assessing the activities of bank managers.

Fraud has also been a serious contributor towards the failures of banks in South Africa. As shown in the table above, the failures of a number of banks are directly attributable to fraud, which ultimately led to liquidity problems and failure (Okeahalam, 1998). The ultimate victims or losers of bank failure resulting from fraudulent activities of bank managers as well as other causes are depositors (customers) and the introduction of deposit insurance in South Africa should be able to minimise the losses to depositors of failed banks. The next section provides the main motivations for the introduction of a deposit insurance scheme in South Africa.

### **4.3. THE NEED AND MOTIVATIONS FOR ESTABLISHING A DEPOSIT INSURANCE SCHEME IN SOUTH AFRICA.**

Given the theoretical rationales for the existence of deposit insurance as given in chapter three and the increased adoption of such schemes around the world as espoused by Garcia (1999), there is a strong case for the implementation of a deposit insurance scheme in South Africa. The case for the immediate introduction of deposit insurance in South Africa rests on the following:

#### **4.3.1. Protection of South African small depositors**

The ultimate and overriding aim of any credible deposit insurance scheme is the protection of the small, unsophisticated depositor. As explained in section 3.5.2.1, the inability of small depositors to monitor the activities of banks provides the need for their protection. Since bank failure has been a frequent phenomenon in South Africa, the need

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<sup>19</sup> The case of Regal Treasury Bank where the Chief Executive Officer was running the bank single-handedly and without regard to the Board, clearly demonstrates that the corporate governance structures in South African banking needs strengthening. The actions of Mr. Jeff Levenstein led to the collapse of the Bank. Also, the BSD of the SARB has been accused of slackness in taking concrete and timely action against Mr. Levenstein, with the then Registrar of Banks, Mr. Christo Wiese claiming to have had no power to remove Mr. Levenstein as CEO of the bank (Sunday Times, 2001:18).

for deposit insurance in South Africa cannot be overemphasised for the sake of protecting the small depositors in this country. With an explicit deposit insurance scheme in place, depositors would be assured of timely repayment of their deposits in cases of bank failures. The absence of a well-defined depositor protection arrangement in South Africa provides further impetus for the speedy introduction of deposit insurance in.

Such a move would be a desirable departure from the hitherto implicit guarantee offered by the SARB, which is discretionary and which makes full and timely repayment uncertain. As can be seen from table 4.1 above, it can take up to four years for failed banks to be wound up and depositors repaid; such inefficiencies can be eliminated under an explicit deposit insurance regime, since depositors would be repaid expeditiously from the insurance fund. A further advantage of instituting a deposit insurance scheme in South Africa would be the promotion of a culture of saving, especially among small depositors. With the security that their savings are safe or protected, many small depositors would place more of their funds with banks and not keep them under mattresses or invest in other risky ventures such as pyramid schemes. With increased savings, investment and growth should follow, because of increased levels of intermediation by banks that transform deposits into loans to needy entrepreneurs (Hall, 2002). Such a scenario would surely be good news for the economy of South Africa that needs growth in order to address the problem of massive unemployment and poverty prevalent in the country at the moment.

#### **4.3.2. Regulatory failure by the SARB in resolving bank failure**

The SARB is the supervisor of banks and, as such, is entrusted with resolving bank failures. The ability of the SARB to resolve failed banks has been put to test over a number of years of bank failures in South Africa and its record in doing so satisfactorily is at best questionable (Okeahalam, 1998). A country's regulatory regime has an important bearing on the nature and extent of bank failures in a country (Abrams and Settle, 1992) and, as such, the role of the SARB (in bank failure resolution) as the

regulator of banks in South Africa needs to be carefully looked at in a discussion about deposit insurance.

According to Okeahalam (1998) and Okeahalam and Maxwell (2001), the SARB has failed in its duties to resolve bank failures satisfactorily, especially in its capacity as lender of last resort. This has led to a call for the establishment of an explicit deposit insurance scheme in South Africa to overcome the problems posed by such regulatory failure. Okeahalam (1998) states that the regulatory failure of the SARB in resolving bank failures manifests itself in the selective approach employed by the SARB in resolving failing or failed banks.

The SARB has been accused of being guilty of succumbing to political pressure when it comes to using its lender of last resort facilities. This is especially true in the well-known case of the “lifeboat” extended to Bankorp (now part of ABSA) between 1985 and 1995 (Okeahalam and Maxwell, 2001). In this regard, the SARB was accused of selective and biased intervention, in that it was willing to rescue Bankorp and let other banks go under, mainly because Bankorp was serving the interests of the then Afrikaner dominated National Party government. This behaviour of the SARB can be described as what Murshed and Subagjo (2002:250) term regulatory capture, whereby “regulators are controlled by groups they are meant to supervise”. According to Murshed and Subagjo (2002) this situation arises when the party exercising regulatory capture has powerful vested interests in the institutions being regulated by the regulator. In the context of the SARB and the ABSA lifeboat, it can be argued that the National Party government had vested interests in Trustbank’s survival so as to advance its political agenda of favouring the Afrikaners in economic development at the expense of other language groups.

After analysing the events surrounding various bank failures and the use of the lender of last resort facilities by the SARB in resolving bank failures, Okeahalam (1998:39-40) found serious regulatory failure on the part of the SARB and reached the following conclusions:

1. The SARB was politically biased and had a potentially corrupting influence on the financial system in South Africa;
2. The SARB is plagued by incompetence and corruption in bank failure resolution;
3. Prudential regulatory framework in South Africa needs urgent reform; and
4. There are no proper mechanisms for depositor protection in South Africa.

In light of the above conclusions, it is crucial for deposit insurance to be implemented in South Africa. A deposit insurance scheme would be preferable to the hitherto implicit guarantee scheme and would *effectively* protect depositors in cases of bank failures. The observed selective and biased intervention and use of lender of last resort facilities by the SARB would be eliminated in the presence of explicit deposit insurance, which would ensure a fair and transparent way of compensating affected depositors of failed banks.

An explicit deposit insurance scheme would further eliminate the inconsistency of the SARB observed hitherto *vis-à-vis* bank failure resolution. Furthermore, bank failure resolution costs to the taxpayers should also be minimal under deposit insurance compared to the current system. This is so, because when the deposit insurer carries out the task of bank failure resolution, the insurer would seek to minimise losses accruing to the insurance fund and thus would be vigilant in that respect.

That is in contrast with the implicit guarantee scheme in which the SARB has squandered (for a lack of better word) a lot of taxpayers' money, especially the R1.2 billion spent on the ABSA lifeboat whereby ABSA was charged interest that was below the market rates at that time. With the benefit of hindsight the regulatory stance taken by the SARB in rescuing ABSA through the said lifeboat to Bankorp can be interpreted as an attempt to assist a "too-big-to-fail" (TBTF) institution whose failure presents systemic risk. Theoretically, TBTF banks justify central bank intervention in order to avoid disturbances to the smooth operation of the financial system that would ensue, if such banks were allowed to fail (Wolgast, 2001). The only problem with the approach used by the SARB in rescuing ABSA is that it proved too costly to the taxpayers and the rescue

operation was not done in a transparent manner, leading to the questioning of the credibility and lack of bias of the SARB.

With a properly designed deposit insurance scheme in place, the SARB would be relieved of accusations of bias and inconsistencies in resolving bank failures, because of greater reliance on market solutions (imposed by the insurer) when dealing with problems at TBTF institutions. Such market solutions include requiring TBTF banks to issue mandatory subordinated debt, which would create an incentive for debtholders to monitor the risk-taking behaviour of such banks (Ketcha, 1999). Although deposit insurance would go a long way towards dealing with problems at TBTF banks, it is not a panacea, because of the attended moral hazard problem, whereby TBTF banks can increase risk-taking because of assured rescue intervention by the regulators. This hazard can be overcome by stringent supervision and capital requirements of TBTF banks, coupled with even greater reliance on market discipline.

In essence, therefore, the introduction of deposit insurance would enable the resolution of bank failures to be conducted in an efficient, economic, transparent and impartial manner compared to the hitherto implicit guarantee system. In such a way, depositors and other stakeholders would have confidence in the SARB as a regulatory authority and thus help stabilise the financial system. In order for deposit insurance to succeed and to help achieve the objective of financial stability, a closer working relationship is presumed between the deposit insurer and the SARB as the supervisor of banks (see, for example, Kane, 2000).

#### **4.3.3. Promotion of competitive neutrality in South African banking**

As indicated earlier, the South African banking industry is highly concentrated with the biggest five banks controlling more than 80% of the total deposit market. These big banks are seen as the core banks in the financial system whose failure can bring about systemic instability (Okeahalam, 1998). Clearly the apparent importance of the core banks presents an unfair advantage over the smaller banks, since the big banks are

implicitly protected by the regulatory authorities if threatened by failure, while the smaller banks are allowed to fail.

Owing to their big size, the big/core banks would continue to dominate the market and attract more depositors. Such a situation cannot be allowed to continue unabated, for the sake of competition in the South African banking sector. The historical fact of small bank failures also ensures that depositors would prefer to use the services of the bigger banks, because of their perceived safety. However, as indicated above, resolution of TBTF banks has proven to be costly to taxpayers.

Therefore, it is argued here that the introduction of deposit insurance in South Africa is necessary if a level playing field in the banking sector of South Africa is to be achieved. Deposit insurance would make the deposits at all banks safe, irrespective of bank size, thus allowing even smaller banks to attract more depositors. Furthermore, deposit insurance would ensure the stability of the banking system as a whole, because runs on banks (especially the smaller ones) would be minimised and thus failures would be limited (Economides *et al*, 1999). The argument here is *not for deposit insurance to sustain badly managed banks*, but merely to *level the playing field and ensure competition among banks of different sizes*.

In fact, weak and badly managed banks should be allowed to fail so that the banking system consists only of strong banks, for the sake of stability and confidence in the banking system. Strong, but small banks are very important for the economy, because such small banks tend to service certain sectors of the community, which the bigger banks are not willing or able to deal with (for example, the small business sector) (van Dam, 1997). The existence of small players in the banking sector with specific niche markets is essential for developing countries like South Africa, where a sizable number of the population is still unbanked, *i.e.*, do not have access to banking services.

Because of perceived high credit risks in lending (especially housing financing) to certain sectors of society, most of the big core banks in South Africa are not prepared to extend

their services to those sectors of society, thus perpetuating the unequal access to banking services among South Africans, which stems from the apartheid era. The introduction of deposit insurance has the potential to increase access to banking services for all South Africans, since the smaller banks would specialise in information gathering in their specific niche markets and thus would be able to assess the risks in those markets better. In that case, the bigger core banks would be free to concentrate on corporates and individuals at the high end of the market in which their competitive advantage lies.

The presence of deposit insurance would improve competitive neutrality among banks of different sizes and ensure financial system stability, because depositors would have confidence in even the small banks. Such a move should allow small, but strong banks to compete fairly with the core banks, since deposit insurance would insulate small banks from undue runs and ultimate failures. The next section takes up the intricate issues surrounding the introduction of such a scheme in South Africa.

#### **4.4. DESIGNING AN EFFECTIVE DEPOSIT INSURANCE SCHEME FOR SOUTH AFRICA**

##### **4.4.1. Background**

It has been argued above (section 4.3.) that the introduction of an explicit deposit insurance scheme in South Africa is necessary and desirable in order to protect depositors, promote competitive neutrality and to stabilise the financial system. The idea of introducing deposit insurance is not new for South Africa, since such an idea was mooted as early as 1993 (van Dam 1997:104). However, the proposal for the introduction of deposit insurance did not take hold until late 1997 when the SARB announced that it was considering introducing such a scheme in order to protect small depositors (Business Day, 1997).

It can be argued here that the number of bank failures during the mid 1990s prompted the regulatory authorities to consider the introduction of deposit insurance. Since 1997, there

has been a credible effort on the part of the government (represented by the National Treasury) and the SARB to make the introduction of deposit insurance a reality. A representative committee had been set up to investigate the viability and design of such a scheme for South Africa and according to Rau (2003) a consultative paper in that regard was submitted to the Minister of Finance (Mr. Trevor Manuel) in July 2002 for his consideration. The exact details contained in the submission to the Minister are privileged and are not yet in the public domain.

The road leading to the submission mentioned above has not been an easy one, with various stakeholders offering divergent views on the possible introduction of deposit insurance. Notably, the Banking Council of South Africa had *ab initio* been opposed to the idea of introducing deposit insurance. In the words of Mr. Stuart Grobler (2003) of the Banking Council, “ the Banking Council does not believe that explicit deposit insurance is appropriate for South Africa, given the structure of the sector with five big banks which are all too-big-to-fail.”

Taking a cue from the analysis outlined in section 4.3.3, the position initially taken by the Banking Council on deposit insurance can be viewed as a propagation of dominance by the big banks over the smaller banks. The fact that the big/core five banks take comfort in that they are too-big-to-fail and therefore do not need deposit insurance, seems to justify that view. It is also the view of Grobler (2003) that deposit insurance is “essentially a subsidy from the well-managed banks to the poorly-managed ones.” Given that most, if not all, of the banks that have failed in South Africa, are the small ones<sup>20</sup> with evidence of mismanagement attributed to their failure, there might be an element of truth in that view.

However, it is important to point out that big banks are not immune to failure and can fail in certain circumstance (as evidenced by the failure of BOE Bank); thus, rejecting deposit insurance on those grounds can be myopic on the part of the big banks in South Africa.

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<sup>20</sup> The failure of BOE bank is a possible exception here, given that BOE bank was a considered a big bank compared to the other failed banks.

Furthermore, in order to secure the stability of the whole banking sector and the financial system, deposit insurance should apply to all banks irrespective of size. Again, confidence in small banks, which would promote competitive neutrality, can only be achieved with a well-designed explicit deposit insurance scheme accompanied by a sound regulatory system in place (Demirgüç-Kunt and Detragiache, 1999 and Cull *et al*, 2000). Therefore, deposit insurance has a big role to play in the South African financial system and can be beneficial for both big and small banks.

To the credit of the Banking Council, it acceded to the wishes of the Minister of Finance about the need for instituting a deposit insurance scheme in South Africa and formed part of the committee that worked on the proposal submitted to the Minister of Finance in 2002 (Grobler, 2003). In light of the fact that there are scant details on the deposit insurance proposal submitted to the Minister of Finance, the next section is aimed at developing a framework or model on how an effective deposit insurance scheme for South Africa should be designed.

#### **4.4.2. Proposals for an effective deposit insurance scheme for South Africa**

Design features of any deposit insurance scheme are important determinants of whether or not a deposit insurance scheme will be successful in achieving its intended goals. This is especially important for a country like South Africa that is planning for the introduction of such a scheme. An ill-designed scheme might result in making the financial system worse-off than in the absence of deposit insurance (Kane, 2000).

In order to assist countries establishing explicit deposit insurance schemes in designing such schemes so that the benefits are maximised and pitfalls avoided, there are guidelines or best practices developed which are contained in Garcia (1999) and the Financial Stability Forum (FSF) (2001). The aim of those guidelines is to ensure that deposit insurance is incentive compatible, *i.e.*, to provide a set of incentives that impel economic agents (stakeholders affected by deposit insurance) to keep the financial system stable.

This set of guidelines are best practices developed after an analysis of various schemes in various countries and are there to aid policymakers in countries that are introducing deposit insurance. Therefore these best practices cannot be viewed as the ultimate prescription for all countries or applied blindly across countries. This is so, because for deposit insurance to be effective it should be a function of the country's safety net arrangements, which are unique for each country. Examined below and in the context of the South African situation, are the most critical issues related to the introduction of deposit insurance (these are also included in the guidelines mentioned above). The aim of the examination below is to provide a guide for policymakers in designing an effective deposit insurance scheme for the country.

### *1. Definition of deposit insurance scheme in law*

In order for deposit insurance to protect depositors effectively, it should win the trust and confidence of the public and that can be best achieved when deposit insurance is clearly defined in law (for example, by way of an Act of Parliament establishing such a scheme). According to the FSF (2001:17), "specifying the mandate and role of deposit insurance in law, clarifies the role of deposit insurance within the financial safety net." With clearly defined deposit insurance in law, transparency would be promoted and that would have an effect of reducing moral hazard, agency and political capture problems, since all the stakeholders (banks, depositors, *etc.*) know exactly the role to be played by the insurer in case of bank failure. As a result, there would be confidence in the system and stability of both the banking and financial systems would prevail.

For South Africa, defining deposit insurance in law with a clear mandate of paying out depositors would be a positive step in overcoming the problems associated with the hitherto implicit guarantee scheme. The SARB would be relieved of its current double duties of lender of last resort and resolution of failed banks, since the deposit insurer, which would ensure a speedy and less costly exercise, would handle the latter. To that end, a deposit insurance scheme should

be defined clearly in law, separating it from the ambits of existing regulatory and safety net structures, while maintaining a close working relationship.

## 2. *Membership and institutions covered*

For countries that are planning to introduce deposit insurance, there are two options with regard to membership of the deposit insurance scheme. Membership of the scheme can be voluntary or compulsory. Making membership voluntary presents a case for adverse selection, whereby the most risky (or weaker) banks would rush to subscribe to the scheme, while the least risky (or stronger) banks would opt out, because they do not see any benefits of membership (Wheelock and Kumbhakar, 1995:187). It is argued here that it would be wise for South Africa to make membership of deposit insurance compulsory for all eligible banks in order to avoid adverse selection problems. A further advantage of compulsory membership is that “compulsory membership will broaden the pool of deposit insurance, thus achieving the law of large numbers and risk dispersion” (Choi, 2000:89).

With regard to the type of institutions covered by a deposit insurance scheme, various countries have different criteria. For example, some countries extend deposit insurance to non-bank institutions, while some exclude foreign banks. In order to make deposit insurance effective in South Africa and protect small depositors, it is advisable to include all licensed banks (including mutual banks and foreign banks and branches of foreign banks operating in South Africa) that take deposits (especially retail deposits). Institutions such as investment banks, merchant banks and other banks that deal mainly with corporate clients can be excluded from deposit insurance. The assumption here is that, since the overriding reason for deposit insurance is the protection of small, unsophisticated depositors, the corporate depositors of the abovementioned institutions are able to monitor

those institutions effectively; thus there is no need for them to be covered by deposit insurance (Hall, 2002).

According to the FSF (2001:22), the inclusion of foreign banks and their subsidiaries and branches is based on the argument of “the stability of the domestic financial system as well as the goal of providing a minimum level of deposit insurance to all depositors.” To that end, it makes sense for their inclusion in the South African deposit insurance scheme when adopted.

### *3. Coverage level*

In determining the coverage level under a deposit insurance scheme, policymakers should be guided by the objective(s) of deposit insurance. An important consideration in determining the coverage level is the relationship between coverage level and moral hazard. A high level of coverage would not be effective in mitigating moral hazard inherent in deposit insurance, since depositors would be least interested in enforcing market discipline on banks (Demirgüç-Kunt and Kane, 2002). In order to make deposit insurance effective, coverage level should be low enough in order to encourage depositors to monitor banks.

Incentives such as low coverage and excluding certain types of deposits from deposit insurance can make deposit insurance effective. For example, by excluding inter-bank deposits member banks are forced to monitor each other carefully and excluding deposits of management from coverage, management of banks are exposed to potential losses of banks arising from risky activities and thus shall be mindful of the risks they are taking. Also, some countries exclude foreign currency denominated deposits, because of the complex administrative problems associated with such deposits (mainly arising from fluctuating exchange

rates). It is recommended here that South Africa follow this practice in implementing its deposit insurance scheme.

Garcia (1999) recommends that the coverage amount should be set at least at twice the country's GDP per capita. The best practice in this regard is to provide coverage per depositor per bank, and not per deposit. This implies that all deposits of one depositor are covered up to the coverage limit at all the banks where such deposits are held. In that way, deposit insurance provides comprehensive coverage and fulfils its objective of protecting depositors. According to Okeahalam and Maxwell (2001), an amount R50 000 has been suggested as the coverage limit for South African deposit insurance.

This amount is based on the assessment of the amounts paid out by the SARB in many of the failed banks in South Africa, and on the average amount held in deposit by an average South African. This coverage limit seems plausible for South Africa given its GDP per capita figure of about US\$ 2, 520. Coinsurance should not be adopted, because it would require small depositors to contribute towards deposit insurance and that would amount to depositors subsidising deposit insurance. Such a move would negate the core objective of deposit insurance of protecting “widows and orphans”.

#### 4. *Funding*

To achieve the objectives of protecting depositors and maintaining the stability of the financial system, a deposit insurance agency should have access to adequate and readily available funding. Funding options for a deposit insurance agency ranges from establishing a reserve fund (with member banks contributing to the fund) on an *ex ante* basis to obtaining the required funds (for paying out depositors) after bank failure *ex post*.

In deciding which funding scheme to adopt, policymakers should weigh the relative advantages and disadvantages of each system of funding. According to Hall (2002:120), funding the deposit insurance scheme *ex ante* is advantageous and preferable to an *ex post* funding, because “it provides the deposit insurer with a safe and liquid source of funds, fosters transparency, promotes confidence in the system, requires more information-sharing, desirable features of an incentive-compatible scheme.” Furthermore, FSF (2001:27) offers that *ex post* funding of deposit insurance that requires banks to pay levies after failure is problematic, uncertain and leads to confidence problems in the system.

Based on the relative strength of the *ex ante* funded deposit insurance scheme, South African policymakers should consider introducing a deposit insurance scheme, which is funded on an *ex ante* basis, rather than one that relies on *ex post* assessment and contributions. In that way, confidence in the scheme would be enhanced and it helps make the scheme effective. However, after the implementation of the deposit insurance scheme, it would be worthwhile for policymakers to consider the advantages of the *ex post* system and consider integrating some aspects thereof in the existing scheme. Such a move might result in a hybrid of the two systems, thus enabling the deposit insurer to take advantage of the relative strengths of the two systems.

##### 5. *Premiums*

Premiums charged to member banks provide the bulk of funds for the deposit insurer. Policymakers can base the premiums charged on either total deposits or level of uninsured deposits. In general, premium assessment based on total deposits is easy to administer, because it is easier to determine the deposit base on which the premium can be assessed, which is not the case with assessment based on uninsured deposits. It would be prudent for South Africa to base the premium assessment on total deposits, given the motivation above.

In choosing the kind of premiums to be charged, there are two available options, *viz.*, fixed-rate premiums and risk-based premiums. A fixed-rate premium system is advantageous in that it is easy to administer and presents no major problems in calculating the premium to be charged. However, a principal concern of a fixed-rate premium system is that less-risky banks in effect subsidise more-risky banks (FSF, 2001:28).

Risk-based premiums were introduced to overcome such problems; however, such a system is extremely difficult to implement in practice. The difficulties in implementing risk-based premiums arise, because of the complexities in assessing bank risk, since “banks’ assets generally embody private information” (Vaez-Zadeh *et al*, 2002:14) Assessing bank risk in this technologically advanced age is even more difficult given the complex products and services offered by banks, not least of which are derivatives products, which make up a substantial part of banks’ assets and liabilities. Even in more developed and advanced countries (such as the USA) that first introduced risk-based premiums systems, problems are still prevalent and there is an on-going effort to refine such systems. It is also worth noting that a risk-based premium system works better within a setting of *ex post* funding.

Given the complexities associated with risk-based premium regimes and the earlier recommendation for South Africa to adopt an *ex ante* funded deposit insurance scheme, it follows that a fixed-rate premium system would be more suited for the South African deposit insurance scheme. Moving towards a risk-based premium method could take place later once the system has been tried and tested.

#### **4.5. CONCLUSION**

This chapter highlighted the important characteristics of the South African banking sector and it has been established that the sector is heavily concentrated by international

standards. The presence of five major banking groups that dominate the market is proof of that. As summarised in table 4.1, South Africa has experienced a wave of bank failures over the years and such a phenomenon is likely to continue as in any other country with a free market system. The main causes of bank failures in South Africa have been identified to be fraud and mismanagement.

The desirability and need for the introduction of deposit insurance in South Africa was investigated in this chapter and was justified on the grounds of protecting small depositors, promotion of competitive neutrality between banks of different sizes and regulatory failure of the SARB in resolving failed banks. The non-existence of a well-defined deposit protection scheme in South Africa has been given as a further justification for the introduction of deposit insurance. The introduction of an explicit deposit insurance scheme in South Africa has the ability to overcome the problems experienced under the hitherto implicit guarantee scheme.

It was argued in the chapter that deposit insurance is not a panacea, because of the moral hazard problem, but it is suggested that a well-designed deposit insurance scheme is preferable to overcome the moral hazard problem. To that end, section 4.4.2 examined the most critical issues related to deposit insurance design in the South African context so as to guide the South African policymakers in designing the deposit insurance scheme. It is hoped that the introduction of a deposit insurance scheme would lead to an effective protection of depositors and a stable financial system.

## CHAPTER FIVE

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### CONCLUSION AND RECOMMENDATIONS FOR FURTHER RESEARCH

#### 5.1. SUMMARY OF CONCLUSIONS

The thesis set out to investigate whether deposit insurance should be introduced in South Africa. It has been soundly shown and concluded that the introduction of deposit insurance in South Africa is needed and desirable. The theoretical basis, on which this conclusion was grounded, rested with the importance of banking to the economy. As demonstrated in chapter two, banks form the backbone of economic growth and development. The kernel of economic growth is investment and investment is, according to classical macroeconomic theory, a function of savings. Savings occur when the surplus units (savers) in an economy deposit excess funds at banks and these savings are transformed into investment by banks that lend to entrepreneurs in need of financing. Banks perform this task as part of their intermediation function, whereby they interpose themselves between lenders and borrowers.

It has been argued that banks are most suited to perform this intermediation role, because of economies of scale and minimum costs incurred in undertaking this function. These economies of scale and cost minimisation of banks arise because banks specialise in collecting private information on their borrowers, which no other agent in the economy can do at such low costs. Therefore, the role of banks in an economy is of paramount significance and which is why banks have received and continue to attract so much more attention than many other sectors of the financial economy.

The regulation of banks is a hotly contested topic, especially in academic literature. On the one hand, free banking theorists (such as Dowd, 1996) argue that there is no justification for the regulation of banks, since banking is just like any other industry operating in the free market economy and that market forces will ensure its efficiency.

On the other hand, there are those theorists (such as Dow, 1996) who strongly believe that banks should be regulated, because banks are special, in that they are the only institutions that possess the ability to create money and fulfil the intermediation role. Other commentators (such as Kaufman and Scott, 2000) contend that regulation should be limited only to the correction of market failure, but that overall the banking system should be left to the market forces.

It has been argued in the thesis that, despite the good arguments advanced by the free banking school, banking will continue to be regulated, as evidenced by the trend all over the world. The motivation for regulating the banking sector is grounded in the fact that instability of the sector presents serious consequences for the overall economy. Such consequences manifest themselves in the loss of productive capacity of the economy because of incomplete projects. An unstable banking sector is characterised by failure of one bank and/or many bank failures. Failure of one bank may lead to other banks failing through contagion, which presents a systemic risk to the financial system. Massive bank failures that continue unabated might result in a financial crisis with dire consequences for the economy, as demonstrated by the Asian financial crisis of 1997.

The causes of financial crises are intrinsically linked to the actions of banks during boom periods. According to the financial instability hypothesis of Minsky, financial crises are part and parcel of capitalist economies (which rely heavily on banking services) in that during boom periods banks lend heavily and when the tide turns, borrowers fail to repay loans and this leads to massive bank failures. Bank failures spread via contagion and that affect all facets of the economy, because credit extension by banks is diminished, leading to reduced production and consumption. It is for this reason that the supporters of bank regulation have advocated the increased regulation of banks.

Deposit insurance forms part of the regulatory safety net of many countries. Deposit insurance was introduced in many countries to complement other instruments of the safety net, namely prudential regulation and supervision of banks. The need for deposit insurance arose, because of the inadequacies of prudential regulation and supervision in

ensuring the stability of the banking sector, as well as in instilling confidence in the banking system by depositors. Banks act as delegated monitors of depositors' money, in that they accept deposits and lend such deposits to borrowers; in this way depositors delegate to banks the task of monitoring the repayment of such loans. It has been argued in the thesis that banks are the most efficient monitoring institutions, because through their specialisation they reduce the costs of monitoring and relieve depositors from the monitoring process, which is costly to undertake.

However, banking as delegated monitoring is not without pitfalls. Delegated monitoring banking exposes banks to runs by depositors. These runs occur because of the information asymmetry problem that is ever present in principal-agent situations. In the case of banking, depositors cannot assess the true value of bank assets (essentially consisting of illiquid loans), because banks possess private information on borrowers to whom the loans were advanced. This asymmetry of information leads to depositors staging runs on banks that are perceived to be suffering from liquidity problems. These runs can be damaging, because they can spread to other banks via contagion and lead to the failure of those banks, even if they are healthy. If that occurs, there can be disruptive consequences for the payment system, money supply, production and consumption.

Deposit insurance was introduced to counter the disruptive consequences of bank failures by insuring deposits and thus reducing runs on banks by depositors. Deposit insurance is aimed mainly at the protection of small, unsophisticated depositors who cannot accurately assess the financial positions of banks where they hold their deposits. With the security of their deposit guaranteed, depositors would desist from staging runs on banks, in that way ensuring that the banking system is stable. It is assumed that big and sophisticated depositors are able and can afford to monitor banks, and therefore they should not be covered by deposit insurance.

Bank failures are a worldwide phenomenon, as noted in the thesis, and South Africa is no exception. A considerable number of banks have failed over the years for a variety of reasons. Bad management of banks, liquidity problems and fraud have been identified as

some of the major reasons for the failure of many banks in South Africa. There is no reason to believe that bank failures in South Africa would stop anytime soon as witnessed by recent cases. Depositors and other creditors of banks will continue to suffer losses resulting from bank failures, especially in the absence of properly defined and designed protection schemes.

The pervasiveness of bank failures and the absence of a formal depositor protection scheme in South Africa justify the conclusion of the thesis that calls for the immediate introduction of an explicit deposit insurance scheme. The current implicit guarantee scheme operated by the SARB is inadequate to provide full protection to depositors in cases of bank failures. At present, depositors face uncertainty about the repayment and extent of repayment when banks fail in South Africa because of the complexity of the liquidation process undertaken in resolving failures of banks. Full recovery of deposits in failed banks is also not guaranteed by the hitherto implicit guarantee system operating in South Africa.

The introduction of deposit insurance in South Africa would eliminate such uncertainty and delays, because the deposit insurance agency would ensure that depositors are repaid fully and speedily up to the covered amount. Moreover, the introduction of deposit insurance in South Africa would free the SARB from the duty of resolving bank failure and allow it to concentrate on the prudential regulation and supervision of banks. The regulatory failure of the SARB in resolving failed banks and selective use of its lender of last resort facilities, which at times have cost taxpayers a lot of money, would be a thing of the past with the introduction of deposit insurance.

However, a close working relationship between the deposit insurance agency and the SARB is recommended, since both institutions would form part of the country's regulatory safety net. Such a close working relationship between the two agencies is further justified on the grounds that for deposit insurance to be effective in protecting depositors and ensuring financial stability, it should be supported by a strong supervision and regulatory intervention. Although the current regulatory and supervision regime in

South Africa is adequate by world standards, it can be improved, if deposit insurance is introduced, because the staff of the Bank Supervision Department of SARB can focus on that task alone (and reap the benefits of specialisation), leaving the resolution of failed banks to the deposit insurance agency.

The introduction of deposit insurance would have a further advantage of promoting competitive neutrality in the heavily concentrated banking sector of South Africa. As emphasised in this thesis, deposit insurance would allow smaller, but strong, banks to compete effectively with the big five banks that dominate the market at the moment. Deposit insurance would strengthen the position of smaller banks, in that depositors would not discriminate against smaller banks for deposits since their deposits would be insured against losses in the event of the bank failing. The importance of the presence of small niche banks in the South African banking industry is essential if the large unbanked part of the population is to gain access to banking services in this country. The introduction of deposit insurance would go a long way toward the achievement of that goal.

The success of the introduction and implementation of a deposit insurance scheme in attaining its intended goals is not without difficulties. The design features of a scheme generally determine the success or failure of deposit insurance in achieving its objectives. Moral hazard is the fundamental problem associated with deposit insurance because of increased risk-taking activities by banks.

Moral hazard in deposit insurance arises because insured depositors tend to be less concerned with monitoring banks, since their deposits are insured. Measures such as limited coverage, risk-based premiums, and increased capital requirements have been suggested to counter the perverse effect arising from the introduction of deposit insurance. Assessment on the efficacy of some of these measures in stemming the perverse effects of deposit insurance has yielded mixed results and there is a continuing effort around the world to improve them, in order to make deposit insurance effective in protecting depositors and ensuring financial system stability.

With the above in mind, it was suggested in the thesis that policymakers should carefully consider the design of the scheme. Details pertaining particularly to coverage limits, funding, membership premiums and the legal status of the scheme are very important for the success of deposit insurance, since they have a bearing on the inherent moral hazard problem. The discussion on the abovementioned issues is aimed at aiding South African policymakers in the design of an effective deposit insurance scheme. Despite the difficulties encountered with the implementation of deposit insurance, many countries are adopting such a scheme for the sake of depositor protection and the stability of financial systems. Such a trend provides further evidence of the need for and desirability of the introduction of deposit insurance in South Africa.

To that end, this thesis submits that deposit insurance should be introduced in South Africa with the *principal objectives* of protecting small depositors and ensuring the stability of the financial system. These two objectives are intricately linked, in that the stability of the banking system is heavily reliant on or influenced by the level of depositors' confidence in the system. A high level of confidence in the banking system by depositors implies that they would keep their funds on deposit and that would enable banks to utilise such deposits for loans (or credit extension), which is essential for investment and growth. Low levels or loss of confidence in the banking system by depositors leads to deposit withdrawals from the banks (if contagion sets in, even healthy banks are affected) and liquidity troubles at banks ensue, which can result in massive bank failures and a systemic crisis. This can affect other financial institutions and eventually the overall economy. Deposit insurance can counter these negative effects by instilling confidence of small depositors in the banking system and thus can avoid bank failures originating from rumour driven runs by depositors. The stability of the financial system is secured, because systemic crisis originating from loss of confidence in the banking system by depositors is eliminated.

## 5.2. RECOMMENDATIONS FOR FURTHER RESEARCH

In light of the difficulties associated with the implementation of deposit insurance schemes around the world and the continued attempts to improve existing schemes, further research would be needed to ensure that the deposit insurance scheme in South Africa will be optimal once introduced. Ideally such research should focus on the most problematic design feature, namely premiums. This thesis has recommended the use of *flat-rate* premiums during the initial stages of the implementation of the deposit insurance scheme; however, future research can evaluate the success of such a setting with a view to assessing the viability of introducing *risk-based* premiums, given the fact that flat-rate premiums are viewed to be unfair.

Another area of research that can be considered is the assessment of how deposit insurance influences the risk-taking behaviour of banks, *i.e.*, the moral hazard problem, to enable policymakers to evaluate whether deposit insurance increases or retards risk-taking behaviour by insured banks. Such an evaluation would enable policymakers to institute appropriate policy measures to counter risk-taking behaviour by banks, if evidence to that effect is found in the South African deposit insurance scheme.

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