CHAPTER 1

BACKGROUND AND INTRODUCTION

1.1 INTRODUCTION

This thesis examines the interaction between financial liberalisation and the dynamics of capital structure for listed non-financial firms in South Africa. McKinnon (1973: 9) argues that financial liberalisation provides an incentive for domestic investors to accumulate more equity capital, thus lowering the costs of borrowing. Shaw (1973: 9) further demonstrates, theoretically, that financial liberalisation in emerging markets "... increases rates of return by widening exploitable investment opportunities..."

Financial liberalisation, in this case, is the process that involves the removal of several impediments that bring the emerging market in line with the developed world. This leads to the development of financial markets; thereby providing new financing opportunities within the economy. These propositions have sparked a renewed interest on the study of financial liberalisation and its effects on various financial fundamentals, including capital structure.

On the other hand, Modigliani and Miller (1958: 201) have demonstrated that, under perfect capital markets, capital structure is irrelevant. However, it has been shown that, under less restrictive assumptions, certain impediments (such as tax, information, agency and contracting costs) can play an important role in the determination of firm leverage. As discussed in the literature, considerable work has been done to enhance our understanding of firm financing behaviour. Nonetheless, more research needs to be conducted, particularly in the context of emerging markets.

Because financial liberalisation is associated with financial market development, firm financing behaviour should be viewed as a phenomenon that can be influenced by the process of financial liberalisation. Therefore, incorporating the notion of financial liberalisation into the dynamics of modern day capital structure provides a good framework for empirical work.

1.1.1 Goal of this chapter

The goal of this chapter is to provide a comprehensive background and introduction to the study. Emphasis is placed on the motivation for the study, the evolution of the financial sector in South Africa, the research problem, the research objectives and the overall structure of the thesis.

1.1.2 Layout of this chapter

The rest of this chapter is organised as follows: Section 1.2 discusses the developments in the South African financial sector. Section 1.3 discusses the motivation for this study. Section 1.4 identifies the research problem. Section 1.5 lists the research objectives. Section 1.6 defines the key terms used in this study. Section 1.7 outlines the structure of the thesis, and Section 1.8 concludes the chapter.

1.2 THE FINANCIAL SECTOR IN SOUTH AFRICA

The financial sector in South Africa has developed quite extensively over the past few decades. Various factors such as the advent of technology, political and economic liberalisation of the late 1980s and 1990s have contributed to the growth of the financial sector. These developments provide research insights into the effects of financial liberalisation on the choice of capital structure for South African listed firms.

1.2.1 The evolution of the banking sector in South Africa

There have been a number of developments in the South African banking sector, particularly, since the discovery of gold in the Witwatersrand in 1886. Standard Bank first opened its branch in Port Elisabeth in early 1863. The bank grew its operations aggressively and by the end of the year, 18 branches were opened throughout the country (Jones and Verhoef, 2006: 16). The product offering was refined by the introduction of new banking products. For example, in 1949, the Netherlands Bank pioneered Negotiable Certificates of Deposits (NCDs) and the introduction of an industrial finance subsidiary.

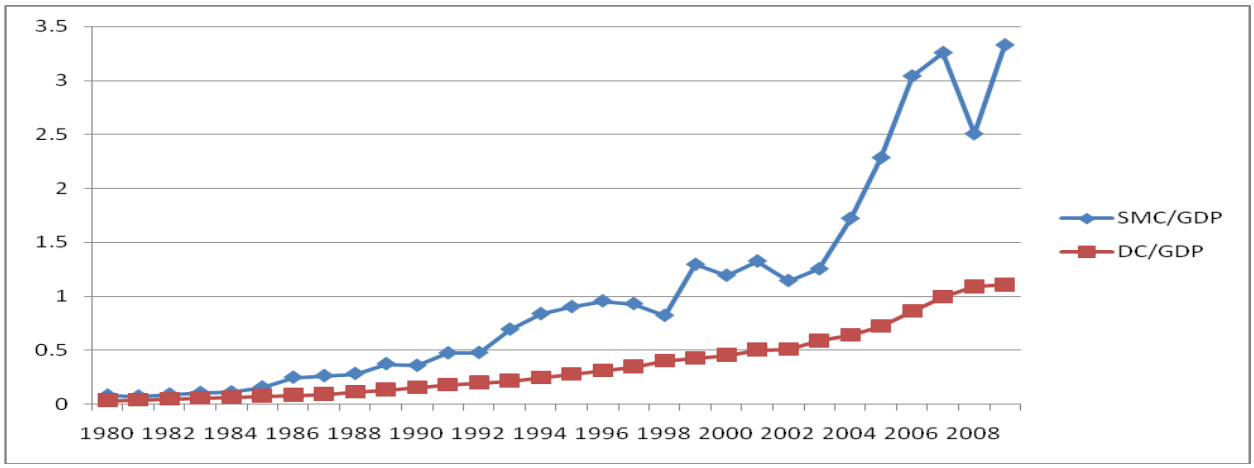
The bank further expanded its operations into merchant banking and the introduction of a discount house. In the mid 1960s, Barclays Bank introduced mortgage loans, and other banks followed suit. Vehicle financing was also introduced around the same time. This led to the establishment of Wesbank in 1964, which later introduced the credit card facility in 1970.

The preceding developments were followed by a period of consolidation in the banking sector. In 1973, Nedbank acquired United Acceptances Limited and, in 1974, Volksas acquired the Orange Free State bank. Eventually, in 1991, Allied Bank, Sage Bank, United Bank and Volkskas merged to form the Amalgamated Banks of South Africa (ABSA).

The South African Reserve Bank (SARB) was established in 1921 as the monetary authority for all financial institutions in South Africa. It was established to, among other things, formulate and implement monetary policy and to ensure a sound money, banking and financial system.

Figure 1.1 shows some key indicators of stock and banking sector development in South Africa. The DC/GDP (Domestic credit to the private sector to gross domestic product) ratio is a measure of the importance of credit extension to the domestic private sector relative to the economy. The DC/GDP line increases steadily throughout the entire period of observation. This observation provides insights into the evolution of the banking sector in South Africa.

Figure 1.1: Indicators of stock and banking sector development



Source: Author's compilation from data obtained from the SARB

1.2.2 The evolution of the JSE

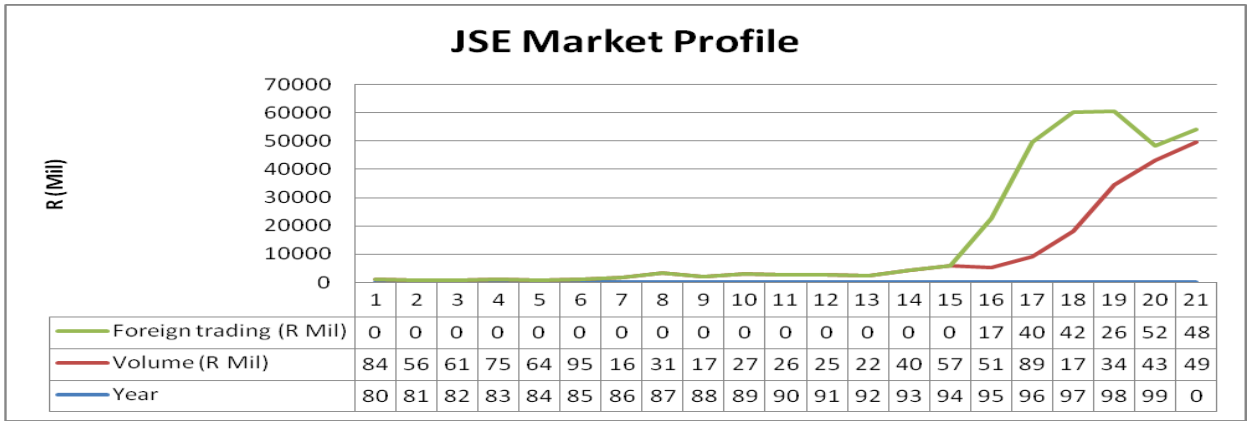
The JSE was first established on 8 November 1887. Trading on the JSE was mainly facilitated by the open outcry method. It was only in June 1996, that this system of trading was replaced by the Johannesburg Equities Trading system. This system enabled the online facilitation of all trading transactions. Although the exchange is over 100 years old, it is still classified as an emerging market.

Mody (2004: 642) shows that an emerging market is one that principally exhibits high returns and volatility, and has the potential for growth. In a true sense, The JSE can be reclassified as a re-emerging market, following the period of sanctions and political turmoil experienced in the mid 80s. Goetzmann and Jorion (1999: 2) state that stock markets submerge due to various political, economic and institutional reasons. The JSE somewhat submerged during this period of political turmoil, especially during the 1985 debt standstill. The JSE re-emerged in the late 1980s to the early 1990s after the economic sanctions were lifted.

The JSE is by far the largest stock market in Africa, and is in the top 20 world stock markets by market capitalization (JSE, 2009). Figure 1.1 shows the significance of the stock market. The SMC/GDP (Stock market to Gross Domestic Product) is a measure of the importance of the stock market relative to the economy. The SMC/GDP line increases

steadily from the 1985 debt standstill to early 2000s. A sharp increase is seen from 2002 onwards. Figure 1.2 shows some of the key trading figures relating to the JSE. Successful negotiations that led to the unbanning of the ANC and the eventual lifting of economic sanctions caused trading to increase sharply in the 1990s. Figure 1.3 compares the net purchase of shares and bonds by non-residents. A sharp increase in the net purchases of bonds and shares is observed from 1995, the year the JSE was liberalised. These observations provide an indication of the extent of financial liberalisation in South Africa.

Figure 1.2: JSE market profile

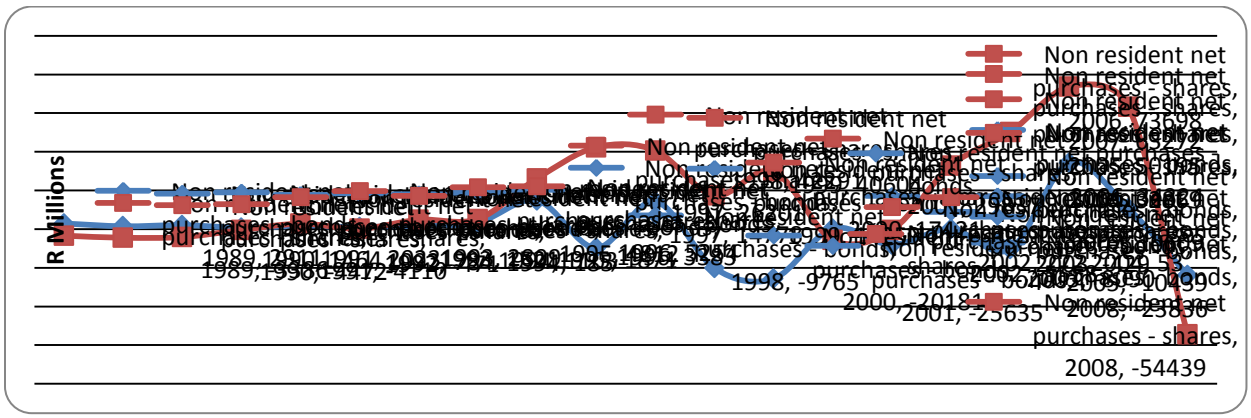


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Foreign trading (R Mil)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	40	42	26	52	48
Volume (R Mil)	84	56	61	75	64	95	16	31	17	27	26	25	22	40	57	51	89	17	34	43	49
Year	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	0

Source: (JSE: 2010)

The re-emergence of the stock market presents an opportunity to test the outcome of this study, which is to examine the effect of financial liberalisation on capital structure of listed firms.

Figure 1.3: Net purchases of bonds and shares by non-residents



Source: Author's compilation from data obtained from the SARB.

1.2.3 Financial liberalisation in South Africa

The Exchange Control Regulations Act of 1961 introduced the current exchange controls in order to prevent the deterioration of the capital account. As a result, the dual exchange rate system was adopted, in which the financial Rand was introduced for all non-resident transactions. In other words, a sale of an asset by a non-resident would only be concluded with another non-resident. Therefore, the value of the financial Rand was dependent upon the supply and demand of the currency. The financial Rand was temporarily suspended in 1983 and re-introduced in 1985, due to political unrest and the subsequent withdrawal of credit lines by major foreign banks.

The financial Rand was re-introduced at a 40 percent discount to the commercial rate. Therefore, if firms wished to repatriate their South African holdings, they did so at the financial Rand rate. According to Levy (1999: 418), this was done to discourage disinvestment. Rodman (1994: 314) observes that the withdrawal of credit lines triggered a financial crisis, eventually leading to the collapse of the Rand. The problem was further compounded by disinvestment of 300 multinational corporations, of which at least 200 were American owned (Akinboade & Makina, 2006: 109). Investment into the country dwindled, and major multinational corporations like General Motors scaled down their operations.

Prior to 1980, the monetary authorities used a system of direct controls in order to manage the supply of money and credit. Such interventions were, according to Moll (1999: 16), in the form of liquid asset requirements and credit ceilings. To achieve a more efficient financial intermediation, the De Kock (1977) commission was instituted. This led to a series of reforms that were tailored towards a market oriented approach in macroeconomic management. As a result, the banking sector introduced measures to liberalise the interest rates in the early 1980s. For instance, all credit ceilings and deposit rates were abolished in 1980, and as from 1983, banks were permitted to pay interest on cheque accounts. Competition among banks was enhanced through the termination of the Register of Cooperation.

The eventual release of Nelson Mandela from prison in February 1990, and the first democratic elections in 1994, brought about much anticipation in the financial markets for a more liberalised economy. Multinational firms began to re-invest their assets in the country. A major step by the South African government was achieved on 13 March 1995, when the financial Rand mechanism was re-abolished, thereby giving foreigners full access to the JSE.

These developments paved way for the relaxation of exchange controls for residents. This created more incentives for foreign investors to operate in South Africa. Likewise, resident individuals and firms were permitted to invest abroad. From July 1995, local non-bank institutions like insurance firms, pension funds and unit trusts were permitted to invest in a foreign country through asset swap arrangements. This arrangement provided an exchange mechanism whereby local non-banking institutions could swap their existing asset portfolios with foreign assets.

Further relaxations of exchange controls for individuals and firms were announced by the Minister of Finance in March 1998. Another interesting development took place in March 2000; domestic firms were permitted to use the local currency to finance and service new and existing foreign debt accounts. In March 2001, the limit for South African firms to invest in Africa was increased from R50 million to R750 million, and up to R500 million for the rest of the world. This resulted in increased turnover for the JSE, as shown in Figure 1.2. The next section motivates the study.

1.3 MOTIVATION FOR THIS STUDY

This section focuses on the main arguments for undertaking the study. Several imperatives have been discussed based on economic and political developments, financing constraints, capital inflows and other empirical issues. The motivation culminates with a brief argument for the choice of South Africa as a single country of focus.

1.3.1 The economic and political imperative

Ever since the abolition of the apartheid system, a number of economic and political developments have led to a more open and efficient economy. For instance, Bhaduri (2000: 413) argues that structural adjustments within the financial sector, and the widening and deepening of capital markets have presented firms in developing countries an opportunity to optimally determine their choice of capital structure. Moreover, Prasad, Green and Murinde (2001: 22) observe that '... each country's system of corporate finance retains some of its own distinctive features, partly because of its historical development, and partly because of current economic circumstances, particularly the existing regulatory regime ...'

The aforementioned arguments can be attributed to the political and economic developments in South Africa. The unbanning of the African National Congress (ANC) in February 1990 and the lifting of international sanctions in the early 1990s increased investor confidence in the market place. The successful democratic elections held in 1994 paved way for the official liberalisation of the JSE in March 1995. Subsequently, steps were taken to deregulate the capital account. This led to the gradual relaxation of exchange controls. These developments present a unique imperative to empirically test the effect of financial liberalisation on the capital structure of South African listed firms.

1.3.2 The cost of equity capital imperative

Makina and Negash (2005a: 145) empirically analyse the relationship between stock market liberalisation and the cost of equity capital for South African listed firms. Consistent with Stapleton and Subrahmanyam (1977: 307), Stulz (1990: 3), Henry (2000a: 529) and Bekaert and Harvey (2003: 3), Makina and Negash (2005a: 154) conclude that stock market liberalisation lowers the cost of equity capital. This result is evident for most of the firms in their sample. The plausible explanation for this finding is provided by Henry (2000a: 529), who argues that the liberalisation of the stock market provides a basis for risk sharing between domestic and foreign agents.

This finding has important implications for this study. Firstly, assuming that future cash flows are held constant, the lower cost of equity capital should increase equity prices. The observed change in the equity weighting should affect the listed firms' capital structure.

Secondly, because of the reduction in the aggregate cost of equity capital, investment in projects should increase (Henry, 2000b: 302). In particular, some of the projects with a negative net present value will be accepted because of the lower cost of capital. The expected increase in the investment could be financed by, *inter alia*, an issue of equity. This dynamic shift in financing should affect the capital structure of firms listed on the JSE. Finally, because of the lower cost of equity capital, it should be easier for firms to issue more equity capital (Bhaduri, 2000: 431). These implications provide an opportunity to empirically test whether the capital structure of listed firms is affected by financial liberalisation.

1.3.3 The capital inflow imperative

The opening up of the stock market increases net capital inflows. Bekaert *et al.* (2002b: 297) show that, as investors rebalance their portfolios, net capital inflows to the liberalised economy increase sharply. This is evident for the first three years following financial liberalisation. If the net capital inflows increase following financial liberalisation, it is necessary to determine the effects of these inflows on firm financial restructuring.

1.3.4 The financial constraints imperative

A number of researchers have tested the effect of financial liberalisation on credit constraints. For example, Guncavdi, Bleaney and McKay (1998: 443) examine the shifts in private investment for Turkish firms, and they find no evidence that credit constraints are relaxed after financial liberalisation. Habibullah and Smith (1999: 262) examine firms in 10 Asian developing countries, and (with the exception of South Korea) they find no evidence that financial constraints are reduced. However, Gelos and Werner (2002: 1) only confirm a reduction in the credit constraints for smaller manufacturing firms in Mexico. Ozatay and

Sak (2002: 6) find no significant effect of portfolio flows on financing constraints for Turkish firms. These findings may suggest that as the economy becomes more liberalised, financing constraints may not be affected significantly.

On the contrary, Hübler, Menkhoff and Suwanaporn (2008: 405) assess whether financial liberalisation reduces credit constraints for Thai firms, and they find that, following financial liberalisation, interest rate spreads reduce, thus indicating lower borrowing costs. If there is a reduction in credit constraints, there is a possibility that in some cases, financial liberalisation may lead to excessive borrowing. As observed by McKinnon and Pill (1997: 189), financial liberalisation may cause excessive foreign borrowing by firms. If this is the case, then it is expected that the debt proportion for listed firms will increase.

1.3.5 Other imperatives

According to Ameer (2003: 1), financial liberalisation presents an opportunity for firms in emerging markets to optimally restructure their financing portfolios. The author notes that, as the economy proceeds to full liberalisation, the market mechanism is reinstated. This causes less efficient firms to exit while the most efficient firms remain. The reinstatement of the market mechanism suggests that remaining firms optimally utilise the capital markets. Therefore, it is important to determine how this capital is allocated between debt and equity.

1.3.6 Why South Africa?

The choice of South Africa as a single country of focus is important because of the following reasons: Firstly, the majority of the studies on the effects of financial liberalisation on capital structure have been conducted for other emerging markets other than South Africa. In studies which examine a number of countries, South Africa is usually excluded. For example, Harris, Schiantarelli and Siregar (1994: 17) focus on financial liberalisation and its effects of, *inter alia*, capital structure for Indonesian manufacturing firms. Galego and Loayza (2000: 28) examine the macroeconomic developments and firm financial structure for Chilean firms. Bhaduri (2000: 413) explores financial liberalisation

and the capital structure of firms in India. Schmukler and Vesperoni (2006: 186) examine the same issues with emphasis on a panel of firms in East Asia and Latin America.

One notable exception is Demirguc-Kunt and Maksimovic (1996: 341) who study the effects of stock market development on corporate capital structures for 30 countries, including South Africa. However, as their title suggests, their analysis is limited to the impact of stock and banking sector development on capital structure. It is important to fill this gap and relate the findings to other studies for emerging markets.

Secondly, studies that ignore a separate analysis of the countries, and pool data, run the risk of excluding the underlying dynamics of the individual countries in the analysis. A reduction in leverage for the whole sample may not mean that all firms in the cross country analysis exhibit this phenomenon. Given this caveat, it is important to investigate the underlying financial behaviour of South African listed firms in line with the unique economic developments in South Africa.

Thirdly, the financial reforms that occurred during the period of the 1990s are unique to South Africa. For instance, the lifting of international sanctions provides a unique imperative to isolate South Africa from other countries. The dismantling of apartheid and the successful democratic elections paved way for the opening of the JSE and the abolishment of the financial Rand. These unique aspects of reforms provide a good enough reason to perform rigorous and tailor-made analyses for South Africa.

Finally, South Africa has extensive and reliable data on firm financial statements dating back to the mid 1980s. This makes it possible to test the response of corporate financing behaviour to the financial liberalisation events that occurred in the late 1980s to the late 1990s. It is difficult to obtain reliable financial records that date back to the 1980s for firms in other African countries. The motivations provided in the preceding discussion provide a basis for discussing the research problem in the next section.

1.4 THE RESEARCH PROBLEM

The nature of the process of financial liberalisation is complex and dynamic (Demirguc-Kunt & Levine (1996: 292), Bekaert, Harvey & Lumsdaine (2002a: 204) and Bekaert & Harvey, (2003: 5)). This complexity can be attributed to the simultaneous reform of the stock market, the domestic financial sector and the capital account. Effectively, firm financial choices should be affected by the concurrent reforms. As noted by Ameer (2003: 1), financial liberalisation presents an opportunity for firms to rebalance their financing portfolios. Based on the aforementioned arguments, there are six main implications that need to be empirically resolved.

1.4.1 The implications of stock market liberalisation

There are five main implications of stock market liberalisation on capital structure. Firstly, stock market liberalisation allows domestic listed firms to have access to international equity, and foreign investors can invest in the equity of the domestic listed firms. This dynamic shift in financing and investment opportunities may alter the capital structure of listed firms. The key question arising from this issue is: how have listed firms responded to this dynamic shift by way of capital restructuring?

Secondly, the opening of the stock market to foreign investment creates an opportunity for domestic firms to have more access to the stock market (Bhaduri, 2000: 431). This creates competition for the local banks. The plausible prediction from this finding is that, all things being equal, leverage ratios should decline. However, Demirguc-Kunt and Levine (1996: 293) argue that as the equity market develops, so does the domestic banking sector. Indeed, following financial liberalisation, international banks re-invested their assets in South Africa, and the Bond Exchange of South Africa (BESA) was instituted and developed simultaneously with the JSE. Furthermore, the liberalisation of the capital markets allowed domestic listed firms to access the foreign debt and equity markets.

The increase in the supply of other forms of public debt could have stimulated competition for the local banks. As a result, these banks may have been forced to lower their lending

rates. As observed by Hübler, *et al.* (2008: 1), interest rate spreads for Thai firms reduced following financial liberalisation, thus indicating lower borrowing costs. Having said this, little is known about how financing patterns evolved with financial liberalisation. This dynamic shift in financing is expected to have altered the capital structure of listed firms.

Thirdly, Bekaert and Harvey (2000: 565), Henry (2000b: 529), and Kim and Singal (2000: 25), among others, provide conclusive evidence that stock market liberalisation lowers the aggregate cost of equity capital. Makina and Negash (2005a: 154) conduct a firm level analysis for South African listed firms. They find that some of the firms in their sample experienced a significant increase in the cost of equity capital. The implication is that, following stock market liberalisation, some firms could have experienced a decline in their leverage ratios while others could have experienced the opposite effect.

Fourthly, the dynamic shift in capital structure is dependent on whether financial liberalisation has a significant influence on financial constraints. Guncavdi *et al.* (1998: 1) and Habibullah and Smith (1999: 1) find no evidence that financial constraints are reduced following financial liberalisation. However, Gelos and Werner (2002: 1) confirm a reduction in the credit constraints for smaller firms. From the aforementioned facts, a reduction or increase in financing constraints could have affected decisions by corporate managers in issuing external finance.

Finally, as the domestic economy is liberalised, investors rebalance their portfolios to include assets in the emerging market. This has the effect of increasing capital inflows in the form of portfolio flows. Once this rebalancing has been achieved, the net flows should decline. Bekaert, *et al.* (2002a: 297) examine the effects of financial liberalisation in 20 emerging markets. They report that portfolio flows to the liberalised stock market increase in the first three years after financial liberalisation, and level off thereafter. Accordingly, equity prices should increase, and holding other things constant, leverage ratios are expected to decline.

1.4.2 The implications of the lifting of international sanctions

The second issue relates to the implications of the lifting of international sanctions on South Africa. By the end of 1992, most of the economic sanctions on South Africa were lifted. This removal of sanctions provided a more active trading environment for domestic firms, thus increasing the financing options for investment. It is at this stage not clear how the financing behaviour of listed firms unfolded due to these economic developments. What has been documented so far is that proxies for the cost of equity capital experienced a significant decline at this period (Makina and Negash, 2005a: 154). This could have led firms to access more of equity finance relative to debt. However, the development of the banking sector could mitigate this effect. This caveat needs to be addressed empirically.

1.4.3 The implications of domestic financial sector liberalisation

The third issue relates to the implications of domestic financial sector liberalisation. The series of reductions in the reserve requirements in the 1990s may have provided opportunities for banks to lend more finances to the domestic private sector. For example, in February 1991, the monetary authorities abolished the basic requirement of 2 percent of all medium term liabilities. At the same time, the requirement against short term liabilities was reduced from 5 percent to 4 percent. In April 1993, a further drop of 1 percent of short term liabilities was effected. The supplementary minimum cash reserve requirement of 1 percent of short term liabilities was eventually withdrawn in April 1998[1].

Holding all other things constant, these developments could have led to an increase in credit extension to the domestic private sector. It is not clear, however, whether the net lending effect could be significant, owing to the following two reasons: firstly, despite the lowering of reserve requirements, there are some dates in between the decreases when marginal increases were effected. Secondly, the resulting increase in lending by banks could have been mitigated by the significance of the development of the stock market.

[1] See Nel (2002: 70) for a detailed discussion of the lowering of reserve requirements.

1.4.4 The implications of capital account liberalisation

The fourth implication is associated with liberalisation of the capital account liberalisation. Starting from March 1995, several exchange control relaxations were effected. In March 1997, corporations were permitted to repatriate more funds for investment, and at the same time, domestic firms were permitted to borrow from abroad. Further controls were eased in March 1998, thus allowing corporations to repatriate more amounts of cash to other countries in the world. The limit on foreign investment was later increased in March 2001. These developments allowed corporations to participate more in foreign repatriations. However, the increased repatriations could have been financed by domestic equity, debt or even foreign debt. Consequently, the empirical association between capital account liberalisation and leverage is a matter that needs to be examined carefully.

1.4.5 The implications of market segmentation

The fifth implication involves the issue of market segmentation. There is some documented evidence that if markets are segmented, then firms operating in the same macro economic framework will respond differently to the process of financial liberalisation. For example, Schmukler and Vesperoni (2006: 186) show that firms with access to international equity markets respond differently to stock market liberalisation compared to domestically financed firms.

Furthermore, compared to large firms, smaller firms have been shown to respond differently to the process of financial reforms. For example, Harris *et al*. (1994: 17) show that the market based allocation of credit increases borrowing costs for small firms. However, Gelos and Werner (2002: 1) find a reduction in credit constraints for smaller firms. Bhaduri (2000: 413) shows that larger firms are more responsive to the process of financial liberalisation than smaller firms. There is therefore, a need to test whether these issues apply in the South African context.

1.4.6 The implications of transaction costs

The sixth implication involves the issue of transaction costs in a dynamic capital structure setting. It is necessary to establish whether firms operating in the period prior to, and after financial liberalisation follow a long run target adjustment to the desired level of leverage. Pursuant to this, the absence or presence of transaction costs needs to be established. Furthermore, if transaction costs are present, the associated speed of adjustment to the target level of leverage needs to be ascertained. The pre liberalisation regime has been characterised by a relatively underdeveloped stock and banking sector. This underdeveloped state of the financial markets limits the financing choices of domestic firms, thereby raising the costs of borrowing.

Given this scenario, firms operating in this environment may face higher transaction costs. Conversely, firms operating in the post liberalisation period may adjust more rapidly towards the target equilibrium. In other words, the associated speed of adjustment to the desired target level of leverage may be slower than the speed of adjustment for the post liberalisation period. These dynamic aspects of firm financing behaviour are only conjectures that need to be confirmed.

1.4.7 Other unresolved issues

The debt maturity structure of the different categories of listed firms is an important policy issue that needs to be clarified. Specifically, one would like to see smaller firms and other firms accessing longer term finance following financial liberalisation. Schmukler and Vesperoni (2006: 202) find an increase in the debt maturity structure for firms with access to international debt and equity markets. On the other hand, Galego and Loayza (2000: 29) find that the size of the banking sector is directly related to debt maturity for Chilean firms. In this respect, it is not clear whether the significance of the banking sector is associated with a longer debt maturity for listed firms in South Africa.

Demirguc-Kunt and Maksimovic (1998: 2107) attribute the variations in firm leverage to differences in the development of the stock and banking sectors. Fan, Titman and Twite

(2008: 2) reiterate this point by concluding that institutional differences are an important determining factor of capital structure choices. Given the exponential growth in both the South African stock and banking sector, it is necessary to test whether this growth has any significant effect on firm financing behaviour.

The literature on the importance of internal finance (See Mayer (1988: 1172), Atkin & Glen (1992: 377) Corbett & Jenkinson (1996: 71) and Mutenheri & Green 2003: 166)) documents that firms in Africa rely less on retained earnings compared to their counterparts in the developed economies. More importantly, one would like to observe the dynamics of this internal finance when financial liberalisation variables are brought into the analysis. Could it be that financial liberalisation may lead firms to retain more income? Furthermore, very little literature (See Boyle & Eckhold (1997: 434) and Mutenheri & Green (2003: 166)) has documented the determinants of financial structure in a closed economy, and how these determinants evolve with the transition to a more liberalised financial environment.

In summary, the main empirical issues to be resolved are stated as follows: **Financial liberalisation has provided opportunities for domestic listed firms to rebalance their financing portfolios. The implication is that leverage ratios could have been affected, but little is known about how these ratios were affected. Furthermore, it is not clear how the debt maturity structure, and the importance of retained earnings are impacted by financial liberalisation. Lastly, it is unclear how the dynamics of listed firm leverage evolve with the transition to a more liberalised economy.**

1.5 RESEARCH OBJECTIVES

Having identified the research problem, the main objective is to establish the effect of financial liberalisation on the book and market values of leverage for JSE listed non-financial firms. The main objective can be broken down into the following sub objectives:

1. To determine the effect of stock market liberalisation on the leverage of JSE listed non-financial firms

2. To determine the effect of the removal of economic sanctions on the leverage of JSE listed non-financial firms
3. To investigate the effect of domestic financial sector liberalisation on the leverage of JSE listed non-financial firms
4. To determine the effect of capital account liberalisation on the leverage of JSE listed non-financial firms
5. To explore the impact of financial liberalisation on the stability of capital structure determinants for JSE listed non-financial firms
6. To determine the effect of financial liberalisation on the choice of internal finance for JSE listed non-financial firms
7. To determine the impact of financial liberalisation on the debt maturity structure of JSE listed non-financial firms
8. To test the significance of stock and banking sector development on the choice of capital structure of JSE listed non-financial firms
9. To establish the extent of transaction costs and resulting speed of adjustment to the desired target level of leverage for the period prior to and after financial liberalisation
10. To establish the determinants of the speed of adjustment to the desired level of leverage

1.6 DEFINITION OF KEY TERMS

This study uses several key concepts that have been defined as follows:

Capital account liberalisation: refers to the series of exchange control relaxations.

Capital structure: The term capital structure refers to the way a firm finances its operations by utilising the choice between debt and equity.

Debt: The proportion of financing that is obtained from banks and the bond market

Domestic financial sector liberalisation: refers to the removal of interest rate ceilings and credit restrictions.

Equity: The proportion of financing that is obtained from the stock market.

Financial markets: These are organisations that facilitate the trade of financial products such as shares, bonds and warrants. The JSE is an example of a financial market.

Financial Liberalisation: The elimination of a series of impediments in the domestic financial sector in order to bring it in line with the developed economies.

Stock market liberalisation: occurs when foreign investors are given access to invest in the domestic listed firms through the purchase of shares, and when domestic investors are allowed access to the international financial markets.

Leverage: The extent of the use of debt in the firm's capital structure.

Table 1.1: Abbreviations used in this document

ABBREVIATION	MEANING
ADR	American Depository Receipts
ANC	African National Congress
BESA	Bond Exchange of South Africa
BTS	Broken Trend Stationary
CAL	Capital Account Liberalisation
CRSP	Centre for Research in Security Prices
Dep Var	Dependent Variable
DIFF GMM	Difference GMM
DF	Degrees of Freedom
DFF	Domestically Financed Firms
DFSL	Domestic Financial Sector Liberalisation
EBITDA	Earnings Before Interest, Tax, Depreciation & Amortisation
GLS	Generalised Least Squares
GMM	Generalised Method of Moments
IFC	International Finance Corporation
IFF	Internationally Financed Firms
IFRS	International Financial Reporting Standards
JSE	Johannesburg Stock Exchange
LSDV	Least Squares Dummy Variable
LIS	Lifting of International Sanctions
NCD	Negotiable Certificate of Deposit
NYSE	New York Stock Exchange
OLS	Ordinary Least Squares
PRF	Population Regression Function
RE/TL	Retained Earnings to Total Liabilities Ratio
SML	Stock Market Liberalisation
STD/TA	Short term Debt to Total Assets Ratio
SYS GMM	System GMM
TD/E(B)	Total Book Value Debt to Equity Ratio
TD/E(M)	Total Market Value Debt to Equity Ratio
TD/TA(B)	Total Book Value Debt to Total Assets Ratio
TD/TA(M)	Total Market Value Debt to Total Assets Ratio
VIF	Variance Inflation Factor

1.7 STRUCTURE OF THE THESIS

The rest of this thesis is structured as follows:

Chapter two provides a detailed analysis of the theory of capital structure. The chapter commences with the capital structure benchmark established by Modigliani and Miller (1958: 201). Further developments and counterarguments are discussed in line with the observed determinants of capital structure. Empirical work has been discussed, particularly with emphasis on the factors that are correlated with leverage. The chapter further documents the patterns of corporate capital structures in both the developed and developing economies. The main conclusion is that capital structure matters, and it is explained by various macroeconomic and firm level characteristics.

Chapter three provides a detailed analysis of the theory of financial liberalisation. The chapter commences with the broad definition of financial liberalisation. Next, the McKinnon (1973: 9) and Shaw (1973: 9) propositions that financial liberalisation leads to economic growth are discussed. The process of financial liberalisation is highlighted with emphasis on its impact on the factors that are directly and indirectly related to leverage. These elements include capital flows, credit constraints and firm financing. Another aspect relating to the dating of financial liberalisation is discussed with a comparison of dates used by different studies for various emerging economies. The main conclusion from this chapter is that financial liberalisation matters, subject to certain conditions, and that capital structure is influenced by the dynamics of financial liberalisation.

Chapter four formulates research hypotheses based on the identified research problem. The conjectures underlying the hypotheses are carefully developed around the impact of financial liberalisation on capital structure. These include a presupposition that the lifting of international sanctions, stock market, banking sector and capital account liberalisation have a significant impact on firm financing behaviour. Furthermore, it is hypothesised that there are structural breaks in the parameter estimates of the regression equations.

Chapter five provides a background to the choice of methodology by highlighting and clarifying several measurement caveats. Firstly, the leverage measurement problem is clarified by providing justification for the use of firm level book and *quasi* market measures of leverage. Secondly, the dating problem is clarified by highlighting the problems associated with the dating of financial liberalisation and suggesting a suitable dating approach for the study. Finally, the choice of variables is justified based on the nature of the study and other empirical work.

Chapter six develops the econometric approaches to testing the formulated hypotheses. Panel data estimation techniques are advocated for, due to the following reasons: Firstly, panel data estimation allows the incorporation of a large cross-section of firms over a short period of time. Secondly, panel data estimation can model the dynamics of change over a relatively short period of time. Thirdly, with panel data, it is possible to control for firm heterogeneity and endogeneity in the variables being tested. Finally, panel data dynamic models can estimate lagged effects of explanatory variables on the dependent variables. The fixed and random effects (Generalised Least Squares) regressions, pooled OLS estimations, instrumental variable and dynamic models of capital structure are discussed.

A separate dummy variable is used for each measure of financial liberalisation. Control variables are included in the regressions in order to isolate those factors that may impact capital structure in the process of financial liberalisation. Indicators of stock and banking sector development are also incorporated into the econometric models.

The next approach is to test for structural change in each of the coefficients to establish whether a change in regime has affected the stability of corporate capital structure determinants. This is achieved by interacting each explanatory variable with a financial liberalisation dummy. Furthermore, dynamic panel data models developed by Arellano and Bond (1991: 277) and Arellano and Bover (1995: 29) are used to model capital structure determinants for the periods before and after financial liberalisation. The firm specific variables are also interacted with the lagged dependent variables. This exercise is performed in order to estimate the effects of firm characteristics on the capital structure adjustment speed.

Chapter seven reports the results based on the econometric methods developed in Chapter six. The results are presented in the following manner: summary statistics are presented with emphasis on the effects of financial liberalisation on leverage ratios for five sets of firms. These include firms that participated in international equity issues, firms that did not have access to international equity markets, small firms, large firms and the full sample set.

Thereafter, regression results are reported for the static panel data models. The results are categorised by size to include small, large and a set of the full sample. The results of the interactive dummy estimates are also reported. Robustness checks are performed using the instrumental variable and two-step GMM estimation techniques. Finally, the results of the dynamic panel data models are reported.

Chapter eight concludes the overall thesis and includes a concise statement of the theoretical and methodological contribution of the study. The shortcomings of the study are addressed, and suggestions for further studies are made.

1.8 CHAPTER SUMMARY

This chapter introduced the study by incorporating the background and motivation for the research. The series of political and economic events that occurred in the past three decades have provided an incentive to test the effects of financial liberalisation on the capital structure of the JSE listed firms.

The opening of the JSE to foreign investors could have a number of implications on the choice of capital structure. Given the empirical evidence that stock market liberalisation induces a reduction in the cost of equity capital, investment is expected to increase. The motivation, therefore, states that investment will have to be financed by the choice between debt and equity.

As foreign investors rebalance their portfolios, the capital inflows into the domestic stock exchange increase sharply in the first three years. This increase should affect the financial structure of listed firms. It has also been argued that, as the stock market develops, so does the banking sector. Competition in the capital markets would imply a reduction in the cost of borrowing. The resulting effect on the capital structure of listed firms is a matter that needs to be empirically tested. The mixed evidence regarding the effects of financial liberalisation on financing constraints also presents a good case to test whether listed firms' access to the debt markets is affected by financial liberalisation.

The research problem has been identified based on the implications of the lifting of international sanctions, stock market, capital account and domestic financial sector liberalisation on capital structure. The evolution of the financial sector has been discussed with primary emphasis on the JSE and the domestic banking sector. This was followed by a discussion on the various reforms that constitute financial liberalisation in South Africa. The next chapter discusses the theory of capital structure.