CAPITAL STRUCTURE AND FINANCING OF SMES: EMPIRICAL EVIDENCE FROM GHANA AND SOUTH AFRICA
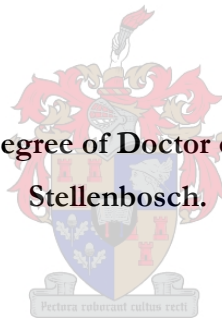
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Dissertation presented for the Degree of Doctor of Philosophy at the University of Stellenbosch.

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December, 2007

DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature…………………………   Date: August, 2006

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ABSTRACT

This thesis is made of stand-alone essays on the capital structure and financing of Small and Medium Enterprises (SMEs) in Ghana and South Africa. Chapter Two reviews issues on SME development in Ghana and South Africa. Chapter Three compares the capital structures of large, quoted firms and SMEs in Ghana. The results show that quoted firms exhibit higher debt ratios than those of SMEs. The results suggest that age, size, asset structure, and profitability of the firm affect the capital structures of quoted firms and SMEs. For the SME, it is evident that level of education and gender of the entrepreneur, industry, and location of the firm are also important in explaining their capital structure. Chapter Four examines the determinants of bank financing of SMEs in Ghana. The results reveal that bank financing accounts for less than a quarter of SMEs' debt financing, with short-term bank credit representing the greater proportion of bank finance. The results show that age, size, asset tangibility, and growth of the firm have positive associations with long-term bank debt, while profitability is negatively related to long-term bank debt. The short-term debt indicates a positive relationship with size, but negative relationships with profitability, and growth. Chapter Four also investigates the awareness and use of various financing schemes available to the Ghanaian SME sector. The results reveal low awareness and usage levels of these financing initiatives. Chapter Five explores the determinants of Ghanaian small and medium sized non-traditional exporters' (NTEs) choice of formal/informal finance. The results show that NTEs depend on formal financing sources with bank finance representing the greater percentage of NTEs' financing. The results suggest that, newer firms depend more on formal finance and less on informal finance. The results show positive relationships between formal finance and size, and growth of the firm. Chapter Six assesses how corporate governance affects the performance of SMEs in Ghana and what the implications are for financing opportunities. The results reveal that better corporate governance structures lead to better performance of SMEs. The paper concludes that the adoption of good corporate governance structures could lead to better management decisions and enable SMEs to attract financing resources. Chapter Seven examines the relationship between agency factors and the capital structure of quoted SMEs in South Africa. The results indicate that firms with one institutional blockholder are able to monitor the opportunistic behaviour of management more effectively than those with more than one institutional blockholders.

Chapter Eight looks at the financial market and financing choice of SMEs and large firms in South Africa. The results indicate that developments in the financial market affect both long-term debt/equity and short-term debt/equity decisions of large firms. However, for SMEs, it is the long-term debt/equity decision that is affected by the financial market. The final essay examines the effect of debt policy on the performance of SMEs in Ghana and South Africa. The results indicate that long-term debt and total debt ratios negatively affect performance of SMEs. These findings have important implications for policy-makers, entrepreneurs and managers of SMEs.

OPSOMMING

Hierdie tesis bestaan uit losstaande essays oor die kapitaalstruktuur en finansiering van klein- en middelgrootte-ondernemings (KMO's) in Ghana en Suid-Afrika. Hoofstuk Twee kyk na kwessies oor KMO-ontwikkeling in Ghana en Suid-Afrika. Hoofstuk Drie vergelyk die kapitaalstrukture van groot genoteerde maatskappye en KMO's in Ghana. Die resultate dui daarop dat genoteerde maatskappye groter skuldverhoudings as KMO's toon. Hierdie resultate wys ook dat ouderdom, grootte, batestruktuur en die winsgewendheid van die maatskappy die kapitaalstruktuur van genoteerde maatskappye en KMO's beïnvloed. Dit is vir die KMO voor die hand liggend dat die opvoedingsvlak en geslag van die entrepreneur, die bedryf en die ligging van die maatskappy ook belangrik is om die kapitaalstruktuur daarvan te verduidelik. Hoofstuk Vier ondersoek die bepalende faktore vir bankfinansiering vir KMO's in Ghana. Die resultate toon aan dat bankfinansiering rekenskap gee van minder as 'n kwart van die KMO se skuldfinansiering en dat korttermynbankkrediet die grootste gedeelte van die bankfinansiering verteenwoordig. Die resultate toon aan dat ouderdom, grootte, die tasbaarheid van bates en maatskappygroei op 'n positiewe verwantskap met langtermynskuld dui, terwyl winsgewendheid 'n negatiewe verband met langtermynbankskuld het. Die korttermynskuld toon 'n positiewe verwantskap met grootte maar 'n negatiewe verwantskap met winsgewendheid en groei aan. Hoofstuk Vier ondersoek ook die bewustheid en gebruik van verskeie finansieringskemas wat aan die Ghanese KMO-sektor beskikbaar is. Die resultate bring 'n lae bewustheid en gebruiksvlakke van hierdie finansieringsinisiatiewe aan die lig. Hoostuk Vyf verken die bepalende faktore van die Ghanese klein- en middelgrootte nie-tradisionele uitvoerders (NTU's) se keuse van formele/informele finansiering. Die resultate toon aan dat NTU's op formele finansieringsbronne staat maak en dat bankfinansiering die grootste persentasie van die NTU's se finansiering uitmaak. Uit die resultate kan afgelei word dat nuwer maatskappye meer op formele finansiering staat maak en minder op informele finansiering. Die resultate dui op 'n positiewe verwantskap tussen formele finansiering en grootte, en die groei van die maatskappy. Hoofstuk Ses evalueer die invloed van korporatiewe bestuur op die prestasie van KMO's in Ghana en watter implikasies dit vir finansieringsgeleenthede inhou. Die resultate toon aan dat beter korporatiewe finansieringstrukture by KMO's tot beter prestasie lei. Hierdie essay kom tot die gevolgtrekking dat die aanvaarding van goeie korporatiewe

bestuurstrukture tot beter bestuursbesluite kan lei en KMO's in staat kan stel om finansieringsbronne te lok. Hoofstuk Sewe ondersoek die verwantskap tussen agentskapfaktorering en die kapitaalstruktuur van genoteerde KMO's in Suid-Afrika. Die resultate dui daarop dat maatskappye met een institusionele blokhouer die opportunistiese gedrag van bestuur meer doeltreffend kan monitor as dié met meer as een institusionele blokhouer. Hoofstuk Agt kyk na die keuses wat KMO's en groot maatskappye in Suid-Afrika ten opsigte van finansiële markte en finansiering maak. Resultate toon aan dat ontwikkelings in die finansiële mark besluite oor die langtermynskuld/aandelekapitaal sowel as die korttermynskuld/aandelekapitaal van groot maatskappye beïnvloed. By KMO's is dit egter besluite oor langtermynskuld/aandelekapitaal wat deur die finansiële mark beïnvloed word. Die laaste essay ondersoek die uitwerking van skuldbeleid op die prestasie van KMO's in Ghana en Suid-Afrika. Die resultate toon aan dat langtermynskuld en totale skuldverhoudings die prestasie van KMO's negatief beïnvloed. Hierdie bevindinge het belangrike implikasies vir beleidmakers, entrepreneurs en die bestuurders van KMO's.

DEDICATION

With gratitude to God, I dedicate this work to my Princess, Patience and my lovely children, Ivana and Bastien.

ACKNOWLEDGEMENTS

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CHAPTER ONE

BACKGROUND

1.1   Introduction and Statement of the Problem

There is growing recognition of the important role small and medium enterprises (SMEs) play in economic development. They are often described as efficient and prolific job creators, the seeds of big businesses and the fuel of national economic engines. Even in the developed industrial economies, it is the SME sector rather than the multinationals that is the largest employer of workers (Mullineux, 1997a). Interest in the role of SMEs in the development process will for that matter continue to be in the forefront of policy debates in most countries. Governments at all levels have undertaken initiatives to promote the growth of SMEs (Feeney and Riding, 1997). SME development can encourage the process of both inter- and intra-regional decentralisation; and, they may well become a countervailing force against the economic power of larger enterprises. More generally, the development of SMEs is seen as accelerating the achievement of wider economic and socio-economic objectives, including poverty alleviation (Cook and Nixson, 2000). According to an OECD report, SMEs produce about 25% of OECD exports and 35% of Asia's exports (OECD, 1997).

SMEs represent over 90% of private business in the African continent and contribute to more than 50% of employment and of GDP in most African countries (UNIDO, 1999). Small enterprises in Ghana are said to be a characteristic feature of the production landscape and have been noted to provide about 85% of manufacturing employment of Ghana (Steel and Webster, 1991; Aryeetey, 2001). SMEs are also believed to contribute about 70% to Ghana's GDP and account for about 92% of businesses in Ghana (Villars, 2004). In the Republic of South Africa, it is estimated that 91% of the formal business entities are Small, Medium and Micro Enterprises (SMMEs) (Hassbroeck, 1996; Berry *et al.*, 2002). They also contribute between 52 and 57% to GDP and provide about 61% of employment (CSS, 1998; Ntsika, 1999; Gumede, 2000; Berry *et al.*, 2002). SMEs therefore have a crucial role to play in

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stimulating growth, generating employment and contributing to poverty alleviation, given their economic weight in African countries.

However, an important problem that SMEs often face is access to capital (Lader, 1996). A recent World Bank study found that about 90% of small enterprises surveyed stated that credit was a major constraint to new investment (Parker *et al.*, 1995). Levy (1993) also found that there is limited access to financial resources available to smaller enterprises compared to larger organisations and the consequences for their growth and development. The role of finance has been viewed as a critical element for the development of SMEs (Cook and Nixson, 2000). *A priori*, it might seem surprising that finance should be so important. Requirements such as identifying a product and a market, acquiring any necessary property rights or licenses, and keeping proper records are all in some sense more fundamental to running a small enterprise than is finance (Green *et al.,* 2002). Some studies have consequently shown that a large number of small enterprises fail because of non-financial reasons (Liedholm *et al.*, 1994). Other constraints SMEs face include: lack of access to appropriate technology; the existence of laws, regulations and rules that impede the development of the sector; weak institutional capacity and lack of management skills and training (see Sowa *et al.*, 1992; Aryeetey *et al.*, 1994**;** Parker *et al.*, 1995; Kayanula and Quartey, 2000). However, potential providers of finance, whether formal or informal, are unlikely to commit funds to a business which they view as not being on a sound footing, irrespective of the exact nature of the unsoundness. Lack of funds may be the immediate reason for a business failing to start or to progress, even when the more fundamental reason lies elsewhere. Finance is said to be the "glue" that holds together all the diverse aspects involved in small business start-up and development (Green *et al.,* 2002).

One of the areas of financial theory that is of great concern to academics and professionals is the issue of capital structure or financing decisions in companies. Capital structure decisions are crucial for any business organisation. The decisions are important because of the need to maximise returns to various organisational constituencies, and also because of the impact such decisions have on an organisation's ability to deal with its competitive environment. Finance theories have been developed to explain financing preferences focusing on large listed firms. However, the issue of whether these findings are valid for

other firms, especially SMEs, has received limited attention. Zingales (2000) asserts that "empirically, the emphasis on large companies has led us to ignore (or study less than necessary) the rest of the universe: the young and small firms, who do not have access to public markets". The scientific community has only started to pay attention to the small firm sector much more recently. The few empirical studies in this area tend to concentrate mainly on developed economies with varied and inconclusive results (see Van der Wijst and Thurik, 1993; Chittenden *et al.*, 1996; Cressy and Olofsson, 1997a; Jordan *et al.*, 1998, Michaelas *et al.*, 1999; Esperança *et al.,* 2003; Hall *et al.,* 2004; Sogorb-Mira, 2005). For instance, some authors such as Hutchinson (1995), and Cressy and Olofsson (1997a) argue that, because SMEs have limited access to equity market and the fear of loss of control, they tend to rely more on debt finance. Others such as Petersen and Rajan (1994), and Berger and Udell (1998), however, have pointed out that SMEs depend more on equity finance, especially retained earnings. They explain that SMEs often have difficulty obtaining external debt finance because of their inability to resolve issues of information asymmetry with external debt providers.

It is important to note that different countries have different institutional arrangements, mainly with respect to their tax and bankruptcy codes, the existing market for corporate control, and the roles banks and securities markets play. There are also differences with respect to social and cultural issues, and even the levels of economic development. These differences actually warrant the need to look at the issue from the perspective of developing economies, especially sub-Saharan Africa. This present thesis examines the capital structure and financing of SMEs with empirical evidence from Ghana and South Africa. The reason for including Ghana and South Africa is to examine the capital structure issue from the perspectives of different economic settings in sub-Saharan Africa. Ghana being a relatively less developed economy and South Africa, a relatively more developed economy offer interesting settings for this study, given the particular importance both countries give to the SME sector as the engine of economic growth. This thesis is made up of a collection of stand-alone essays.

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1.2   Objectives of the Study

This thesis examines the capital structure and financing issues of SMEs, by focusing on Ghana and South Africa in a collection of stand-alone essays. Specifically, the overall study seeks to:

   i.   compare the capital structures of SMEs with those of listed firms in Ghana;
   ii. examine SMEs' access to bank finance and their perceptions of non-bank financing initiatives in Ghana;
   iii. ascertain the relative importance of formal and informal sources of financing internationalising SMEs in Ghana;
   iv. examine the effect of ownership structure on the performance of SMEs in Ghana and its implications for financing;
   v.   explore the relationship between the agency problem and the capital structure of SMEs in South Africa;
   vi. investigate the development of the South African financial market and financing choices of SMEs;
   vii. compare the effect of debt policy on the performance of Ghanaian and South African SMEs.

1.3   Significance of the Study

This thesis makes significant contributions in a number of areas. It has important implications for policy makers, finance providers, entrepreneurs and managers of SMEs. The findings and recommendations will assist entrepreneurs and managers of SMEs in tackling their financing problems. It is hoped that SMEs will be able to improve on their managerial capabilities to better position themselves to gain access long-tem financing.

The findings of the thesis will provide finance providers with adequate information on the financing behaviour of SMEs. This will enable suppliers of finance to developed products in meeting SMEs' financing needs.

Also, it is hoped that the results obtained from the various essays or papers will enable policy makers to come up with policies aimed at addressing the financing problem that confront the SME sector. It will give policy makers a better appreciation of the financing constraints confronting this important sector and to formulate policies in addressing them.

Finally, this thesis also seeks to add to existing academic knowledge in that it will serve as a source of reference for subsequent research in the area.

1.4   Limitations of the Study

This current thesis focuses on the capital structure and financing of SMEs in Ghana and South Africa. The main limitation of this thesis was the availability of data. The problem of data on SMEs posed a big challenge. The researcher originally intended to focus on only unquoted SMEs. However, data on South African unquoted SMEs were difficult to obtain. Considering the sensitive nature of financing issues, the firms were unwilling to disclose the required information, especially financial statements. Papers focusing on South Africa have therefore been limited to quoted SMEs for which information on financial statements was readily available. The thesis is limited to only two countries, Ghana and South Africa. The papers were therefore done in the context of these two countries.

In spite of these limitations, the issues examined in the various empirical papers are very relevant in addressing the main objectives of the entire thesis. These limitations did not have any effect on the results of the research. The findings from the various papers could be applicable to SMEs in the context of sub-Saharan Africa.

1.5   Organisation of the Study

This thesis is made up of a collection of stand-alone essays or papers and organised into ten chapters:

Chapter One, includes the introduction and statement of the problem, the objectives of the study, the significance of the study, and the limitations of the study.

Chapter Two reviews some relevant issues on SMEs in developing countries, particularly in Ghana and South Africa.

Chapter Three examines the determinants of capital structures of listed firms and unquoted SMEs in Ghana.

Chapter Four covers SMEs' access to bank finance and their perceptions of non-bank financing initiatives in Ghana.

Chapter Five examines the relevance of formal and informal finance among internationalising SMEs in Ghana.

Chapter Six focuses on corporate governance, ownership structure and the performance of Ghanaian SMEs and the implications for financing opportunities.

In Chapter Seven, the issue of agency problems and the capital structure of South African SMEs is dealt with.

Chapter Eight looks at the development of the South African financial market and financing choice of SMEs.

The effect of debt policy on the performance of Ghanaian and South African SMEs is covered in Chapter Nine.

In Chapter Ten, the important points emerging from the results of the various papers are summarised. Conclusions from all the papers are based on the findings, and valid suggestions and recommendations in line with the objectives of the entire thesis are made. Chapter Ten also provides directions for future research in the area.

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CHAPTER TWO

A REVIEW OF SOME RELEVANT ISSUES ON SMALL AND MEDIUM ENTERPRISES[*]

2.1   Introduction

This chapter reviews some important issues on SMEs. It begins with a review of the various definitions of SMEs. This is followed by a discussion on the roles and characteristics of SMEs. It then considers the contributions of SMEs to economic development and the constraints to SME developments.

2.2   What is an SME?

The issue of what constitutes a small or medium enterprise is a major concern in the SME literature. Different authors have usually given different definitions of this sort of business. SMEs have indeed not been spared with the definition problem that is usually associated with concepts which have many components. The definition of firms by size varies among researchers. Some attempt to use the capital assets; others use skill of labour and turnover level. Some even define SMEs in terms of their legal status and method of production. Storey (1985) tries to sum up the danger of using size to define the status of a firm by stating that in some sectors all firms may be regarded as small, whilst in other sectors there are possibly no firms which are small. The Bolton Committee (1971) first formulated an "economic" and "statistical" definition of a small firm. Under the "economic" definition, a firm is said to be small if it meets the following three criteria:

- It has a relatively small share of their market place;
- It is managed by owners or part owners in a personalised way, and not through the medium of a formalised management structure;
- It is independent, in the sense of not forming part of a large enterprise.

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[*] A paper based on this chapter was presented at the Third CEED International Entrepreneurship Conference at the United States Internatioonal University, Nairobi, Kenya, May, 2006.

Under the "statistical" definition, the Committee proposed the following in terms of:

- The size of the small firm sector and its contribution to GDP, employment, exports, etc.;
- The extent to which the small firm sector's economic contribution has changed over time;
- Applying the statistical definition in a cross-country comparison of the small firms' economic contribution.

The Bolton Committee applied different definitions of the small firm to different sectors. Whereas firms in manufacturing, construction and mining were defined in terms of number of employees (in which case 200 or less qualified the firm to be a small firm), those in the retail, services, wholesale, etc. were defined in terms of monetary turnover (in which case the range is 50,000-200,000 British Pounds to be classified as small firm). Firms in the road transport industry are classified as small if they have 5 or fewer vehicles. There have been criticisms of the Bolton definitions. These centre mainly on the apparent inconsistencies between defining characteristics based on number of employees and those based on managerial approach.

The European Commission (EC) defined SMEs largely in term of the number of employees as follows:

- firms with 0 to 9 employees - micro enterprises;
- 10 to 99 employees - small enterprises;
- 100 to 499 employees - medium enterprises.

Thus, the SME sector is comprised of enterprises (except agriculture, hunting, forestry and fishing) which employ less than 500 workers. In effect, the EC definitions are based solely on employment rather than a multiplicity of criteria. Secondly, the use of 100 employees as the small firm's upper limit is more appropriate, given the increase in productivity over the last two decades (Storey, 1994). Finally, the EC definition did not assume the SME group is homogenous; that is, the definition makes a distinction between micro, small-, and medium-sized enterprises. However, the EC definition is too all-embracing to be applied to a number of countries. Researchers would have to use definitions for small firms which are more

appropriate to their particular "target" group (an operational definition). It must be emphasised that debates on definitions turn out to be sterile, unless size is a factor which influences performance. For instance, the relationship between size and performance matters when assessing the impact of a credit programme on a target group (Storey, 1994).

Weston and Copeland (1998) hold that definitions of size of enterprises suffer from a lack of universal applicability. In their view, this is because enterprises may be conceived of in varying terms. Size has been defined in different contexts, in terms of the number of employees, annual turnover, industry of enterprise, ownership of enterprise, and value of fixed assets. Van der Wijst (1989) considers small and medium businesses as privately held firms with 1 – 9 and 10 – 99 people employed, respectively. Jordan *et al* (1998) define SMEs as firms with fewer than 100 employees and less than €15 million turnover. Michaelas *et al* (1999) consider small independent private limited companies with fewer than 200 employees and López and Aybar (2000) analyse companies with sales below €15 million. According to the British Department of Trade and Industry, the best description of a small firm remains that used by the Bolton Committee in its 1971 Report on Small Firms. This stated that a small firm is an independent business, managed by its owner or part-owners and having a small market share (Department of Trade and Industry, 2001).

The UNIDO also defines SMEs in terms of number of employees by giving different classifications for industrialised and developing countries (see Elaian, 1996). The definition for industrialised countries is given as follows:

- Large - firms with 500 or more workers;
- Medium - firms with 100-499 workers;
- Small - firms with 99 or less workers.

The classification given for developing countries is as follows:

- Large - firms with 100 or more workers;
- Medium - firms with 20-99 workers;
- Small - firms with 5-19 workers;
- Micro - firms with less than 5 workers.

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It is clear from the various definitions that there is not a general consensus over what constitutes an SME. Definitions vary across industries and also across countries. It is important now to examine definitions of SMEs given in the context of Ghana and South Africa.

2.2.1   The Ghanaian Situation

There have been various definitions given for small-scale enterprises in Ghana but the most commonly used criterion is the number of employees of the enterprise (Kayanula and Quartey, 2000). In applying this definition, confusion often arises in respect of the arbitrariness and cut off points used by the various official sources. In its Industrial Statistics, the Ghana Statistical Service (GSS) considers firms with fewer than 10 employees as small-scale enterprises and their counterparts with more than 10 employees as medium and large-sized enterprises. Ironically, the GSS in its national accounts considered companies with up to 9 employees as small and medium enterprises (Kayanula and Quartey, 2000).

The value of fixed assets in the firm has also been used as an alternative criterion for defining SMEs. However, the National Board for Small Scale Industries (NBSSI) in Ghana applies both the "fixed asset and number of employees" criteria. It defines a small-scale enterprise as a firm with not more than 9 workers, and has plant and machinery (excluding land, buildings and vehicles) not exceeding 10 million Ghanaian cedis. The Ghana Enterprise Development Commission (GEDC), on the other hand, uses a 10 million Ghanaian cedis upper limit definition for plant and machinery. It is important to caution that the process of valuing fixed assets in itself poses a problem. Secondly, the continuous depreciation of the local currency as against major trading currencies often makes such definitions out-dated (Kayanula and Quartey, 2000).

In defining small-scale enterprises in Ghana, Steel and Webster (1991), and Osei *et al* (1993) used an employment cut-off point of 30 employees. Osei *et al* (1993), however, classified small-scale enterprises into three categories. These are: (i) micro - employing less than 6 people; (ii) very small - employing 6-9 people; (iii) small - between 10 and 29 employees. A more recent definition is the one given by the Regional Project on Enterprise Development Ghana manufacturing survey paper. The survey report classified firms into: (i) micro

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enterprise, less than 5 employees; (ii) small enterprise, 6 - 29 employees; (iii) medium enterprise, 30 – 99 employees; (iv) large enterprise, 100 and more employees (see Teal, 2002).

2.2.2   The South African Situation

The most widely used framework in South Africa is the definition of the National Small Business Act 102 of 1996, which defines five categories of businesses in South Africa. The definition uses the number of employees (the most common mode of definition) per enterprise size category combined with the annual turnover categories, the gross assets excluding fixed property. The definitions for the various enterprise categories are given as follows:

- Survivalist enterprise: The income generated is less than the minimum income standard or the poverty line. This category is considered pre-entrepreneurial, and includes hawkers, vendors and subsistence farmers. (In practice, survivalist enterprises are often categorised as part of the micro-enterprise sector).

- Micro enterprise: The turnover is less than the VAT registration limit (that is, R150 000 per year). These enterprises usually lack formality in terms of registration. They include, for example, *spaza* shops, minibus taxis and household industries. They employ no more than 5 people.

- Very small enterprise: These are enterprises employing fewer than 10 paid employees, except mining, electricity, manufacturing and construction sectors, in which the figure is 20 employees. These enterprises operate in the formal market and have access to technology.

- Small enterprise: The upper limit is 50 employees. Small enterprises are generally more established than very small enterprises and exhibit more complex business practices.

- Medium enterprise: The maximum number of employees is 100, or 200 for the mining, electricity, manufacturing and construction sectors. These enterprises are often characterised by the decentralisation of power to an additional management layer.

The National Small Business Act's definitions of the different categories of business may be summarised as set out in Table 2.1 below.

Table 2.1: Definitions of SMMEs given in the National Small Business Act

Enterprise Size	Number of Employees	Annual Turnover (in South African rand)	Gross Assets, Excluding Fixed Property
Medium	Fewer than 100 to 200, depending on industry	Less than R4 million to R50 million, depending upon industry	Less than R2 million to R18 million, depending on industry
Small	Fewer than 50	Less than R2 million to R25 million, depending on industry	Less than R2 million to R4.5 million, depending on industry
Very Small	Fewer than 10 to 20, depending on industry	Less than R200 000 to R500 000, depending on industry	Less than R150 000 to R500 000, depending on industry
Micro	Fewer than 5	Less than R150 000	Less than R100 000

Source: Falkena *et al.* (2001)

2.3   Characteristics of SMEs in Developing Countries

Fisher and Reuber (2000) enumerate a number of characteristics of SMEs in developing countries under the broad headings: labour characteristics, sectors of activity, gender of owner and efficiency. Given that most SMEs are one-person businesses, the largest employment category is working proprietors. This group makes up more than half the SME workforce in most developing countries; their families, who tend to be unpaid but active in the enterprise, make up roughly another quarter. The remaining portion of the workforce is split between hired workers and trainees or apprentices. SMEs are more labour intensive than larger firms and therefore have lower capital costs associated with job creation (Anheier and Seibel, 1987; Liedholm and Mead, 1987; Schmitz, 1995).

In terms of activity, they are mostly engaged in retailing, trading, or manufacturing (Fisher and Reuber, 2000). While it is a common perception that the majority of SMEs will fall into the first category, the proportion of SME activity that takes place in the retail sector varies considerably between countries, and between rural and urban regions within countries. Retailing is mostly found in urban regions, while manufacturing can be found in either rural or urban centres. However, the extent of involvement of a country in manufacturing will depend on a number of factors, including, availability of raw materials, taste and consumption patterns of domestic consumers, and the level of development of the export markets. In Ghana, SMEs can be categorised into urban and rural enterprises. The former can be sub-divided into "organised" and "unorganised" enterprises. The organised ones mostly have paid employees with a registered office, whereas the unorganised category is mainly made up of artisans who work in open spaces, temporary wooden structures, or at home, and employ few or in some cases no salaried workers (Kayanula and Quartey, 2000). They rely mostly on family members or apprentices. Rural enterprises are largely made up of family groups, individual artisans, women engaged in food production from local crops. The major activities within this sector include:- soap and detergents, fabrics, clothing and tailoring, textile and leather, village blacksmiths, tin-smithing, ceramics, timber and mining, bricks and cement, beverages, food processing, bakeries, wood furniture, electronic assembly, agro processing, chemical-based products and mechanics (Osei *et al.*, 1993; Kayanula and Quartey, 2000).

Taking sole-proprietorships and microenterprises into consideration, it can be said that the majority of SMEs are female-owned businesses. Female-owned SMEs more often than not are home-based compared to those owned by males. That is, they are operated from home and are mostly not considered in official statistics. This clearly affects their chances of gaining access to financing schemes, since such financing programmes are designed without sufficient consideration of the needs of businesses owned by females. These female entrepreneurs often get the impression that they are not capable of taking advantage of these credit schemes, because the administrative costs associated with the schemes often outweigh the benefits.

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Measures of enterprise efficiency (e.g. labour productivity or total factor productivity) vary greatly both within and across industries. Firm size may be associated with some other factors that are correlated with efficiency, such as managerial skill and technology, and the effects of the policy environment. Most studies in developing countries indicate that the smallest firms are the least efficient, and there is some evidence that both small and large firms are relatively inefficient compared to medium-scale enterprises (Little *et al.*, 1987). It is often argued that SMEs are more innovative than larger firms. Many small firms bring innovations to the market place, but the contribution of innovations to productivity often takes time, and larger firms may have more resources to adopt and implement them (Acs *et al.*, 1999).

2.4   Contributions of SMEs to Economic Development

There is a general consensus that the performance of SMEs is important for both economic and social development of developing countries (Levy *et al.*, 1999). From the economic perspective, SMEs provide a number of benefits (Advani, 1997; Leidhom and Mead, 1999). SMEs have been noted to be one of the major areas of concern to many policy makers in an attempt to accelerate the rate of growth in low-income countries. These enterprises have been recognised as the engines through which the growth objectives of developing countries can be achieved. They are potential sources of employment and income in many developing countries.

SMEs seem to have advantages over their large-scale competitors in that they are able to adapt more easily to market conditions, given their broadly skilled technologies. They are able to withstand adverse economic conditions because of their flexible nature (Kayanula and Quartey, 2000). SMEs are more labour intensive than larger firms and therefore have lower capital costs associated with job creation (Anheier and Seibel, 1987; Liedholm and Mead, 1987; Schmitz, 1995). They perform useful roles in ensuring income stability, growth and employment. Since SMEs are labour intensive, they are more likely to succeed in smaller urban centres and rural areas, where they can contribute to a more even distribution of economic activity in a region and can help to slow the flow of migration to large cities. Due to their regional dispersion and their labour intensity, it is argued, small-scale production

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units can promote a more equitable distribution of income than large firms. They also improve the efficiency of domestic markets and make productive use of scarce resources, thus facilitating long-term economic growth (Kayanula and Quartey, 2000).

SMEs contribute to a country's national product by either manufacturing goods of value, or through the provision of services to both consumers and/or other enterprises. This encompasses the provision of products and, to a lesser extent, services to foreign clients, thereby contributing to overall export performance. In Ghana and South Africa, SMEs represent a vast portion of businesses. They represent about 92% of Ghanaian businesses and contribute about 70% to Ghana's GDP and over 80% to employment (Villars, 2004). SMEs also account for about 91% of the formal business entities in South Africa, contributing between 52 and 57% of GDP and providing about 61% of employment (CSS, 1998; Ntsika, 1999; Gumede, 2000; Berry *et al.*, 2002).

From an economic perspective, however, enterprises are not just suppliers, but also consumers; this plays an important role if they are able to position themselves in a market with purchasing power: their demand for industrial or consumer goods will stimulate the activity of their suppliers, just as their own activity is stimulated by the demands of their clients. Demand in the form of investment plays a dual role, both from a demand-side (with regard to the suppliers of industrial goods) and on the supply-side (through the potential for new production arising from upgraded equipment). In addition, demand is important to the income-generation potential of SMEs and their ability to stimulate the demand for both consumer and capital goods (Berry *et al.*, 2002).

2.5   General Constraints to SME Development

SME development in developing countries is hampered by a number of factors, including finance, lack of managerial skills, equipment and technology, regulatory issues, and access to international markets (Anheier and Seibel, 1987; Steel and Webster, 1991; Aryeetey *et al*, 1994; Gockel and Akoena, 2002). The lack of managerial know-how places significant constraints on SME development. Even though SMEs tend to attract motivated managers, they can hardly compete with larger firms. The scarcity of management talent, prevalent in

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most countries in the region, has a magnified impact on SMEs. The lack of support services or their relatively higher unit cost can hamper SMEs' efforts to improve their management, because consulting firms are often not equipped with appropriate cost-effective management solutions for SMEs. Despite the numerous institutions providing training and advisory services, there is still a skills gap in the SME sector as a whole (Kayanula and Quartey, 2000). In terms of technology, SMEs often have difficulties in gaining access to appropriate technologies and information on available techniques (Aryeetey *et al.*, 1994). In most cases, SMEs utilise foreign technology with a scarce percentage of shared ownership or leasing. They usually acquire foreign licenses, because local patents are difficult to obtain. With regard to regulatory constraints, although wide-ranging structural reforms have improved, prospects for enterprise development remain to be addressed at the firm-level. The high start-up costs for firms, including licensing and registration requirements, can impose excessive and unnecessary burdens on SMEs. The high cost of settling legal claims, and excessive delays in court proceedings adversely affect SME operations. In the case of Ghana, the cumbersome procedure for registering and commencing business are key issues often cited. Meanwhile, the absence of antitrust legislation favours larger firms, while the lack of protection for property rights limits SMEs' access to foreign technologies (Kayanula and Quartey, 2000). Previously insulated from international competition, many SMEs are now faced with greater external competition and the need to expand market share. However, their limited international marketing experience, poor quality control and product standardisation, and little access to international partners, continue to impede SMEs' expansion into international markets (Aryeetey *et al.*, 1994). They also lack the necessary information about foreign markets.

Of particular concern to this study is the area of financing. Lack of adequate financial resources places significant constraints on SME development. Cook and Nixson (2000) observe that, notwithstanding the recognition of the role of SMEs in the development process in many developing countries, SMEs development is always constrained by the limited availability of financial resources to meet a variety of operational and investment needs. A large portion of the SME sector does not have access to adequate and appropriate forms of credit and equity, or indeed to financial services more generally (Parker *et al.*, 1995). In competing for the corporate market, formal financial institutions have structured their

products to serve the needs of large corporates. A cursory analysis of survey and research results of SMEs in South Africa, for instance, reveals common reactions from SME owners interviewed. When asked what they perceive as constraints in their businesses and especially in establishing or expanding their businesses, they answered that access to funds is a major constraint. This is reflected in perception questions answered by SME owners in many surveys (see BEES, 1995; Graham and Quattara, 1996; Rwingema and Karungu, 1999). The situation is not different in the case of Ghana (Sowa *et al.*, 1992; Aryeetey, 1998; Bigsten *et al.*, 2000).

2.6   Conclusion

This chapter has reviewed various definitions of SMEs and also discussed the roles, characteristics, contributions of SMEs to economic development, and the constraints to SME development. In reviewing the definitions of SMEs, it was concluded that there is no single, universal, uniformly acceptable definition of SMEs. Several measures or indicators have been used to define the SME sector. The most commonly used is the number of employees of the enterprise. However, in applying this definition, confusion often arises in respect of the arbitrariness and cut-off points used by various official sources. The definitions of SMEs within the context of Ghana and South Africa were also examined, given that this thesis focuses on these two countries. SMEs often fall into two categories, that is, urban and rural enterprises. The former can be sub-divided into "organised" and "unorganised" enterprises. The organised groups have registered offices and paid workers, whilst the unorganised ones are mainly made up of artisans. Rural enterprises are largely made up of family groups and individual artisans. The activities in the SME sector range from pottery and ceramics to manufacturing of spare parts and electronic assembly. SMEs constitute a vital element of the development process, and their contributions in terms of production, employment and income in developing countries is widely recognised. Hence, interest in the role of SMEs in the development process continues to be high on the agenda of policy makers. Notwithstanding the recognition, the development of SMEs is always constrained by a number of factors such as, lack of access to appropriate technology, limited access to international markets, the existence of laws, regulations and rules that impede the

development of the sector; weak institutional capacity and lack of management skills and training. However, financing remains the greatest concern for the majority of SMEs.

The study reported in this thesis focuses on the capital structure and financing of SMEs, with particular focus on Ghana and South Africa in a collection of essays. The rest of the chapters (Chapter Three to Chapter Nine), which are empirical papers, examine various issues related to the capital structure and financing of SMEs in these two countries.

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CHAPTER THREE

THE CAPITAL STRUCTURE OF LISTED FIRMS AND UNQUOTED SMES IN GHANA[†]

</div>

3.1 Introduction

This study compares the determinants of capital structure of SMEs and listed firms in Ghana. The capital structure of a firm is the relative amount of debt and equity the firm uses to finance its operations. Capital structure decisions are vital for the survival of any business organisation. The key is for firms to choose a portfolio of capital structure that will maintain sustainability and generate more wealth. In general, a firm can choose among many alternative capital structures. This subject matter is one of the most contentious issues, if not a puzzle, in finance. A number of theories have attempted to explain the variation in debt ratios across firms. The theories suggest that firms select capital structure depending on attributes that determine the various costs and benefits associated with debt and equity financing. Explanations vary from the irrelevancy hypotheses (Modigliani and Miller, 1958) to the optimal capital structure, where the cost of capital is minimised and the firm value is maximised, hence maximising the shareholders' wealth.

Company financing decisions involve a wide range of policy issues. At the macro level, they have implications for capital market development, interest rate and security price determination, and regulation. At the micro level they have implications for capital structure, corporate governance, and company development (Green *et al.*, 2002). Very little, however, is known about the financing decisions of firms in developing countries. Knowledge on capital

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[†] Two papers have been published out of this chapter. They are: 1. "What Determines the Capital Structure of Listed Firms in Ghana?", *African Finance Journal*, Vol. 7(1), pp. 37- 48, 2005.
2. "SMEs' Access to Debt Finance: A Comparison of Male-Owned and Female-Owned Businesses in Ghana", *International Journal of Entrepreneurship and Innovation*, Vol. 7(2), pp. 105 - 112, 2006, UK.

A paper based on this chapter was presented at the Biennial Conference of the Economic Society of South Africa at Durban, South Africa, September, 2005.

structures has mostly been derived from data from developed economies that have many institutional similarities (Booth *et al.*, 2001).

This study attempts to extend the capital structure theory in explaining the financing behaviour of SMEs by comparing the capital structure of listed firms and that of SMEs in Ghana. This will help in ascertaining whether there are any differences in the capital structures of large listed firms and SMEs or whether they all follow similar capital structure decisions. This current paper also includes heterodox factors which are not typically included in the conventional financial model, but are relevant in explaining the financing decisions of SMEs. A study on the determinants of the capital structures of listed firms and SMEs in sub-Saharan Africa is an important area that needs to be explored.

The remainder of the paper is organised as follows: Section 3.2 provides discussion on the background literature. Section 3.3 discusses the research methodology and hypotheses. Section 3.4 presents and discusses the results of the empirical analysis. Finally, section 3.5 summarises the findings of the research and also concludes the discussion.

3.2   Literature Review

Capital structure is defined as a specific mix of debt and equity that a firm uses to finance its operations. Equity also includes the firm's retained earnings. The firm's debt is comprised of short-term debt and long-term debt. Short-term debt is defined as the proportion of the company's debt repayable within one year, while long-term debt is the firm's debt repayable beyond one year (Hall *et al.*, 2004). The theory of capital structure choice focuses on several determining factors: life-cycle approach, differential taxation of income from different sources, bankruptcy cost/risks, the agency theory, pecking order hypothesis, and signaling theory.

First, the life-cycle approach suggests that a firm's access to finance depends on its stage of development. Newer firms rely on owners' initial equity, because they may not initially be in a position to present an attractive investment avenue for finance providers (Berger and Udell, 1998). If they survive the dangers of under-capitalisation, they are then likely to be

able to make use of other sources of funds such as trade credit and short-term loans (Chittenden *et al.*, 1996). Survival and moderate growth open access to short-term debt, especially for SMEs, and that remains a continued source of funds due to the difficulty in attracting long-term debt and/ or equity. High-growth SMEs also rely on short-term debt initially until such a time that they are capable of entering the public equity market.

Second, taxation would encourage debt financing provided the interest paid on the debt is tax deductible. Since payment with respect to equity financing such as dividend is not tax deductible, the tax effect is likely to bias the financing choice towards debt, as more debt increases the after-tax proceeds to the owners (Modigliani and Miller, 1963; Miller, 1977).

Third, if firms increase their debt position as a result of the tax benefit indicated above, then their ability to meet their fixed interest payment obligation reduces. Such a situation increases the probability (risk) of bankruptcy and consequently the cost of financing. Firms that adjust their capital structure away from excessive debt reduce the risk of exposure to debt-equity mix and thus lower their cost of finance (Agarwal and Mohtadi, 2004). The potential costs of bankruptcy may be both direct and indirect. Examples of direct bankruptcy costs are the legal and administrative costs in the bankruptcy process. Haugen and Senbet (1978) argue that bankruptcy costs must be trivial or nonexistent if one assumes that capital market prices are competitively determined by rational investors. Examples of indirect bankruptcy costs are the loss in profits incurred by the firm as a result of the unwillingness of stakeholders to do business with them. Customer dependence on a firm's goods and services and the high probability of bankruptcy affect the solvency of firms (Titman, 1984). If a business is perceived to be close to bankruptcy, customers may be less willing to buy its goods and services due to the risk of the firm not being able to meet its warranty obligations. Also, employees might be less inclined to work for the business and it would be less likely for suppliers to extend trade credit.

Fourth, agency costs arise as a result of the relationships between debt-holders and shareholders, and those between shareholders and managers (Jensen and Meckling, 1976). The conflict between debt-holders and shareholders is due to moral hazard. The conflict arises because equity-holders have an incentive to invest sub-optimally in very risky projects

(Jensen and Meckling, 1976). On the other hand, the conflict between shareholders and managers arises because shareholders hold the entire residual claim and consequently managers do not capture the entire gain from their profit-enhancing activities, but they do bear the entire cost of these activities (Harris and Raviv, 1990). Since SMEs are mostly shareholder-managed, they are not likely to suffer from this second problem (Sogorb-Mira, 2005). However, the agency conflict between shareholders/owners and debt providers may be particularly severe for SMEs, increasing moral hazard and adverse selection problems (Van der Wijst, 1989; Ang, 1992; Chittenden *et al.*, 1996). The agency costs of debt can be resolved by the entire structure of the financial claim. Barnea *et al* (1980) argue that the agency problems associated with information asymmetry, managerial (stockholder) risk incentives and forgone growth opportunities can be resolved by means of the maturity structure and call provision of the debt. For example, shortening the maturity structure of the debt and the ability to call the bond before the expiration date can help reduce the agency costs of under-investment and risk-shifting. Barnea *et al* (1980) also demonstrate that both features of the corporate debt serve as identical purposes in solving agency problems.

Fifth, the pecking order theory, initially proposed by Myers (1984), suggests that firms follow a certain hierarchical fashion in financing their operations. They initially use internally generated funds in the form of retained earnings, followed by debt, and finally external equity. The preference is a reflection of the relative cost of the available sources of funds, due to the problem of information asymmetries between the firm and potential finance providers. This means that it is more costly to use external debt finance than using internal funds (Myers and Majluf, 1984).

Sixth, the signaling theory suggests that if a firm issues debt, it indicates the firm has an investment opportunity that exceeds its internally generated funds. So, changes in the capital structure often serve as a signal to outsiders about the current situation of the firm as well as the managerial expectations concerning future earnings. The debt offering is believed to reveal information that the management of a firm is expecting about future cash flows if it will cover the debt costs. However, the bankruptcy fears still impact on the signal and intensify the cost of this signal (Asquith and Mullins, 1986; and Eckbo, 1986).

3.2.1   Differences Between the Capital Structure of Listed Firms and SMEs

It is well-known that small businesses are not 'scaled-down versions' of large businesses. The process by which a large business has achieved its current size is, of course, one of evolution rather than scaling, and this process of evolution will involve major changes in management structure and functioning, in particular in the methods by which the business is financed (Penrose, 1959). Petersen and Rajan (1994, 1995) and Berger and Udell (1995) have identified four significant differences between the capital structure of SMEs and that of large public companies. One major difference is the fact that, whereas large public companies are able to access various resources for debt financing, SMEs tend to use short-term debt financing from commercial lenders, especially institutional lenders and, in essence, convert them to long-term debt financing through renewing these short-term lines of credit (Berger and Udell, 1995).

Also, SMEs appear to have more severe information asymmetry problems compared to large, publicly listed firms, and as such the traditional solutions to asymmetric information problems are not as effective as in public firms. Thus, traditional finance literature dealing with credit in small businesses (see Petersen and Rajan, 1994; Berger and Udell, 1995, 1998) distinguishes debt financing in small businesses from that in large public companies using long-term relationship between lenders and firm owners to deal with the agency problems caused by information asymmetry. Berger and Udell (1995) provide a detailed review of the relationship lending literature. Signaling and monitoring are both considered important ways to deal with agency problems between commercial lenders and SME borrowers. Another important feature of monitoring in SME debt financing is that bonding, such as a guarantee provided by the entrepreneurs and collateral, is widely used due to the high cost of monitoring (Harris and Raviv, 1991).

Another difference is that, in SMEs, governance structure and type of business have a significant influence on capital structure, especially the accessibility to debt financing due to the private information generated and the use of debt in SMEs' capital structure (Stiglitz and Weiss, 1981). SMEs are mostly family-owned and tend to be sole-proprietorship businesses. The ownership structure is therefore likely to affect capital structure decisions. It is argued that family business owners, especially founding family CEOs, tend to take a higher risk by

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adopting a highly levered capital structure because of their limited growth capabilities, desire to maintain control and a high degree of employee well-being, and the preservation of self-esteem (Davidsson, 1989; Vos and Forlong, 1996; Mishra and McConaughy, 1999).

The discrimination in debt financing of SMEs tends to be more serious than in financing large, publicly listed companies (Cavalluzzo *et al.*, 2003). The issue of gender appears to be a major point of discrimination. Female-owned businesses, which mostly fall in the category of SMEs tend have greater difficulty accessing external debt finance compared to male-owned SMEs.

Some other features of SMEs have been identified to include: (a) lower fixed to total assets ratios; (b) a higher proportion of trade debt in total assets; (c) a much higher proportion of current liabilities to total assets (and in particular a much greater reliance on (especially short–term) bank loans to finance their assets); (d) heavily reliance on retained profits to fund investment flows; (e) obtain the vast majority of additional finance from banks (with other sources, in particular equity, very much less important); (f) financially more risky, as reflected in their relatively high debt-equity ratio and in their higher failure rates (see Storey *et al.*, 1987; Cressy, 1996b).

3.2.2   *Determinants of Capital Structure*

Firm-specific characteristics have been identified in previous empirical studies examining capital structure of firms. These firm characteristics which have been noted to affect the capital structure decisions of firms are discussed below:

Age of the Firm

Age of the firm is a standard measure of reputation in capital structure models. From the life-cycle perspective, as a firm ages, it establishes itself as a continuing business and it therefore increases its capacity to take on more debt; hence age is positively related to debt. Before granting a loan, banks tend to evaluate the creditworthiness of entrepreneurs as they are generally believed to pin high hopes on very risky projects promising high profitability rates. In particular, when it comes to highly indebted companies, they are essentially gambling with their creditors' money. If the investment is profitable, shareholders will collect

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a significant share of the earnings; but if the project fails, then the creditors have to bear the consequences (Myers, 1977). Directors who are concerned with a firm's reputation tend to act more prudently and avoid riskier projects in favour of safer projects, even when the latter have not been approved by shareholders, thus reducing debt agency costs (by reducing the "temptation" to gamble at creditors' cost).

This perspective has also been seconded within the context of small business (see Ang, 1991). It is important to note the extension of firm risk to the personal area of the businessman (given the unlimited liability of entrepreneurs) to be a way of managing the agency costs resulting from cases of more opportunistic behaviour. Given the fragmentation of information, the high costs of control and evaluation, the firm and the entrepreneurs' reputation become a valuable asset in the management of relations between the principal (investor) and the agent (businessman) (Landström, 1993). Petersen and Rajan (1994) found that older firms should have higher debt ratios, since they should be higher-quality firms. Hall *et al.* (2004) agree that age is positively related to long term-debt, but negatively related to short-term debt. Esperança *et al* (2003), however, found that age is negatively related to both long-term and short-term debt. Green *et al* (2002) also found that age has a negative influence on the probability of incurring debt in the initial capital equation, and no impact in the additional capital equation.

Firm Size

Size has been viewed as a determinant of a firm's capital structure. Larger firms are more diversified and hence have lower variance of earnings, making them able to tolerate high debt ratios (Castanias, 1983; Titman and Wessels, 1988; Wald, 1999). Smaller firms, on the other hand, may find it relatively more costly to resolve information asymmetries with lenders, and thus may present lower debt ratios (Castanias, 1983). Lenders of larger firms are more likely to get repaid than lenders of smaller firms, reducing the agency costs associated with debt. Therefore, larger firms will have higher debts. Another explanation for smaller firms having lower debt ratios is that the relative bankruptcy costs are an inverse function of firm size (Titman and Wessels, 1988). It is generally believed that there are economies of scale in bankruptcy costs: larger firms face lower unit costs of bankruptcy than do smaller firms, as shown in Prasad *et al* (2001). Castanias (1983) also states that, if the fixed portion of

default costs tends to be large, then marginal default cost per dollar of debt may be lower and increase more slowly for larger firms. Facts about larger firms may be taken as evidence that these firms are less risky (Kim and Sorensen, 1986). Cosh and Hughes (1994) add that if operational risk is inversely related to firm size, this should rather predispose smaller firms to use relatively less debt.

Empirical evidence on the relationship between size and capital structure supports a positive relationship. Several works show a positive relationship between firm size and leverage (see Friend and Lang, 1988; Barton *et al.,* 1989; Mackie-Mason, 1990; Barclay and Smith, 1996; Kim *et al.*, 1998; Al-Sakran, 2001; Hovakimian *et al.*, 2004; Sogorb-Mira, 2005). Their results suggest that smaller firms are more likely to use equity finance, while larger firms are more likely to issue debt rather than stock. Fischer *et al* (1989), however, found a negative relationship between size and debt ratio. Cassar and Holmes (2003), Esperança *et al* (2003) and Hall *et al* (2004) found a positive association between firm size and long-term debt ratio but a negative relationship between firm size and short-term debt ratio. Some studies also confirm a negative relationship between firm size and short-term debt ratio (Chittenden *et al.*, 1996; Michaelas *et al.*, 1999). According to Titman and Wessels (1988), small firms seem to use more short-term finance than their larger counterparts, because smaller firms have higher transactions costs when they issue long-term debt or equity. They further add that such behaviour may cause a "small firm risk effect": by borrowing more short term, these types of firms will be more sensitive to temporary economic downturns than larger, more longer-geared firms.

Asset Structure

The asset structure of a firm plays a significant role in determining its capital structure. The degree to which the firm's assets are tangible should result in the firm having greater liquidation value (Titman and Wessels, 1988; Harris and Raviv, 1991). Bradley *et al* (1984) assert that firms that invest heavily in tangible assets also have higher financial leverage since they borrow at lower interest rates if their debt is secured with such assets. It is believed that debt may be more readily used if there are durable assets to serve as collateral (Wedig *et al.,* 1988). By pledging the firm's assets as collateral, the costs associated with adverse selection and moral hazards are reduced. This will result in firms with assets that have greater

liquidation value having relatively easier access to finance at lower cost, consequently, leading to higher debt or outside financing in their capital structure. In the case of small firms, the concession of collateral reduces the under-investment problem in the firms by increasing the probability of obtaining credit – functioning also as a management instrument in conflicts between entrepreneur and financiers, since the degree of the entrepreneurs' involvement in sharing business risk, by granting personal collateral, is clearly evident. In the area of bank financing it is suggested that bank financing will depend upon whether the lending can be secured by tangible assets (Storey, 1994; Berger and Udell, 1998).

Empirical evidence suggests a positive relationship consistent with theoretical arguments between asset structure and leverage of the firm (Bradley *et al.,* 1984; Friend and Lang, 1988; Wedig *et al.,* 1988; Mackie-Mason, 1990; Rajan and Zingles 1995; Shyam-Sunder and Myers 1999; Hovakimian *et al.*, 2004). Kim and Sorensen (1986), however, found a significant and negative coefficient between depreciation expense as a percentage of total assets and financial leverage. Others studies specifically suggest a positive relationship between asset structure and long-term debt, and a negative relationship between asset structure and short-term debt (see Van der Wijst and Thurik, 1993; Chittenden *et al.*, 1996; Jordan *et al.*, 1998; Michaelas *et al.*, 1999; Cassar and Holmes, 2003; Hall *et al.,* 2004 Sogorb-Mira, 2005). Esperança *et al* (2003) found positive relationships between asset structure and both long-term and short-term debt. Marsh (1982) also maintains that firms with few fixed assets are more likely to issue equity. In a similar work by Mackie-Mason (1990), he concluded that a high fraction of plant and equipment (tangible assets) in the asset base make the debt choice more likely. Booth *et al* (2001) suggest that the relationship between tangible fixed assets and debt financing is, however, related with the maturity structure of the debt. In such a situation, the level of tangible fixed assets may help firms to obtain more long-term debt, but the agency problems may become more severe with the more tangible fixed assets, because the information revealed about future profit is less in these firms. If this is the case, then it is likely to find a negative relationship between tangible fixed assets and debt ratio.

Profitability
The relationship between firm profitability and capital structure can be explained by the pecking order theory (POT). According to this theory, firms prefer internal sources of

finance to external sources. The order of the preference is from the one which is least sensitive (and least risky) to the one which is most sensitive (and most risky); this arises because of asymmetric information between corporate insiders and less well-informed market participants (Myers, 1984). By this token, profitable firms, which have access to retained profits, can rely on such profits as opposed to depending on outside sources (debt). Murinde *et al* (2004) observe that retentions are the principal source of finance. Titman and Wessels (1988), and Barton *et al* (1989) agree that firms with high profit rates would, all things being equal, maintain relatively lower debt ratios since they are able to generate such funds from internal sources. In the case of SMEs, they face a more extreme version of the POT described as a "constrained" POT by Holmes and Kent (1991) and a "modified" POT by Ang (1991). This is mainly because they have less access to external funds, debt as well as equity, than do large enterprises. The theory's application to SMEs implies that external equity finance issues may be inappropriate, since they may not be listed on the stock market or may not qualify to go through private placements. However, the tax trade-off model predicts that profitable firms will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk. Also, profitable firms are more capable of tolerating more debt since they may be in a position to service their debt easily and on time. Profitable firms appear to be more attractive to financial institutions as lending prospects, therefore, they can always take on more debt capital (Ooi, 1999). Scherr *et al* (1993) found that start-up firms with higher anticipated profitability have higher debt to equity ratios.

Empirical evidence from previous studies seems to be consistent with the pecking order theory. Most studies found a negative relationship between profitability and capital structure (see Friend and Lang, 1988; Barton *et al.* 1989; Van der Wijst and Thurik, 1993; Chittenden *et al.*, 1996; Jordan *et al.,* 1998; Michaelas *et al.*, 1999; Mishra and McConaughy, 1999; Shydam-Sunder and Myers, 1999;). Cassar and Holmes (2003), Esperança *et al* (2003), and Hall *et al* (2004) also suggest negative relationships between profitability and both long-term debt and short-term debt ratios. Petersen and Rajan (1994) however found a significantly positive association between profitability and debt ratio.

Firm Growth

Growth is likely to place a greater demand on internally generated funds and push the firm into borrowing (Hall *et al.,* 2004). According to Marsh (1982), firms with high growth will capture relatively higher debt ratios. In the case of small firms with more concentrated ownership, it is expected that high growth firms will require more external financing and should display higher leverage (Heshmati, 2001). There is also a relationship between the degree of previous growth and future growth. Michaelas *et al* (1999) argue that future opportunities will be positively related to leverage, in particular short-term leverage. They argue that the agency problem and consequentially the cost of financing are reduced, if the firm issues short-term debt rather than long-term debt. Myers (1977), however, holds the view that firms with growth opportunities will have a smaller proportion of debt in their capital structure. This is due to the fact that conflicts between debt and equity holders are especially serious for assets that give the firm the option to undertake such growth opportunities in the future. He agues further that growth opportunities can produce moral hazard situations and small-scale entrepreneurs have an incentive to take risks in order to grow. The benefits of this growth, if realised, will not be enjoyed by lenders who will only recover the amount of their loans, resulting in a clear agency problem. This will be reflected in increased costs of long-term debt which can be mitigated by the use of short-term debt.

Empirical evidence seems inconclusive. Some researchers found a positive relationship between sales growth and leverage. (see Kester, 1986; Titman and Wessels, 1988; Barton *et al.,* 1989). Other evidence, however suggests that higher-growth firms use less debt (see Kim and Sorensen, 1986; Stulz, 1990; Mehran, 1992; Rajan and Zingales, 1995; Roden and Lewellen, 1995; Al-Sakran, 2001). Michaelas *et al* (1999) found future growth to be positively related to leverage and long-term debt. Cassar and Holmes (2003), Hall *et al* (2004) and Sogorb-Mira (2005) showed positive associations between growth and both long-term and short-term debt, while Chittenden *et al.* (1996), Jordan *et al.* (1998) and Esperanc¸a *et al* (2003) found mixed evidence.

Firm Risk

The level of risk is said to be one of the primary determinants of a firm's capital structure (Kale *et al.,* 1991). The tax shelter-bankruptcy cost theory of capital structure determines a

firm's optimal leverage as a function of business risk (Castanias, 1983). Given agency and bankruptcy costs, there are incentives for the firm not to fully utilise the tax benefits of 100% debt within the static framework model. The more likely a firm is exposed to such costs, the greater its incentive to reduce its level of debt within its capital structure. One firm variable which impacts upon this exposure is the firm's operating risk, in that the more volatile the firm's earnings stream, the greater the chance of the firm defaulting and being exposed to such costs. According to Johnson (1997), firms with more volatile earnings growth may experience more states where cash flows are too low for debt service. Kim and Sorensen (1986) also observe that firms with a high degree of business risk have less capacity to sustain financial risks and thus use less debt.

Despite the broad consensus that firm risk is an important determinant of corporate debt policy, empirical investigation has led to contradictory results. A number of studies have indicated an inverse relationship between risk and debt ratio (see Bradley *et al.,* 1984; Friend and Lang 1988; Titman and Wessels, 1988; Mackie-Mason 1990; Kale *et al.,* 1991; Kim *et al.,* 1998). Other studies suggest a positive relationship (Jordan *et al.*, 1998; Michaelas *et al.,* 1999). Esperança *et al* (2003) also found positive associations between firm risk and both long-term and short-term debt.

Other Factors

Certain heterodox factors which are not typically included in conventional financial models are believed also to affect the capital structure decisions of SMEs. Green *et al* (2002), in analysing the financing behaviour of small enterprises in Kenya used an eclectic but heterodox empirical model of the capital structure and financial decisions of micro and small enterprises. This present study includes such factors as: location of the firm, entrepreneur's educational background, gender of the entrepreneur, form of business and export status in explaining the financing decisions of SMEs in the sample. These are discussed below.

Variations due to industry effects are likely to be more pronounced for SMEs since most of them are "unitary firms" (Bolton, 1971) and this could have an impact on their capital structure. Service businesses, for instance, are less likely to be candidates for bank loans because they often lack assets which can be used as collateral (Hisrich, 1989; Riding *et al..*,

1994). Correspondingly, businesses that are highly capital intensive such as manufacturing, transportation and construction may be more likely to use external capital. Bradley *et al.* (1984) found that industry classification accounted for 25 percent of the variation in firm leverage, with capital-intensive firms showing significantly higher debt ratios. Scherr *et al* (1993) also found industry effects in a study of the capital structure of start-ups. It is, however, argued that service businesses, because of the nature of their business, are able to return profits faster than manufacturing firms. This means they may be in a position to repay their debt on time and take on more debt.

The corporate finance literature is not very clear on the effect of location and the choice of finance. However, it is expected that firms close to the capital city or urban centre would have easier access to debt finance than those located outside the capital city.

The educational background of the entrepreneur is believed to be positively related to debt, implying that more educated owners do have greater possibilities of borrowing. Better-educated owners would find it easier to present a plausible case for a loan to an outside body. This would be particularly important if the owner had no book-keeping knowledge. Overall, the level of education appears to have an important positive impact on micro and small enterprises' debt-raising capacities (Green *et al.*, 2002).

Gender of the small business owner may affect the capital structure choice of the firm. It is argued that female-owned businesses are less likely to use debt for a variety of reasons including discrimination and greater risk aversion (Riding and Swift, 1990; Brush, 1992; Scherr *et al.*, 1993). In addition, women may not network as effectively as men (Aldrich, 1989; Brush, 1992) and therefore may not have the same access to sources of information and debt capital as men do. Thus, they may turn to informal sources of finance such as personal financial resources. Others also contend that female-owned businesses do not require as much external capital as male-owned businesses, because they are smaller and more likely to be concentrated in lines of business that do not require many assets (Kallenberg and Leicht, 1991; Loscocco and Robinson, 1991). Aryeetey *et al* (1994) agree that the access of women entrepreneurs is limited principally by their concentration in smaller enterprises and their lack of fully-documented property as collateral.

The form of business could affect the debt-equity decisions of SMEs. Shareholders of corporations and limited companies have limited liability against losses, whereas general partners and owners of sole proprietorships have unlimited liability. Consequently, shareholder–creditor conflicts are more likely among corporations and limited companies than they are for general partners and sole proprietorships. Thus, corporations and limited liability companies may be more likely to finance their projects with equity while sole proprietors are more likely to employ debt financing (Brewer *et al.*, 1996).

Ownership is defined in terms of the family-owned business and non-family ownership. Ownership could also have an important impact on the capital structure decisions of firms. Family-owned firms are more enclosed and often refuse opening up to external equity investment and therefore likely to accommodate more debt than group-owned businesses. Family-owned SMEs generally avoid sources of finance, especially equity that weaken links and control. Again, family-owned businesses seem to be averse to pursuing external equity financing and therefore may be reluctant even to employ managers and non-executive directors who are not family members. In emerging markets with strong family ties, the issue of control may play a larger role, deterring firms from issuing equity to avoid dilution. More equity increases control risk and this is associated with higher probability of loss of family control. Also, monitoring costs are lower in the presence of relatively few large shareholders, and this should increase gearing. Obviously, the choice of finance could impact on the firm's capital structure, growth opportunities and long-term survival (Romano *et al.*, 2000).

Following from the reasoning of the trade-off model, it is posited that international diversification reduces the expected cost of bankruptcy and allows for increased debt capacity. Firms involved in export business tend to be more diversified and as such are capable of accommodating more debt capital (Abor, 2004), implying that debt ratio rises with increasing international activities. Thus, as firms engage more in international business (exporting), they tend to employ more debt.

3.2.3 Hypotheses

In the light of the above theories, the following hypotheses are formulated to test the relationship between the capital structure and firm level characteristics;

H_{1a}:   Age of the firm is positively related to long-term debt ratio

H_{1a}:   Age of the firm is negatively related to short-term debt ratio

H_{2a}:   Firm size should be positively related to long-term debt ratio

H_{2b}:   Firm size should be negatively related to short-term debt ratio

H_{3a}:   Asset structure is positively related to long-term debt ratio

H_{3b}:   Asset structure is negatively related to short-term debt ratio

H_{4a}:   Profitability is negatively related to long-term debt ratio

H_{4b}:   Profitability is negatively related to short-term debt ratio

H_{5a}:   Growth is positively associated with long-term debt ratio

H_{5b}:   Growth is positively associated with short-term debt ratio

H_{6a}:   Risk will be negatively related to long-term debt ratio

H_{6b}:   Risk will be negatively related to short-term debt ratio

H_{7a}:   Industry has a relationship with long-tem debt ratio

H_{7b}:   Industry has a relationship with short-term debt ratio

H_{8a}:   Location has a relationship with long-term debt

H_{8b}:   Location has a relationship with short-term debt

H_{9a}:   Education should be positively related to long-term debt ratio

H_{9b}:   Education should be positively related to short-term debt ratio

H_{10a}:   Gender is expected to be positively related to long-term debt ratio

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H$_{10b}$:   Gender is expected to be positively related to short-term debt

H$_{11a}$:   Business form has a relationship with long-term debt

H$_{11b}$:   Business form has a relationship with short-term debt

H$_{12a}$:   Ownership of the firm is positively associated with long-term debt

H$_{12b}$:   Ownership of the firm is positively associated with short-term debt

H$_{13a}$:   Exports should have a positive relationship with long-term debt

H$_{13b}$:   Exports should have a positive relationship with short-term debt

3.3   Methodology

3.3.1   The Model

The panel character of the data allows for the use of panel data methodology. Panel data involves the pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. The panel regression equation differs from a regular time-series or cross-section regression by the double subscript attached to each variable. The model for the empirical investigation for the listed firms is given as follows:

$$LDR_{it} = \beta_0 + \beta_1 AG_{it} + \beta_2 SZ_{it} + \beta_3 AS_{it} + \beta_4 PR_{it} + \beta_5 GR_{it} + \beta_6 RK_{it} + \mu_{it} \ldots\ldots (1)$$

$$SDR_{it} = \beta_0 + \beta_1 AG_{it} + \beta_2 SZ_{it} + \beta_3 AS_{it} + \beta_4 PR_{it} + \beta_5 GR_{it} + \beta_6 RK_{it} + \mu_{it} \ldots\ldots (2)$$

$$TDR_{it} = \beta_0 + \beta_1 AG_{it} + \beta_2 SZ_{it} + \beta_3 AS_{it} + \beta_4 PR_{it} + \beta_5 GR_{it} + \beta_6 RK_{it} + \mu_{it} \ldots\ldots (3)$$

where:

  LDR_{it} = long-term debt/ (equity + debt) for firm i in time t

  SDR_{it} = short-term debt/ (equity + debt) for firm i in time t

  TDR_{it} = total debt/ (equity + debt) for firm i in time t

AG_{it} = number of years in business

SZ_{it} = the size of the firm (log of total assets) for firm i in time t

AS_{it} = tangible fixed assets divided by total assets for firm i in time t

PR_{it} = profit before interest and taxes divided by total assets for firm i in time t

GR_{it} = growth in sales for firm i in time t

RK_{it} = the standard deviation of the difference between the firm's profitability in time t and the mean profitability

μ_{it} = the error term

In the case of the SME sample, the empirical model is given as:

$$LDR_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 H_{it} + \mu_{it} \ \dots\dots\dots\dots\dots\dots\dots\dots\dots \ (4)$$

$$SDR_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 H_{it} + \mu_{it} \ \dots\dots\dots\dots\dots\dots\dots\dots\dots \ (5)$$

$$TDR_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 H_{it} + \mu_{it} \ \dots\dots\dots\dots\dots\dots\dots\dots\dots \ (6)$$

where:

X = vector of conventional firm characteristics (as stated in equations 1 - 3).

H = vector of heterodox factors

The exogenous variables consist of both the conventional and heterodox factors. These are:

X = made up of conventional or traditional factors (as stated in equations 1 – 3), including; Age, Size, Asset Structure, Profitability, Growth, and Risk.

H = made up of heterodox factors including:

Industry = constructed as a categorical variable (=0 if manufacturing, 1 if agriculture, 2 if construction & mining, 3 if hospitality, 4 if information & communication, 5 if pharmaceuticals & medical services, 6 if wholesale and retail trading, 7 if general business services);

Location = constructed as a categorical variable (=0 if located in Accra, 1 if in Kumasi, 2 if in Cape Coast, 3 if in Takoradi, 4 if in Koforidua, 5 if in Sunyani, 6 if in Tamale, 7 if in Ho);

Education = a continuous variable, representing total years of education by the entrepreneur. This assumes that primary = 6 years; middle school = 10 years; secondary = 14 years; university = 19 years; secondary plus vocational = 15 years; and secondary plus polytechnic = 16 years;

Gender = constructed as a binary (= 1 if firm is male-owned, otherwise 0);

Form = constructed as a categorical variable (=0 if sole proprietorship, 1 if partnership, 2 if limited liability company);

Ownership = constructed as binary (=1 if firm is a family-owned business, otherwise 0);

Export = constructed as a binary (=1 if firm is engaged in exports, otherwise 0).

Capital structure which is the dependent variable is defined in terms of debt ratio. This is given as debt divided by total capital of the firm. Debt contains both long-term and short-term debts. Measures of capital structure thus include; long-term debt ratio and short-term debt ratio. Short-term debt includes bank overdraft, bank loans payable within a year and other current liabilities. Long-term debt also includes long-term bank loans and other long-term liabilities repayable beyond one year, such as directors' loans, hire purchase and leasing obligations. All the variables used in this study are based on book value in line with the argument by Myers (1984) that book values are proxies for the value of assets in place.

3.3.2 *Data and Estimation Methods*

This study sampled all firms that have been listed on the Ghana Stock Exchange (GSE) during the six-year period 1998-2003. Twenty two firms qualified to be included in the study sample. The SME sample was selected from the Association of Ghana Industries' and the National Board for Small Scale Industries' databases of firms. A total of one hundred and sixty firms having fewer than a hundred employees were included. The definition of SMEs is based on the Regional Development for Enterprise Development firms' classification in Ghana. The data for the empirical analysis was derived from the financial statements of these firms during the six-year period, 1998–2003. Information on the heterodox factors was obtained through questionnaire survey.

The general form of the panel data model can be specified more compactly as:

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it} \dots\dots\dots\dots\dots\dots\dots (7)$$

with the subscript i denoting the cross-sectional dimension and t representing the time-series dimension. The left-hand variable Y_{it}, represents the dependent variable in the model, which is the firm's debt ratio. X_{it} contains the set of explanatory variables in the estimation model, α is the constant, and β represents the coefficients. The μ_{it} is a random term and $\mu_{it} = \mu_i + v_{it}$; where μ_i is the firm specific effects and v_{it} is a random term. The choice of the model estimation whether random effects or fixed effects will depend on the underlying assumptions. In a random effects model, μ_i and v_{it} are random with known disturbances. In a fixed effects model, μ_i, the firm-specific effects, and v_{it}, a random term, are fixed parameters and are estimated together with the other parameters.

To examine the differences in the capital structure, the study used Analysis of Variance (ANOVA) to examine the nature and differences in the debt ratios and firm-specific characteristics of listed firms and SMEs. Specifically, we use the *F*-test to compare the capital structure and the firm-level variables for the two sample groups. The *F*-test takes the form:

$$F = \frac{SS_B / (G-1)}{SS_W / (N-G)}$$

where N is the total number of observations. The *F*-statistic has an *F*-distribution with G-1 numerator degrees of freedom and *N*-G denominator degrees of freedom under the null hypothesis of independent and identical normal distribution, with equal means and variances in each subgroup. We also report on the results of the Bartlett's test for equal variances. The Bartlett's test compares the logarithm of the weighted average variance with the weighted sum of the logarithms of the variances. Non-parametric methods (Wilcoxon test and Median tests) were then conducted to establish whether the model is robust under non-normality of

data used. The results generally indicate that we can reject the hypothesis that the populations are the same.

3.4   Empirical Results

3.4.1   *Differences in Capital Structure*

Table 3.1 illustrates that leverage or debt ratio varies across sample groups. Average debt ratio for listed firms of 59.39% is higher than the 41.73% reported for the SME sector. It could be expected that the age of the firm, size of the firm, asset structure, growth of the firm and the firm's level risk are likely to affect its capital structure and that the different sample groups exhibit significantly different debt ratios or capital structures. To determine whether there is any difference between the capital structures of the two sample groups, the ANOVA test was applied to examine the nature and difference in the capital structure of the listed firms and that of SMEs. The results indicate statistically significant difference between the capital structure of listed firms and that of SMEs. Large, publicly quoted companies seem to have more debt in their capital structure than SMEs do. The test of difference between the mean capital structure of listed firms and that of SMEs suggests that access to debt finance could be significantly influenced by size of the firm. This implies that debt financing actually increases with size of the firm, since bigger companies appear to have relatively easier access to external debt finance than their SME counterparts. Clearly, the finding is consistent with the size effect in capital structure theories.

The mean long-term debt represents about 5.20% and 9.75% of the capital of SMEs and listed firms respectively. The higher short-term debts of 36.53% (for SMEs) and 49.64% (for listed firms) highlight the importance of short-term debt over long-term debt in financing Ghanaian firms. These findings are consistent with existing empirical evidence (see Cassar and Holmes, 2003; Hall *et al.*, 2004; Sogorb-Mira, 2005). The results from the study of Hall *et al* (2004) indicate that in countries such as Belgium, Germany, Spain, Ireland, Italy, Netherlands, Portugal and UK, short-term debt is about three times greater than long-term debt.

Table 3.1: Average Leverage Across Sample Groups

Sample Group	Long-term debt ratio (%)	Short-term debt ratio (%)	Total debt ratio (%)
SMEs	5.20	36.53	41.73
Listed Firms	9.75	49.64	59.39
One-way analysis of variance			
F-statistics	9.38***	24.78***	51.33***
Bartlett's test: Chi-square	6.02**	10.71***	27.12***

(***), (**): significant at 1%, 5% levels respectively.

Bartlett's test is test for equal variances

Table 3.2 illustrates the mean figures of the other firm-specific variables. Age, size, and profitability of listed firms were found to be statistically higher than that of SMEs. The average ages of quoted firms and SMEs are 38.5 and 9.4 respectively. Similarly, quoted firms appear to be larger, since they exhibit a higher asset value. Clearly, the oldest and largest firms tend to be listed on the stock exchange. Surprisingly, SMEs were found to have significantly higher fixed assets in their total assets, recording asset structure of 48.36%, while quoted firms show the lower asset structure of 36.92%. In terms of growth, SMEs exhibit a growth rate of 50.39% higher than that of listed firms with 36.14% growth rate. The quoted firms may be experiencing stability in their growth and that could explain the low growth rate compared to the SME sample. It is not surprising to find that the unquoted SMEs are more risky, given that they are faster growing. Quoted firms exhibit lower levels of risk. This could be explained by the fact that listed firms are more regulated and therefore are more likely to offer a safe investment avenue for investors compared to unquoted SMEs.

Table 3.2: Mean Variables Across Sample Groups

Sample Group	Age	Size (¢)	Asset Structure	Profitability	Growth	Risk
SMEs	9.4	7.666e+09	48.36%	9.25%	50.39%	11.11%
Listed Firms	38.5	8.624e+11	36.92%	11.63%	36.14%	7.22%
One-way analysis of variance						
F-statistics	764.90***	42.38***	17.91***	0.64	2.29	1.18
Bartlett's test: Chi-square	378.33***	4.4e+03***	14.86***	165.95***	78.84***	297.28***

(***): significant at 1% level.

In addition to the ANOVA test, the analysis was also done using non-parametric tests to confirm results were robust for the anticipated difficulty of assuming distribution comparability. These are reported in Table 3.3. All the debt ratios are statistically significant using both parametric and no-parametric tests. Age, size, and asset structure are all also statistically significant using both parametric and no-parametric tests. Profitability is significant for all the tests except the *F*-test. Growth and risk failed to reveal consistent statistically significant results. They are only significant when the Bartlett's test is used.

Table 3.3: Test Using Both Parametric and Non-parametric Methods

Means for each variable			ANOVA				Wilcoxon Test		Median Test	
Variable	SMEs	Listed Firms	F	P	Chi²	P	Z	P	Chi²	P
Long-term debt ratio	0.0520	0.0975	9.38	0.002	6.02	0.014	-8.75	0.000	99.75	0.000
Short-term debt ratio	0.3653	0.4964	24.78	0.000	10.71	0.001	-5.59	0.000	37.38	0.000
Total debt ratio	0. 4173	0.5939	51.33	0.000	27.12	0.000	-7.10	0.000	67.58	0.000
Age	9.4	38.5	764.00	0.000	378.33	0.000	-16.10	0.000	145.86	0.000
Size	7.666e+09	8.624e+11	42.38	0.000	4.4e+03	0.000	-16.59	0.000	152.81	0.000
Asset Structure	0.4836	0.3692	17.91	0.000	14.86	0.000	4.10	0.000	9.18	0.002
Profitability	0.0925	0.1163	0.64	0.425	165.95	0.000	-3.11	0.002	6.11	0.013
Growth	0.5039	0.3614	2.29	0.131	78.84	0.000	0.40	0.688	0.34	0.559
Risk	0.1111	0.0722	1.18	0.278	297.28	0.000	0.71	0.478	0.14	0.704

3.4.2   Regression Results

Both fixed and random effects specifications of the model were estimated. After this the Hausman test was conducted to determine the appropriate specification. For the SME sample, the Hausman test results of $\chi^2(26) = 10.01$, $\chi^2(26) = 39.27$, and $\chi^2(26) = 21.48$ were obtained for the long-term debt, short-term debt, and total debt models respectively. The test statistics are all significant at 1%, confirming that the fixed-effects model is the more appropriate one. However, under the fixed effects for the long-term debt model, there is the presence of statistically significant correlation (-0.1733) between μ_i (errors across cross sections) and X_{it} (explanatory variables), as shown by the significance (F (87, 216) = 4.29; Prob > F = 0.0000) of the *F*-test that all $\mu\_i = 0$. Under the short-term debt model, the statistically significant correlation (-0.3304) between μ_i and X_{it} is shown by the significance

(F (87, 217) = 5.13; Prob > F = 0.0000) of the *F*-test that all $\mu\_i = 0$. For the total debt model, the statistically significant correlation (-0.2090) between μ_i and X_{it} is also shown by the significance (F (86, 213) = 5.32; Prob > F = 0.0000) of the *F*-test that all $\mu\_i = 0$. In the case of listed firms, the Hausman test results of $\chi^2(6) = 20.93$, $\chi^2(6) = 14.01$, and $\chi^2(6) = 13.79$ were obtained for the long-term debt, short-term debt, and total debt models respectively. The test statistics are significant at 1%, 5%, and 5% respectively, implying that the fixed effect is preferred over random effect. Again under the fixed effects μ_i are significantly correlated with X_{it}. The correlation coefficients are given as -0.0521, -0.9419, and -0.9465 as shown by the significance (F (21, 104) = 37.93; Prob > F = 0.0000), (F (21, 104) = 18.77; Prob > F = 0.0000), and (F (21, 104) = 10.34; Prob > F = 0.0000) of the *F*-test that all $\mu\_i = 0$, for the long-term debt, short-term debt, and total debt models respectively.

An alternative panel specification is the Prais-Winsten regression which is useful for estimating linear cross-sectional time series models when the disturbances are assumed to be either heteroscedastic across panels or heteroscedastic and contemporaneously correlated across panels. Considering the correlation bias in the fixed effect, the estimation was therefore done using Prais-Winsten regression. Generally, the Prais-Winsten regression results also show signs consistent with theoretical predictions. The regressions proved to be statistically significant at 1% for all the models.

The Feasible Generalised Least Squares (FGLS) with heteroscedastic-consistent panel regression results for the two sample groups are presented in Table 3.4. The results show that the age of the firm has statistically significant positive relationships with long-term and total debt ratios among SMEs. This indicates that older firms, especially SMEs, tend to have easier access to long-term debt given that over time they are able to resolve issues regarding information asymmetries with lenders and present good credit history. Since SMEs do not have access to the public equity market, long years of business could connote long business relationship with external debt providers and that increases their chances of acquiring external debt finance. This also supports Petersen and Rajan (1994) argument that older SMEs should have higher debt ratios since they should be higher quality firms. Age is also

significantly and positively related to short-term debt and total debt ratios among quoted firms. Quoted firms with longer years of business are significantly more likely to depend on short-term debt. However, the results reveal a statistically significant negative association with long-term debt ratio. This is expected for firms that are listed on the stock market, in that over time, they are in the position of attracting more equity investors and therefore are able to capture high equity finance.

Contrary to theorising, the results of this study show that size is positively related to short-term debt of SMEs. Size of the firm was also found to have statistically significant positive relationship with total debt ratio for the SME sample. In case of listed firms, the results show significantly positive signs for long-term debt and total debt ratios. The significantly positive relationships suggest that large firms are more likely to access long-term debt finance. Relatively larger SMEs find it easier to attract short-term credit (such as trade credits). In the quoted firms' sample, the results indicate that larger firms are more likely to acquire long-term finance in their operations. Past studies have also confirmed these findings (see Friend and Lang, 1988; Barton *et al.,* 1989; Mackie-Mason, 1990; Barclay and Smith, 1996; Kim *et al.*, 1998; Al-Sakran, 2001; Hovakimian *et al.*, 2004).

Consistent with the hypothesis, the results of this study show significantly positive relation between asset structure and long-term debt ratio, and significantly negative relation between asset structure and short-term debt ratio for the SME sample. The coefficient for the long-term debt of quoted firms is not significant, however, that of the short-term debt is negative and significant. The relationship between asset structure and total debt ratio is also negative for both sample groups. The findings generally signal the relevance of fixed assets (collateral) in securing long-term debt as shown by the direct relationship between asset structure and long-term debt, especially for SMEs. Since small firms are perceived as risky ventures, they are often required to provide more valuable collateral when applying for long-term debt financing. As the assets substitution effect is stronger within small firms, the owner has greater discretion, leading to higher monitoring costs by banks and other suppliers of long-term debt financing. This leads these institutions to require for more valuable collateral rather than concentrating on accounting information. With respect to the short-term debt for both sample groups, it is generally expected that firms tend to match their duration of

assets and liabilities. This means that firms with more fixed assets rely on more long-term debt while those with more current assets (or less fixed assets) depend on more short-term debt in financing their assets. In other words, they finance their fixed assets with long-term debt, and their current assets with short-term debt.

The results also reveal that all the debt ratios (long-term, short-term debt and total debt) appear to have inverse associations with profitability in both sample groups except short-term debt ratio in the case of listed firms. The results of this study confirm the hypothesis that less profitable firms are more likely to require external debt financing than more profitable ones. This implies that higher profits increase the level of internal financing; thus, firms that generate internal funds generally tend to avoid external debt finance. While profitable firms may have better access to debt finance than less profitable ones, the need for debt finance may possibly be lower for highly profitable firms if the retained earnings are sufficient to fund new investments. Therefore the more profitable the firm, the less need it has to borrow either long-term or short-term. This clearly supports the pecking order hypothesis, in that profitable firms initially rely on less costly internally generated funds and subsequently look out for external resources if additional funds are needed. In the case of SMEs, since they do not have access to the public equity, the theoretical predictions that seem to explain their capital structure is the "constrained" POT by Holmes and Kent (1991) and a "modified" POT by Ang (1991). This means profitable SMEs will initially rely on retained earnings, if they are unable to do this, they will seek debt financing. This is consistent with our hypotheses and previous findings by Esperança *et al* (2003) and Hall *et al* (2004).

The growth variable has a statistically and significantly positive association with only the long-term debt ratio of only the listed firms. This could be explained by the fact that growth is likely to put a strain on retained earnings and push the listed firms to borrow long-term. In other words, firms with high growth require more external financing to finance their growth. The result of the listed firms in this study suggests that growth is associated in a direct manner with financial leverage. If this is generally the case, then firms with high growth will require more external financing to finance their growth and should therefore display higher

leverage. This view is supported by previous empirical studies (Kester, 1986; Titman and Wessels, 1988; Barton *et al.,* 1989).

Contrary to the hypothesis of an inverse relationship, the results in the SME sample show direct relationships between risk and short-term debt, and total debt ratios. This may be explained by the positive association between the economic impact of small activity variations and leverage of the firm. This higher risk may leave the indebted small firm little choice but to demand short-term debt. This position is also supported by Scherr and Hulburt (2001) and Esperança *et al* (2003). Risk is not significant in the listed firms' sample.

Table 3.4: Regression Model Results

Variable	SMEs			Listed Firms		
	Long-term debt ratio	Short-term debt ratio	Total debt ratio	Long-term debt ratio	Short-term debt ratio	Total debt ratio
Constant	-0.1392	-0.3676	-0.5113**	-0.3223*	0.5598***	0.2342
	(0.1290)	(0.2237)	(0.2341)	(0.1844)	(0.1790)	(0.1973)
Age	0.0032***	0.0028	0.0057**	-0.0025***	0.0033***	0.0008*
	(0.0011)	(0.0023)	(0.0023)	(0.0008)	(0.0008)	(0.0005)
Size	0.0054	0.0448***	0.0481***	0.0206***	0.0017	0.0225***
	(0.0056)	(0.0094)	(0.0100)	(0.0074)	(0.0070)	(0.0072)
Asset Structure	0.0794**	-0.4739***	-3880***	0.0467	-0.5210***	-0.4766***
	(0.0361)	(0.0511)	(0.0520)	(0.0844)	(0.0805)	(0.0683)
Profitability	-0.0997**	-0.2578**	-0.3195**	-0.3149***	-0.1731	-0.4941***
	(0.0403)	(0.1260)	(0.1364)	(0.0903)	(0.1298)	(0.1277)
Growth	0.0029	-0.0001	0.0002	0.0539*	-0.0320	0.0217
	(0.0041)	(0.0122)	(0.0123)	(0.0304)	(0.0218)	(0.0297)
Risk	0.0075	0.0486**	0.0572**	-0.0999	-0.1386	-0.2261
	(0.0088)	(0.0224)	(0.0274)	(0.1291)	(0.1783)	(0.1819)
Education	-0.0052*	0.0004	-0.0033			
	(0.0029)	(0.0059)	(0.0060)			
Gender	0.0436***	-0.0328	0.0142			
	(0.0165)	(0.0438)	(0.044)			
Ownership	-0.0025	0.0439	0.0381			
	(0.0142)	(0.0307)	(0.0313)			
Export	0.0376	-0.1110**	-0.0605			
	(0.0280)	(0.0475)	(0.0509)			
Agriculture	0.3429**	0.1319***	0.2550**			
	(0.1178)	(0.0505)	(0.0274)			
Construction & Mining	-0.0034	-0.2431***	-0.2534***			
	(0.0312)	(0.0462)	(0.0473)			
Hospitality	0.0341	-0.1120	-0.0583			
	(0.0412)	(0.0797)	(0.0814)			
Information Technology	0.0108	-0.0292	-0.0023			
	(0.0244)	(0.0523)	(0.0557)			

Pharmaceutical & Medicals	0.0257 (0.0203)	-0.0782 (0.0722)	-0.0360 (0.0705)			
Trading	0.0023 (0.0343)	-0.0813 (0.0731)	-.00542 (0.0795)			
General services	0.0251 (0.0269)	-0.0997* (0.0559)	-0.0548 (0.0577)			
Kumasi	0.0421 (0.0432)	-0.1493*** (0.0449)	-0.0899* (0.0501)			
Cape Coast	0.0229 (0.0548)	-0.0445 (0.0677	0.0044 (0.0607)			
Takoradi	-0.0125 (0.0285)	0.2253*** (0.0766)	0.2329*** (0.0739)			
Koforidua	-0.0734 (0.0527)	-0.1024** (0.0505)	-0.0910 (0.0791)			
Sunyani	-0.0978*** (0.0291)	-0.1215** (0.0501)	-0.2196*** (0.0525)			
Tamale	-0.0746*** (0.0272)	-0.0950* (0.0544)	-0.1534** (0.0718)			
Ho	-0.0187 (0.0173)	-0.3594*** (0.0485)	-0.3671*** (0.0507)			
Partnership	0.0255 (0.0314)	0.3644*** (0.0985)	0.3941*** (0.1047)			
Limited Liability	0.0410** (0.0160)	0.1254*** (0.0486)	0.1672*** (0.0502)			
R-squared	0.2963	0.5288	0.5311	0.2149	0.4447	0.5333
Wald chi^2 (26)(6)	108.17	13802.45	23196.62	32.99	272.27	406.26
Prob > chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: (Standard Error), (***), (**), (*): significant at 1%, 5% and 10% respectively. The model was estimated via the FGLS heteroscedastic method. Gender is a binary variable with male as the reference term. Export is a binary variable with exporters as the reference term. Ownership of the business is also a binary variable with family-owned businesses as the reference term. The industry categorical variable has manufacturing as the reference point. Accra is the reference point for the location categorical variable. The business form categorical variable has sole-proprietorship as the reference term.

In terms of the heterodox factors in the SME sample, we found the educational level of the entrepreneur to be significantly and negatively related to long-term debt ratio, contrary to our expectation. It may well mean that highly educated entrepreneurs are more likely to open up to external equity capital and may be more willing to invite new equity investors. This is not likely to be the case with less educated entrepreneurs who may still want to maintain control by employing debt finance. A possible interpretation is the fact that highly educated owners may be over-confident in their loan applications and apply for more than they can reasonably expect. Less educated owners with less formal businesses may be more cautious, and therefore enjoy a better success rate. This confirms the findings of Green *et al* (2002).

Gender was found to be statistically significant and positively related to the long-term debt ratio, indicating that male-owned SMEs are significantly more likely to employ more long-term debt than female-owned SMEs. This appears to support the results of earlier studies that female-owned firms have greater difficulty accessing debt finance (see Riding and Swift, 1990; Brush, 1992; Scherr *et al.*, 1993; Aryeetey *et al.*, 1994). Other studies attribute the causes as being sexual stereotyping and discrimination in the lending process placing women at a disadvantage. Women are said not to network as effectively as men. Therefore, they may not have the same access to sources of information and capital. It is also argued that women lack personal assets and a credit track record to qualify them for accessing debt finance. This finding supports hypothesis 10a.

We also found that family-owned SMEs are not less likely to use debt than non-family-owned or group-owned SMEs. The ownership variable is not significant in the regression model, meaning both family-owned and group-owned SMEs do have equal access to sources of debt finance. Exporting firms are found to be significantly less likely to depend on short-term debt. The export variable is not significant in the long-term debt model.

With manufacturing as the reference, agriculture appears to be significantly and positively related to all debt ratios (long-term, short-term, and total debt ratios). This suggests that the agricultural sector depends on more long-term and short-term debt than the manufacturing sector. This finding is not surprising in the case of Ghana, where the government sees the agricultural sector as very strategic to the growth of the economy and as such seems to be

providing much support for the industry through innovative financing schemes. Compared to manufacturing, construction & mining is significantly and negatively related only to short-term debt ratio. The construction & mining industry is significantly less likely to employ more short-term credit than the manufacturing sector. The sign in the long-term debt model is insignificant. The signs for hospitality, information technology, pharmaceutical & medicals services, trading, and general services industries are also not significant in both the long-term and short-term debt models.

With respect to location, all the other locations exhibit statistically significant negative interaction with short-term debt compared to the reference point (Accra), except Takoradi, which exhibits a positive relation with short-term debt. Long-term debt is not significant in all the other locations, with the exception of Sunyani, which shows a significantly negative relation with long-term debt. The results generally suggest that SMEs located outside the capital city (Accra) encounter greater difficulty in acquiring debt especially short-term debt finance.

The results of this study also indicate that partnerships and limited liability companies are significantly more likely to obtain debt finance compared to sole-proprietorships. It is generally believed that sole proprietorships are smaller than other organisational forms in terms of asset value, sales volume and number of employees and therefore may encounter greater difficulties in accessing external debt finance compared to partnerships and limited liability companies. In the case of limited liability companies, we found that the coefficients for both long-term debt and short-term debt are positive and statistically significant, signaling the fact that shareholders of limited liability are capable of invoking their limited liability status in case of default and the firm is being wound up. This finding clearly contradicts our hypothesis and the position of Brewer *et al* (1996).

3.5   Conclusion and Implications

This paper compared the capital structures of large, publicly quoted firms and unquoted SMEs in Ghana. It also examined the determinants of capital structure decisions for the two sample groups. Publicly quoted firms were found to exhibit significantly higher debt ratios

than SMEs do. The regression results indicated that the age of the firm has statistically significant positive relationships with long-term and total debt ratios among SMEs. Age was also significantly and positively related to short-term debt, and total debt ratios among quoted firms. However in the case of quoted firms, the results revealed a statistically significant negative association between age and long-term debt ratio. Size of the firm was found to have statistically significant positive relationships with short-term debt and total debt ratios of SMEs. In the case of large firms, size was found to have positive associations with long-term debt and total debt ratios. The results revealed significantly negative relations between asset structure and the debt ratios, except in the case of SMEs, where the long-term debt model was positive, and the long-term debt ratio of large firms, which was insignificant. The results of this study seem to support the pecking order hypothesis, given that all debt ratios for both sample groups (except short-term debt ratio of large firms) registered significantly negative associations with profitability. In the case of SMEs, since they do not have access to public equity, the theoretical predictions that seem to explain their capital structure is the "constrained" POT by Holmes and Kent (1991) and a "modified" POT by Ang (1991). This means profitable SMEs will initially rely on retained earnings, if they are unable to do this, they will seek debt financing. Firm growth was found to be significant and positive only in the long-term debt model of listed firms. Only the SME sample showed significantly direct relationship between risk and short-term, and total debt ratios.

With respect to the heterodox factors in the SME sample, we found the educational level of the entrepreneur to be significantly and negatively related to long-term debt ratio, contrary to our expectation. Male-owned SMEs seem to have easier access to long-term debt finance than female-owned SMEs do. We also found that family-owned SMEs are not less likely to use debt than group-owned SMEs. Exporting firms were found to be significantly less likely to depend on short-term debt. The results of this study also support the argument that industry effect is important in explaining the capital structure of SMEs and that there are variations in capital structure across various industries. The results also showed that SMEs located outside the capital city encounter greater difficulty in acquiring debt, especially short-term finance. We also found that partnerships and limited liability companies were significantly more likely to obtain external debt finance more easily than sole-proprietorships.

The results of this study have providered some insights into the capital structure of Ghanaian SMEs. Clearly, the issue of capital structure is an important strategic financing decision that SMEs have to make. However, the results have shown that SMEs are often discriminated against, since age, size, and asset 'collateralbility' are used as measures for SMEs' access to long-term credit. It is essential to put in place strategies aimed at developing the Ghanaian long-term capital market. Government and donor funding agencies could consider developing long-term innovative financial packages for Ghanaian SMEs. Policy makers would have to place greater emphasis on the facilitation of equity capital since it provides a base for further borrowing, reduces businesses' sensitivity to economic cycles, and provides SMEs with access to syndicates of private and institutional venture capital suppliers. There could also be policies aimed at encouraging SMEs to access public equity capital through the reduction of listing requirements and subsidising flotation cost. This should enable SMEs to restructure their financing so as to rely on less debt, particularly short-term debt, and thereby improve their liquidity. Also, for academics, trainers and consultants, it may be beneficial to help SMEs access equity capital and to work at structuring deals that minimise perception of threats to control.

This current study has also contributed to the growing body of literature on discrimination in small business debt financing by providing new and strong evidence from Ghanaian data, and also sheds light on influences of form of ownership on SMEs' debt financing. It is essential to consider giving female-owned businesses access to long-term credit on more flexible terms. Financial institutions should be encouraged to have special credit schemes for promoting female-owned businesses in the country. There should be incentives for developing female banking models in Ghana like the Women's World Banking. Government, for instance could grant tax relief to financial institutions that focus more on financing female-owned SMEs. Government and donor funding agencies should consider developing special funding packages for promoting female-owned SMEs. The newly created Ministry for Women and Children's Affair should also be proactive in sourcing funding to establish long-term financing schemes under the ministry which would focus on supporting female-owned SMEs in Ghana. It is hoped that these policy directions would not only help improve female-owned SMEs' access to long-term finance but would also encourage women to aspire to be entrepreneurial. There is the need to also consider creating regional financing

schemes for SMEs in the various regions of the country. Sole-proprietorship SMEs are encouraged to move towards more organised forms of business such as limited liability companies, since such firms are often viewed positively by debt finance providers. SMEs with limited liability status tend to gain access to debt finance more easily than SMEs that are sole-proprietors can do.

Overall, Ghanaian SMEs show different financial behaviour from that of large, publicly listed frms, confirming evidence from other countries.

3.6 References

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CHAPTER FOUR

SMES' RELIANCE ON BANK FINANCE AND THEIR PERCEPTIONS OF NON-BANK FINANCING INITIATIVES IN GHANA[‡]

4.1   Introduction

SMEs have been noted as important contributors to economic development. In many countries, SMEs make up the majority of businesses and contribute largely to employment (Mullineux, 1997a). There is also a general consensus that the performance of SMEs is important for both the economic and social development of developing countries (Levy *et al.*, 1999). The economic and social contributions of SMEs suggest that it is in the public interest for SMEs to thrive (Fisher and Reuber, 2000). However, they often have difficulties obtaining finance to support their operations. Biekpe (2004), for instance argues that most small businesses, especially in sub-Saharan Africa fail in their first year due to lack of support from government and traditional banks.

Previous empirical studies have identified a disparity between the demand for bank credit by SMEs and the supply of funds by banks in Ghana. According to Sowa *et al* (1992), most SMEs in Ghana complain that, lack of credit limits their operations. Some complain about the cumbersome banking procedures and the difficulty in accessing bank loans. It has been observed in Ghana that only a half of SMEs' applications for formal finance such as bank loans have any chance of being favourably considered (Aryeetey, 1998). Aryeetey (1998) found that about two-thirds of microenterprise loan applications were likely to be turned down. The main reason given by bankers for the high rejection rates is the absence of viable and bankable projects, but entrepreneurs gave the lack of collateral as the principal reason.

[‡] Two papers have been published out of this chapter. They are: 1. Small Business Financing Initiatives in Ghana, *Problems and Perspectives in Management*, Vol. 4(3), pp. 69 - 77, 2006.
2. "Small Business Reliance on Bank Financing in Ghana", *Emerging Markets Finance and Trade,* Vol. 43(1), 2007, USA (forthcoming).

A paper based on this chapter was presented at the Second African Finance Journal Conference at the University of Stellenbosch Business School, Cape Town, South Africa, July, 2005.

Bigsten *et al* (2000) agreed in their study that about 90% of small firms are refused loans from the formal financial intermediaries, due to their inability to fulfill conditions such as collateral security. Buatsi (2002) also confirmed that small and medium-scale exporters in Ghana have difficulties accessing bank loans due to the high interest rates and collateral requirements. The main financial challenge facing SMEs in Ghana is access to affordable credit over a reasonable period. This, according to Tagoe *et al* (2005) is determined by the financing needs of SMEs and the action of investors. They suggest that SME financing needs reflect their operational requirements, while the action of investors depends on their risk perception and the attractiveness of alternative investment, which affects their willingness to invest. These studies however focused mainly on the problems that SMEs face in accessing bank loans. What determines SMEs' access to bank finance still remains unexplored in the Ghanaian literature.

This current study examines the determinants of bank financing among SMEs in Ghana by employing a panel regression model. The paper also investigates SMEs' awareness and use of financing initiatives (quasi-commercial credit) other than commercial finance by the conventional financial institutions available to SMEs in Ghana. The issue is of critical significance given the important role SMEs play in the Ghanaian economy. For the current Ghana government's slogan of "Golden Age of Business" to succeed and for the country to reach the per capita income of US $1,000 by 2012, there is a need to steadily increase the rate of economic growth from the present level of 4-5% to 7-10%. Given that SMEs represent a vast portion of the firm tissue in Ghana, they have an important role to play in spurring growth.

The layout of the remainder of the paper is as follows: the next section gives an overview of SME development and bank financing in Ghana. Section 4.3 provides a review of the literature on small business finance. Section 4.4 explains the methodology employed for the study. The empirical results are presented and discussed in section 4.5. Section 4.6 concludes the discussion and considers some implications of the study.

4.2   Overview of SME Development and Bank Financing in Ghana

The idea of SME promotion has been in existence since 1970 though very little was done at the time. Key institutions were set up to assist SMEs and prominent among them are the Office of Business Promotion and the present Ghana Enterprise Development Commission (GEDC). The main objective of GEDC was to assist Ghanaian businessmen to enter into fields where foreigners mainly operated. It also provided packages for strengthening small scale industry in general, both technically and financially (Kayanula and Quartey, 2000).

The Economic Recovery Programme (ERP) instituted in 1983 broadened the institutional support for SMEs. The National Board for Small Scale Industries (NBSSI) was also established within the Ministry of Industry, Science and Technology to address the needs of small businesses. The NBSSI established an Entrepreneurial Development Programme, intended to train and assist persons with entrepreneurial abilities to take up self-employment. In 1987, the industrial sector also witnessed the coming into operation of the Ghana Appropriate Technology Industrial Service (GRATIS). It was to supervise the operations of Intermediate Technology Transfer Units (ITTUs) in the country. GRATIS aims at upgrading small-scale industrial concerns by transferring appropriate technology to small-scale and informal industries at the grass roots level. ITTUs in the regions are intended to develop the engineering abilities of small-scale manufacturing and service industries engaged in vehicle repairs and other related trades. They are also meant to address the needs of non-engineering industries (Kayanula and Quartey, 2000). The setting up of the new Ministry for Private Sector Development by the current government is also an attempt to focus on the development of the SME sector.

The most significant institutional weakness facing dynamic SMEs is their lack of access to external finance. Repressive financial policies in the past, especially low interest rates, and a monopolistic banking system minimised the interest of banks in developing this market. To reverse the consequences of these practices, a combination of financial liberalisation and institutional reform became imperative (Aryeetey *et al.*, 1994).

In view of the relatively low level of response from the private sector to early ERP reform measures the focus was on the liberalisation of various sectors, including the financial sector under the Financial Sector Adjustment Programme (FINSAP). Under the FINSAP, direct institutional measures aimed at supporting small enterprises were also put in place. With the assistance from the World Bank, the Programme of Action to Mitigate the Social Costs of Adjustment (PAMSCAD) created a special fund to assist microenterprises, and the Fund for Small and Medium Enterprises Development (FUSMED) was initiated to increase the amount of credit available to SMEs through commercial and development banks. This was based on the presumption that the lack of availability of credit from formal sources was one of the major reasons why private sector investment had not grown as expected. A major argument was that small firms with good growth potential were being discriminated against (Aryeetey *et al.*, 1994). At the same time, however, the effectiveness of many similar SME credit schemes was being called into question (Webster, 1991).

There are currently a number of financing schemes set up by government and the donor agencies available to the SME sector, including Private Enterprises and Export Development Fund, Export Development and Investment Fund, Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ), Business Assistance Fund, Ghana Investment Fund, Trade and Investment Programme, Africa Project Development Facility, Support for Private Enterprise Expansion and Development, Promotion of Small and Micro Enterprise Fund, Business Sector Programme Support, Revolving Loan Fund, Ghana Private Sector Development Fund etc. In spite of these developments, the finance gap continues to be a major problem to SME development in Ghana.

Prior to the Financial Sector Adjustment Programme (FINSAP), lending to the SME sector was constrained because of the global and sectoral lending ceiling in force at the time. With these ceilings lifted and interest rates freed, SME lending increased by about 20%. However, banks were willing to increase lending to SMEs only if there existed some attractive lending opportunity at reasonably manageable levels of risk and the availability of outside credit funds at a reference rate which makes it possible for banks to cover their costs and realise a satisfactory return (Aryeetey *el al.*, 1994).

Though the liberalisation progamme positively affected incentives to lend, other measures taken to stabilise the economy and strengthen the banking system had a short-run negative impact on credit availability for SMEs. Tight monetary policies resulted in higher interest rates on government paper than on loans to commercial clients, leading in turn to non-competitive higher rates of lending to SMEs. Banks would prefer putting their resources into government-issued bills and bonds to lending to the SME sector. Efforts to improve on portfolio performance led banks to centralise decision-making and maintain their insistence on landed property as collateral – often a stumbling block for SMEs.

The reforms have yielded some positive results since some banks now show a growing interest in developing small business clients. Since September 1991, Ghana Commercial Bank, the largest commercial bank in Ghana for instance has been decentralising its lending system to give more authority to regional and branch managers. All loan applications are now routed through the branches, and credit analyses are done by credit officers installed at regional offices and some branch offices (Aryeetey *et al.*, 1994). A number of banks have now set up SME departments to focus on the lending to the SME sector. With banks free to set interest rates, increasing competition among banks and lower rates on government securities, some banks have started to view SME lending as a possible profitable market niche. It is important to emphasise that, though access to bank credit appears to be opening up, it is occurring only very gradually and mainly for well-established SME clients rather than start-ups.

There have been recent developments in the financial and macroeconomic management of the country which would help further free up credit to the SME sector. The central bank (Bank of Ghana) revised the prime rate downwards from 18.5% to 16.5% at the end of May 2005. The volume of government-issued securities continued falling and so did the rates. The two main reasons for the falling rates are the signal from the prime rate and the dwindling of the public sector borrowing requirement. During the month of June 2005 the Bank of Ghana also announced a reduction in the secondary reserve for banks from 35% to 15%, which is compulsorily invested in government securities. These developments will certainly make more money available for banks to expand private sector lending, especially to SMEs, and consequently increase SMEs' access to long-term finance. However, in order

to boost such positive developments, additional measures may be needed to address the problems of poor information, high cost and risks involved in small business lending.

4.3   Literature Review

Banks make available a wide variety of loans to a wide variety of customers for many different purposes. However, small businesses often encounter difficulties when applying to providers of finance for credit to support fixed capital investment and to provide working capital for their operations (Tucker and Lean, 2003). Small business owners complain that they cannot find the funds they need to satisfy their financing needs given that they do not have access to public capital.

Prior research has noted that banks are a major source of external capital for small firms (see Scherr *et al.*, 1993; Petersen and Rajan, 1994; Cole and Wolken, 1995). However, small firms find it more difficult to obtain bank loans than do large firms (Peterson and Schulman, 1987; Orser *et al.*, 1994). Binks *et al* (1992) caution that restricted access to bank debt by small businesses may not be directly attributable to their size, but rather to problems associated with the availability of information from which projects are evaluated (information asymmetry). They argue that such information problems are not peculiar to the small business sector alone, but are predominant there because of the anticipated (proportionately) higher costs of information-gathering associated with that sector. Binks *et al* (1992) suggest that the provision of finance by a bank to a firm could be considered as a simple contract between the two parties in which the bank is the principal and the small firm is the agent. This relationship potentially leads to the problem of information asymmetry.

The information asymmetry problem may not only result in good lending prospects being rejected by finance providers, but also poor prospects being accepted by providers (Altman, 1968). Altman defined the latter as a Type I error and the former as a Type II error. In theory, the provider can reduce the risk of Type I/II errors by carefully screening firms at the outset and monitoring projects during the life of the loan. However, screening and monitoring are high-cost activities associated with the lending proposition. If the lender is to recoup these costs, then borrower interest rates may be increased, additional risk may be

covered by demanding collateral or may be avoided altogether by rejecting the loan application. Of the Altman error categories, it is the Type II error which is of most concern to the small business sector - that is, a good investment project which is incorrectly rejected by the lender (Tucker and Lean, 2003). Common occurrence of this type of lending error would contribute significantly to a finance gap. It is important to note that information asymmetry may be even more acute in the case of small firms as, having discovered good investment opportunities, they are usually reluctant to disclose relevant confidential information to outsiders who are capable of stealing their ideas (Peterson and Schulman, 1987).

Providers of funds generally prefer borrowers who have a good track record of profitability, some degree of longevity, and assets that can be used as collateral (Cole and Wolken, 1995; Ennew and Binks, 1995). In minimising the risk associated with dealing with potential loan borrowers, banks employ certain strategies. They may raise the interest rate on loans to riskier borrowers such as small businesses to reflect the greater uncertainty of repayment (Berger and Udell, 1995). Petersen and Rajan (1994) confirm in their study that smaller firms pay higher interest on loans than larger firms. Another strategy is collateral requirement which could be managed or liquidated to pay off the loan in case of default. A number of studies have noted that a high percentage of loans are granted on a collateralised basis (see Boot *et al.*, 1991; Ang *et al.*, 1995; Berger and Udell, 1995; August *et al.*, 1997) and that these loans are associated with risky borrowers. A third strategy for minimising risk is to develop long-term relationships with borrowers. Over time, lenders have a good opportunity to get enough information on the firm and to learn more about the company. This puts the lender in a better position to make the right decisions on loan applications (Coleman, 2000). Some studies also found that firms with longer-term banking relationships were monitored less frequently and charged lower rates of interest (see Petersen and Rajan, 1994; Berger and Udell, 1995; Blackwell and Winters, 1997).

However, it is argued that the problem with information asymmetry and its resulting effects are further compounded by certain trends that are evident in the banking sector. First, competition in the banking sector is leading to greater market concentration (Tucker and Lean, 2003). This has an important impact on the market for small firm finance, as there is

evidence that larger/universal banks are less well placed to build close relationships with small business customers than smaller/regionally-based banks (Bannock and Doran, 1991; Binks *et al.*, 1991). Second, a broad evolving trend is that banks are further centralising business lending decisions and/or limiting branch manager discretion to lend outside of very strict policy guidelines. The ultimate lending decision maker has thus become even more remote to the small business borrower. Third, although authors such as Binks and Ennew (1996) argue that the introduction of expert systems and other knowledge-based decision support systems to bank lending should reduce information costs while raising quality and consistency in lending decisions, such developments may actually lead to greater unwillingness to lend to firms with non-standard projects, particularly in highly-innovative or high-technology sectors. Fourth, recent evidence reveals a decline in the use of bank overdraft facilities and a move towards term-loan lending among businesses (Binks and Ennew, 1996). The result might be more cautious lending by banks as such loans are not repayable on demand. Tucker and Lean (2003) add that there is likely to be a greater demand for collateral (business or private) to support loans with a longer maturity.

It is useful at this point to also examine the problems faced by small firms when attempting to raise finance. The nature of the information asymmetry problem on the firm's side is that it cannot prove the quality of its investment projects to the provider of finance (usually the bank). Small firm managers often suffer from a lack of financial sophistication, as they are often product or service specialists, not specialists in the area of finance. Thus, the information asymmetry problem is partly one relating to difficulties in the spheres of communication and credibility. This is compounded by the fact that new or recent start-up businesses may be unable to provide evidence of a good financial performance track record. Banks in particular rely on past financial performance as an indicator of the future profitability of projects (Tucker and Lean, 2003). A closer relationship between the bank and the firm should reduce the information asymmetry regarding the firm's understanding of the lending constraints faced by bank managers (Watson, 1986).

Other small firm financing problems relate to the characteristics of the firm itself and the attitude and objectives of the owner-manager. Such characteristics include their diversity, their higher risk, their inability to provide strong collateral, and stage of development effects.

Binks and Ennew (1996), note that there is no such thing as a typical small firm. This heterogeneity presents lenders with great difficulty in determining the risk associated with the firm's projects. Owing to the lack of business experience of many small owner-managers in the early years of the business, business risk may be more significant than for larger firms. Small firms generally have smaller financial reserves to draw on in times of crisis and are also relatively highly geared compared to larger firms due to the difficulty and expense of attracting new equity finance. Thus, such firms are characterised not only by higher business risk, but also higher financial distress risk. Banks tend to respond to this risk by adopting a capital-gearing rather than an income-gearing approach to lending. Thus, rather than focusing their attention on evaluating the income streams flowing from an investment project, they may focus more on the value of collateral available in the event of financial distress. This creates a problem for small firms in that they often do not have significant fixed assets to secure a loan in their early years of establishment. The stage of development, then, may be an important determinant of, and constraint on, the type and amount of external finance raised. Small firm financing, then, will typically be heavily secured debt, with few incidences of external risk capital contribution (Cruickshank, 2000).

The motives and objectives of the owner-manager can greatly influence an SME's ability to secure external finance. Owner-managers are often unwilling to provide their personal assets as collateral. Besides, many SMEs have objectives other than growth as a priority (Tucker and Lean, 2003). Binks and Ennew (1996), however, argue that many small firms will be forced to provide yield expansion to protect their limited liability status (which would otherwise be eroded by the provision of personal assets as loan collateral). One main motive for starting a small business is to maintain greater control over the operation of the business and to internalise the benefits of personal effort and risk-taking. In this regard, it is understandable that many SME managers would not tolerate any dilution of this control through the introduction of outside equity. Thus, the motives of owner-managers of SMEs may constitute a major constraint on the range of external financing sources available to the firm (Tucker and Lean, 2003).

In summary, SMEs access to bank lending could be enhanced by the provision of adequate collateral, good track record and longer business relationship. The objectives of this study

are to empirically examine the determinants of bank financing of SMEs and also investigate SMEs' level of awareness and use of non-bank financing initiatives in Ghana.

4.4   Research Methodology

The methodology of this study is made up of two parts. Sub-section 4.4.1 addresses the first objective of the study while sub-section 4.4.2 deals with the second objective of the study.

4.4.1   SMEs and Bank Financing

This part of the methodology deals with the determinants of bank financing of Ghanaian SMEs by employing firm-level characteristics, which have been identified in previous empirical studies examining financial structure of SMEs. The firm-level characteristics include age of the firm, profitability, size of the firm, asset tangibility, and growth.

4.4.1.1 Sample and Variables

Empirical analysis is based on a sample of 105 SMEs drawn from the Association of Ghanaian Industries' database of firms and that of the National Board for Small Scale Industries. The sample selection was based on the criteria set by the Regional Project on Enterprise Development for SMEs in Ghana. That means firms with employee size of less than 100 were included in the study sample. The data was derived from the financial statements of these firms during the six-year period 1998–2003. The data was unbalanced panel. Information on age of the firm was obtained directly from the firms. This study focuses on SMEs which had bank finance in their balance sheets during the said period. Bank finance is made up of long-term and short-term bank debt. Long-term bank debt ratio and short-term bank debt ratio are the dependent variables. Long-term bank debt or loan represents the proportion of the firm's debt finance obtained from banks which is repayable beyond one year. Long-term bank loans are typically used to finance the firm's investment projects. Short-term bank debt is the firm's debt finance obtained from banks which is repayable within one year such as bank overdraft. Short-term bank credits are used mainly in financing the operational cycles or working capital of the firm. These measure the role of bank financing in the SME sector. The explanatory variables include age, profitability, size, asset tangibility, and growth.

Firm age is included in the model as a proxy for reputation. It is believed that as a firm remains longer in business, it establishes itself as a continuing business and this therefore increases its capacity to take on more debt; hence age is positively related to debt. In the credit-evaluation process banks tend to evaluate the creditworthiness of entrepreneurs, as they are generally believed to pin high hopes on very risky projects promising high profitability rates. Diamond (1989) suggests the use of firm reputation in dealing with the problems associated with the evaluation of creditworthiness. He refers to reputation as the good name a firm has built up over the years, which is understood by the market and which has observed its ability to meet its obligations in a timely manner. Rajan (1992), and Petersen and Rajan (1994), among others, argue that a long lending or banking relationship reduces the severity of the information asymmetries experienced by the bank by providing it with information on the borrower's credit history, her account movements, and the personal behaviour of the firm's manager. Timmons (1994) observes that capital requirements are different at different stages of a firm's growth. Young firms may be able to draw capital from internal sources such as earnings and informal sources such as family and friends. As the successful firm grows, however, more capital is required to finance growth, and the firm typically needs at some point to turn to external sources such as banks. Consequently, the expected sign is positive.

Profitable firms have a low bankruptcy risk and therefore are capable of attracting more bank loans (Storey, 1994). Profitability is measured as earnings before interest and taxes divided by total assets. The higher a firm's profitability, the lower the probability of default and the higher the probability of being successful in obtaining bank loan. This suggests that highly profitable SMEs can easily access more bank finance. A positive relationship between profitability and bank debt ratio is therefore expected.

Firm size, measured as the logarithm of total assets in the model, represents either the largeness or smallness of the firm. The bigger the firm, the lower the probability of default, which in turn is related to higher diversification, availability of collateral, or commercial success. As a result, its expected effect on the probability of obtaining credit is positive. Smaller firms on the other hand may find it relatively more costly to resolve information asymmetries with lenders, and thus may present lower debt ratios. Smaller enterprises have

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greater problems with bank credit than larger firms, since the success rate for large firms applying for bank loans, for instance, is higher than that of smaller firms (Aryeetey *et al.,* 1994). Firm size is predicted to be positively related to the bank debt ratio of SMEs. Diamond (1991) and Ooi (2000), however, found in the case of large firms that size of the firm is negatively related to bank debt ratio.

Asset tangibility is operationalised as tangible fixed assets of the firm divided by total assets. The ratio of tangible fixed assets to total asset is seen as the appropriate measure of collateral value. In the area of bank financing, it is suggested that SMEs' access to finance, especially long-term loans will depend upon whether the lending can be secured by tangible assets (Boot *et al.*, 1991; Storey 1994; Ang *et al.*, 1995; August *et al.*, 1997; Berger and Udell, 1995, 1998). SMEs that invest heavily in tangible fixed assets tend to have higher bank debt ratios. Tangible fixed assets can be used as collateral, thereby reducing the bank's potential losses for a given interest rate and discouraging moral hazard behaviour. It is therefore hypothesised that a positive relationship between asset tangibility and bank debt ratio will exist.

Growth is also measured as growth in sales. Firms with high growth will generally capture relatively higher debt ratios. According to Hall (2004), growth is likely to place a greater demand on internally generated funds and push the firm into borrowing (Hall *et al.,* 2004). It is expected that firms with high growth opportunities will require more external financing to finance their growth and therefore should display higher leverage (Kester, 1986; Titman and Wessels, 1988; Barton *et al.,* 1989). The firm's growth potentials represent its prospects and may convey valuable information to the bank regarding the firm's ability to defray its loan obligations. Banks perceive firms with high growth potential as having lower probability of default and therefore are more willing to extend credit to this segment of firms. Growth is predicted to be positively related to bank debt ratio.

4.4.1.2 The Model
The firm's reliance on bank loans depends on firm-specific variables. This study adopts the model used by Ooi (2000) with modifications where necessary. The new model considers the relationship between bank debt ratios (long-term and short-term) and age of firm,

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profitability, size of the firm, asset tangibility, and growth. The model for the empirical investigation takes the following form:

$$y_{it} = \alpha X_{it} + \eta_i + \lambda_t + \upsilon_{it} \dots\dots\dots\dots (1)$$

where: y_{it} represents both long-term bank debt ratio (long-term bank debt/total debt for firm i in time t) and short-term bank debt ratio (short-term bank debt/total debt for firm i in time t), X_{it} is a vector of firm level characteristics, η_i is the individual specific effects, λ_t is the time specific effects, and υ_{it} is the residual term.

We apply the Generalised Least Square (GLS) panel regression model, which is appropriate for an unbalanced panel (see Baltagi, 1995) to test the hypotheses presented in the preceding subsection. The panel data set is useful, because it allows for the sorting out of the economic effects that cannot be distinguished with the use of either cross-section or time series data alone. The method of pooling cross-sectional and time-series data is however susceptible to heteroscedasticity. This was corrected using White heteroscedastic-consistent standard errors and covariance.

4.4.2   *Small Business Financing Initiatives*

This part of the methodology addresses the issue of SMEs' financing initiatives. In order to ascertain the potential role of government policy to support other financing initiatives, it is imperative to determine the use and awareness of the various financing sources available to the SME sector and also to investigate issues that are of importance to SME financing. A questionnaire survey was carried out based on a sample of 200 SMEs (firms with less than 100 employees) drawn from the database of the National Board for Small Scale Industries and that of the Association of Ghana Industries. The firms were also drawn from all industrial and service sectors in Ghana. Pre-testing exercises were done to inform the shaping of the final field questionnaire. This was particularly important given the often sensitive nature of such questions.

The field survey was carried out between January and September 2005. Out of the total of 200 questionnaires, 125 were received back from respondents representing a response rate of

62.5%. The resulting response rate is high for a survey of this type considering that empirical studies involving SMEs have been known to generate far lower percentage response rates. In order to determine the perception of ease of accessing the financing schemes, responses were measured with a five-point Likert rating scale, where very difficult = 1 and very easy = 5. Data obtained from respondents were entered into an "SPSS" database application for analysis. Descriptive statistics were used in the presentation and analysis of results of the second objective of this study.

4.5 Empirical Results

4.5.1 SMEs and Bank Financing

4.5.1.1 Descriptive Statistics of Regression Variables

Table 4.1 provides a summary of the dependent and independent variables. It reports the mean statistics for attributes of the firms included in the sample. Firm age has a mean (median) age of 11.2082 (8.0). This means that on the average, SMEs in our sample have been in business for 11 years. Profitability shows a mean (median) value of 0.1134 (0.0866), suggesting a return on assets of 11.34%. Size in terms of value of total assets has a mean (median) of 6.84E+09 (1.81E+09) Ghanaian cedis. Asset tangibility has a mean (median) of 0.4453 (0.4153), indicating that tangible fixed assets account for 44.53% of total assets. The average (median) growth rate is 43.99% (32.34%).

Table 4.1: Descriptive Summary Statistics of Regression Variables

Variable	Mean	Std. Dev.	Minimum	Median	Maximum
Long-term bank debt ratio	0.0614	0.1953	0.0000	0.0000	0.9937
Short-term bank debt ratio	0.1794	0.2690	0.0000	0.0199	0.9261
Age	11.2082	8.3484	1.0000	8.0000	43.0000
Profitability	0.1134	0.1962	-0.7712	0.0866	1.6393
Size	6.84E+09	1.52e+10	11509706	1.81E+09	1.40E+11
Tangibility	0.4453	0.2992	0.0006	0.4153	0.9999
Growth	0.4399	0.1962	-0.7240	0.3234	4.2565

With respect to our investigation of SMEs' reliance on bank borrowings, the financial statements identified explicitly the long-term and short-term debt finance employed by the firms that constitute bank borrowing. The reported figures only reflect bank loans and credit which are actually outstanding and do not take into account undrawn loan commitments. Although the amount of non-bank debt is not reported, it can be inferred by deducting the amount of total bank debt from total debt outstanding. The mean long-term bank debt and short-term bank debt ratios are 0.0614 and 0.1794 respectively, indicating a total bank debt ratio of 0.2408. This suggests that on average, less than a quarter of SMEs' debt financing is obtained from banks with short-term bank debt representing a greater proportion of total bank finance.

4.5.1.2 Correlation Coefficients of Regression Variables

To examine the possible degree of collinearity among variables, a correlation matrix of the dependent and independent variables is included in Table 4.2. Long-term bank debt is significantly and negatively correlated with profitability but has significantly positive correlations with size and asset tangibility. Short-term bank debt has a significantly positive correlation with size, but a significantly negative correlation with growth. The results show significantly positive correlation between age and size. Age is significantly and negatively correlated with asset tangibility, and growth. The results indicate that profitability has a significantly negative correlation with asset tangibility but a significantly positive correlation with growth. Generally, the correlation coefficients are not sufficiently large to cause collinearity problems in the regressions.

Table 4.2: Correlation Matrix

	Long-term bank debt	Short-term bank debt	Age	Profitability	Size	Tangibility	Growth
Long-term bank debt	1.0000						
Short-term bank debt	-0.1295* (0.0054)	1.0000					
Age	0.0600 (0.2321)	0.0630 (0.2049)	1.0000				
Profitability	-0.0847* (0.0691)	-0.0648 (0.1615)	-0.0212 (0.6688)	1.0000			
Size	0.1360* (0.0035)	0.0834* (0.0714)	0.0926* (0.0616)	-0.0444 (0.3368)	1.0000		
Tangibility	0.3520* (0.0000)	-0.0565 (0.2217)	-0.2409* (0.0000)	-0.0833* (0.0707)	-0.0390 (0.3986)	1.0000	
Growth	-0.0066 (0.9106)	-0.1397* (0.0155)	-0.1277* (0.0392)	0.1155* (0.0449)	-0.0934 (0.1053)	-0.0119 (0.8362)	1.0000

Note: *P*-values are in brackets

4.5.1.3 Regression Results

Table 4.3: Regression Coefficients

Variable	Long-term bank debt				Short-term bank debt			
	B	Std-error	t	Sig.	*B*	Std-error	t	Sig.
Age	0.0029	0.0002	12.5692	0.0000	0.0009	0.0006	1.3863	0.1668
Profitability	-0.0582	0.0147	-3.9645	0.0001	-0.0542	0.0135	-4.0191	0.0001
Size	0.0144	0.0018	7.9990	0.0000	0.0313	0.0028	11.2186	0.0000
Tangibility	0.1491	0.0205	7.2538	0.0000	0.0341	0.0229	1.4871	0.1382
Growth	0.0003	1.41E-05	18.0011	0.0000	-0.0163	0.0055	-2.9335	0.0036
Constant	-0.3489	0.0428	-8.1964	0.0000	-0.5533	0.0665	-8.3216	0.0000
R^2		0.0713				0.1164		
Adjusted R^2		0.0563				0.1000		
S.E. of regression		0.1925				0.2421		
F-statistics		4.7569		0.0000		7.1150		0.0000

The panel regression model is used to estimate the effect of each explanatory variable on the long-term bank debt and short-term bank debt ratios. The GLS panel was found to be the most robust after testing for various options of the panel data regression such as Fixed Effects and Random Effects. The results of the GLS White heteroscedastic-consistent standard errors panel regression are therefore presented in Table 4.3.

The empirical results show that age has a significantly positive relationship with long-term bank debt ratio. This could be explained by the fact that older SMEs, in terms of how long they have been in business or the length of the banking relationship they have with banks, tend to have good track records and therefore experience fewer problems acquiring long-term bank loans. Relatively older and experienced SMEs appear to have high credit ratings and therefore gain access to bank loans more easily compared to their newer counterparts. The findings support those of Rajan (1992), and Petersen and Rajan (1994). They argue that a long lending relationship reduces the severity of the information asymmetries experienced by the bank by providing it with information on the borrower's credit history, her account movements, and the personal behaviour of the firm's manager. It is important to also note that the decision of the bank to lend/not lend to new firms is assumed to depend on the expected value of the return. Storey (1994) thinks that key elements in this will not only be the expected default rate, but also the growth rate of the firm, since faster growing new firms are larger users of bank financing than slower growing new firms. The relationship between age and short-term bank debt ratio is not statistically significant in the regression results.

The empirical results of this study also show significantly negative relationships between profitability and both long-term and short-term bank debt ratios, contradicting the hypothesis of positive association. Given that highly profitable firms are unlikely to be rejected by banks, the fact that they exhibit low bank debt ratios and refuse to apply for bank loans may suggest that, unlike other SMEs they do not require external debt funding or may decide to let pass good projects instead of resorting to fresh bank loans. The results of this study may also indicate that SMEs that generate internal funds generally seem to avoid gearing. This appears to provide support for the pecking order theory that denotes that profitable firms prefer internal financing to external financing. The pecking order theory suggests that the use of external funds is very much related to profitability on the basis that

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SMEs, particularly if they are not listed, will make use of internally generated funds as a first resort. SMEs which make use of external funds might be those with lower levels of profit.

The significantly positive relationships between size of the firm and both long-term bank debt, and short-term bank debt reliance is consistent with the argument that the bigger the firm, the lower the probability of default, which in turn is related to higher diversification, availability of collateral, or commercial success. The results of this study indicate that SMEs with high asset value have easier access to bank financing, especially long-term bank loans. Relatively smaller firms denote higher risk and this could cause banks to shy away from lending to such firms. Bigger firms may have well structured systems and this may suggest adequate information which banks require in granting credit. This means the asymmetric cost of information between the firm and banks is lower for bigger firms. This is consistent with the hypothesis and also supports the results of Aryeetey *et al* (1994), who found that the success rate for large firms applying for bank loans for instance was higher than that of smaller firms.

Consistent with our hypothesis, the coefficient of the asset tangibility variable is significantly positive for the panel data estimation for long-term bank debt ratio. The empirical evidence suggests that firms use tangible fixed assets as collateral when negotiating borrowing, especially long-term bank borrowing. SMEs that maintain a large proportion of fixed assets in their total assets tend to gain easier access to bank loans than those which do not. This implies that banks place more merit on fixed assets or collateral before granting loans to firms. SMEs are generally perceived as risky ventures by banks and other financiers and therefore banks will require adequate collateral as a way of minimising the risk involved in lending to this sector. This seems also to support the findings by a number of authors (see Boot *et al.*, 1991; Storey 1994; Ang *et al.*, 1995; August *et al.*, 1997; Berger and Udell, 1995, 1998; Cassar and Holmes, 2003).

The results show a statistically significantly positive relationship between growth and long-term bank debt ratio, suggesting that growth is likely to put a strain on retained earnings and push the firm to borrow long-term. In other words, SMEs with high growth will require more long-term external financing to finance their growth. The negative association with

short-term bank debt ratio is indicative of the fact that high growth SMEs are less likely to require short-term bank credit like an overdraft. SMEs that exhibit high growth rates are capable of generating funds internally to finance their operating cycles or working capital needs and therefore may not require such short-term funds from the bank.

4.5.2   *Small Business Financing Initiatives*

4.5.2.1 *Characteristics of Sampled Firms*

Table 4.4 presents the characteristics of the firms based on industry classification, size, age and trade status. In all, five industries were represented including; agriculture representing 3.2% of valid respondents, manufacturing (64%), mining and construction (8.0%), trading (5.6%) and general services (19.2%). Three size categories were defined on the basis of number of employees. Firms with fewer than 5 employees were classified as micro firms. Those with between 5 and 29 employees were classified as small firms, and medium-sized firms had between 30 and 99 employees. About 4 (3.2%) of the firms surveyed were in the microenterprise group, 75 (60.0%) were small firms and 46 (36.8%) were medium-sized companies. The firms were also categorised on the basis of date of establishment. Firms which have been in business for less than 1 year were labeled "infant", those between 1 and 5 years were classified as "young", those with between 6 and 10 years were classified "adult", and those with over 10 years were labeled "mature". There were 3 infant businesses, representing 2.4% of the sample. Twenty three were young firms, representing 18.4% of the sample, 35 adult firms, representing 28.0%, and 64 mature companies, representing 51.2%. The majority of the firms were male (64%) and Ghanaian (91.2%) owned. Only 52, representing 41.6% of the sampled SMEs, were found to be exporters.

Table 4.4: Characteristics of Sampled Firms

Industry	Freq.	%
Agriculture	4	3.2
Manufacturing	80	64.0
Mining & Construction	10	8.0
Trading	7	5.6
General Services	24	19.2
Total	125	100.0
Size		
Micro	4	3.2
Small	75	60.0
Medium	46	36.8
Age		
Infant	3	2.4
Young	23	18.4
Adult	35	28.0
Mature	64	51.2
Gender		
Male-owned	80	64.0
Female-owned	31	24.8
Both	14	11.2
Ownership		
Ghanaian-owned	114	91.2
Foreign-owned	11	8.8
Trade Status		
Exporters	52	41.6
Non-exporters	73	58.4

Source: Survey data.

4.5.2.2 Awareness of Financing Initiatives

Table 4.5 illustrates the awareness among the firms of the various non-bank financing schemes. Most of the firms were unaware of these financing schemes. Apart from EGF and DANIDA, less than 50% of the respondents were aware of the other financing schemes. This is particularly surprising, given the problems SMEs face in accessing loans from commercial banks. Since most (79.2%) of these firms have been in business for over five years, one would have expected that they would be reasonably aware of non-bank financing schemes available to the SME sector. The low level of awareness may be due to inadequate and ineffective marketing communication implemented by these finance providers. Most of these schemes, apart from initially touring the country to launch their programmes in the regional capitals, do not intensify their marketing communication efforts to make SMEs aware of these financing schemes. The small budget mostly assigned to administering these financing schemes by the donors could account for this problem.

Table 4.5: Awareness of the Various Financing Schemes

Financing Scheme	Freq.	%
EMPRETEC Ghana Foundation (EGF)	66	52.8
Danish International Devt. Assistance (DANIDA)	63	50.4
Export Development and Investment Fund (EDIF)	56	44.8
Japan International Cooperation Agency (JICA)	47	37.6
Ghana Private Sector Devt. Fund (GPSDF)	46	36.8
Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ)	43	34.4
Business Assistance Fund (BAF)	37	29.6
Department for International Development (DFID)	36	28.8
Ghana Investment Fund (GIF)	36	28.8
Trade and Investment Programme (TIP)	35	28.0
Private Enterprises and Export Devt. Fund (PEED)	33	26.4
Funds for Small and Medium Scale Enterprise Devt. (FUSMED)	32	25.6
Africa Project Development Facility (APDF)	24	19.2
Support for Private Enterprise Expansion and Devt. (SPEED)	16	12.8
Promotion of Small and Micro Enterprise Fund (PSME)	14	11.2
Business Sector Programme Support (BSPS)	6	4.8
Revolving Loan Fund (RLF)	4	3.2

Source: Survey data.

4.5.2.3 Use of Financing Initiatives

Table 4.6 indicates the use of the various non-bank financing schemes among the sampled firms. The results generally show a very low dependence on these sources of financing. Among the sampled firms, less than 10% have been successful in obtaining finance from each of these schemes. This simply reflects the fact that the sample contains a high proportion of firms (mostly over 50%) that are unaware of these financing schemes. Another reason may be the stringent eligibility criteria that make it difficult for SMEs to access these funds. The low use of the various financing schemes is not particularly encouraging, since SMEs in Ghana do not have easy access to other sources of finance such as bank loans.

Table 4.6: Use of Various Financing Schemes

Financing Scheme	Freq.	%
Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ)	9	7.20
Export Development and Investment Fund (EDIF)	8	6.40
Japan International Cooperation Agency (JICA)	8	6.40
Business Assistance Fund (BAF)	6	4.80
Trade and Investment Programme (TIP)	6	4.80
EMPRETEC Ghana Foundation (EGF)	5	4.00
Private Enterprises and Export Devt. Fund (PEED)	5	4.00
Funds for Small and Medium Scale Enterprise Devt. (FUSMED)	5	4.00
Danish International Devt. Assistance (DANIDA)	5	4.00
Ghana Private Sector Devt. Fund (GPSDF)	4	3.20
Africa Project Development Facility (APDF)	4	3.20
Department for International Development (DFID)	2	1.60
Promotion of Small and Micro Enterprise Fund (PSME)	2	1.60
Support for Private Enterprise Expansion and Devt. (SPEED)	2	1.60
Revolving Loan Fund (RLF)	1	0.80
Ghana Investment Fund (GIF)	1	0.80
Business Sector Programme Support (BSPS)	0	0.00

Source: Survey data.

4.5.2.4 Financing Problems

The respondents were asked to indicate their perception of the various non-bank financing initiatives in terms of the ease or otherwise of accessing the schemes. The perception of access of the financing schemes is illustrated in Table 4.7. SPEED and RLF are perceived to be the easiest to acquire, followed by GPSDF, PSME and APDF. Some (EGF, FUSMED, BAF, JICA, TIP and DFID) are also perceived to be relatively easier to access. EDIF, GTZ, DANIDA, GIF and PEED are, however, perceived as difficult to acquire, with mean values of less than 2.50. Considering the information asymmetry that exists regarding the quality of small businesses' investment projects, finance providers may demand collateral security. This clearly makes it difficult for SMEs to qualify for such financing.

Table 4.7: Perception of Ease of Access to Financing Schemes

Financing Scheme	Mean
Support for Private Enterprise Expansion and Devt. (SPEED)	5.00
Revolving Loan Fund (RLF)	5.00
Ghana Private Sector Devt. Fund (GPSDF)	3.67
Promotion of Small and Micro Enterprise Fund (PSME)	3.00
Africa Project Development Facility (APDF)	3.00
EMPRETEC Ghana Foundation (EGF)	2.86
Funds for Small and Medium Scale Enterprise Devt. (FUSMED)	2.83
Business Assistance Fund (BAF)	2.75
Japan International Cooperation Agency (JICA)	2.67
Trade and Investment Programme (TIP)	2.50
Department for International Development (DFID)	2.50
Export Development and Investment Fund (EDIF)	2.33
Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ)	2.33
Danish International Devt. Assistance (DANIDA)	2.00
Ghana Investment Fund (GIF)	2.00
Private Enterprises and Export Devt. Fund (PEED)	1.67

Source: Survey data.

Table 4.8 illustrates how respondents rank the difficulty they encounter when applying to these financing schemes. The most common difficulty (26.4% of respondents) was the lack

of securable assets required by finance providers. Most of these schemes are routed through the banks, which also review applications using their criteria such as collateral requirement. The essence of involving the banks is to avoid the credit risk involved in lending to SMEs. Some (22.4%) indicated that the lack of knowledge by finance providers about the nature of the respondent's business was a problem, while 16.8% mentioned that they did not meet the eligibility criteria for accessing the finance. A number of firms (15.2%), however, admitted their lack of knowledge about lending criteria used by finance providers represents a difficulty in accessing finance, and others (12%) also admitted that they had difficulty finding out about available financing schemes. Bureaucracy and delayed processing of applicants' proposals was also identified as a difficulty by some respondents (12%). Eleven (8.8%) mentioned the lack of financial performance track record as a problem. This problem is not surprising for start-up businesses. A few (3.2%) also indicated the problem of high interest rates. The respondents were of the view that relaxing the collateral requirement would enable most of the SMEs to access these facilities.

Table 4.8: Problems Faced in Accessing Financing Schemes

Problem	Freq.	%
Lack of securable assets	33	26.4
Lack of knowledge by finance providers about my business	28	22.4
Do not meet eligibility criteria	21	16.8
Lack of knowledge by my business about lending criteria used by providers	19	15.2
Difficulty in finding out about available finance	15	12.0
Bureaucracy	15	12.0
Lack of financial performance track record	11	8.8
High Interest	4	3.2

Source: Survey data.

4.6   Conclusion and Implications

The issue of financing has been identified as a dominant constraint facing Ghanaian SMEs. This chapter has empirically examined the determinants of SMEs' reliance on bank financing in Ghana. The empirical results revealed that bank financing accounts for less than a quarter of total debt financing of SMEs in Ghana, with short-term bank credit accounting for a higher percentage of total bank finance. This signaled the fact that SMEs gain easier access to bank credit in financing their operating cycles than bank loans for financing investment projects. The results also showed that the age of the firm, size of the firm, asset tangibility, and growth have significantly positive associations with long-term bank debt ratio, while firm profitability has a significantly negative relationship with long-term bank debt ratio. Short-term bank debt ratio showed significantly positive association with size, but significantly negative associations with profitability and growth. The results of this study clearly indicate that older SMEs depend more on long-term bank loans. Relatively bigger SMEs depend more on long-term bank loans and short-term bank credit. Also, SMEs with large proportions of fixed assets in their total assets often gain easier access to long-term bank finance than those with low collateral assets. This finding confirms the importance of collateral in obtaining finance, especially long-term bank loans. SMEs that are able to gain access to long-term bank loans are therefore in a position to finance their long-term investment projects. The results also suggest that profitable SMEs depend less on bank borrowing, because of their ability to generate funds internally for their operations. The findings of this study reveal that SMEs with high growth rates tend to gain relatively easier access to long-term bank loans to finance their investment activities. They, however, require less short-term bank credit given that they are often in the position to generate internal resources to finance their operating cycles or working capital needs.

This study has examined the economic importance of banks in financing of SMEs in Ghana. The results suggest that SMEs that have a long business relationship and those with adequate collateral tend to gain access to bank sources of finance more. SME entrepreneurs and managers should seek to develop and improve on their information management practices by keeping proper and accurate records of the firm's operations. This has the potential of reducing banks' perception of risks and also facilitates easier access to financing

at favourable terms of credit. To expand SME lending, banks need to also develop alternatives to property as collateral to secure loans. Personal guarantees, sales contracts, and lien on equipment financed could be explored. Banks could also collaborate with informal finance providers in granting credit. With this arrangement, banks are able to take advantage of informal finance lenders' superior information on small clients and their relatively low cost of frequent small transactions. The other Ghanaian banks are encouraged to emulate the good example of setting up departments that will solely concentrate on granting credits to the SME sector. It is also essential for the government through the newly established Ministry for Private Sector Development and donor funding agencies also to consider developing innovative financial packages for Ghanaian SMEs.

This chapter also investigated the awareness and use of the various non-bank financing schemes available to the Ghanaian SME sector. The results of this study revealed low awareness and usage levels of the various financing initiatives among SMEs. Most of the schemes are perceived as difficult to access. The difficulties SMEs often face in accessing these funds include: lack of securable assets, lack of knowledge by finance providers about the nature of respondents business, stringent eligibility criteria, lack of knowledge about lending criteria, difficulty in finding out about available finance, and bureaucratic requirements. These really limit SMEs ability to access funds from these initiatives.

In the light of the key findings, policy actions should include better information provision regarding the various sources of finance. This could involve the financing initiatives pursuing a more aggressive and continuous marketing communication campaigns to inform SMEs of the various financing schemes available to the sector. Eligibility criteria should be made a bit more flexible to enable more SMEs to qualify for access to these funds. Routing these financing facilities through the commercial banks should be reconsidered. Evaluation of applicants' proposals could be done by qualified consultants affiliated to these schemes and the banks should rather be appointed as managers of the loan facilities for a fee. In that case, government bears the credit risk. This could further expedite processing and give applicants a better chance of accessing these facilities. These policy prescriptions could go a long way to improve Ghanaian SMEs' access to long-term financing to spur on growth.

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CHAPTER FIVE

THE RELEVANCE OF FORMAL AND INFORMAL FINANCE AMONG INTERNATIONALISING SMES IN GHANA[§]

5.1 Introduction

Increasing globalisation, international competition and the collapse of trade barriers due to regional integrations, have given an incentive to many firms, including SMEs, to expand their operations into other countries. Given that SMEs represent a large proportion of firms in most countries, governments have sought to develop policies aimed at assisting the SME sector to develop an international orientation by adopting effective export strategies. This position by most governments especially in developing countries, is mainly in response to the continuous debate on the perceived benefits for export diversification into non-traditional exports (NTEs). This important issue raises some implications for developing countries such as Ghana.

The Ghanaian export sector can generally be divided into traditional and non-traditional exports. Traditional exports include cocoa beans, gold and other minerals, unprocessed timber and electricity. All other exports have generally been categorised as non-traditional. Although non-traditional exports contribute immensely to the economic development of the country, provision of finance to the sector has traditionally been inadequate. The increasing growth of the non-traditional export sector in the face of fluctuations in prices of traditional export products such as gold and timber on the world market brings to the fore the need to increase funding to this sector. In Ghana the problem of financing small and medium-scale enterprises (SMEs), especially those in the non-traditional export (NTE) sector, has been of great concern for some time now. This pre-occupation is mainly a result of the role SMEs in the NTE sector are playing in the development of the Ghanaian economy.

[§] Part of this chapter has been published as: "How are SMEs Financed?: Evidence from the Ghanaian Non-traditional Export Sector", *Environment and Planning C: Government and Policy*, Vol. 24(1), (a special issue on small business policy), pp. 71-81, 2006, UK.

There are apparently many constraints facing the NTE sector given the number of exporters in each product category and the diversity of products being exported. However, the problem of financing has been identified as a major factor militating against the growth of NTEs in Ghana. The scarcity of funds for working capital and investment in machinery and equipment was overwhelmingly identified by indigenous Ghanaian businessmen as one of the major constraints to production. Mantey (1990) mentions that the rate of growth in the NTE sector is apparently stifled by inadequate finance to the sector. Buatsi (2002) also found that small and medium-scale exporters hardly meet the requirements of banks to access credit, especially collateral. He enumerated a number of financing schemes for financing exports in Ghana. According to him, despite efforts at financing exports, insufficient export finance to support large-scale production and marketing has remained a significant hindrance to the success of Ghana's export growth strategy. This situation has led to the institution of the Export Development and Investment Act of 2000. A relevant issue for empirical investigation therefore concerns the financing of Ghanaian NTEs, given that about 97% of NTEs fall within the category of SMEs (Buatsi, 2002).

This current paper seeks to identify sources of finance available for NTEs by examining the relative importance of both formal and informal sources of financing Ghanaian NTEs. The paper also explores the factors which determine NTEs' choice of a particular type of finance using a regression analysis. It specifically focuses on internationalising SMEs or small and medium-sized exporters drawn from the Ghana Export Promotion Council's database of NTEs in Ghana.

The paper is organised as follows: Section 5.2 discusses the extant literature on internationalisation and financing of SMEs. It also gives an overview of the informal financial market in Africa. Section 5.3 explains the methodology adopted for the study. The empirical results are presented and discussed in section 5.4. Finally, section 5.5 summarises and concludes the discussion.

5.2   Literature Review

5.2.1   *Internationalisation and Financing of SMEs*

The literature on internationalisation of firms is concerned with why, when, where, and how firms engage in international trade. There seem to be no universal definition of internationalisation. Wind *et al* (1973) essentially define the concept as a process in which specific attitudes or orientations are associated with successive stages in the evolution of international operations. Johanson and Vahlne (1977) conceive internationalisation as a sequential process of increased international involvement, whilst Welch and Luostarinen (1988) interpret internationalisation as the process of increasing involvement in international operations. In a much broader conceptualisation, Calof and Beamish (1995) interpret internationalisation as the process of adapting an organisation's operations to international environments. The growing integration of national and regional economies in a global network of production and distribution, together with an increased academic interest in theory development regarding the internationalisation of organisations, led to the development of a number of new approaches during the post-1970 period. These approaches have been reviewed comprehensively by O'Farrell *et al* (1996) and Andersen (1997).

One of the earliest approaches, the Uppsala model, suggests that internationalisation activities increase incrementally (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977). This process is influenced by increased market knowledge, which leads to increased commitment to international markets and vice versa. According to this model, an organisation follows four stages in the internationalisation process: no regular export; export via independent enterprises or agents; sales subsidiaries; and establishment of production plants overseas. Kuada and Sørenson (2002) also build on the stages theory. They suggest that the existing stages model can be divided into the learning stages theory, where a firm's internationalisation follows a sequential order from one stage to the other based on learning and accumulated experience and the international product life-cycle theory, where internationalisation is based on environmental adaptations and hence development of the new product, matured product and standardised product. Another approach draws upon the insights gained by transaction cost analysis (TCA). Transaction costs include the expenses

associated with the acquisition of information regarding relevant prices, and the costs entailed in the negotiation and enforcement of contracts. Asset specificity, the frequency of economic exchange, and the level of uncertainty, are the key influences in determining the cost of transacting. Within this context, the decision-maker is boundedly rational and aspires to minimise the cost of transacting associated with entry into the international marketplace. Brouthers and Nakos (2004) suggest that the transaction cost theory is very useful in explaining SME mode choice and those SMEs that used transaction cost–predicted mode choices performed significantly better than firms using other modes.

In addition, the network approach bears considerable similarities to TCA: it draws on theories of social exchange and resource dependency, and focuses on organisational behaviour within interorganisational and interpersonal relationships. Thus, the boundaries of the organisation are determined not only by formal relationships, but also by informal and personalised linkages (Coviello and McAuley, 1999). Also, the eclectic framework developed by Dunning (1981), embraces elements of the earlier approaches. It suggests that the level and structure of an organisation's international activities will depend on the configuration of particular ownership (organisation-specific assets and skills), location (country-specific market potential, investment risk, production costs and infrastructure) and internalisation advantages (the cost of transacting), as well as the extent to which the organisation believes that investment in a particular country is consistent with its long-term management objectives and strategy. Lastly, the Organisational Capability Approach conceptualises the organisation as a bundle of relatively static and transferable resources, which are then transformed into capabilities through dynamic and interactive organisation-specific processes (Amit and Shoemaker, 1993).

There is considerable disparity in the ability to exploit opportunities and confront threats emanating from the internationalisation of economic activity by sizeband. Thus, whereas large organisations and particularly multinational firms have had considerable experience of involvement in global markets, the majority of SMEs have only recently adopted an international perspective in their strategies (Bijmolt and Zwart, 1994; Tesar and Moini, 1998). More specifically, a growing number of publications drawing upon the experience of SMEs in advanced industrialised countries suggest that these organisations are confronted

with greater difficulties in accessing international markets than their large-scale counterparts (Roth, 1992; Stokes, 1992; Smallbone and Wyer, 1995). The inability to control prices because of lack of market power, a dependence upon a relatively smaller customer base, and limited - if any access to policy-makers, make the external environment of a small organisation more uncertain than in a large business.

An altogether different set of constraints emanates from the limited resource base of SMEs. Specifically, the financial resources available to a small business can act as a considerable constraint in developing an international orientation. The lack of finance or inadequate financial resources may impede the organisation's ability to identify opportunities arising from the opening-up of national markets and may also restrict the exploitation of opportunities already identified (Smallbone and Wyer, 1995). SMEs have been traditionally considered as weak contributors to internationalisation because of financial and managerial constraints. It is important to note that the availability of financial resources can assist the firm to increase its export performance by expanding into other markets. Seringhaus and Rosson (1990) argue that exporters face different financial challenges depending on their stage in the export development process and feel that financial export activities are the most difficult in the earlier stages. The stages model indicates that, because small firms with a limited domestic track record and have limited knowledge and resource base, they are less likely to enter foreign markets. But well-established and large firms with more experience and resources are mostly capable of competing in foreign markets.

Small firms have traditionally encountered problems when approaching providers of finance for funds to support fixed capital investment and to provide working capital for their operations (Tucker and Lean, 2003). The presence and nature of a 'finance gap' for small firms has been debated for decades, ever since the Macmillan Report (Macmillan, 1931). Small business owners complain that they cannot find the funds they need to satisfy their financing needs. If applicants who are denied capital are willing to pay higher economic costs for financing but cannot get it, credit then appears to be rationed from an apparently finite supply of capital. This is a phenomenon known as credit rationing. Theorists have offered a variety of theories about situations that might lead to credit rationing, whether it happens, if it is a significant economic occurrence, and its effects on businesses. On a conceptual level,

credit rationing could have the following consequences: First, if present, credit rationing could imply that small or new businesses do not have access to financing and, therefore face obstacles to their development, growth, and survival. Second, credit rationing might also financially disadvantage, businesses that compete with firms which are part of industrial groups or that are owned by larger businesses. Lastly, credit rationing can result in levels of investments that differ from optimal levels, thereby affecting economic growth, inflation, employment and a variety of other factors.

Credit rationing might arguably oblige risky businesses to seek equity financing, because they are unable to obtain debt capital - quite possibly angel investments. Thus, work on credit rationing is important in this context because, according to some studies, firms that are denied bank credit may be obliged to seek financing in the equity markets (Peterson and Schulman, 1987; Orser *et al.,* 1994; Tucker and Lean, 2003). This would be true particularly for smaller, riskier businesses and suggests that equity financing sought from private investors may not be a matter of choice and that credit rationing may be a factor that encourages SMEs to secure informal investments. Theories about capital rationing are based on information asymmetries between lenders and borrowers. Information asymmetries refer to the disparity between the information available to businesses seeking capital and suppliers of capital, who are typically assumed to be at an information disadvantage with respect to insiders of the business (Binks *et al.,* 1992). In a perfect markets setting, with perfect and costless information available to both the small firm (i.e. the agent) and the finance provider (i.e. the principal), and no uncertainties regarding present and future trading conditions, the principal-agent relationship does not suffer from the market failure of information asymmetry. However, information in the real world is neither perfect nor costless; furthermore, the small business finance market is characterised by risk and uncertainty regarding future conditions. Information is distributed asymmetrically between the finance provider and the firm (Tucker and Lean, 2003).

Two direct aspects of information asymmetry are usually identified: adverse selection and moral hazard. In the case of adverse selection, theoretical models often assume that an entrepreneur has private knowledge about the success probability of a project or expected profits that are not shared with the financier. Consequently, suppliers of capital cannot

differentiate between a high-quality business and a low-quality business, and hence adverse selection can result. Moral hazard refers to the inability of the finance provider to control fully how the entrepreneur uses funds provided. Owners can conceivably benefit economically by, for example, redirecting borrowed funds to invest in higher-risk projects than those approved by the lender (Stiglitz and Weiss, 1981; Bester, 1987; Bester and Hellwig, 1989; Binks and Ennew, 1996). To avoid this situation, financiers can implement contract provisions that discourage borrowers from acting against the interests of investor or lender.

The economic costs incurred by the finance provider to verify the performance or financial states of entrepreneurs, can lead to credit rationing. Certain types of moral hazard play a role in the costly monitoring problem, but these moral hazard problems do not affect the outcome of the entrepreneur's projects. Instead, moral hazard affects costly monitoring problems by adding the risk that entrepreneurs will lie about their returns and profit at the expense of the bank. Even in models without adverse selection or certain types of moral hazard problems, banks might find it beneficial to ration credit (Stiglitz and Weiss, 1981; Binks and Ennew, 1996). Finance providers, in order minimise the risk involved in lending to SMEs, are also more stringent in their loan application requirements. The provision of collateral and track record are considered important in alleviating the problem of adverse selection and moral hazard. Given that SMEs have less collateral and reputation than large companies, they may encounter more difficulty when accessing capital from formal finance providers (Binks *et al.*, 1992). Blanton and Dorman (1994) explain that small firms are frequently under-capitalised. That is, the term structure of loans granted to SMEs does not suit their needs. Whilst many SMEs need long-term capital, banks are usually only willing to grant them short-term loans. SMEs have, therefore, had to rely on short-term sources such as lines of credit and informal sources to finance long-term needs such as new equipment purchases (Riding and Short, 1987a).

5.2.2   Formal and Informal Financial Markets in Africa

There are basically two sources of external financing: formal and informal. Formal finance includes loans from banks, nonbank financial institutions, government programmes and similar facilities, and foreign loans. Informal finance, on the other hand,

is made up of credit from noninstitutional sources, such as relatives and friends, moneylenders, informal groups, suppliers, clients, and other enterprises.

In most African countries the indigenous private sector consists largely of households and small-scale enterprises that operate outside the formal financial system. Analysts refer to the informal sector by many terms, such as unorganised, noninstitutional, and curb markets. Conforming to recent trends in literature, the term 'informal finance' is defined by Adams and von Pischke (1992) as all transactions, loans, and deposits occurring outside the regulation of a central monetary or financial market authority. This definition permits the inclusion of a wide range of financial activities whose operation and scope may differ across countries. Informal savings activities in Africa are widespread but generally self-contained and isolated from those of formal institutions. There are the general types of informal units to be found in Africa (Aryeetey and Udry, 1997). These are: savings mobilisation units that do little or no lending, lending units that seldom engage in savings mobilisation, and units that combine deposits mobilisation with some amount of lending, albeit mainly of members of distinct associations or groups. Their definition of informal financing in Africa covers such schemes as the operations of savings and credit associations (SCAs), known all over Africa, professional moneylenders, part-time moneylenders, relatives, friends, mobile banks, generally known as susu collectors in West Africa, credit unions, and cooperative societies. In Ghana, the informal financial sector includes credit unions, savings and credit cooperatives, and a number of nongovernmental organisations. Informal financial agents include: moneylenders; susu collectors (savings mobilisers); traders, agricultural processors, input distributors and rotating savings and credit associations (ROSCAs); and friends and relatives.

Jones *et al* (2000) in their research found that it was unusual for susu collectors to have an apex organisation to represent them. They run their businesses from kiosks located in the marketplace and act as mobile bankers. Deposits, often of low but regular value, are usually taken on a daily basis over the course of a month. At the end of this period the susu collector returns the accumulated savings to the client but keeps one day's savings as commission. Susu collectors may also provide advances to their clients.

The principal reason for the emergence of informal financial market is the unwillingness of the formal sector to lend to some (relatively risky) categories of borrowers. Increased risk often stems from the difficulty to obtain accurate and reliable information about borrowers. Examples that hinder the flow of accurate information are geographical remoteness or illiteracy. Small clients are also effectively shut out from the formal market, thanks to high collateral requirements and high minimum-deposit requirements, but there is some evidence that small enterprises seldom turn to informal financial sources. Two reasons for not drawing on informal finance are the expected high costs or the smallness and unreliability of lenders (see Levy, 1993; Parker *et al.*, 1995). Isaksson (2002) asserts that another reason for the emergence of informal financial activities is that some firms may turn to informal sources in case of liquidity shocks. Yet another explanation for using informal sources may be that more funds can be raised at a lower cost and without collateral when the source is a relative or friend (angel). Interest rates in the informal financial sector tend to be higher than the formal financial sector, although among informal lenders, interest rates are seldom used as a discrimination device to screen borrowers. Aleem (1990) argues that lenders sometimes borrow from the informal market and lend on at higher interest rate to their clients. According to Steel *et al* (1997), higher risk and costs of delinquency are other explanations for the relatively high interest rates. To these reasons, the opportunity costs of holding case may also be added.

Unlike formal financial institutions, informal lenders use personal, social, and business relationships to preselect clients. ROSCAs use group membership as a selection device, traders and landlords lend only to their customers and tenants, and savings collectors tend to lend to regular customers. Moreover, recommendations from previous clients and personal knowledge are important ingredients in the selection process. Informal finance is sometimes taken as synonymous with money-lender activity, but Steel *et al* (1997) show (for the cases of Ghana, Malawi, Nigeria, and Tanzania) that angels are the commonest informal creditors. Normally such loans bear no interest and social and economic ties replace collateral as well as ease enforcement of the loan contracts. The relationship between the borrower and the angel reduces the moral hazard involved and hence the monitoring costs. Reciprocity is not uncommon, meaning that the borrower can sometimes become the lender and vice versa. Firms engage also in reciprocal lending among themselves, often in order to smooth out

short-term cash-flow problems. Sometimes angels supply long-term borrowing. It is also possible that firms with excess liquidity 'invest' in the informal market by placing an amount for lending on. However, in such instances, the transactions take place at market terms (Montiel *et al.*, 1993).

Isaksson (2002) argues that moneylenders lend without tying the loan to other transactions. A moneylender, who, for instance, could be a regular moneylender, a pawnbroker, or an indigenous banker, often, has intimate knowledge of the borrowers. Despite the high interest rates, small and medium-sized firms turn to moneylenders as a 'lender of last resort'. As a result of this, the moneylenders are sometimes in a monopolistic position. The earned rent comes from the information advantage that the moneylender has over competition. The high interest rates often charged by moneylenders are not only a monopoly rent because they also incur information and transaction costs. The rent also covers the opportunity cost of holding cash balances. Except for moneylenders being the last instances of credit, Bolnick (1992) argues that moneylenders promptly provide loans to these firms. Furthermore, there are low transactions costs and no restrictions on the use of funds.

Traders are another fairly common source of informal credit. They supply either inputs or cash advances to firms and the credit is linked to purchases of some product at highly discounted price. Interlinked loans have some advantages compared with other types of loans because they represent a form of collateral that helps reduce uncertainty, moral hazards, and adverse selection (Udry, 1990). Loans attached to transactions tend to have lower implicit interest rates and to be larger (Steel *et al.*, 1997). In ROSCAs, individuals pool their savings on a regular basis to generate loanable funds, primarily for the members. The rotation of access to the funds differs among ROSCAs, but most seem to use lotteries and bidding. Without going into a detailed description of the bidding system, the outcome is lending at a market-determined interest rate. Organisational and monitoring costs of ROSCAs are very low; default rates by the very nature of ROSCAs are low as well. Members could be angels as well as traders or exporters.

Informal finance is said to be of significant importance to SMEs (Cuevas *et al.*, 1993). Fafchamps *et al* (1995) showed that informal finance constitutes 34% of total debt for small

firms in Zimbabwe. For other size categories, the corresponding figure was less than 10%. Bigsten *et al* (2000), covering six sub-Saharan African countries, showed that formal financial markets are inefficient and biased against lending to small firms. This bias impels small firms often to turn elsewhere for external finance - quite possibly to some informal financial lenders. In a Ghanaian study, Aryeetey *et al* (1994) found that the success rate for large firms applying for bank loans, for instance, was higher than that of smaller firms. Aryeetey (1993) argues that most surveys of enterprise financing in Africa indicate that start-up or microbusinesses are primarily funded by sources from the informal units such as credit cooperative societies, susu groups, friends, relatives, and landlords.

5.3   Methodology

This study explores the determinants of NTEs' choice of a particular type of finance. Data were essentially from primary source through questionnaire instrument. The main research site was within the main Ghanaian NTE sector. The study sampled 150 firms from the Ghana Export Promotion Council (GEPC) database of NTEs within Accra, Kumasi, Takoradi and Tamale. These locations were chosen due to data availability and also because it is acknowledged that most exporting activities are concentrated in these areas. Previous surveys confirmed that over 90% of NTEs are based in these areas and about 97% of NTEs fall within the category of SMEs (Buatsi, 2002). The selection of exporters was based on a random sampling technique from these four research areas. Out of the total of 150 questionnaires sent out, 62 responses were received from respondents representing a response rate of 41%. Although this might not seem a high percentage, empirical studies involving SMEs have been known to generate far lower percentage response rates.

Data obtained include proportions of formal and informal finance used by the firm (*FORMF*). This is defined as the ratio of formal finance to total finance, and is used as the dependent variable. The independent variables include number of years in business (*AGE*), number of employees (*SIZE*), growth in sales (*GROW*), and export intensity (*EXPORT*) or degree of internationalisation. The measure of degree of internationalisation of a firm has attracted a lot of attention in the literature. Over the years, attempts have been made to infer degree of internationalisation by looking at the evolution, structure, and process of

relationships among a firm's demographic, strategic, market, organisational, product and attitudinal characteristics of international expansion. Furthermore, measures have included internationalisation of the percentage of sales volume, production, profits, and assets. A recent attempt at measurement is provided by Albaum *et al* (1998), who developed a composite measure based on the following factors:

- Foreign sales as a percentage of total sales
- Foreign assets as a percentage of total assets
- Overseas subsidiaries as a percentage of total subsidiaries
- Physical dispersion of international experience
- Top managers' international experience

The measure of internationalisation used in this study is based on foreign sales or export sales as a percentage of total sales. For the purposes of this study, sources of finance are classified into formal and informal. Formal finance consists of loans from banks, non-bank financial institutions, government programmes and similar facilities, foreign loans including loans from the International Finance Company (IFC), and others. Informal finance, on the other hand, is made up of credit from non-institutional sources such as relatives and friends, money lenders, informal groups, suppliers, clients and other enterprises. This study adopts descriptive statistics in discussing the sources of financing the firms use. The study also employs a multiple regression model for the empirical analysis of the determinants of formal/informal finance. This takes the following form:

$$FORMF = \beta_0 + \beta_1 AGE + \beta_2 InSIZE + \beta_3 GROW + \beta_4 EXPORT + ë \ ,$$

where $ë$ is the error term.

5.4   Discussion of Empirical Results

This section includes the empirical results of study. It initially covers a description of the sources of formal and informal finance used by NTEs. The section later presents the regression results of the determinants of NTEs' choice of formal/informal finance.

5.4.1 Profile of NTE Firms

Table 5.1 gives a profile of the NTEs in terms of their geographical distribution and ownership. The greater proportion (36%) of NTE firms was found in Accra. Eighteen of the respondents, representing 29% were located on Kumasi, 17 (27%) were in Takoradi and the remaining 5 (8%) were in Tamale. As seen in Table 5.1, out of the 62 NTEs for which responses were received, 58 (93%) were male-owned businesses, while 4, representing 7%, were female-owned businesses. Regarding the foreign participation in the firms' operations, the results as indicated in Table 5.1 reveal that 40 (65%) firms were Ghanaian-owned, while the remaining 22 (35%) were foreign-owned firms.

Table 5.1: Characteristics of Firms

	Frequency	Percentage	Cum. Percentage
Location			
Accra	22	36	36
Kumasi	18	29	65
Takoradi	17	27	92
Tamale	5	8	100
Total	62	100	
Gender			
Male-owned	58	93	93
Female-owned	4	7	100
Total	62	100	
Ownership			
Ghanaian-Owned	40	65	65
Foreign-Owned	22	35	100
Total	62	100	

5.4.2 Financing of the Firms

The evidence from Table 5.2 indicates that most NTEs make use of formal finance in financing their businesses. About 79% (49) of respondents employ mainly formal finance for their operations. The remaining 21% (13) rely mostly on informal finance sources such as

trade creditors, credit unions, loans from friends and relatives, and investment from friends and relatives. The relatively low level of use of informal finance compared to formal finance could be attributed to the unavailability and unreliability of informal sources of finance in the country. Informal finance providers often do not have well-structured financing schemes and may not be in the position to fully satisfy the financing needs of the firms. In spite of the problems NTEs face in accessing formal finance, informal sources of finance have not been able to adequately provide an alternative source of financing NTEs in Ghana.

Table 5.2: Type of Financing Used

Type of Finance	Frequency	Percentage	Cum. Percentage
Formal Finance	49	79	79
Informal Finance	13	21	100
Total	62	100	

With respect to the sources of formal finance, Table 5.3 shows that most firms (63%) rely on bank loans. They tend to depend less on loans from non-bank financial institutions, government programmes and foreign loans. This might be due either to the lack of availability of these other facilities, or that NTEs are simply not aware of them. Another reason could be the bureaucratic processes involved in accessing such facilities, especially government financing schemes. Concerning NTEs' reliance on informal finance, Table 5.3 shows that most firms (54%) depend largely on trade creditors. Though loans from friends and relatives, investments from friends and relatives and the other sources are really not significant, investments from friends and relatives appear to be used more than the other sources. The reason for the relatively high use of trade creditors as a source of informal finance may be due to the business relationship the firms might have established with their creditors over the years. Trade creditors tend to supply either inputs or cash advances to firms and the credit is often linked to purchases of some product at highly discounted price.

Table 5.3: Sources of Formal and Informal Finance

Sources of Finance	Frequency	Percentage	Cum. Percentage
Formal Finance:			
Bank loans	31	63	63
Loans from non-bank			
financial institutions	3	6	69
Government programmes	1	2	71
Foreign loans	4	8	79
Others	10	21	100
Total	49	100	
Informal Finance:			
Credit Unions	1	8	8
Trade creditors	7	54	62
Loans from friends and			
relatives	2	15	77
Investment by friends and			
relatives	3	23	100
Total	13	100	

Table 5.4 provides empirical evidence on the sources of start up capital used by NTEs. The results show that personal savings appear to be used the most as the source of start-up capital. Twenty, representing 32% of respondents depend on personal savings as their initial capital. This means Ghanaian NTEs rely more on personal savings as their main source of start up capital. Some (27%) rely on bank loans, while few of them depend on loans from friends and relatives (6%), investment from friends and relatives (5%), and susu group (2%). This position is similar to the results of studies in other countries (see Migiro, 2005). This phenomenon may be due to the difficulties in accessing external debt finance as start up capital. Finance providers are usually reluctant to extend credit to start-up business because of the associated risks. The issues of information asymmetry and moral hazard have been identified as major problems with respect to financing start-up SMEs. The lack of a track record and the risk of diverting loans to other ventures are often regarded as threats to finance providers.

Table 5.4: Sources of Start-up Capital

Sources of Initial Capital	Frequency	Percentage	Cum. Percentage
Trade creditors	7	12	12
Susu group	1	2	14
Loans from friends and relatives	4	6	20
Investment by friends and relatives	3	5	25
Bank loans	17	27	52
Personal savings	20	32	84
Others	10	16	100
Total	62	100	

5.4.3   Summary Statistics of Regression Variables

Table 5.5 provides a summary of the descriptive statistics of the dependent and independent variables. This shows the average indicators of variables used. The mean (median) ratio of formal finance to total finance is 0.6816 (0.8000). This suggests that formal finance appears to constitute more than half of the firms' finance. That is, formal finance constituted 68% of NTEs' total financing. The average age is approximately 21.6 years. The mean size in terms of number of employees is 23. The mean growth (measured as growth in sales) was 247%. This indicates that, on the average, growth rate in sales was 247%. Average export intensity is given as 60.18%, suggesting that NTEs' export sales constitute about 60% of their total sales.

Table 5.5: Summary Statistics of Dependent and Independent Variables

	Mean	Std. Dev.	Minimum	Median	Maximum
FORMF	0.6816	0.3380	0.0000	0.8000	1.0000
AGE	21.5673	18.1094	1.0000	21.5673	75.0000
SIZE	22.9570	3.0956	16.8112	22.9570	34.2701
GROW	2.4700	16.9189	-9.6821	2.4700	121.5972
EXPORT	0.6018	0.3555	0.0000	0.6018	1.0000

5.4.4 Correlation Analysis

The correlation coefficients are also considered in examining the relation between formal finance and the determinants. Table 5.6 summarises the correlation matrix. The correlation analysis indicates significantly positive correlations between the ratio of formal finance to total finance and size, and growth. The correlation results also show a significantly positive relation between age and size. As firms age, they increase in size. There are positive associations between age and growth, and also between size and growth. This suggests that older and larger firms tend to exhibit growth tendencies. However, a negative relationship was found between growth and export intensity, meaning that growing firms export less. Overall, the magnitude of the correlation coefficients indicates that multi-collinearity is not a potential problem in our regression models.

Table 5.6: Correlation Coefficients

	FORMF	AGE	SIZE	GROW	EXPORT
FORMF	1.0000				
AGE	-0.0209	1.0000			
	{0.6884}				
SIZE	0.0427 ***	0.1007*	1.0000		
	{0.0012}	{0.0592}			
GROW	0.00267***	0.0102***	0.0302***	1.0000	
	{0.0000}	{0.0000}	{0.0000}		
EXPORT	0.1598	0.3529	0.4246	-0.0047***	1.0000
	{0.2525}	{0.3554}	{0.2221}	{0.0000}	

Figures in curly brackets are probability values for level of significance.

(***), (**), (*) indicates significance levels of 1%, 5% and 10% respectively.

5.4.5 Regression Results

Regression analysis is used to investigate the relationship between type of financing and firm variables (i.e. age, size, growth and export intensity). The Ordinary Least Square (OLS) regression results are presented in Table 5.7. The R^2 of 0.2225 implies that the regression equation explains 22.25% of the variation in the dependent variable. From the regression results, age is seen to have a negative and significant relation with formal finance. The results

suggest that newer NTEs tend to depend more on formal finance. Newer SMEs initially require more funds from formal financial institutions as start-up capital. This confirms the results shown in Table 5.4. Apart from personal savings, majority of the firms depend on banks for seed capital. The results also indicate that over time, older firms rely more on informal sources of finance and less on formal finance. A potential explanation is that, as firms age, they are able to establish good relationships with informal finance providers such as trade creditors and thus may employ more informal sources of finance.

The empirical results show a positive and significant relationship between formal finance and size of the firm. The results suggest that as firms expand, they require more funds to finance their expansion and therefore tend to depend more on formal finance as opposed to informal finance which appears to be inadequate. The results also support findings of previous studies that small businesses are primarily funded by informal finance sources while formal finance providers prefer giving credit to relatively bigger firms (see Aryeetey, 1993; Cuevas *et al.,* 1993; Aryeetey *et al*, 1994). Though the regression analysis shows a negative relationship between age and formal finance and a positive relationship between size and formal finance, interestingly, the correlation analysis shows a positive association between age and size.

The results, again, show a significantly positive association between growth and formal finance. This could be explained by the fact that growing firms require more finance to finance their growth opportunities and therefore would require more sustained sources of funds (formal finance) to finance their activities, while low-growth firms might seek informal (or 'angel') investment. The scope for growth does vary from industry to industry and this will have a bearing on firms' financing preferences. That is, the greater prospects for growth are perceived to be, the greater the need for external formal finance and vice versa (Hamilton and Fox, 1998). Also, formal finance providers are more likely to grant loans to firms with high growth potential, given that such firms exhibit good cash inflows and can easily repay their loans. Thus, high-growth firms will seek more formal finance.

The results show a positive but insignificant relationship between export intensity and formal finance. No evidence was found in terms of the relationship between the proportion of formal finance and the firms' export intensity or level of internationalisation.

Table 5.7: Regression Model Results

Variable	Coefficient	t-Statistic	Prob.
AGE	-0.005767	-1.828672	0.0738
SIZE	0.050307	2.898673	0.0057
GROW	0.002500	2.572763	0.0133
EXPORT	0.032356	0.233697	0.8163
R-squared	0.222462		
S.E. of regression	0.310464		
F-statistic	3.361796		
Prob(F-statistics)	0.016838		

5.5 Conclusion

The problem of financing Ghanaian SMEs, especially those in the NTE sector has been of great concern for some time now. This pre-occupation is mainly a result of the role the NTE sector is supposed to play in the development of the economy. This study identified the various sources of finance by examining the relative importance of formal and informal sources of financing Ghanaian NTEs. The paper also explored the determinants of NTEs' choice of formal/informal finance. The results of this study showed that Ghanaian NTEs largely depend on formal financing sources. About 79% of NTEs mainly depend on formal sources of finance. Bank loan, representing 63%, was identified as the main source of formal finance. Just a few firms (54%) depend on informal sources of finance with trade creditors (63%), representing the main source of informal finance. In terms of start-up capital, the results indicate that most NTEs depend on their own personal savings.

The regression results revealed a negative relationship between age and formal finance, suggesting that, newer firms depend more on formal finance and less on informal finance. The results also showed a positive and significant relationship between formal finance and size of the firm. This suggest that, as firms expand, they require more funds to finance their expansion and therefore tend to rely more on formal finance as opposed to informal finance. In addition, the results of this study showed a significantly positive association between growth and formal finance. This could be explained by the fact that growing firms require more finance to finance their growth opportunities and thus would require more sustained sources of funds (formal finance) to finance their activities. The results of this study did not reveal any significant relationship between formal finance and the level of internationalisation.

In the light of the key findings, the following policy considerations are suggested. SMEs initiatives could be encouraged to assist SMEs NTEs to reduce information asymmetries by means of improving managerial capabilities and also building on their asset base. Such an important move could give SMEs easier access to external financing. Growth in terms of export diversification is also encouraged among SMEs NTEs. This has the tendency of increasing internally generated funds and the liquidity situation of Ghanaian NTEs.

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CORPORATE GOVERNANCE, OWNERSHIP STRUCTURE AND PERFORMANCE OF SMES IN GHANA: IMPLICATIONS FOR FINANCING OPPORTUNITIES[**]

6.1   Introduction

Entrepreneurial firms require external financing to finance their growth and investments in order to achieve full profit potential of the business. They also require inputs on business operations, good strategy and best practices in the industrial sector. These resources can be provided for through the presence of non-executive directors or external board members as in the case of listed firms. Research on listed firms has shown that strategy influences corporate performance (McGahan and Porter, 1997) and external board members challenge strategies by management (Pettigrew and McNulty, 1995). It is also argued that good corporate governance practices assist SMEs in improving on their prospects of obtaining funding from investors and financial institutions. This is an exact consequence of proper bookkeeping and accounting practices and information disclosure which increase the confidence of investors in the firm. The SME will also have a healthier growth and be committed to business efficiency due to the presence of external supervisory parties.

Corporate governance is the process and structure used to direct and manage the business affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realising long-term shareholder value, whilst taking into account the interests of other stakeholders. It includes the structures, processes, cultures and systems that engender the successful operation of the organisations (Keasey *et al.*, 1997). The Cadbury Committee (1992) defines corporate governance as "the system by which companies are directed and controlled". It is about supervising and holding to account those who direct and control management. For an SME, corporate governance is about the

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[**] A paper out of this chapter has been accepted for publication in *Corporate Governance: The International Journal of Business in Society*, Vol. 7, 2007, UK. .

respective roles of the shareholders as owners and the managers (the directors and other officers). The compliance with corporate governance codes has become the norm for listed firms all over the world. In most countries, SMEs do not strictly comply with such codes but it has often been argued that such codes should also apply to these SMEs. In SMEs, the resources, stewardship and control offered by directors, for instance, may be very different from and more direct than in large corporations.

The issue of corporate governance has been a growing area of management research, especially among large, publicly listed firms. The limited studies in the area with respect to SMEs have focused mainly on developed economies (see Eisenberg *et al.*, 1998; Bennett and Robson, 2004). It is crucial to examine corporate governance of SMEs within the context of a developing economy and what the implications are for financing opportunities. This current study seeks to examine the effects of corporate governance, and ownership structure on the performance of Ghanaian SMEs. The paper specifically assesses the adoption of corporate governance structures among Ghanaian SMEs by testing for the effects of board size, board composition, board and management skills, CEO duality, percentage of shares closely held, family ownership, and foreign ownership on the performance of SMEs.

The issue is of critical significance given the important role SMEs play in the Ghanaian economy. SMEs have been noted to make major contributions to employment generation, GDP and reduction of poverty in Ghana (see Steel and Webster, 1991; Kayanula and Quartey, 2000; Aryeetey, 2001). SME development is however hindered by a number of factors, notable amongst which is the lack of adequate financing (see Steel and Webster, 1992; Aryeetey *et al*, 1994). The problem of financing has been argued to be the main reason for many SMEs failing to start or progress. This stems from the fact that SMEs have limited access to capital markets, locally and internationally, in part because of the perception of higher risk, informational barriers and the higher costs of intermediation for smaller firms. As a result, they often cannot obtain long-term finance in the form of debt and equity (**Kayanula** and Quartey, 2000). Also, banks and other formal finance providers are often reluctant to extend credit to SMEs. Lack of managerial competencies and proper governance systems in the SME sector have been identified as swamping efforts to attract such finance, and thus are said to be the main barriers to SME development (Gockel and Akoena, 2002).

It is necessary then for proper management of the SME sector to ensure enhanced performance, given that this would have major implications for financing opportunities for the sector.

The structure of the remainder of the paper is as follows: Section 6.2 provides a review of the extant literature. Section 6.3 explains the methodology employed for the study. The empirical results are presented and discussed in the section 6.4. Section 6.5 concludes the discussion.

6.2   Literature Review

The classic thesis by Berle and Means (1932), on "The Modern Corporation and Private Property", provides the theoretical basis for research in corporate governance. The thesis describes a fundamental agency problem in modern firms, where there is a separation of ownership and control. It has long been recognised that modern firms suffer from a separation of ownership and control. They are run by professional managers (agents), who are unaccountable to dispersed shareholders (principals). This view fits into the principal-agent paradigm. The question is how to ensure that managers follow the interests of shareholders. The principals have to solve two problems. First, they face an adverse selection problem: select the most capable managers. They are also confronted with a moral hazard problem: give the managers the right incentives to put forth the appropriate effort and make decisions aligned with shareholders interests (e.g., take the right amount of risk and do not engage in empire building). Since the seminal work by Berle and Means (1932), different theories have been propounded in explaining the corporate governance issue. These include the agency theory, the stewardship theory, the resources dependence theory, and the stakeholder theory.

Jensen and Meckling (1976) define agency relationship and identify agency costs. Agency relationship is a contract under which "one or more persons (principal) engage another person (agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent". Conflict of interests between managers or controlling shareholder, and outside or minority shareholders refer to the tendency that the

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former may extract "perquisites" (or perks) out of a firm's resources and less interested to pursue new profitable ventures. Agency costs include monitoring expenditures by the principal such as auditing, budgeting, control and compensation systems, bonding expenditures by the agent and residual loss due to divergence of interests between the principal and the agent. The share price that shareholders pay reflects such agency costs. To increase firm value, one must therefore reduce agency costs. This is one way to view the linkage between corporate governance and corporate performance. Fama (1980) aptly comments that separation of ownership and control can be explained as a result of "efficient form of economic organisation". Gubitta and Gianecchini (2002) enumerate the main indicators for operating in this perspective as follows:

- The composition of the board of directors. For effective control, the board of directors must be made up mainly of non-executive directors. In a situation where the board of directors is not directly involved in the daily running of the firm, this is likely to strengthen the independence and the objectivity of the board with respect to the operation of the business.

- Leadership. The position of the CEO should be different from that of the chairman of the board of directors. These positions should be occupied by different people. Having one individual handle both positions could result in excessive power concentration in that person leading to opportunistic behaviour. The size of the board is also important in order to avoid the influence of the CEO on the work and independence of the board of directors. Smaller board size is not advisable. In addition, to favour the alignment of capital interests with ownership, the members of the board should also be stakeholders.

The stewardship theory, on the other hand suggests that managerial opportunism is not relevant (see Donaldson and Davis, 1991; Davis *et al.*, 1997; Muth and Donaldson, 1998). The aim of management is to maximise the firm's performance since that speaks of the success and achievements of management. Donaldson and Davis (1991) argue that managerial opportunism does not exist because the manager's main aspiration is "to do a good job, to be a good steward of corporate assets". This clearly replaces the lack of trust to which the agency theory refers with the respect for authority and inclination to ethical

behaviour. Granted the above position holds, in structuring a corporate governance system, the following must be taken into consideration:

- The board composition. The inclusion of executive directors on the corporate board has the tendency of strengthening board effectiveness, since directors who are also part of the firm's management have a better knowledge and appreciation of issues impacting on the firm's operations. A board structure with more executive directors may lead to good decision making, resulting in better performance.

- Leadership. Adopting a combined leadership board structure (i.e. where the CEO also acts as the chairman of the board) could be more beneficial than the separated leadership structure (i.e. where the CEO is different from the board chairman). This is because, with the board system where the CEO also acts as chairman, the CEO would have greater flexibility to pursue the firm's objectives without hindrances from the board.

- Board size. It is argued that having smaller boards facilitates coordination and speeds up the decision-making process. It also makes the contribution of the individual to the activity more visible, and enhances commitment.

The resource dependence approach, developed by Pfeffer (1973), and Pfeffer and Salancick (1978), emphasises that external directors enhance the ability of a firm to protect itself against the external environment, reduce uncertainty, or co-opt resources that increase the firm's ability to raise funds or increase its status and recognition. Firms attempt to reduce the uncertainty of outside influences to ensure the availability of resources necessary for their survival and development. The board is hence seen as one of a number of instruments that may facilitate access to resources critical for company success. There are four primary types of broadly defined resources provided by boards of directors. These are: (1) advice, counsel, and know-how; (2) legitimacy and reputation; (3) channels for communicating information between external organisations and the firm; and (4) preferential access to commitments or support from important actors outside the firm (Pfeffer and Salancick, 1978). This resource role is played by board of directors mainly through their social and professional networks

(Johannisson and Huse, 2000), and through interlocking directorates (Mizruchi and Stearns, 1988; Lang and Lockhart, 1990).

Similarly, the stakeholder approach also considers the provision of resources as a central role of board members. The main resource stakeholder proponents refer to is consensus. According to this view, the board should comprise representatives from all parties that are critical for a company's success. This will result in the firm's ability to build consensus among all critical stakeholders. The board of directors is hence seen as the place where conflicting interests are mediated, and where the necessary cohesion is created (Donaldson and Preston, 1995; Luoma and Goodstein, 1999). The stakeholder theory argues for the importance of a firm paying special attention to the various stakeholder groups in addition to the traditional attention given to investors (Freeman, 1984; Gibson, 2000). These various groups of stakeholders, which include customers, suppliers, employees, the local community and shareholders, are deemed also to have a stake in the business of a firm. The representation of all stakeholder groups on boards is therefore necessary for effective corporate governance.

Corporate governance has traditionally been associated with larger companies. This is mainly due to the separation between ownership and control of the firm. It is tempting to believe that corporate governance would not apply to SMEs since the agency problems are less likely to exist. In many instances, SMEs are made up of only the owner who is the sole proprietor and manager (Hart, 1995). Basically, SMEs tend to have a less pronounced separation of ownership and management than larger firms. It is sometimes argued that, because SMEs have few employees, who are mostly relatives of the owner and thus there is no separation of ownership and control, there is no need for corporate governance in their operations. Also, the question of accountability by SMEs to the public is non-existent since they do not depend on public funds. Most especially, the sole-proprietorship businesses do not necessarily need to comply with any disclosure requirements. Since there is no agency problem, profit maximisation, increasing net market value and minimising cost are the common aims of the members. Members also disregard outcomes of organisational activities that will cause disagreement. They are rewarded directly and as such need no incentives to

motivate them. Thus, disagreement does not exist and hence there is no need for corporate governance to resolve them.

In spite of these arguments, there is a global concern for the application of corporate governance to SMEs. It is often argued that similar guidelines that apply to listed companies should also be applicable to SMEs. The ongoing tendency toward improving board functions within publicly listed firms will extend to SMEs by mimicry and institutional pressures (Corbetta, and Salvato, 2004). The extant empirical literature on corporate governance of SMEs focuses on a number of factors including board size, board skill level, board composition and control, CEO duality, percentage of shares closely held, family ownership, and foreign ownership. These are discussed in turn.

Board Size

There is a view that larger boards are better for corporate performance because they have a range of expertise to help make better decisions and it is harder for a powerful CEO to dominate. However, recent thinking has leaned towards smaller boards. Jensen (1993), and Lipton and Lorsch (1992) argue that large boards are less effective and are easier for the CEO to control. When a board gets too big, it becomes difficult to co-ordinate and often creates problems. Smaller boards also reduce the possibility of free riding by, and increase the accountability of individual directors. Large board size which influences firm performance negatively is found predominantly in businesses of larger sizes (see Mintzberg, 1983; Baysinger and Butler, 1985; Walsh *et al.*, 1988; Kosnik, 1990). It may also be that board size and diversity have non-linear influences on firm performance as size varies: producing increasing returns as board size/diversity increases, as we move from very small to medium-sized firms; but producing little additional improvement in performance, or even diminishing performance, as we move from medium to large firms. The pattern of these changes is also likely to vary considerably between types of firm, as the span of control, involvement and scope for internal conflict between directors' response to the different managerial and trading conditions of each type of firm (Bennett and Robson, 2004).

For SMEs, one of the most important transitions is that from a single/owner-manager to a wider board. Instituting a team approach permits clearer development and definition of the

choices facing the business. It also permits a stronger development of a more open and less oppressive internal human relations structure (Schein, 1987; Drucker, 1992; Sparrow, 1993). The benefit of encouraging team development through a larger board has been argued to be an important step in improved corporate governance in SMEs (Cadbury, 2000). Such widened board development for very small firms has been noted as directly improving firm performance (Pearce and Zahra, 1992; Wynarczyk *et al*.., 1993; Goodstein *et al*., 1994), especially where these are non-executive directors (Cowen and Osborne, 1993). Eisenberg *et al.* (1998), however, found a negative correlation between board size and profitability when using a sample of small and midsize Finnish firms.

Board Composition and Control

The issue of whether directors should be employees of, or affiliated with, the firm (inside directors) or outsiders has been well researched, but no clear conclusion has emerged.. On the one hand, inside directors are more familiar with the firm's activities and they can act as monitors to top management, if they perceive the opportunity to advance into positions held by incompetent executives. On the other hand, outside directors may act as "professional referees" to ensure that competition among insiders stimulates actions consistent with shareholder value maximisation (Fama, 1980). John and Senbet (1998) argue that boards of directors are seen to be more independent as the proportion of their outside directors increases. A number of empirical studies on outside directors support the beneficial monitoring and advisory functions to firm shareholders (see Brickley and James, 1987; Weisbach, 1988; Byrd and Hickman, 1992; Brickley *et al*.., 1994). Baysinger and Butler (1985), and Rosenstein and Wyatt (1990) showed that the market rewards firms for appointing outside directors. Brickley *et al* (1994) found a positive relation between the proportion of outside directors and stock-market reactions to poison-pill adoptions. However, Forsberg (1989) found no relation between the proportion of outside directors and various performance measures. Hermalin and Weisbach (1991), and Bhagat and Black (2002) found no significant relationship between board composition and performance. Yermack (1996) also showed that the percentage of outside directors does not significantly affect firm performance.

Board and Staff Skill Levels

The board of directors is described as the "apex of the firm's decision control system". Though management also has a major role in the firm's decision control system, boards face complex, multifaceted tasks that involve strategic-issue processing. Boards are responsible only for monitoring and influencing strategy, while top management teams are charged with implementing strategic decisions or the day-to-day administration of the firm (Fama and Jensen, 1983). Boards and management teams require a high degree of specialised knowledge and skill to function effectively. The level of training among board members and mangers could therefore have a strong influence on the performance of the firm. Crabtree and Gomolka (1991) and Lybaert (1998) argue that better performance is due to the proven positive relation of higher levels of education among entrepreneurs and their willingness to use external information, develop networks, make use of consultants or develop more detailed accounting and monitoring systems. However, there is contrary evidence about the level of training among SMEs owners and managers. Lawrie (1998) demonstrates that gaps in management expertise are less of a recognised barrier to SME development than the availability of specialist staff skills, chiefly IT and languages. Therefore, although higher-level management qualifications may be useful to SMEs, there is still some doubt as to their relevance. Powell (1991) maintains that there may even be a negative effect on firm performance as a result of the occupational and professional affiliations of highly qualified managers, which may encourage increased agency behaviour.

CEO Duality

Fama and Jensen (1983) suggest that concentration of decision management and decision control in one individual reduces a board's effectiveness in monitoring top management. The literature reveals a board structure typology, the system where the CEO also acts as chairman of the board and the system where the positions of CEO and chairman are occupied by two individuals. It has been noted that the system where the CEO also acts as board chairman leads to leadership facing conflict of interest and agency problems (Brickley *et al.*, 1997) thus giving preference for the system where the CEO's role is separated from that of the board chairman. Yermack (1996) argues that firms are more valuable when the CEO and board chair positions are separate. Relating CEO duality more specifically to firm performance, researchers however found mixed evidence. Daily and Dalton (1992) found no

relationship between CEO duality and performance in entrepreneurial firms. Brickley *et al* (1997) showed that CEO duality is not associated with inferior performance. Sanda *et al* (2003) found a positive relationship between firm performance and separating the functions of the CEO and Chairman. Rechner and Dalton (1991) however, reported that companies with CEO duality have stronger financial performance relative to other companies.

Inside Ownership

A high level of inside ownership is said to create conditions conducive for managerial entrenchment and self-aggrandising behaviour. Consequently, it reduces the outside owner's ability to monitor and control the behaviour of the firm's leadership, which reduces the value of the firm. The firm actually incurs high agency cost for the lack of transparency (Randoy and Goel, 2003). In the case of SMEs which receive less scrutiny from other stakeholders that can provide corporate governance monitoring compared to large publicly listed firms, a high level of insider ownership is not efficient, given that managers will pursue policies to their own advantage instead of aiming at innovative entrepreneurial opportunities and shareholder value maximisation. Randoy and Goel (2003) found that a high level of board and insider ownership has a positive impact on firm performance in founder-led firms, but a negative performance effect in non-founder firms.

Family Ownership

It is often argued that the benefit of founding family leadership of firms is that family traits, such as trust, altruism and paternalism can create an atmosphere of love and commitment towards the business (Danco, 1975; Poza, 1989; James, 1999) and therefore curtail agency costs. Previous studies by Kang (1998), James (1999) and Mishra *et al* (2001) showed that founding family businesses provide special kind of corporate governance that offers lower agency costs and improves performance. Other studies however indicated that entrepreneurs and managers of founding family firms are more likely to engage in managerial entrenchment to the detriment of the firm, resulting in weaker performance (Thomsen and Pedersen, 2000; Gomez-Mejia *et al.*, 2001). Other studies revealed inconclusive results (see Dalton and Daily, 1992; Begley, 1995).

Foreign Ownership

Foreign ownership is said to facilitate stronger monitoring of managers (Randoy and Goel, 2003). In addition, the firms cost of capital can be reduced by having large foreign institutional investors who actively monitor the actions of management (Randoy *et al.*, 2001). Prior empirical evidence suggests that the existence of foreign institutional investors leads to lower agency cost (Stulz, 1999) and this is especially relevant in small countries with smaller investor community and in small businesses (Oxelheim *et al.*, 1998). Firms with high foreign ownership may tend to institute certain control measures such as auditing and frequent reporting systems. These actions are likely to reduce agency cost and thus result in higher firm performance.

6.3   Data and Empirical Methods

This study explores the interaction between corporate governance, ownership structure and performance of SMEs in Ghana. The data used in the empirical analysis was derived from the financial statements of SMEs in both the industrial and services sectors during the six-year period 1998-2003. Information on governance and ownership issues was also obtained through interviews with the management of the firms. The selection of the sample was based on the criteria set by Regional Project on Enterprise Development for SMEs in Ghana. That means firms with employee size of fewer than 100 were included in the study sample. In all 120 firms were selected from the databases of the National Board for Small Scale Industries and the Association of Ghana Industries for this study. The data was unbalanced panel.

Measures of performance include profitability and level of employment. Profitability is defined as return on assets. This is given as earnings before interest and taxes divided by total assets. Employment level is defined as the number of employees. Though the level of employment as a performance measure is usually not relevant to entrepreneurs in a direct manner, given that it is a cost, including this measure will give a better general sense of the growth of the firm than profit, which is often subject to temporal fluctuation and capital building cycles. Including this measure will help in determining whether the board is able to influence employment decisions of SMEs (Baysinger and Butler, 1985). The independent

variables include board size, board composition, board skill, management skill, CEO duality, inside shareholding, family ownership, and foreign ownership.

The measure for board size is the number of board members. Board composition is the proportion of outside directors. Board skill is the number of board members with a degree or professional qualification. Management skill is also the number of management members with a degree or professional qualification. The measure for CEO duality is a binary that equals one if the CEO is also the chairman of the board. Inside ownership refers to the percentage of shares owned or controlled by the employees as well as the CEO. Family ownership is a dummy variable that equals one, if the firm is family owned. Family ownership is defined by a majority ownership (more than 50%) held by a family or a family group, while they are family-owned-and-managed if owners are also managers for the daily operations of the firms. This definition is consistent with the definition given by Dyer (1986), a widely accepted definition, but no information about the succession issue proposed by Chua *et al* (1999) was included in this study. Foreign ownership is also a dummy variable that equals one, if it is a foreign firm and zero if it is a Ghanaian-owned firm. In addition, we control for firm size, firm age, and debt ratio. Size is defined as the log of total assets. Age is the number of years between the observation year and the firm's year of incorporation. Debt ratio is the ratio of total debt to total capital.

This study employs a panel regression model which involves the pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. The panel regression equation differs from a regular time-series or cross section regression by the double subscript attached to each variable. A heteroscedastic Generalised Least Squares (GLS) for this unbalanced panel is used (see Baltagi, 1995). The general form of the panel data model can be specified more compactly as:

$$Perf_{it} = \alpha_i + \beta X_{it} + \delta W_{it} + \kappa C_{it} + \mu_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (1)$$

where $Perf_{it}$, represents the firm's performance, X_{it} is a vector of board factors, W_{it} is a vector for the ownership variables, C_{it} includes the set of control variables, α_i is taken to be constant overtime 't' and specific to the individual cross-sectional unit 'i' and μ_{it} is the error term in the model. Since performance is given as a function of both board and ownership characteristics, our model can be restated as:

$$Perf = \alpha + \beta\,(board) + \delta(ownership) + \kappa(control.factors) + \mu \ .....(2)$$

Our method of pooling cross-sectional and time series data is susceptible to heteroscedasticity. We therefore checked for this problem using White heteroscedastic-consistent standard errors and covariance. To ensure the robustness of the model, we also included three control variables, size, age, and debt ratio to minimise specification bias. These are standard variables in performance models.

6.4 Empirical Results

6.4.1 Descriptive Summary Statistics

Table 6.1 presents the descriptive statistics for all the variables. The average (median) profitability (measured as earnings before interest and taxes/ total assets) is 11.6% (8.77 %), meaning the average return on assets stands at approximately 12%. On average SMEs employ approximately 36 workers. Average board size for this sample of SMEs is about 4. The average board composition is given as 46.27%. The mean board skill is 2 and the mean management skill is also shown as 2. This means that, on average there are 2 board members with a degree or professional qualification and also 2 members of management with a degree or professional qualification. Most (86.02%) of the SMEs have the CEO also acting as chairperson on the board. Further analysis of the data showed that a high proportion (81.67%) of shares is owned by employees of the firms or insiders. The results also indicate that our sample includes 68.01% and 7.45% family-owned and foreign-owned businesses respectively. The average value of the firms' assets is 3.05e+09 Ghanaian cedis and the average number of years the firms have been in business is 9.6 years. The average (median) debt ratio is also shown as 0.3823 (0.3192).

Table 6.1: Descriptive Statistics

	Mean	Std. Dev.	Minimum	Median	Maximum
Return on Assets	0.1160	0.1701	-0.7712	0.0877	1.6393
Employee Size	35.5559	26.1921	6.0000	28.0000	95.0000
Board Size	3.6957	1.4958	2.0000	4.0000	8.0000
Board Composition	0.4627	0.2921	0.0000	0.5000	1.0000
Board Skill	2.1211	1.6218	0.0000	2.0000	7.0000
Management Skill	2.2671	2.1480	0.0000	2.0000	11.0000
CEO Duality	0.8602	0.3473	0.0000	1.0000	1.0000
Inside Ownership	0.8167	0.2810	0.0000	1.0000	1.0000
Family Ownership	0.6801	0.4672	0.0000	1.0000	1.0000
Foreign Ownership	0.0745	0.2630	0.0000	0.0000	1.0000
Size of the Firm	3.05e+09	5.26e+09	11509706	1.05e+09	3.71e+10
Age of the Firm	9.6118	6.8533	1.0000	7.0000	29.0000
Debt Ratio	0.3823	0.3102	0.0009	0.3193	0.9930

6.4.2 Regression Results

Regression analysis is used to investigate the relationship between measures of corporate governance, ownership structure and performance. The results of the GLS White heteroscedastic-consistent standard errors panel regression are presented in Tables 6.2 and 6.3. The results from the regression model denote that the independent variables explain the performance determination of the firms at 39.17% and 97.04% for the profitability and employment models respectively. The F-statistics prove the validity of the estimated models.

The board of directors is charged with the responsibility of managing the firm and its operation. The statistically significant and positive association between board size and profitability suggests that relatively larger boards perform better compared to very small boards, because larger boards have a range of expertise to help make better decisions. In the case of SMEs, encouraging team development through a wider board has been argued to be an important step in improved corporate governance and this in turn leads to improved firm performance. It is expected that adopting a larger board membership system will result in wider provision of skill and interorganisational links to the firm. The finding here is consistent with results of previous empirical studies (Pearce and Zahra, 1992; Wynarczyk *et*

al.., 1993; Goodstein *et al..*, 1994). Though it is evident in most empirical works on large firms that large board membership may be underperforming, in this study of SMEs the mean board size was approximately only four. The largest board was composed of eight board members and the minimum board size was made up of two members. In Ghana the companies' code stipulates a minimum number of two board members for registering a company. This may explain why some SMEs would have only two board members. Clearly, the results of this study have shown that SMEs with a board size of four would demonstrate better performance than those with only two board members. This suggests that, depending on the size of the firm, having a board size of less than four may not be advisable. It is important for SMEs to learn to move away from a single/owner or employing only a two-membership board to including others with different expertise. This allows for clearer development and definition of the choices facing the business and consequently increases performance.

The proportion of external board members on the board is also very important in explaining the firm's performance. The results of this study reveal that board composition has a significantly positive relationship with firm profitability. In this regard, the importance of outside directors in terms of their external experience in sound financial and legal affairs is revealed in the positive relationship the variable has with firm performance. Thus, as the ratio of board composition (number of outside board members/total board members) rises, firms tend to perform better. It is clear that widening board development for very small firms has been noted as directly improving firm profitability especially where these are non-executive directors. The outside directors are considered important in assisting management with advice, expertise and external influences. Also, the presence of external board members could influence the provision of resources available to the SME. This is because external board members may have knowledge and information on financing sources. Increasing access to finance thus has the tendency of boosting the firm's bottom line.

The level of training among directors and managers could have a strong influence on the performance of the firm. The results of this study show a significantly positive relationship between performance and skill level of the management, but an insignificantly negative relationship in the case of skill level of the board. This is indicative of the fact that SMEs

with highly qualified management team tend to exhibit high profitability. In other words, the presence of highly qualified and skilled management is likely to lead to higher efficiency and subsequently result in improved performance. This stresses the importance of managerial skills and business experience as means of promoting firm performance. The results of this study also support the position of Crabtree and Gomolka (1991), and Lybaert (1998) that better performance is due to the proven positive relation of higher levels of education among entrepreneurs and their willingness to use external information, develop networks, make use of consultants or develop more detailed accounting and monitoring systems.

The results of this study indicate a statistically significant and positive relationship between CEO duality and firm performance. This suggests that in SMEs where an individual combines the roles of both the CEO and board chairman demonstrate better performance than those with two individuals performing such roles. This result supports the findings of Rechner and Dalton (1991). In this study a high percentage (about 86%) of the firms has the CEO also serving as the chairman of the board. This is not particularly surprising in the case of SMEs, which tend to exhibit control aversion.

Contrary to the theoretical expectation, the results of this study indicate that the coefficient for inside ownership is positive and statistically significant. This could be explained by the fact that in Ghana SMEs with a high percentage of inside shareholding generally exhibit better performance. High inside shareholding suggests that owners have good knowledge and appreciation of the operations of the firms and this is capable of translating into improved performance. In other words, managers who are also shareholders seem to understand the business better and are often in the position to take decisions that are in the interest of maximising shareholder value instead of engaging in opportunistic behaviour. The result here suggests that in firms with a lower percentage of inside ownership, managers would be more interested in seeking perquisites and taking decisions in their own favour to the detriment of outside shareholders. Having managers as owners of the business provides a source of motivation for them to take performance-improving measures.

Similarly, the significantly positive interaction between family ownership and profitability signals the fact that family ownership creates an atmosphere of love and commitment

necessary for better performance. Family-owned firms are more likely to experience cooperation, unity, commitment and lesser conflicts, thus resulting in lower agency costs. Such an environment is more likely to be conducive for enhanced performance. This appears to be consistent with the findings of Kang (1998), James (1999), and Mishra *et al* (2001) who argue that founding family businesses provide special kind of corporate governance that offers lower agency costs and better performance.

The results of this study also show a statistically significant positive relationship between foreign ownership and profitability. This suggests that SMEs with a high percentage of foreign ownership are significantly more likely to record higher profitability. It may be that foreign-owned SMEs would have internalised commonly accepted norms of international business practice, whereas as the indigenous Ghanaian-owned SMEs would not have had the chance to do so. Such foreign owner-managers, for instance, may be assumed to have better international exposure and skills in modern management techniques. Also, foreign-owned firms may have more sophisticated management control systems for monitoring the actions of management to reduce agency cost. This finding seems to support the position of Stulz (1999) that the existence of high foreign ownership leads to lower agency cost. Lower agency cost would therefore result in better firm performance.

The control variables in the model show signs which are consistent with the standard literature. The negative relationship between size and performance suggests that relatively smaller firms perform better than relatively bigger firms. The significantly positive relationship between age and profitability suggests that older firms are more likely to record higher profits. The results also indicate a significantly negative association between debt ratio and firm performance. SMEs with less debt in their capital structure appear to perform better than those that pursue a high debt policy.

Table 6.2: Regression Model Results: Profitability (Return on Assets)

Variable	Coefficient	t-Statistic	Prob.
Constant	0.237526	7.545032	0.0000
Board Size	0.009212	4.303988	0.0000
Board Composition	0.025741	2.365813	0.0185
Board Skill	-0.001666	-0.676215	0.4993
Management Skill	0.002999	3.943819	0.0001
CEO Duality	0.023958	3.976077	0.0001
Inside Ownership	0.035513	6.760126	0.0000
Family Ownership	0.010555	2.859055	0.0045
Foreign Ownership	0.029814	1.856645	0.0641
Size of the Firm	-0.010153	-6.754938	0.0000
Age of the Firm	0.001770	4.102122	0.0000
Debt Ratio	-0.132811	-12.26133	0.0000
R-squared	0.391655		
Adjusted R-squared	0.374842		
S.E. of regression	0.158721		
F-statistic	23.29403		
Prob(F-statistic)	0.000000		

With respect to level of employment, the results show a statistically significant positive interaction between board size and employment level, indicating that large boards favour increased employment levels. It could also be inferred that firms with larger boards may not only be interested in increasing profitability, but also in how socially responsible the firm is. It is important to caution that the high level of employment may denote a bigger firm size or development phase of the firm, which may also explain the large board size. The level of employment could be used as an aggregate measure of firm size. Thus, firms with high employee size are assumed to be large firms and as such would, arguably, have a large board membership. The coefficient for board composition is not significant in the employment model.

The interaction between board skill level and employment level is negative and statistically significant. The relationship between management skill and employment is also significant,

but show a positive sign. The results of this study indicate that boards with highly qualified members discourage high employment levels in the firm, while SMEs with highly qualified management team rather support high levels of employment.

It is argued that high level of employment is not usually relevant to SME owners in an exact manner since employment is regarded as a cost (Bennett and Robson, 2004). Given that owners may not be particularly enthusiastic about a high number of employees because of the associated increase in labour cost, it is expected that they would be interested in pursuing a low-cost strategy by cutting down on employment. This means owners mostly perceive increased employment levels as cost rather than as a performance measure. CEOs who are also board chairs would want to be seen as being efficient by recording higher profitability by cutting down on employment cost in the short term. The significantly negative interaction between CEO duality and employment attests to this fact. CEOs or owner-managers who are also board chairpersons are more likely to influence the board into reducing employment levels in order to minimise operational costs.

However, the results of this study indicate a statistically significant positive relationship between inside ownership and level of employment, suggesting that closely held SMEs support high levels of employment. This suggests that having many inside shareholders would force the firm into pursuing a long-term growth strategy as against short-term profit goals by increasing employment levels. Owner-managers would therefore regard increasing employment as a form of long-term investment in its growth agenda. The coefficient of family ownership is negative but not significant in the employment model.

The results of this study also reveal a statistically significant association between foreign ownership and employment. One would have expected that foreign-owned firms would be interested in cutting down on cost by reducing employment levels in order to repatriate huge profits. The results, however, suggest that foreign-owned SMEs support high employment levels. Foreign-owned SMEs may prefer to increase employment levels as an investment in the long term. Also, foreign-owned firms may be interested in being perceived as contributing to reducing the present high unemployment rate in the economy. Most foreign-

owned firms seem to be particular about the corporate social responsibility of the firm as well, thus implementing high levels of employment.

The coefficients for size of the firm, age of the firm and debt ratio are all positive and statistically significant. These findings imply that bigger and older firms have a bigger employee size than smaller and newer firms. Also debt levels increase with size. Since employee size also connote the size of the firm, by implication bigger firms or firms with bigger employee size have higher debt ratios. This is consistent with the size effect in capital structure theories.

Table 6.3: Regression Model Results: Employment

Variable	Coefficient	t-Statistic	Prob.
Constant	-1.329842	-6.453402	0.0000
Board Size	0.205662	17.89436	0.0000
Board Composition	-0.010804	-0.175355	0.8609
Board Skill	-0.048084	-3.760763	0.0002
Management Skill	0.024130	3.080589	0.0022
CEO Duality	-0.200201	-5.902768	0.0000
Inside Ownership	0.280570	5.117371	0.0000
Family Ownership	-0.044440	-1.310241	0.1909
Foreign Ownership	0.114829	2.700241	0.0072
Size of the Firm	0.185280	19.12413	0.0000
Age of the Firm	0.007549	3.156550	0.0017
Debt Ratio	0.097268	2.640490	0.0086
R-squared	0.970374		
Adjusted R-squared	0.969555		
S.E. of regression	0.497972		
F-statistic	1185.102		
Prob(F-statistic)	0.000000		

6.5   Conclusion and Implications

The importance of corporate governance has been discussed mostly within the context of large, publicly listed firms. However, less attention has been paid to this area with respect to SMEs. This current paper investigated the effects of corporate governance, and ownership structure on the performance of SMEs in Ghana. The results of this study showed that board size, board composition, management skill, CEO duality, inside ownership, family ownership, and foreign ownership have significantly positive impacts on profitability. The results also showed that board size, management skill, inside ownership, and foreign ownership have statistically significant and positive interactions with employment level. However, we found that board skill, and CEO duality have significantly negative impacts on the level of employment.

The results of this study generally suggest that the adoption of corporate governance structures has some important implications for Ghanaian SMEs. Corporate governance can greatly assist the SME sector by infusing better management practices, stronger internal auditing, greater opportunities for growth and new strategic outlook through external directors. Good governance mechanisms among SMEs are likely to result in boards exerting much needed pressure for improved performance by ensuring that the interests of the firms are served. One major implication of a well-functioning corporate governance system is easier access to funding from investors and financial institutions. SMEs have generally been noted to encounter greater difficulty in gaining access to financing due to problems of information asymmetry and moral hazards. Ensuring proper accounting practices, internal control systems and adequate information disclosure are likely to increase the confidence of investors in the firm, reduce the problems associated with information asymmetry and make the SME less risky to invest in. The presence of external supervisory parties and monitoring system could also curtail the problem of moral hazard by discouraging entrepreneurs from redirecting borrowed funds to invest in unapproved projects.

The existence of non-executive directors could lead to better management decisions and help SMEs to attract better resources. Also, external board members may have good knowledge or useful information on financing facilities. Small firms are particularly weak and

often ignorant about sources of finance open to their firms. Most of the times they do not know how to position themselves correctly to be viewed favourably by these sources of finance providers. The infusion of external board membership in this case is crucial since there is a high incentive for the board members to introduce ways of attracting finance. Corporate governance also allows firms to prepare for their pending initial public offering. Often businesses seeking new funds find that they have much work to do before confidently going to the market. A consistent track record of good governance will greatly assist when that point arrives. For example, in Ghana early introduction of corporate governance would prepare an SME well enough even before it gets listed under the provisional listing regime. Efforts by the Ghana Stock Exchange to encourage listing by SMEs on the market can be complemented and sped up where such firms have effective governance structures. The existence of a board will induce rapid growth strategies in the SME for rapid profits; this will at a point require the firm going public for more finances. Thus, the transition from a small to medium and finally large company could be smoothly aided by an effective corporate governance system.

This study has shed some light on the relevance of corporate governance for SMEs in Ghana. However, further research is necessary in order to further develop some of the insights provided by this study and increase confidence that there is a simple and systematic structure that provides a best-practice guide as to how corporate governance structures can be effectively employed within the firm or should be considered as a policy direction.

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CHAPTER SEVEN

AN EMPIRICAL TEST OF THE AGENCY PROBLEMS AND CAPITAL STRUCTURE OF SOUTH AFRICAN QUOTED SMES[††]

7.1   Introduction

Conventional corporate finance theories assume that firms' management will pursue policies aimed at maximising the wealth of shareholders. It is, however, argued that this is not always the case. The agency theory suggests that the separation of ownership and control in firms creates conflicts of interest between the firm's shareholders and managers. This is mainly because managers have the opportunity to use the resources of the firm in ways that benefit themselves personally to the detriment of shareholders' wealth maximisation. For instance, managers may be involved in appropriating an excessive number of perks, shirking their responsibilities, and investing in negative net present value projects that offer them personal diversification benefits. Managers are prone to spending available funds in "empire-building" projects that enhance their own entrenchment and public reputation even if paying out cash is better for the shareholders (see Jensen, 1986; Shleifer and Vishny, 1986; Stulz, 1990). Furthermore, managers are averse to relinquishing control of the firm. Hence, liquidation and takeovers are often opposed even though they may be in the best interest of the shareholders (Harris and Raviv, 1988). The question is how can shareholders protect their interests and ensure that the managers do not appropriate excessive perks for themselves or make bad investments that will affect shareholders' wealth?

The agency problem is particularly important in explaining the capital structure of large, publicly quoted companies, where the separation of ownership and control is very pronounced. Managers have numerous opportunities to exercise their discretion with respect to capital structure decisions. The choice of capital could be determined, for example, by the

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extent of the wealth that managers have tied up in the firm's common stock and firm-specific human capital (i.e the experience and skills invested in the firm by managers). In the case where the managers' personal wealth is heavily invested in the firm, they are likely to employ less debt in the firm's capital structure in order to reduce their level of risk (Friend and Hasbrouck, 1988).

In spite of the importance of the agency problem and capital structure choice, the area remains empirically under-researched. Limited empirical studies have been done within the context of developed markets (see Kim and Sorensen, 1986; Theis, 1999; Ang *et al*, 2000; Anderson *et al.*, 2003; Anderson and Reeb, 2003; Forsberg, 2004). This present study seeks to add to previous research by investigating the issue among listed SMEs from the perspective of a developing country. The paper specifically examines the effect of the agency problems on the capital structure decisions of quoted SMEs in South Africa. It is often assumed that the agency problems are less likely to exist in SMEs because they tend to have a less pronounced separation of ownership and management than larger firms. However, in this study of quoted SMEs agency problem is likely to be an issue because of the separation of management and outside shareholders.

The remainder of the paper is organised as follows: section 7.2 provides a discussion of the background literature. Section 7.3 contains a discussion of the research methodology. Section 7.4 presents and discusses the results of the empirical analysis. Finally, section 7.5 summarises the findings of the research and also concludes the discussion.

7.2   Literature Review

Compared to publicly traded firms, small businesses come closest to the type of firms depicted in the stylised theoretical model of agency costs developed by Jensen and Meckling (1976). At one extreme of ownership and management structures are firms whose managers own 100 percent of the firms. These firms, by definition, have no agency costs. At the other extreme are firms whose managers are paid employees with no equity in the firms. In between are firms where the managers own some, but not all, of their firm's equity. That is they own less than 100 percent of the firm's equity capital (Ang *et al.*, 2000; Cole and Lin,

2000). Clearly, the sample of firms used in this study falls within the third category. Since they are quoted SMEs, managerial shareholders own some of the firms' equity.

Agency costs arise as a result of the relationships between equity-holders or managers of the firm and debt-holders. The relationships can be characterised as principal-agent relationships. While the firm's management is the agent, both the debt-holders and stockholders are the principals. The agent may choose not to maximise the principals' wealth. Jensen and Meckling (1976) identified two types of conflicts: those between debt-holders and shareholders, and those between shareholders and managers. The conflict between debt-holders (creditors) and shareholders is due to moral hazard. Conflicts between shareholders and creditors may arise because they have different claims on the firm. Equity contracts do not require firms to pay fixed returns to investors, but offer a residual claim on a firm's cash flow. However, debt contracts typically offer holders a fixed claim over a borrowing firm's cash flow. When a firm finances a project through debt, the creditors charge an interest rate that they believe is adequate compensation for the risk they bear. Since their claim is fixed, creditors are concerned about the extent to which firms invest in excessively risky projects. For example, after raising funds from debt-holders, the firm may shift investment from a lower- to a higher-risk project. According to Jensen and Meckling (1976), the conflict between equity and debt claimants is such that shareholders expropriate wealth from debt-holders by investing in new projects that are riskier than those presently held in the firm's portfolio. In the event of an investment yielding high returns, equity-holders receive the majority of the benefits.

However, in the case of the investment failing, because of limited liability, debt-holders bear the majority of the consequences. In other words, if the project is successful, the creditors will be paid a fixed amount and the firm's shareholders will benefit from its improved profitability. If the project fails, the firm will default on its debt, and shareholders will invoke their limited liability status. In addition to the asset substitution problem between shareholders and creditors, shareholders may choose not to invest in profitable projects (under-invest), if they believe they would have to share the returns with creditors. The agency costs of debt can be resolved by the entire structure of the financial claim. Barnea *et al* (1980) argue that the agency problems associated with information asymmetry, managerial

(stockholder) risk incentives, and forgone growth opportunities can be resolved by means of the maturity structure and call provision of the debt. For example, shortening the maturity structure of the debt and the ability to call the debt before the expiration date can help reduce the agency costs of underinvestment and risk-shifting. Barnea *et al* (1980) also demonstrate that both features of the corporate debt serve identical purposes in solving agency problems.

The conflict between shareholders and managers arises because managers hold less than 100 percent of the residual claim (Harris and Raviv, 1990). Consequently, they do not capture the entire gain from their profit-enhancing activities but they do bear the entire cost of these activities. Separation of ownership and control may result in managers performing insufficient work, claiming perquisites, and choosing inputs and outputs that suit their own preferences. Managers may invest in projects that reduce the value of the firm but enhance their control over its resources. For instance, although it may be optimal for the investors to liquidate the firm, managers may choose to continue operations to enhance their position. Harris and Raviv (1990) suggest that managers have an incentive to continue a firm's current operations even if shareholders prefer liquidation. Jensen and Meckling (1976) suggest that, as ownership and management separate, the need for monitoring by the external market increases.

One main reason for employing debt is the advantage of tax subsidy. The tax deductibility of interest lowers the cost of debt financing and makes debt capital the cheapest type of outside financing available to most firms (Fosberg, 2004). However, one major disadvantage of debt financing is that it increases the risk of bankruptcy, if the firm is not able to service its debt obligations. This bankruptcy risk may not necessarily pose a problem for an investor who holds a well-diversified portfolio of investments, because the bankruptcy of any one firm in their portfolio of investments will not have a large impact on their wealth. Therefore, a well-diversified investor will prefer that most firms use significant amounts of debt capital in their capital structures. Amihud and Lev (1981), and Friend and Hasbrouck (1988) argue that managerial insiders (officers and directors) have a somewhat different perspective since many of them have large portions of their personal wealth invested in their employers. The personal wealth that managerial insiders have invested in their employer is composed largely

of their employer's common stock and the firm-specific human capital they have accumulated while working for their employer. As these items tend to represent a large proportion of an insider's total wealth, the bankruptcy of their employer would have a major impact on their personal wealth. As a result, managerial insiders should be much more sensitive to the bankruptcy risk that debt financing induces and may be inclined to minimise this risk by using less than the optimal (shareholder-wealth maximising) amount of debt in the firm's capital structure. Furthermore, the more wealth managerial insiders have invested in their employer, the greater the incentive they have to minimise the use of debt financing (Friend and Hasbrouck, 1988).

Relying on the managerial theory of capital structure, Noe and Rebello (1996) suggest that the locus of control within a firm is an important determinant of the choice of finance. When the corporate decisions are dictated by the manager, equity issues will be favoured over debt, because of the manager's inclination to protect his undiversified human capital and to avoid the performance pressure associated with debt commitments (Berger *et al.*, 1997). However, if the locus of control rests with substantial shareholders that are not represented on the management board, the company may take on more debt to limit the scope for managerial discretion.

The shareholders concern is to ensure that managerial insiders do not pursue policies that would promote their own personal financial incentives by employing less than the optimal amount of debt in the firm's capital structure that has the tendency of reducing shareholder value. If managerial insiders engage in opportunistic behaviour, shareholders bear a proportion of the costs of such actions, since shareholders have a residual claim on the earnings and assets of the firm. A shareholder's incentive to monitor insiders and ensure that the firm is being properly managed is directly related to the proportion of the firm's shares that the shareholder owns. It stands to reason that a particular type of shareholder; blockholders (those who own at least 5 percent of a firm's common stock), have a strong incentive to seek to monitor and control the opportunistic behaviour of the firm's managerial insiders. Therefore, the high proportion of shares owned by blockholders should motivate them to want to monitor the behaviour of the firm's managerial insiders. This is

likely to result in more debt financing being used by the firm than its managerial insiders desire (Fosberg, 2004).

Schleifer and Vishny (1997), and La Porta *et al* (1998) point out that controlling shareholders (blockholders) may prevent the agency problems between the management of the firm and outside investors from arising; however, these controlling shareholders may consider their own benefits and act against creditors and minority shareholders. Therefore, the presence of a group of blockholders may create both advantages and disadvantages for the firm. For instance, Gursoy and Aydogan (2002) found that the market value performance of Turkish firms increases with a high percentage of blockholding whereas their accounting performance dips.

7.2.1   *Empirical Evidence and Hypotheses Development*

Previous studies have operationalised the agency problem in terms of insider shareholding and institutional shareholding or blockholding (Friend and Lang, 1988; Berger *et al.*, 1997; Fosberg, 2004). Managerial share ownership (insider shareholding) could provide managers with an incentive to use the appropriate amount of debt in the firm's capital structure. Managers who own shares of their company suffer wealth losses (just like other shareholders), if the firm uses less than the optimal amount of debt financing. Since these wealth losses are proportional to managers' share ownership, the more shares managers own, the more wealth they lose if they do not employ the optimal amount of debt financing. Therefore, the more shares managers own, the greater their incentive not to engage in wealth-reducing activities such as suboptimal debt usage. Kim and Sorenson (1986) found that high insider holding is associated with greater levels of debt. This result was interpreted as signifying that firms with higher levels of insider holdings have lower agency costs of debt, or alternately, higher agency costs of equity. Casey and Anderson (1997) suggest that insider ownership is positively related to the level of debt. Ooi (2000) also found that firms closely held by managers prefer debt to equity. He argued that managers with a bigger stake in a company's equity will pursue actions which are more aligned to the shareholders' interests. It suggests that managers may refrain from issuing equity shares, if there is a chance that their control over the firm will be challenged. It is important to note, however, that the findings by Casey and Anderson (1997), and Ooi (2000) could also be influenced by

industry-specific factors, given that their studies focused solely on particular industries. Stulz (1988) and Jung *et al* (1996) contend that since equity issues have a diluting effect on their voting rights, the managers may choose to issue debt voluntarily as an anti-takeover device against the challenge of potential corporate raiders.

Jensen *et al* (1992), however, reported a negative relation between insider holdings and debt. Theis and Casey (1999) found that the percentage of shares closely held is negatively related to debt level. They argued that shareholders may be less diversified than others and prefer to incur lower levels of debt to reduce risk of insolvency. Friend and Lang (1988), and Fosberg (2004) also found an inverse relationship between insider stockholding and the amount of debt in the firm's capital structure.

Friend and Lang (1988), and Berger *et al* (1997) found that the presence of a blockholder was associated with higher levels of debt financing by the firm. Berger *et al.* (1997) found that the percentage of a firm's shares owned by the Chief Executive Officer is directly related to the amount of debt in a firm's capital structure. Casey and Anderson (1997) found that institutional ownership is positively related to the level of debt. They argued that large blocks of concentrated shareholders may prefer to use debt more extensively in order to increase returns. Fosberg (2004) also found a positive and significant relationship between percentage of blockholdings and debt. He explained that blockholders are effective monitors of the firm's managers and directors and that they force managerial insiders to use more debt in the firm's capital structure than the insiders personally desire. He, however, found a negative association between the number of blockholders and debt. This was explained by the fact that the greater the number of blockholders the firm has, the smaller the share ownership of each blockholder and the less incentive a blockholder has to monitor the firm's officers and directors.

Other factors that may result in agency problems are the level of tangible fixed assets and the growth opportunities of the firm. According to Titman and Wessels (1988), the degree to which the firm's assets are tangible should result in the firm having greater liquidation value. Booth *et al* (2001) suggest that the relationship between tangible fixed assets and debt financing is related with the maturity structure of the debt. In such a situation, the level of

tangible fixed assets may help firms to obtain more long-term debt, but the agency problems may become more severe with more tangible fixed assets, because the information revealed about future profit is less in these firms. If this is the case, then it is likely to find a negative relationship between tangible fixed assets and debt ratio. In terms of growth opportunities, it is argued that firms with high growth opportunities often tend to be risky projects. High level of debt escalates the agency cost of debt and prevents the firms from taking risky investment projects. Debt-holders may want to monitor and prevent the firm from undertaking such projects. This may be due to protective covenants or the conditions on collateral. Given that firms with high growth opportunities may prefer a low debt level, it is expected that there will be a negative relationship between growth opportunities and debt capital structure. Bradley *et al* (1984) found that firms with higher growth opportunities use less debt. Rajan and Zingales (1995) confirmed that firms with higher market-to-book ratios carry less debt in their capital structure. Following from the above discussion, it is hypothesised that:

H_1: Percentage of shares closely held is positively related to level of debt;

H_2: Percentage of blockholding is positively associated with level of debt;

H_3: High number of institutional blockholders is negatively related with debt ratio;

H_4: High proportion of tangible fixed assets has a negative relation with debt ratio;

H_5: Growth opportunities should have a negative association with level of debt.

7.3   Research Methods and Sample Characteristics

7.3.1   *Data and Sample*

The paper examines the relationship between the agency factors and the capital structure of listed SMEs in South Africa. The study used all listed SMEs on the Johannesburg Stock Exchange (JSE) that satisfy, at least, two of the following criteria; have fewer than 200 employees; turnover of less than 50 million South African rand; gross assets excluding fixed

property of less than 18million South African rand. This definition is consistent with that of the National Small Business Act for SMEs. In all, 68 listed SMEs qualified for this study. The sample includes non-financial companies. This is because financial institutions tend to be regulated differently in terms of their capital adequacy requirements. Information was obtained from the annual reports of the selected firms and the JSE Fact Books during the period, 1998-2004. The data collected was unbalanced panel given that not all the firms have been listed since 1997. The majority (42) of the firms had data covering the period 1998-2004. All the firms had at least five years of data from 2000-2004. Considering that there are only few missing observations, this should not affect the results of this study.

Agency factors include, percentage of shares closely held by management and directors of the firm (proportion of shares owned by managers and directors of the firm), percentage of shares held by blockholders (blockholders are shareholders who own at least 5 percent of a firm's common stock), and number of institutional blockholders (institutions that own at least 5 percent of the firm's common shares). Asset tangibility (proportion of tangible fixed assets in the firm's total assets), and market-to-book value are also included to capture the effects of growth and investment opportunities. It is believed that agency issues will arise as the firm expands and tries to finance its growth opportunities. Capital structure is operationalised in terms of total debt ratio. The variables are specifically defined as follows:

Shares closely held = number of shares owned by managers and directors divided by
total shares as a percentage.

Blockholdings = number of shares owned by blockholders divided by total shares as a
percentage.

Institutional blockholders = number of institutions owning at least 5 percent of
shares.

Asset tangibility = tangible fixed assets divided by total assets as a percentage.

Market-to-book value = market value of shares divided by book value of shares.

Capital structure = total debt divided by total debt plus equity.

7.3.2 Statistical Analysis

The analysis is done using Pairwise correlation and Analysis of Variance (ANOVA) tests. This specifically examines the relationships between the agency factors and the capital

structure. The variables were classified for ease of analysis. Considering that closely held shares, blockholding, and asset tangibility are in percentages, the classification was based on Hamilton and Fox's (1998) classification of ownership structure. This is given as: less than 26%; 26% – 50%; 51% - 75%; and more than 75%. The other variables (i.e. number of institutional blockholders and market-to-book value) were classified based on the nature of the data. We classified the number of institutional blockholders into three groups - that is, firms with 1 institutional blockholder; firms with 2 institutional blockholders; and firms with 3 institutional blockholders. Market-to-book value ratio was classified as: less than 1; 1 – 5; 5 – 20; and above 20. Test for differences in means was then carried out to evaluate the relative effects of percentage of closely held shares, percentage of blockholders, number of institutional blockholders, asset tangibility, and market-to-book value on the capital structure.

7.4 Results and Discussion

This section reports the empirical results and discusses the associations between the agency factors and the capital structure of SMEs. The section provides the descriptive statistics of the variables used and discusses the correlation and ANOVA results.

7.4.1 Descriptive Statistics

Table 7.1 reports on the summary individual statistics of the variables used for this study. The mean debt ratio for the SME sample is shown as 0.5230, meaning that on average listed SMEs in South Africa employ 52.3% of debt in their capital structure. The average percentage of shares owned by managerial insiders including directors is given as 35.96%, while the percentage of shares held by blockholders is 48.41%. It is interesting to find in this study that a high proportion of the firms' shares are owned by outsiders. Such a situation is unlikely for unquoted SMEs. On average, the SMEs have two institutional shareholders. Less than 40% (38.38%) of the SMEs' total assets is made up of tangible fixed assets. The quoted SMEs demonstrate very high growth prospects with a mean market-to-book value ratio of 14.9607. With the exception of the mean value of market-to-book value ratio, which is significant at 10% level, the mean values of all the other variables are significant at 1% level.

Table 7.1: Descriptive Statistics

Variable	Mean	Std. Err.	Std. Dev.	*t*-stats.	*p*-value
Debt ratio	0.5230	0.0486	0.4126	10.7543	0.0000
Percentage of shares closely held	0.3596	0.0346	0.2350	10.3774	0.0000
Percentageof blockholdings	0.4841	0.0220	0.2434	21.9642	0.0000
Number of institutional blockholders	2.1393	0.0983	1.0857	21.7644	0.0000
Proportion of tangible fixed assets	0.3804	0.0418	0.3544	9.1066	0.0000
Market-to-book value ratio	14.9607	7.9362	67.3406	1.8851	0.0635

7.4.2   Correlation Results

Table 7.2 presents the correlation matrix between capital structure and the agency factors. It is clear that the number of institutional blockholders has a statistically significant negative correlation with debt ratio. The correlation between the market-to-book value ratio and debt ratio is significantly positive. The results show a statistically significant negative correlation between the percentage of blockholding and percentage of closely held shares, and a significantly positive correlation between the number of institutional blockholders and percentage of blockholding.

Table 7.2: Correlation Coefficients

	Debt ratio	% of shares closely held	% of blockholding	No. of Inst. blockholders	Fixed Assets	MTBV
Debt ratio	1.0000					
% of shares closely held	-0.2825 (0.1915)	1.0000				
% of blockholders	-0.0251 (0.8392)	-0.2831 (0.0595)	1.0000			
No. of Inst. blockholders	-0.2943 (0.0148)	-0.2003 (0.1872)	0.2115 (0.0194)	1.0000		
Fixed Assets	0.0031 (0.9797)	-0.0334 (0.8799)	-0.0986 (0.4239)	-0.0366 (0.7673)	1.0000	
MTBV	0.2180 (0.0658)	0.0898 (0.6837)	0.0644 (0.6018)	0.0167 (0.8927)	0.0169 (0.8881)	1.000

Note: P-values are in brackets

7.4.3 Closely held shares and capital structure

Table 7.3 shows the relationship between the percentage of closely held shares and the capital structure of the firms. The results show that the total debt ratio falls with increasing percentage of inside shareholding. This finding indicates that firms with the highest percentage of closely held shares (those within the range of 76% - 100%) exhibit the lowest debt ratio of 0.0666, while those with the lowest percentage of closely held shares (less than 26%) have the highest debt ratio of 0.6678. However, the results show that the relationship between closely held shares and capital structure is not statistically significant. The differences in the debt ratios are therefore not attributable to the proportion of shares held by managerial shareholders.

Table 7.3: Capital Structure and Percentage of Closely Held Shares

Capital structure	*Shares closely held (%)*	*Mean*	*Std. Dev.*	*F-value*	*Prob.*
Debt	**less than 26**	**0.6678**	0.51	1.01	0.4093
	26 – 50	**0.6334**	0.28		
	51 – 75	**0.5421**	0.21		
	more than 75	**0.0666**	0.00		

7.4.4   Percentage of blockholding and capital structure

It is usually expected that firms with high percentage of blockholders exhibit high debt ratio. This is simply because such blockholders are often able to monitor the behaviour of the firms' managers and directors to avoid their taking decisions that would jeopardise the value of the firm. Blockholders typically impress upon management to employ more debt in order to maximise the value of the firm. In other words, if blockholders own a high proportion of shares, then there would be a high agency problem between managers and shareholders. Such conflict would put pressure on management to seek to maximise their returns by using more debt. The results of this study as indicated in Table 7.4, however, fail to confirm this hypothesis. Firms with block holding within the range of 26% - 75% employ relatively higher debt ratio than those with less than 26% and, those between 76% and 100%. The results show that the difference in debt ratios is not statistically significant across the proportion of blockholding.

Table 7.4: Capital Structure and Percentage of Blockholding

Capital structure	Block holding (%)	Mean	Std. Dev.	F-value	Prob.	
Debt	**less than 26**	**0.4858**	0.25	0.29	0.8354	
	26 – 50	**0.5872**	0.58			
	51 – 75	**0.4948**	0.32			
	more than 75	**0.4771**	0.29			

7.4.5 *Number of institutional blockholders and capital structure*

Table 7.5 shows the relationship between the number of institutional blockholders and capital structure. The results seem to support the third hypothesis, in that capital structure varies significantly with the number of institutional blockholders. The mean debt ratio (0.7125) appears to be very high with only one blockholder, and it is low when the blockholders are more than one. This could be explained by the fact that, in firms where there is only one major institutional blockholder, such a blockholder would be more effective in monitoring the behaviour of the managers and directors of the firm in taking decisions in the interest of the firm. This suggests that the sole blockholder would tend to take ownership of the firm and strictly monitor the activities of management and inside owners. Where the blockholder is also an institution, it is able to set up departments or monitoring systems to regulate the firms' activities frequently. Such strict monitoring should result in the management employing more debt to maximise shareholder value.

On the other hand, where you have more than one or many institutional blockholders, it is likely that such blockholders would not keenly follow the progress of the firm by monitoring managerial behaviour, since one blockholder's percentage of shareholding may not be high enough to warrant setting up such costly monitoring systems. The lack of proper monitoring by the blockholders is likely to lead to opportunistic behaviour by management and inside shareholders. The results of this study seem to also support the finding of Fosberg (2004) that the greater the number of blockholders the firm has, the smaller the share ownership of each blockholder and the less incentive a blockholder has to monitor the firm's officers and

directors. It is obvious in the South African case that the number of institutional blockholders is important in influencing capital structure decisions of quoted SMEs.

Table 7.5: Capital Structure and Number of Blockholders

Capital structure	*Number of blockholders*	*Mean*	*Std. Dev.*	*F-value*	*Prob.*
Debt	**1**	**0.7125**	0.69	2.42	0.0911
	2	**0.4261**	0.29		
	3	**0.4502**	0.27		

7.4.6   *Asset tangibility and capital structure*

Previous empirical studies seem to suggest that firms with high proportion of fixed assets are more capable of attracting a high debt ratio. Others argue that firms with high asset structure encounter greater agency problems since the asset is used as collateral in obtaining debt finance. The relationship between asset tangibility and capital structure is shown in Table 7.6. Though, firms with asset structure within the range of 26% - 75% exhibit higher debt ratio than those with asset structure of less than 26%, and those with asset structure above 75%, the results of this study again did not indicate statistical significance with respect to the differences in the debt ratios across the proportion of fixed assets in the firm's total assets.

Table 7.6: Capital Structure and Asset Tangibility

Capital structure	*Asset tangibility (%)*	*Mean*	*Std. Dev.*	*F-value*	*Prob.*
Debt	**less than 26**	**0.5234**	0.47	0.56	0.6458
	26 – 50	**0.5741**	0.38		
	51 – 75	**0.6824**	0.45		
	more than 75	**0.4360**	0.25		

7.4.7 Growth opportunities and capital structure

The association between the level of growth opportunities of the SMEs and capital structure is indicated in Table 7.7. The results show that capital structure varies significantly with the level of growth opportunities ($p < 0.05$). The mean debt ratio (0.8717) is highest when the market-to-book value ratio is above 20, followed by a mean debt ratio of 0.5753 when the market-to-book value ratio is between 5 and 20, and then followed by a mean debt ratio of 0.5656 when the market-to-book value ratio is within the range 1 – 5. As seen in Table 7.7, the mean debt ratio is lowest (0.3727) with the lowest market-to-book value of less than 1. The results clearly indicate that debt ratio increases with increasing market-to-book value ratio or growth opportunities, suggesting that SMEs with high growth potential tend to attract more debt finance than those with low growth opportunities. High-growth firms may use debt financing to ensure that the benefits arising from new projects accrue to existing shareholders. Also, SMEs with low growth opportunities may not require more debt, because they are able to finance their lower growth from internally generated funds. It stands to reason that, if a firm issues debt, it indicates the firm has an investment opportunity that exceeds its internally generated funds. The results may also suggest that potentially high-growth SMEs that attract more finance may want to invest heavily in financing their growth opportunities or even divert resources into very risky projects. Shareholders of such firms have the benefit of invoking their limited liability status in the event of such projects failing. This situation has the tendency of creating severe agency problems between shareholders, especially managerial shareholders and debt-holders.

Table 7.7: Capital structure and Growth Opportunities

Capital structure	MTBV	Mean	Std. Dev.	F-value	Prob.
Debt	**less than 1**	**0.3727**	0.26	2.97	0.0380
	1 – 5	**0.5656**	0.51		
	5 – 20	**0.5753**	0.33		
	above 20	**0.8717**	0.35		

7.5   Conclusion

This paper has analysed the relationship between agency factors and the capital structure of South African quoted SMEs. Agency conflicts exist between a firm's owners and managers because of the separation of ownership and management. Consequently, managers pursue activities that enhance their interests rather than those of the shareholders. Though it is often assumed that agency problems are less likely to exist in SMEs, because they have less pronounced separation of ownership and management than larger firms, agency conflicts are likely to exist in the case of quoted SMEs. This study represents one of the few empirical studies to examine the agency issue and capital structure of SMEs in the context of sub-Saharan African. The study identified such agency factors as percentage of shares closely held, percentage of block shares, number of institutional block shareholders, asset tangibility, and growth potential, by investigating how these factors relate to the proportion of debt employed by SMEs. Apart from the number of blockholders and growth potential, the results did not indicate any statistical significance in terms of the relationships between capital structure and the other variables.

In terms of number of institutional blockholders, the results of this study showed that where there is only one major institutional blockholder, such a blockholder would be more effective in monitoring the behaviour of the managers and directors of the firm in taking decisions in the interest of shareholder value maximisation. This suggests that the sole blockholder would take ownership of the firm and strictly monitor the activities of management and inside owners. The institutional blockholder is able to institute monitoring systems to regulate managerial activities frequently. Such strict monitoring should result in the management employing more debt in order to maximise shareholder value. The theory on management incentive mechanism proposes the use of debt to discipline management and keep it focused on meeting performance metrics.

On the other hand, having many institutional blockholders may result in weak monitoring of managerial activities since one blockholder's percentage of shareholding may not be high enough to warrant setting up such costly monitoring systems. The lack of proper monitoring by blockholders is likely to lead to opportunistic behaviour by management and inside

shareholders to the detriment of the firm. With respect to firms' growth opportunities, the results of this study indicated that debt ratio increases with increasing market-to-book value ratio or growth opportunities, suggesting that SMEs with high growth potential tend to attract more debt finance than those with low growth opportunities. High-growth firms may use debt financing to ensure that the benefits arising from new projects accrue to existing shareholders. Also, SMEs with low-growth opportunities may not require more debt, because they are able to finance their lower growth from internally generated funds. It stands to reason that, if a firm issues debt, it indicates the firm has an investment opportunity that exceeds its internally generated funds. The results may also suggest that potentially high-growth SMEs that attract more finance may therefore be interested in investing heavily in financing their growth opportunities or even divert resources into very risky projects. Shareholders of such firms have the benefit of invoking their limited liability status in the event of such projects failing. This situation has the tendency of creating severe agency problems between shareholders, especially managerial shareholders and debt-holders.

The results of this study have indicated that the number of institutional blockholders, and growth potentials are important in explaining the capital structure decisions of quoted SMEs in South Africa. However, further research on the effects of agency factors on capital structure of SMEs is very necessary to fully appreciate the relationships.

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CHAPTER EIGHT

THE SOUTH AFRICAN FINANCIAL MARKET AND FINANCING CHOICE OF SMES[‡]

8.1   Introduction

Financial markets have been noted to play an important role in the financing choice of firms. Previous studies point out that features in the financial markets and institutions are as important as the firm-specific variables in explaining financing decisions (Demirguc-Kunt and Maksimovic, 1999; Booth *et al.*, 2001; Agarwal and Mohtadi, 2004). Recently, the financial markets, especially in most developing economies, seem to be assuming a more prominent role than they did previously, mainly as a result of the trade and financial liberalisation policies adopted by these countries over the past decade (Agarwal and Mohtadi, 2004).

An important financial decision that firms face is the choice between debt and equity capital (Glen and Pito, 1994). The issue of firms' financing choice is important because of the need to maximise returns or value of the firm. Since the cost or value of the firm could be affected by the combination of debt and equity, the development of markets that facilitate the issuance and trading of equity and debt should be reflected in the financing decisions of the individual firms. In spite of the importance of financial market in the financing decisions of firms, very few empirical studies exist in this area. Previous studies have tended to concentrate on large quoted companies. A major gap in the literature is how the development of financial markets affects SMEs' financing options. SMEs have been noted as important contributors to the economic growth of most countries, especially in Africa and the role of finance has been viewed as a critical element for the development of this important sector (Cook and Nixson, 2000).

[‡] This paper has been published in *Journal of Business and Society*, Vol. 19, 2006.
The paper was also presented at the Fifteenth Annual Conference of the Southern African Finance Association at the University of Cape Town, South Africa, January, 2006.

In this study, we examine how the development of the South African financial market affects the financing choice of SMEs in South Africa. South Africa is of interest for a number of reasons. First, South Africa is one of the relatively few sub-Saharan African countries with an established corporate sector and a company accounts database which is long-established and of good quality. South Africa was one of the three African countries that Agarwal and Mohtadi (2004) included in their sample. The others were Nigeria and Zimbabwe. Even though Agarwal and Mohtadi (2004) included South Africa in their sample, they used only 21 large companies and their study reported on an aggregate level only. They did not show results at the country-level. The second reason, for sampling South African quoted SMEs is because South Africa has the oldest stock exchange in sub-Saharan Africa, the Johannesburg Stock Exchange (JSE). Third, the JSE has the highest number of quoted firms and seems to have a well-defined listing regime for SMEs. Lastly, economic liberalisation after the collapse of apartheid in 1994 offers a particularly interesting setting within which to examine the issue of financial sector growth and SMEs' financing choices.

This paper explores the relationship between the choice of finance (debt-equity) and the development of the financial market (including the stock market and banking sector). The study investigates the extent to which the capital structure of quoted SMEs could be explained by the level of development of the financial market and firm-specific factors that have been identified in standard capital structure models. The paper also compares the results with what the situation is for large, listed firms in South Africa. Using data of 61 quoted SMEs and 100 large, quoted firms for a period of seven years, static and dynamic panel frameworks are adopted for this study.

The rest of the paper is organised as follows. Section 8.2 reviews the main theories of capital structure of firms. Section 8.3 explains the data and variable definitions and also sets out the model to be tested. Section 8.4 presents and discusses the empirical results of estimating the model. The summary and concluding remarks are presented in section 8.5.

8.2 Literature Review

Financial markets have a direct impact on firms' capital structures. Banks, for instance, have a primary function of monitoring borrowers of bank loans. Financial intermediaries such as banks have greater incentives to use collected information to discipline borrowers than do small investors subject to free-rider problems (Demirguc-Kunt and Maksimovic, 1999), since there are economies of scale in obtaining such information (Diamond, 1984). It is therefore expected that an efficient and well developed banking system would assist in facilitating access to external financial resources, especially debt finance to firms and more importantly to SMEs. Demirguc-Kunt and Maksimovic (1999) argue that a well developed banking sector leads to an increase in the availability of short-term financing since this form of financing enables intermediaries to use their comparative advantage in monitoring maturity. They explain, however, that banks' economies of scale and their ability to monitor covenants also permit them to offer long-term loans that would not be available in a market without intermediaries. Agarwal and Mohtadi (2004) caution that in developing countries, banks cannot adequately provide these financial resources to firms because government credit demand seems to crowd out the private sector and also the macroeconomic environment in these countries poses a risk for long-term loans.

A well developed stock market is capable of providing opportunities for diversification by entrepreneurs. Such a market is said to be liquid, meaning it is easier to convert one financial asset to the other with minimal or no loss in value. For instance, switching from long-term debt to equity, Demirguc-Kunt and Maksimovic (1996) explain that in economies with imperfect stock markets, entrepreneurs face the cost of diversifying their portfolios. Outside investors may require a premium in order to acquire the stock of a firm that is traded on an illiquid market. Apart from the primary role of supplying capital to the economy, stock markets have an important role in terms of transmission of information that is useful to creditors. The markets aggregate information about the prospects of the firms whose shares are traded (Grossman, 1976; Grossman and Stiglitz, 1980). The information provided by the stock market on listed firms facilitates the monitoring of these firms and enables them to access long-term finance more easily. Investors generally perceive such listed firms as less-risky investment avenues. Informed investors are, thus, able to avoid investing in risky firms.

In addition to aggregating information, the markets provide incentives for the investors' acquisition of information (Demirguc-Kunt and Maksimovic, 1996). As markets for publicly traded stocks increase in size, the more profitable it is for analysts to invest in acquiring information about firms. Increase in the quality of information would further facilitate monitoring by investors. Ooi (1999) suggests that debt ratio is negatively related to the underlying stock market performance. Studies by Marsh (1982), Jalilvand and Harris (1984), and Bayless and Diltz (1991) have also shown that firms time their equity issues to coincide with favourable market conditions, because the prospect of their shares being under-valued in a buoyant stock market is low.

It is important to note that the amount of long-term and short-term debt that is optimal even when the financial markets are perfect may depend on the opportunities that the firm's insiders have for diverting resources and the assets the firm can provide as collateral. Firms with high growth opportunities and high fixed assets values are more likely to attract sources of finance than those that have low growth opportunities and low fixed assets values. The size and profitability of the firm are also likely to influence the firm's access to capital.

The growth of the economy is also important in affecting firms' financing choice. Boyd and Smith (1998) developed a model where capital accumulation is financed by both debt and equity. Investments require external finance, but subject to costly state verification. Investors have access to two investment technologies: one with a return that is only privately observable (debt), and the other path with a publicly observable return (equity). Boyd and Smith (1998) found that along the growth path, as the relative price of capital falls, verification is more difficult and the costly state verification is more likely to rise. Thus, investors employ the observable technology more intensively. They argue that economic growth would result in increase in equity financing and a fall in debt-equity ratio.

In addition to these explanations, the extant literature indicates that some firm-specific characteristics have an influence on the financing choice of firms. These include size of the firm, asset composition, profitability, firm growth opportunities, and tax. Size of the firm is identified to have a positive relationship with debt, since large firms may have lower level of probability of bankruptcy (Titman and Wessels, 1988; Wald, 1999). It is also possible to find

a negative relationship because large firms are more likely to have agency problems with external investors and therefore would require less debt finance.

Asset composition is also a factor. Due to the conflict between providers and shareholders, lenders face the risk of adverse selection and moral hazard. Thus, lenders may demand security or collateral (Jensen and Meckling, 1976). The literature undoubtedly suggests a positive relationship between the asset composition and the level of debt, based on the role of asset tangibility as collateral value. The larger the share of tangible fixed assets in the total assets of the firm, the higher the collateral value when requesting for debt finance. In other words, firms with a high level of fixed assets are able to present collateral to acquire more debt finance.

Another important firm characteristic is profitability. Myers (1984), and Myers and Majluf (1984) explain the negative relationship between profitability and capital structure by the pecking order theory. The pecking order theory suggests that firms will initially rely on internally generated funds or retained earnings, where there is no existence of information asymmetry, then they will turn to debt if additional funds are needed, and finally, they will issue equity to cover any remaining capital requirements. It is also argued that profitable firms are more capable of tolerating more debt, since they may be in a position to service their debt easily. Profitable firms are said to be more attractive to financial institutions as lending prospects, thus they are likely to attract more debt capital (Ooi, 1999).

Firms' growth opportunity is also likely to affect debt ratio. Michaelas *et al* (1999) argue that future growth opportunities will be positively related to firms' debt ratio. Myers (1977), however, holds the view that firms with growth opportunities will have smaller proportion of debt in their capital structure. This is due to the fact that conflicts between debt and equity holders are especially serious for assets that give the firm the option to undertake such growth opportunities in the future. High growth potential corresponds to higher market capitalisation; it enables the firm to have lower costs of equity financing. Therefore, debt is expected to be negatively associated with the degree of growth opportunity (Jensen and Meckling, 1976).

Tax debt shield as a determinant of debt ratio focuses on the tax advantages of debt financing. Firms prefer debt financing because interest payment is tax deductible. Previous empirical studies have concluded that taxation has an impact on corporate financing decisions (see Auerbach, 1984; Mackie-Mason, 1990; Graham, 1996; Shum, 1996). Mackie-Mason (1990) provided evidence of substantial tax effect on the choice between debt and equity. He concluded that changes in the marginal tax rate for any firm should affect financing decisions. This suggests that firms with high marginal tax rates would prefer high debt levels. Negash (2002), however, found a negative association between tax rate and leverage in a South African study.

8.3   Methodology

8.3.1   Data and Variable Description
The sample data consists of 61 South African quoted SMEs and 100 large, quoted firms. The sample includes non-financial firms that satisfy, at least, two of the following criteria: have fewer than 200 employees; turnover of less than 50 million South African rand; gross assets excluding fixed property of less than 18million South African rand. This definition is consistent with that of the National Small Business Act for SMEs. The selection of the large firms was based on the 100 biggest non-financial firms in terms of value of assets. Financial firms (finance, banking and insurance) were excluded because of their different capital adequacy and financial reporting requirements. Financial data on the firms was obtained from their annual financial statements covering the period 1998 - 2004. Information on the financial market variables was obtained from the International Monetary Fund's International Financial Statistics database. The variables used for this study are explained as follows:

Long-term debt/ equity and *short-term/ equity*: Long-term debt/ equity is defined as the firm's outstanding debt that is repayable over one year divided by equity. Short-term debt/equity also includes the firm's outstanding debt repayable within one year divided by equity. The essence of decomposing the total debt into long-term and short-term is to allow us to test whether SMEs differentiate between financing instruments (banks and stock market) to finance short-term, as compared to long-term needs.

Stock market capitalisation ratio (SMCR) measures access to publicly traded equity market. It is computed as the value of listed shares divided by GDP. The assumption here is that the overall market size is positively correlated with firms' ability to raise capital and diversify on an economy-wide risk.

Total value of traded shares ratio (STR) measures the organised trading of the firms' equity as a share of the national output and should positively reflect liquidity on an economy-wide basis. It is computed as the value of shares traded on the stock market divided by GDP.

Turnover ratio (TOR) is an indicator of the level of activity on the stock market. It is calculated as total value of shares traded divided by market capitalisation. Higher value of turnover indicates a higher level of liquidity and low transaction costs. Demirguc-Kunt and Maksimovic (1999) suggest that high turnover also increases the incentives for investors to become informed and facilitates external monitoring. Demirguc-Kunt and Maksimovic (1996, 1999) found that the turnover ratio is a good indicator of stock market development.

Ratio of banks' liquid liabilities M3 to GDP measures the size of the banking sector in relation to the GDP or the economy as a whole. It also measures the financial deepening of the banking sector and is computed as banks' liquid liabilities divided by GDP. Previous empirical studies have also used this indicator to examine the effect of financial sector on the growth of the economy (Levine and Renelt, 1992; King and Levine, 1993).

Ratio of banks' deposit of domestic assets to GDP is also an indicator of access to financial intermediaries by firms and measures the size of the banking sector. It is computed as domestic assets of deposit banks divided by GDP. This measure gives evidence of the importance of the banking services performed by the banking sector relative to the size of the economy. The assets include claims on the whole non-financial real sector, including government, public enterprises and the private sector.

Control variables: We also isolate the effect of financial market development on firms' financing choice by controlling for other variables that may also influence the firms' financing choice. These include individual firm-specific characteristics, such as: size, asset

composition, profit levels, growth opportunities and tax rates. These are defined as: Size = log of total assets; asset composition = tangible fixed assets/ total assets; profit levels = profit before interest and tax/ total assets; growth opportunities = ratio of market-to-book value; tax rates = the ratio of tax paid to operating income for each firm.

8.3.2 The Model

This study adopts the model used by Demirguc-Kunt and Maksimovic (1999), and also adopted by Agarwal and Mohtadi (2004). The model assumes that the debt-equity ratio of the firm, DE^* is a function of a vector, X, of independent variables. These variables include the stock market, banking indicators, and firm-level variables. The model for the empirical investigation is given as follows:

$$DE_{it}^* = \vec{\beta}\vec{X}_{it} + \delta_i + y_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots 1$$

where subscript i and t represent the firm and time, respectively, and δ, y, and ε represent the firm-specific effects, time-specific effects, and the stochastic term in the equation. The use of this model helps in estimating the effects of the stock market and the banking sector on the financing choice of the firms. A negative coefficient for the stock market variable denotes that the firms' debt position decreases with a marginal development in the stock market, resulting in the firms employing more equity as opposed to debt. A positive coefficient estimate suggests a direct relationship between development in the stock market and firms' debt use. An insignificant coefficient estimate indicates that the developments in the stock market do not affect the firms' financing choice. To examine whether the stock market and the banking sector act as compliments or substitutes in affecting the debt and equity decision, it is necessary to consider the coefficient of the banking sector along with those of the stock market. We also consider a dynamic panel model, where we introduce a lagged dependent term to test whether firms try to maintain a specified debt-equity ratio, as the reason given by Agarwal and Mohtadi (2004). This is given as:

$$DE_{it}^* = \alpha DE_{it-1}^* + \vec{\beta}\vec{X}_{it} + \delta_i + y_t + \varepsilon_{it} \ldots\ldots 2$$

If the coefficient of the lagged dependent variable is below unity, then the conclusion can be drawn that debt-equity ratio will be stable and convergent over time. This would then imply that firms do not vary the debt-equity ratio over time. If, on the other hand, the coefficient is greater than unity, then the debt-equity ratio is not stable but divergent, suggesting that firms will choose different debt-equity ratio over time, depending on the stage of development of the economy and do not aim at maintaining a fixed debt-equity ratio over time.

8.4   Empirical Results

8.4.1 Summary Statistics

Table 8.1 presents the descriptive summary statistics of the financial market indicators and firm-level variables for both the SMEs and large firms. For SMEs, the mean short-term debt to equity and long-term debt to equity ratios are 1.9688 and 2.5305 respectively. The average asset value is 3.05e+08 (South African rand). The proportion of tangible fixed assets in total assets is about 32%. Average market-to-book value ratio and profitability are 11.2355 and 22.75%. The mean tax rate is shown as 14.27%. In the case of large firms, the mean short-term debt to equity and long-term to equity ratios are 1.1617 and 0.3687 respectively. The average size of large, listed firms is more than twice that of the SMEs with mean value of 7.54e+08 (South African rand). The mean asset composition of 35.63% is slightly higher than that of SMEs. The large firms' average market to book value of 1.7068 is lower than that of the SMEs'. The large firms' average profitability rate of 11.90% is also lower than the profitability of SMEs. The mean tax rate of the large firms is given as 23.20%. In terms of the stock market indicators, the mean stock market capitalisation ratio, the ratio of value of shares traded to GDP, and the stock turnover ratio for the seven-year period are given as 1.5174, 0.5260, and 0.4119 respectively. The banking variables show average figures of 0.4639 for the banks' liquid liabilities to GDP ratio, and 0.7650 for the banks' deposit of domestic assets to GDP ratio for the seven-year period. With the exception of the mean value of market-to-book value or growth which is insignificant, the mean values of all the variables are significant at 1% level.

Table 8.1: Summary Statistics

	Mean	Std. Dev.	t-stats.	p-value
SMEs				
Short-term debt/equity	1.9688	7.4361	5.4517	0.0000
Long-term debt/equity	2.5305	27.7217	1.8796	0.0608
Size	3.05e+08	8.21e+08	8.0061	0.0000
Asset composition	0.3218	0.3267	20.6007	0.0000
Growth	11.2355	182.3768	1.3170	0.1885
Profit	0.2275	0.9718	4.2207	0.0000
Tax	0.1427	0.1719	15.8200	0.0000
Large Firms				
Short-term debt/equity	1.1617	1.6421	18.8243	0.0000
Long-term debt/equity	0.3687	0.9258	10.6195	0.0000
Size	7.54e+08	1.72e+09	11.7110	0.0000
Asset composition	0.3563	0.2381	40.1445	0.0000
Growth	1.7068	2.3993	19.1406	0.0000
Profit	0.1190	0.1931	16.5834	0.0000
Tax	0.2320	0.1368	42.1657	0.0000
Financial Market Variables				
Market cap/GDP	1.5174	0.2577	127.2165	0.0000
Shares traded/GDP	0.5260	0.0852	133.3431	0.0000
Stock turnover ratio	0.4119	0.0363	244.9226	0.0000
Bank liability/GDP	0.4639	0.0301	333.0142	0.0000
Bank deposit/GDP	0.7650	0.0381	434.2737	0.0000

8.4.2 Correlation Results

Tables 8.2 and 8.3 present the correlation matrix between the leverage variables (short-term debt/equity and long-term debt/equity) and financial market indicators for the SMEs and large firms. For SMEs, it is obvious that the correlation values between the financial market variables and leverage variables are not significant (as shown in Table 8.2). The banking

variables have significantly negative correlations with all the stock market indicators, except the ratio of market capitalisation to GDP, which shows significantly positive correlation.

Table 8.2: Correlation Coefficients (SMEs)

deposit/	Short-term debt/ equity	Long-term debt/ equity	Market cap/ GDP	Shares traded/ GDP	Stock turnover ratio	Bank liability GDP	Bank GDP
Short-term debt/equity	1.0000						
Long-term debt/equity	0.4085	1.0000					
	(0.000)						
Market cap/GDP	-0.0428	-0.0026	1.0000				
	(0.3789)	(0.9580)					
Shares traded/GDP	0.0359	-0.0329	-0.6049	1.0000			
	(0.4608)	(0.4998)	(0.0000)				
Stock turnover ratio	0.0607	-0.0013	-0.5108	0.8929	1.0000		
	(0.2121)	(0.9784)	(0.0000)	(0.000)			
Bank liability/GDP	-0.0196	0.0360	0.9070	-0.7604	-0.5186	1.0000	
	(0.6873)	(0.4597)	(0.000)	(0.0000)	(0.0000)		
Bank deposit/GDP	0.0086	0.0405	0.7385	-0.4105	-0.0465	0.8685	1.0000
	(0.8594)	(0.4051)	(0.0000)	(0.0000)	(0.3157)	(0.0000)	

Note: P-values are in brackets

Table 8.3 shows the correlation coefficient results for large firms. In the case of large firms, only one stock market variable (stock turnover ratio) shows statistically significant positive correlations with both short-term debt/equity and long-term debt/equity ratios. The results also indicate a significantly positive correlation between only one banking variable (bank deposit/GDP ratio) and short-term debt/equity ratio. Banks' liability to GDP ratio and banks' deposit to GDP ratio show significantly positive correlations with stock market capitalisation ratio, but negative correlations with value of shares traded to GDP ratio. Stock turnover ratio also shows a statistically significant negative correlation with banks' liability to GDP ratio.

Table 8.3: Correlation Coefficients (Large Firms)

	Short-term debt/ equity	Long-term debt/ equity	Market cap/ GDP	Shares traded/ GDP	Stock turnover ratio	Bank liability GDP	Bank deposit/ GDP
Short-term debt/equity	1.000						
Long-term debt/equity	0.2926 (0.0000)	1.000					
Market cap/GDP	0.0442 (0.2405)	-0.0387 (0.3025)	1.0000				
Shares traded/GDP	0.0306 (0.4163)	0.0428 (0.2546)	-0.5477 (0.0000)	1.0000			
Stock turnover ratio	0.0624 (0.0971)	0.0672 (0.0733)	-0.4181 (0.0000)	0.8921 (0.0000)	1.0000		
Bank liability/GDP	0.04444 (0.2378)	-0.0205 (0.5846)	0.9123 (0.0000)	-0.6993 (0.0000)	-0.4294 (0.0000)	1.0000	
Bank deposit/GDP	0.0808 (0.0316)	0.0172 (0.6476)	0.7534 (0.0000)	-0.3258 (0.0000)	0.0513 (0.1673)	0.8700 (0.0000)	1.0000

Note: P-values are in brackets

8.4.3 Regression Results

The Generalised Least Squares (GLS) and White's adjustment for heteroscedasticity regression results explaining the debt to equity ratios for the static and dynamic models are presented in Tables 8.4 and 8.5 respectively. The paper examines the effects of stock market and banking variables on SMEs' financing by comparing the results with those of large firms. The comparison is necessary because it is anticipated that the impact of stock market development may differ for large and small firms. In particular, the information aggregate role of the market is likely to be more significant for large firms that trade often and are followed keenly by many market analysts. The dependent variables are the ratio of short-term debt to equity and the ratio of long-term debt to equity. The explanatory variables are the financial market indicators and the firm-specific factors.

Table 8.4 reports the results of the static model. The coefficients of stock market capitalisation ratio and the stock turnover ratio for both SMEs and large firms are significantly and negatively related with long-term debt to equity ratio, but the value of shares traded to GDP ratio indicates a significantly positive relationship with long-term debt to equity ratio for both sample groups. The stock market capitalisation ratio and the stock turnover ratio for large firms again show significantly negative relationships with short-term debt to equity ratio, while the value of shares traded to GDP ratio shows a significantly positive relationship with short-term debt to equity ratio. In the SME sample, all the relationships between the stock market variables and short-term debt to equity ratio are not statistically significant.

With respect to the banking variables, banks' liability to GDP ratio shows a significantly negative association with both short-term debt to equity, and long-term debt to equity ratios, while banks' deposit to GDP ratio indicates a statistically significantly positive relation with long-term debt to equity ratio for the SME sample. In the case of large firms, the results show that all the banking variables have statistically significant positive associations with both long-term debt-to-equity and short-term debt-to-equity ratios with the exception of banks' liability to GDP ratio, which was not significant in the short-term debt/equity model. On the whole, the results indicate that the financial market indicators significantly influence both long-term debt to equity and short-term debt to equity for the large firms, while in the case of SMEs it is the long-term debt to equity ratio which is mainly influenced by the financial market indicators. These findings suggest that developments in the South African financial market greatly affect both long-term debt/equity and short-term debt/equity decisions of large firms. However, for SMEs, it is long-term debt/equity decision that is mostly affected by developments in the financial market.

The control variables also show interesting results. Size of the firm shows positive relations with both the long-term debt-to-equity and short-term debt-to-equity ratios, except long-term debt-to-equity ratio in the case of large firms, which points to a statistically significant negative relationship. This may suggest that relatively larger SMEs depend more on debt but for large firms, very large firms tend to rely more on equity finance. Higher ratios of tangible fixed assets to total assets are associated with higher long-term debt-to-equity ratio and lower

short-term debt-to-equity ratio. This finding is consistent with the notion that fixed assets serve as good collateral for long-term debt and also confirms the asset matching principle in business finance. High growth is associated with increasing debt use. The results for the large firms sample confirm the pecking order theory with a negative relation between profitability and both long-term debt-to-equity and short-term debt-to-equity ratios. The results of the SME sample point to a significantly positive relationship between profit and long-term debt-to-equity ratio, suggesting that profitable SMEs are capable of attracting more debt finance. The tax rates indicate a significantly negative relationship with debt-equity ratios for both large firms and SMEs, except the short-term debt-to-equity ratio for SMEs, which was insignificant. The negative sign for tax rate coefficient contradicts theoretical predictions, but confirms the findings of Negash (2002).

Table 8.4: Impact of Financial Market Variables (Static Model)

Dependent variables	SMEs		Large Firms	
	Short-term debt	Long-term debt	Short-term debt	Long-term debt
Constant	1.4515	-3.3366***	-3.2780***	-1.7398***
	(1.8785)	(0.7774)	(0.5825)	(0.2004)
Market cap/GDP	0.3778	-0.7678***	-0.8447***	-0.5629***
	(0.6426)	(0.2673)	(0.1721)	(0.0668)
Shares traded/GDP	-1.5165	4.1762***	3.2632***	2.0586***
	(2.8423)	(1.4314)	(0.9092)	(0.3202)
Stock turnover ratio	1.2392	-13.6848***	-8.6786***	-4.4963***
	(6.7229)	(3.4124)	(2.1778)	(0.7725)
Bank liability/GDP	-12.1745*	-5.2879**	-2.8669	2.9355***
	(6.9085)	(2.4937)	(2.0192)	(0.6998)
Bank deposit/GDP	5.4380	13.2037***	11.2856***	3.3244***
	(4.5392)	(1.9856)	(1.5126)	(0.5153)
Log(Size)	0.0402**	0.0215***	0.0345***	-0.0177***
	(0.0200)	(0.0039)	(0.0033)	(0.0010)
Asset composition	-0.7621***	0.9782***	-1.2804***	0.3548***
	(0.0875)	(0.0581)	(0.0370)	(0.0135)
Growth	0.0292	0.0387***	0.0725***	0.0248***
	(0.0197)	(0.0054)	(0.0105)	(0.0027)
Profit	-0.0162	0.0263**	-1.4262***	-0.7559***
	(0.0198)	(0.0065)	(0.1157)	(0.0318)
Tax	-0.2304	-0.5245***	-0.2621***	-0.1079***
	(0.1744)	(0.0662)	(0.0512)	(0.0131)
R-squared	0.1142	0.2287	0.5774	0.5765
F-statistic	3.2863***	7.5621***	81.7176***	81.8111***
Number of firms	61	61	100	100
Years	7	7	7	7

(***), (**), (*) indicate significance at levels of 1%, 5% and 10% respectively, standard errors in parenthesis.

The results of the dynamic panel estimation are presented in Table 8.5, where the lagged dependent variable on the right-hand side is included. In all cases the results show statistically significant and positive relationships between the lagged term and the dependent variables. The coefficients are also less than unity, implying that the debt-equity mix remains stable in the long run. Both large firms and SMEs do not vary their debt-equity ratio over time. The positive sign of the lagged dependent variable suggests that each year's debt ratio (short-term and long-term debt ratios) of both sample groups is also influenced by the debt ratio of the previous year. With respect to the SME sample, stock turnover ratio indicates a significantly positive association with short-term debt-to-equity ratio and a significantly negative relation with long-term debt-to-equity ratio. The coefficients for the other stock market variables are not significant in both the short-term debt/equity and long-term debt/equity models.

With respect to the banking variables, banks' liability to GDP ratio point to a significantly inverse relationship with long-term debt-to-equity ratio, while banks' deposit to GDP ratio shows a significantly direct association with long-term debt ratio. Regarding the large firms' sample, the stock market capitalisation ratio and stock turnover ratio suggest positive relationships with short-term debt-to-equity ratio. The coefficient of the shares traded to GDP ratio is not significant. In terms of the long-term debt/equity dynamic model, the results reveal that all the coefficients of the financial market variables show precisely the same pattern as was found under the static panel. The stock market variables (i.e. market capitalisation ratio and stock turnover ratio), except the value of shares traded to GDP ratio, indicate significantly inverse relationship with long-term debt-to-equity ratio. All the banking variables again show direct and significant relationship with long-term debt-to-equity ratio. The coefficients of the control variables also exhibit the same signs as shown under the static panel results.

Table 8.5: Impact of Financial Market Variables (Dynamic Model)

Dependent Variables	SMEs		Large Firms	
	Short term debt	Long-term debt	Short term debt	Long-term debt
Constant	0.2207	-1.3612*	-1.0861***	-1.3653***
	(2.0555)	(0.7909)	(0.3894)	(0.2135)
Debt-equity ratio$_{t-1}$	0.0165**	0.0192***	0.3753***	0.0582***
	(0.0078)	(0.0004)	(0.0296)	(0.0067)
Market cap/GDP	0.3952	-0.0495	0.2437**	-0.3995***
	(0.6893)	(0.2799)	(0.1099)	(0.0650)
Shares traded/GDP	-4.3755	1.3952	-0.4989	1.5439***
	(2.9446)	(1.5076)	(0.5333)	(0.3019)
Stock turnover ratio	12.3366*	-8.2305**	3.4241***	-2.6557***
	(6.9060)	(3.7221)	(1.2982)	(0.7175)
Bank liability/GDP	-1.0176	-11.3112***	-0.1645	3.7529***
	(7.8383)	(2.5931)	(1.3484)	(0.7937)
Bank deposit/GDP	-3.9440	11.8207***	-0.3214	1.1651**
	(4.8379)	(2.4271)	(0.9246)	(0.5020)
Log(Size)	0.0449*	0.0223***	0.0352***	-0.0166***
	(0.0247)	(0.0043)	(0.0019)	(0.0011)
Asset composition	-0.7737***	0.9957***	-0.8718***	0.4091***
	(0.0947)	(0.0736)	(0.0285)	(0.0135)
Growth	0.0484*	0.0178***	0.0888***	0.0221***
	(0.0272)	(0.0033)	(0.0068)	(0.0048)
Profit	-0.0319	0.0400***	-0.6679***	-0.4951***
	(0.0229)	(0.0072)	(0.0635)	(0.0358)
Tax	-0.0790	-0.7216***	-0.2304***	-0.0955***
	(0.1700)	(0.0631)	(0.0313)	(0.0205)
R-squared	0.1865	0.4167	0.7572	0.4503
F-statistic	4.3779***	13.6379***	142.8523***	37.5296***
Number of firms	61	61	100	100
Years	7	7	7	7

(***), (**), (*) significance at 1%, 5% and 10% respectively, standard errors in parenthesis.

8.5   Conclusion

Financial markets have been noted to play an important role in the financing choice of firms. Previous studies point out that features in the financial markets and institutions are as important as the firm-specific variables in explaining financing decisions. Recently the financial markets, especially in most developing economies, seem to be assuming a more prominent role than they did previously, mainly as a result of the trade and financial liberalisation policies adopted by these countries over the past decade. This paper explored the relationship between the choice of finance (debt-equity) and the development of the financial market (including the stock market and banking sector) in South Africa. The paper investigated the extent to which the capital structure of quoted SMEs could be explained by the level of development of the financial market. The paper also compared the results with what the situation is for large, listed firms in South Africa.

The coefficients of stock market capitalisation ratio and the stock turnover ratio for both SMEs and large firms were significantly and negatively related with long-term debt-to-equity ratio, whilst shares traded to GDP ratio indicated a significantly positive relationship with long-term debt-to-equity ratio for both sample groups. The stock market capitalisation ratio and the stock turnover ratio for large firms again showed significantly negative relationship with short-term debt-to-equity ratio and shares traded to GDP ratio showed a significantly positive relationship with long-term debt-to-equity ratio. In the SME sample the relationships between all the stock market variables and short-term debt-to-equity ratio did not register statistical significance. In terms of the banking variables, the banks' liability to GDP ratio showed a significantly negative association with both short-term debt-to-equity and long-term debt-to-equity ratios, whilst banks' deposit to GDP ratio indicated a statistically significant positive relation with long-term debt-to-equity ratio. In the case of large firms, the results showed that all the banking variables have statistically significant positive associations with both long-term debt-to-equity and short-term debt-to-equity ratios, with the exception of banks' liability to GDP ratio which was not significant in the short-term debt/equity model. The results also revealed that both large firms and SMEs do not alter their debt-equity ratio over time.

The results of this study generally suggest that the financial market indicators significantly influence both long-term debt-to-equity and short-term debt-to-equity ratios of the large firms whilst in the case of SMEs, it is the long-term debt-to-equity ratio which is mainly influenced by the financial market indicators. These findings suggest that developments in the financial market greatly affect both long-term debt/equity and short-term debt/equity decisions of large firms. However, for SMEs, it is long-term debt/equity decision that is mostly affected by developments in the financial market.

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CHAPTER NINE

DEBT POLICY AND PERFORMANCE OF SMES: EVIDENCE FROM GHANAIAN AND SOUTH AFRICAN FIRMS[§§]

9.1   Introduction

An important financial decision firms are confronted with is the debt policy or capital structure choice. This decision is particularly crucial given the effect it has on the value of the firm. The capital structure of a firm is a specific mix of debt and equity the firm uses to finance its operations. In general, a firm can choose among many alternative capital structures. It can issue a large amount of debt or very little debt. It can arrange lease financing, use warrants, issue convertible bonds, sign forward contracts or trade bond swaps. It can issue dozens of distinct securities in countless combinations. It is important for the firm, however, to find the particular combination of debt and equity that maximises its overall market value. Managers who are astute enough to identify and deploy the appropriate mix of debt and equity are amply rewarded in the market place, because, all things being equal, this appropriate mix of debt and equity minimises a firm's cost of financing. Given revenue and prefinancing profit streams that are generated through non-financial factors, minimising the cost of financing, maximises net returns for the firm, thereby improving its competitive advantage in the marketplace (Gleason *et al.*, 2000). It is suggested that utilisation of different levels of debt and equity in the firm's capital structure is one such firm-specific strategy used by managers in search for improved performance (Gleason *et al.*, 2000).

This interplay of debt and equity and corporate performance has been the subject of a number of studies. Such empirical studies on the effect of capital structure on profitability have tended to concentrate on large firms (see Krisham and Moyer, 1987; Majunmdar and

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[§§] Paper presented at the Seventh International Academy of African Business and Development (IAABD) Conference at the Ghana Institute for Management and Public Administration, Ghana, May, 2006.

The paper has also been published in the IAABD conference proceedings, pp. 522-533.

Chibber, 1999; Abor, 2005). Previous empirical studies on SMEs, though limited have also focused on the determinants of capital structure. A major gap in the literature is the examination of the effect of capital structure on the performance of SMEs. This paper examines the effect of debt policy on financial performance of SMEs in Ghana and South Africa. Using data of Ghanaian and South African SMEs for a period of six years, a panel regression model is employed for this study. The study also limited the sample to quoted South African SMEs in order to evaluate the effect of the debt policy using the Tobin's q as a measure of performance. The results of the study generally suggest that agency conflicts may be largely responsible for the excessive use of debt by SMEs, leading to a negative relationship between capital structure and financial performance.

The rest of the paper is organised as follows: the next section gives a review of the extant literature on the subject. Section 9.3 describes the methodology used for this study. Section 9.4 presents and discusses the results of the empirical analysis. Finally, section 9.5 summarises the findings of the research and also concludes the discussion.

9.2 Literature Review

Recent theory on capital structure is based on the Modigliani and Miller's (1958) seminal work on the effect of capital structure on the value of the firm. Their theory assumes perfect markets and perfect competition in which firms operate without taxes or transaction costs and where all relevant information is available without cost. However, these assumptions do not hold in the real world or in practice, and factors such as taxes, agency cost, cost of financial distress and information asymmetry are important in explaining the capital structure of firms.

Modigliani and Miller have been criticized on the grounds that their theory assumes rational economic behaviour and perfect markets conditions, owners' goals are targeted only at maximizing profits (Grabowksi and Mueller, 1972), and that it has limited applicability to small firms (Chaganti *et al.*, 1995). Modigliani and Miller (1963) revised their former stance by incorporating tax benefits as determinant of the firms' capital structure choice. They argue that firms are able to maximize their value by employing more debt because of the tax-

shield benefits associated with debt use. Interest on debt is considered as a tax-allowable expense. Some researchers have subsequently suggested alternatives to the Modigliani and Miller theory of capital structure including the agency theory (Jensen and Meckling, 1976), the bankruptcy cost (Titman, 1984) and the pecking order theory (Myers, 1984; Myers and Majluf; 1984). The extant literature offers different perspectives about how the decision to acquire debt affects firm value.

Hutchinson (1995) argue that in more general terms, financial leverage has a positive effect on the firm's return on equity provided that earnings power of the firms assets (the ratio of earnings before interest and taxes to total assets) exceed the average interest cost of debt to the firm. He argues that the extent to which a firm's earnings' power is likely to remain above the breakeven point and the potential speed or flexibility with which it can adjust its debt usage, if its earnings' power falls below average interest costs, should help to determine the level of debt that the firm is willing to commit itself to at a given point in time. Taub (1975) found significantly positive relationship between debt ratio and measures of profitability. Nerlove (1968), Baker (1973), and Petersen and Rajan (1994) also identified positive association between debt and profitability but for industries. In their study of leveraged buyouts, Roden and Lewellen (1995) established a significantly positive relation between profitability and total debt as a percentage of the total buyout-financing package. Champion (1999) pointed out that the use of leverage was one way to improve the performance of the firm. Hadlock and James (2002) also concluded that companies prefer debt financing because they anticipate higher returns. It is believed that large debt holders have an interest in seeing that managers take performance-improving measures. Kaplan and Minton (1994), and Kang Shivdasani (1995) found higher incidence of management turnover in Japan in response to poor performance in companies that have a principal banking relationship relative to companies that do not.

Other studies such as those by Ross (1977), Heinkel (1982) and Noe (1988) suggest that increasing leverage, by acquiring debt, should have positive implications for firm value and performance. In general, these theories ascribe a signaling or disciplinary role for debt. Since increasing debt would also increase bankruptcy and liquidation costs, only managers who expect better future performance will choose to issue debt. Graham and Harvey (2001)

surveyed CFOs and report that managers are concerned with maintaining financial flexibility and their firm's credit rating when considering debt issues. Since firm performance is frequently used as an input into the credit rating decisions, this provides indirect survey evidence that managers issue debt keeping in view of expected future performance. The agency model of Jensen (1986) suggests that, since debt sales bring additional cash into the firm, this could exacerbate agency problems. Alternatively, if firms use the debt issue proceeds to address the gap between investments needs and internal sources of funding, this would not necessarily lead to an increase in excess cash within the firm. The periodic interest payments on debt would then commit managers to pay out excess free cash flow. Hence, debt issues could reduce agency costs and have positive effects on firm value. In contrast, Miller and Rock (1985), and Smith (1986) argue that all securities sales (including debt) indicate decreases in future operating performance, and hence impact negatively on firm value.

However, some studies have shown that debt has a negative effect on firm profitability. Fama and French (1988), for instance argue that the use of excessive debt creates agency problems among shareholders and creditors and that could result in negative relationship between leverage and profitability. Majumdar and Chibber (1999) found in their Indian study that leverage has a negative effect on performance, while Krishnan and Moyer (1997) connect capital and performance to the country of origin. Gleason *et al* (2000) support a negative impact of leverage on the profitability of the firm. In a Polish study, Hammes (1998) also found a negative relationship between debt and firm's profitability. In another study, Hammes (2003) examined the relation between capital structure and performance by comparing Polish and Hungarian firms to a large sample of firms in industrialised countries. He used panel data analysis to investigate the relation between total debt and performance as well as between different sources of debt namely, bank loans, and trade credits and firms' performance, measured by profitability. His results showed a significantly negative effect for most countries. He found that the type of debt, bank loans or trade credit is not of major importance. What matters is debt in general.

Mesquita and Lara (2003), in their study found that the relationship between rates of return and debt indicates a negative relationship for long-term financing. They however, found a

positive relationship for short-term financing and equity. In a recent study, Abor (2005) examined the effect of capital structure on the corporate profitability of listed firms in Ghana using a panel regression model. His measures of capital structure included short-term debt ratio, long-term debt ratio and total debt ratio. His findings showed a significantly positive relation between the short-term debt ratio and profitability. However, a negative relationship between long-term debt ratio and profitability was established. In terms of the relationship between total debt ratio and profitability, the results of his study indicated a significantly positive association between total debt ratio and profitability.

In summary, empirical studies have given inconclusive results regarding the capital structure choice and its effect on firms' performance. This present study contributes to the issue by investigating the effect of debt policy or capital structure on firm performance by focusing on SMEs, which are often neglected in most empirical studies.

9.3   Research Methodology

9.3.1   Data and Measurement

This study sampled both Ghanaian and South African SMEs. The Ghanaian sample was obtained from the databases of the National Board for Small Scale Industries and the Association of Ghana Industries. The South African SMEs were sampled from the register of the Small Business Advisory Bureau database. An SME in Ghana is defined as firms having fewer than 100 employees. This is based on the definition given by the Regional Project on Enterprise Development for SMEs in Ghana. South African SMEs are defined as firms that satisfy, at least, two of the following criteria: have fewer than 200 employees; turnover of less than 50million South African rand; gross assets excluding fixed property of less than 18million South African rand. This definition is also consistent with that of the National Small Business Act for SMEs in South Africa. The financial data was obtained from the financial statements of the firms for the six year period, 1998 - 2003. In all 160 Ghanaian SMEs and 200 South African SMEs were used for this study, with 68 of the South African sample being listed firms.

The dependent variable is performance and the independent variables are the debt ratios. Measures of financial performance include, gross profit margin, return on assets and, for the listed SMEs, Tobin's q. The debt ratios include short-term debt ratio, long-term debt ratio, total debt ratio and trade credit. Trade credit is included to examine its effects on performance. Trade credit is expected to have a positive impact on performance. Trade creditors extend credit to firms with risky but positive net present value (NPV) projects due to their superior knowledge and higher ability to salvage value as compared to other providers of debt finance, and their ability to discipline debtors by withholding future deliveries (Hammes, 2003). Two control variables (size and growth) are also included as standard determinants of performance. The model for the empirical investigation can be stated as follows:

$$Performance_{i,t} = \beta_0 + \beta_1 SDC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots 1$$

$$Performance_{i,t} = \beta_0 + \beta_1 LDC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots 2$$

$$Performance_{i,t} = \beta_0 + \beta_1 TDC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots 3$$

$$Performance_{i,t} = \beta_0 + \beta_1 TCC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots 4$$

where:

$SDC_{i,t}$ = short-term debt/ total capital for firm i in time t

$LDC_{i,t}$ = long-term debt/ total capital for firm i in time t

$TDC_{i,t}$ = total debt/ total capital for firm i in time t

$TCC_{i,t}$ = trade credit/ total capital for firm i in time t

$FS_{i,t}$ = firm size (log of total assets) for firm i in time t

$SG_{i,t}$ = log of sales growth for firm i in time t

μ_{it} = the error term.

The performance measures are defined as: gross profit margin = gross profit divided by sales; return on assets = net profit divided by total assets. Besides analysing the effect of the debt policy on the profitability, the study also limited the sample to 68 listed South African SMEs in order to observe the effect of the debt policy using Tobin's q as a measure of performance. Market-to-book value is used as a proxy for Tobin's q. The regression model can also be estimated as follows:

$$Tobins.q_{i,t} = \beta_0 + \beta_1 SDC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots\ldots 5$$

$$Tobins.q_{i,t} = \beta_0 + \beta_1 LDC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots\ldots 6$$

$$Tobins.q_{i,t} = \beta_0 + \beta_1 TDC_{i,t} + \beta_2 SFS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots\ldots 7$$

$$Tobins.q_{i,t} = \beta_0 + \beta_1 TCC_{i,t} + \beta_2 FS_{i,t} + \beta_3 SG_{i,t} + \mu_{it} \ldots\ldots\ldots\ldots 8$$

where the explanatory variables are as defined above.

9.3.2 Estimation Methods

The study employs Generalised Least Squares (GLS) panel model for the estimation. Panel data involves the pooling of observations on a cross-section of units over several time periods. Panel data approach is more useful than either cross-section or time-series data alone. One advantage of using the panel data set is that, because of the several data points, degrees of freedom are increased and collinearity among the explanatory variables is reduced, thus improving the efficiency of economic estimates. Also, panel data can control for individual heterogeneity due to hidden factors, which, if neglected in time-series or cross section estimations leads to biased results (Baltagi, 1995). The panel regression equation differs from a regular time-series or cross-section regression by the double subscript attached to each variable. The general form of the model can be written as:

$$Y_{it} = \beta_o + \beta_1 X_{it} + \mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (9)$$

Here, μ_{it} is a random term and $\mu_{it} = \mu_i + V_{it}$; where μ_i is the firm specific effects and V_{it} is a random term.

The choice of the model estimation, whether random effects or fixed effects will depend on the underlying assumptions. In a random effect model, μ_i and V_{it} are random with known disturbances. In a fixed effects μ_i, the firm-specific effects, and V_{it}, a random term, are fixed parameters and are estimated together with the other parameters. For most panel applications, a one-way error component model for the disturbances is adopted, with $\mu_{it} = \mu_i + V_{it}$; where μ_i accounts for any unobservable firm-specific effects that is not included in the regression model, and V_{it} represents the remaining disturbances in the regression which varies with individual firms and time.

9.4 Empirical Results

9.4.1 Descriptive Summary Statistics

Table 9.1 provides the descriptive statistics of all the variables used. The mean short-term debt ratio, long-term debt ratio, total debt ratio, and trade credit to capital ratio for the Ghanaian sample are shown as 0.3761, 0.0518, 0.4001, and 0.2427 respectively. The total assets of the sampled Ghanaian SMEs are valued on the average at 7.67e+09 Ghanaian cedis. The mean growth rate in sales is 50.39%. Gross profit margin and return on assets also register average rates of 39.51% and 9.25%. The mean values of all the variables are significant at 1% level. With respect to the South African sample, the mean debt ratios are given as 0.3317 for short-term debt; 0.1874 for long-term debt; 0.4989 for total debt and 0.1963 for trade credit to capital ratio. The average value of total assets is 1.94e+08 South African rand and the average growth rate is 219.14%. The mean gross profit margin and return on assets are also indicated as -116.44% and -18.62% respectively. The average market-to-book value ratio or Tobin's q for only the listed South African SMEs is given as 11.7399. The mean values of short-term debt, long-term debt, total debt ratio, trade credit and size are all significant at 1% level. The mean values of the performance variables (i.e. gross profit margin, return on assets and Tobin's q) are not significant at conventional levels.

Table 9.1: Summary Statistics

	Mean	Std Error	Std. Dev.	*t*-stats.	*p*-value
Ghana					
SDC	0.3761	0.0109	0.2876	34.3483	0.0000
LDC	0.0518	0.0058	0.1507	8.9855	0.0000
TDC	0.4001	0.0113	0.2985	35.4914	0.0000
TCC	0.2427	0.0095	0.2534	25.5503	0.0000
SIZE	7.67e+09	1.69e+09	4.42e+10	4.5329	0.0000
SG	0.5039	0.4588	1.0503	10.9822	0.0000
GPM	0.3951	0.1202	3.1948	3.2862	0.0011
ROA	0.0925	0.0130	0.3391	7.1236	0.0000
South Africa					
SDC	0.3317	0.0112	0.2975	29.6616	0.0000
LDC	0.1874	0.0143	0.3770	13.1375	0.0000
TDC	0.4989	0.0180	0.4783	27.6529	0.0000
TCC	0.1963	0.0091	0.1999	21.6262	0.0000
SIZE	1.94e+08	2.44e+07	6.64e+08	7.9611	0.0000
SG	2.1914	1.0231	23.7519	2.1420	0.0326
GPM	-1.1644	1.0798	22.2872	-1.0783	0.2815
ROA	-0.1862	1.3958	36.5051	-0.1334	0.8939
TOBIN'S Q	11.7399	8.3907	181.324	1.3992	0.1624

An additional test was also performed to compare the debt ratios of Ghanaian and South African SMEs. The *t*-test of hypothesis of equal means had *t*-test values of 2.8366, -8.8091, -4.6433, and 3.5323 for short-term debt, long-term debt, total debt, and trade credit respectively, as shown in Table 9.2. These values are all significant at 1% levels. The test results suggest that the null hypothesis that capital structure is the same across the countries can be rejected. That is, capital structure varies across the two countries. The results show that Ghanaian SMEs exhibit significantly higher short-term debt and trade credits than South African SMEs, whereas South African SMEs are significantly more likely to employ long-term debt than Ghanaian SMEs. In terms of total debt, the results again indicate that

South African SMEs have significantly more total debt in their capital structure than their Ghanaian counterparts. These differences may be attributable to differences in economic environments, financial markets and economies of scale.

Table 9.2: Mean Debt Ratios Across Sample Groups

Sample Group	Short-term debt ratio	Long-term debt ratio	Total debt ratio	Trade Credit ratio
Ghana	0.3761	0.0518	0.4001	0.2427
South Africa	0.3317	0.1874	0.4989	0.1963
Combined	0.3536	0.1204	0.4496	0.2239
Diff	0.0444	-0.1355	-0.0988	0.0464
t-statistics	2.8366***	-8.8091***	-4.6433***	3.5323***

(***): significant at 1% level. Test: Ho: mean $(Xi)_{Ghana}$ - mean $(Xi)_{South\ Africa}$ = 0;

Ha: mean $(Xi)_{Ghana}$ - mean $(Xi)_{South\ Africa}$ ≠ 0; where, Xi = measures of capital structure

9.4.2 Regression Results

Regression analyses are carried out to establish the relationship between capital structure and performance. Measures of performance are regressed against different measures of capital structure. The F-statistic and Hausman test were used to test the validity of fixed and random effects. The GLS regression was, however, found to be a more robust and appropriate specification. The GLS regression results of this study with, White heteroscedastic-consistent standard errors are presented in Tables 9.3 – 9.7 below.

Table 9.3: Regression Results: Debts on Gross Profit Margin (Ghana)

Profitability: Gross Profit Margin

Variable	(1)	(2)	(3)	(4)
Constant	-0.4067***	-0.3076***	0.1305***	-0.3104***
	(0.0078)	(0.0053)	(0.0429)	(0.0071)
SDC	-0.2198***			
	(0.0017)			
LDC		0.9625***		
		(0.0661)		
TDC			-0.1710***	
			(0.0094)	
TCC				-0.2264***
				(0.0019)
Log(SIZE)	0.0384***	0.0272***	0.0092***	0.0330***
	(0.0004)	(0.0003)	(0.0021)	(0.0004)
Log(SG)	0.0109***	0.0317***	-0.0094***	0.0233***
	(0.0005)	(0.0003)	(0.0024)	(0.0005)
R-squared	0.5862	0.5217	0.6875	0.5425
Adjusted R-squared	0.5834	0.5185	0.6854	0.5395
F-statistics	208.2544***	159.2693***	329.2537***	180.6463***

(***) indicate significance at levels of 1%, standard errors in parenthesis.

(1) represents regression results for short-term debt

(2) represents regression results for long-term debt

(3) represents regression results for total debt

(4) represents regression results for trade credit

Tables 9.3 and 9.4 show the regression results, using gross profit as a measure of performance. The effect of short-term debt is significantly and negatively associated with gross profit margin for both Ghana and South Africa. This indicates that increasing the amount of short-term debt will result in a decrease in the gross profit margin of the firms. The results also show that long-term debt has a significantly positive relationship with gross profit margin for both countries. SMEs that employ more long-term debt record higher

gross profit margin. The relation between total debt to capital ratio and gross profit margin was found to be significant and negative for both countries.

In terms of trade credit, the results indicate a statistically significant and negative association between trade credit and gross profit margin for both Ghana and South Africa. Increasing trade credit in the firms' capital structure is associated with decreasing gross profit margin. In the Ghanaian sample, the control variables (size and sales growth) reveal statistically significant positive effects on gross profit margin for all measures of debt, with the exception of the total debt measure, where growth is shown to have significantly negative relation with gross profit margin. Also, in the South African sample the size indicates positive relations with gross profit margin for measures of short-term debt and trade credit. The result for total debt is negative and that of long-term debt is insignificant. But sales growth indicates a significantly positive relation with gross profit margin for all measures of debt.

Table 9.4: Regression Results: Debts on Gross Profit Margin (South Africa)

Profitability: Gross Profit Margin

Variable	(1)	(2)	(3)	(4)
Constant	0.2757***	0.1349***	0.3865***	0.0827***
	(0.0127)	(0.0433)	(0.0358)	(0.0200)
SDC	-0.3995***			
	(0.0063)			
LDC		0.2956***		
		(0.0330)		
TDC			-0.2664***	
			(0.0090)	
TCC				-0.4651***
				(0.0098)
Log(SIZE)	0.0036***	0.0003	-0.0037*	0.0128***
	(0.0008)	(0.0024)	(0.0020)	(0.0012)
Log(SG)	0.0023*	0.0059**	0.0034**	0.0083***
	(0.0013)	(0.0027)	(0.0017)	(0.0015)
R-squared	0.5983	0.1883	0.4450	0.5358
Adjusted R-squared	0.5926	0.1768	0.4372	0.5293
F-statistics	105.7319***	16.4685***	56.9347***	56.9347***

(***), (**), (*) indicate significance at levels of 1%, 5% and 10% respectively, standard errors in parenthesis.

Tables 9.5 and 9.6 report the regression results using return on assets as the performance measure. In the case of Ghana, the results as shown in Table 9.5 exhibit significantly negative relations between all the measures of capital structure and return on assets. For Ghanaian SMEs, adopting a high debt policy is significantly more likely to lead to lower profitability (return on assets). Increasing the proportion of debt in the firms' capital structure could result in high bankruptcy cost and this is likely to impact negatively on return on assets. Also, the results provide support for the argument that due to agency conflicts, SMEs over-leverage themselves, thus negatively affecting their own performance. This is also consistent with the findings of Gleason *et al.* (2000). In the Ghanaian sample, firm size indicates significantly negative relation with return on assets for all the measures of debt.

Sales growth also shows statistically positive relation with long-term debt, total debt, and trade credit. The relationship between sales growth and return on assets for short-term debt is not statistically significant.

Table 9.5: Regression Results: Debts on Return on Assets (Ghana)

	Profitability: Return on Assets			
Variable	(1)	(2)	(3)	(4)
Constant	0.3701***	0.3854***	0.3003***	0.3534***
	(0.0265)	(0.0245)	(0.0220)	(0.0242)
SDC	-0.1021***			
	(0.0063)			
LDC		-0.1260***		
		(0.0102)		
TDC			-0.1003***	
			(0.0044)	
TCC				-0.0854***
				(0.0049)
Log(SIZE)	-0.0109***	-0.0132***	-0.0076***	-0.0112***
	(0.0013)	(0.0011)	(0.0011)	(0.0011)
Log(SG)	0.0018	0.0055***	0.0038***	0.0030**
	(0.0016)	(0.0017)	(0.0011)	(0.0014)
R-squared	0.3384	0.3104	0.3346	0.3258
Adjusted R-squared	0.3339	0.3057	0.3301	0.3214
F-statistics	75.1794***	65.7221***	75.2553***	73.6115

(***), (**) indicate significance at levels of 1% and 5% respectively, standard errors in parenthesis.

In the South African sample the results as illustrated in Table 9.6 reveal a statistically significant positive relationship between short-term debt and return on assets. Similarly, the results indicate a statistically significant positive relationship between trade credit and return on assets. This might be attributed to the fact that short-term debt and trade credit seem to be relatively less costly, and therefore, increasing short-term debt or trade credit with

relatively low interest rate could result in high profit levels. The regression results show a significantly negative association between return on assets and long-term debt, and total debt. This also suggests that long-term debt attracts higher cost and therefore employing high proportions of long-term debt in the SMEs' capital structure could lead to low return on assets. The results from the South African data imply that pursuing a high long-term debt strategy might be associated with low profitability. This position supports the findings of previous empirical studies (see Fama and French, 1998; Graham, 2000; Booth *et al.*, 2001; Abor, 2005). The results from the South African data also reveal significantly negative interaction between firm size and return on assets for measures of short-term debt, long-term debt, and total debt, but a statistically significant positive association between size and return on assets for the trade credit model. The sales growth variable exhibits significantly negative effect on return on assets for measures of short-term debt and total debt but statistically significant positive impact on return on assets for measures of long-term debt and trade credit.

Table 9.6: Regression Results: Debts on Return on Assets (South Africa)

Profitability: Return on Assets

Variable	(1)	(2)	(3)	(4)
Constant	1.7780***	1.2108***	0.9571***	-0.1152***
	(0.0111)	(0.0193)	(0.0204)	(0.0145)
SDC	0.3003***			
	(0.0017)			
LDC		-0.3994***		
		(0.0076)		
TDC			-0.0374***	
			(0.0021)	
TCC				0.0236**
				(0.0094)
Log(SIZE)	-0.1082***	-0.0579***	-0.0475***	0.0116***
	(0.0006)	(0.0010)	(0.0011)	(0.0007)
Log(SG)	-0.0509***	0.0098***	-0.0094***	0.0056***
	(0.0001)	(0.0002)	(0.0002)	(0.0009)
R-squared	0.6557	0.1597	0.0601	0.5128
Adjusted R-squared	0.6525	0.1518	0.0513	0.5060
F-statistics	204.3887***	20.0893***	6.8050***	74.7429***

(***), (**) indicate significance at levels of 1% and 5% respectively, standard errors in parenthesis.

The analysis was also done considering only listed SMEs in South Africa. The essence of this was to examine the effects of the various measures of capital structure on Tobin's q. The results as shown in Table 9.7 show statistically significant positive relationships between Tobin's q and two measures of capital structure (short-term debt and trade credit). The results, however, indicate significantly negative relations between the Tobin's q and long-term debt, and total debt ratios. In other words, increasing the amount of short-term debt and trade credit in the firms' debt structure is significantly more likely to positively influence their Tobin's q or market-to-book value. Also, a rise in the long-term debt and total debt implies a reduction in the Tobin's q. The results of this study suggest that for listed SMEs employing more short-term debt and trade credit has the tendency of to result in an

improvement in their market-to-book value, but having more long-term debt would lead to a negative impact on the market-to-book value of the firms. The results show that large firm size and high sales growth are associated with improvement in the Tobin's q or market-to-book value.

Table 9.7: Regression Results: Debts on Tobin's q (South Africa)

		Tobin's q		
Variable	(5)	(6)	(7)	(8)
Constant	0.2276*	-0.0456	0.2745	0.1407
	(0.1210)	(0.1617)	(0.1693)	(0.1033)
SDC	0.6393***			
	(0.0450)			
LDC		-0.9695***		
		(0.0981)		
TDC			-0.6517***	
			(0.0534)	
TCC				1.1332***
				(0.0468)
Log(SIZE)	0.0510***	0.0850***	0.0737***	0.0528***
	(0.0070)	(0.0085)	(0.0096)	(0.0059)
Log(SG)	0.1584***	0.0972***	0.1376***	0.1575***
	(0.0082)	(0.0110)	(0.0094)	(0.0084)
R-squared	0.5620	0.5480	0.4018	0.5527
Adjusted R-squared	0.5556	0.5412	0.3929	0.5460
F-statistics	85.9838***	81.2276***	45.0018***	82.7885***

(***), (*) indicate significance at levels of 1% and 10% respectively, standard errors in parenthesis.

(5) represents regression results for short-term debt

(6) represents regression results for long-term debt

(7) represents regression results for total debt

(8) represents regression results for trade credit

9.5 Conclusion and Implications

One important financial decision firms are confronted with is the debt policy or capital structure choice. This decision is particularly crucial given the effect it has on the value of the firm. This study has examined the relationship between capital structure and performance of SMEs in Ghana and South Africa, during the six-year period 1998-2003. The empirical results indicated that short-term debt is significantly and negatively related to gross profit margin for both Ghana and South Africa. The results showed that long-term debt has a significantly positive relationship with gross profit margin for both countries. The relation between total debt ratio and gross profit margin was found to be significant and negative. The results also revealed a statistically significant and negative association between trade credit and gross profit margin for both Ghana and South Africa. In the case of Ghana the results showed significantly negative relations between all the measures of capital structure and return on assets. In the South African sample, the results revealed significantly positive relationships between return on assets and short-term debt, and trade credit. However, in terms of long-term debt and total debt, the results showed statistically significant negative relationship between return on assets and both long-term debt and total debt. The results of this paper also showed, for the listed SMEs, statistically significant positive relationships between Tobin's q and two measures of capital structure (short-term debt and trade credit), but indicate significantly negative relations between the Tobin's q and long-term debt, and total debt ratio.

The results of this study have shown that, in the presence of control variables, capital structure has a significant influence on the performance of SMEs. By and large, the results indicate that capital structure, especially long-term and total debt ratios, negatively affect performance of SMEs. The negative relationships imply that SMEs generally are averse to using more equity, because of the fear of loosing control and therefore employ more debt in their capital structure than would be appropriate. Apart from the problems SMEs face in acquiring equity, one reason for increasing debt use may be to avoid agency conflicts. Employing debt excessively is likely to result in high bankruptcy costs, which could negatively affect performance. SMEs that pursue very high debt policy compared to the

industry average should also consider increasing the equity component in their capital structure in order to avoid the negative effects of excessive debt on performance.

9.6   References

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CHAPTER TEN

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

10.1 Introduction

In this final chapter, the important points emerging from the results of the various papers are summarised. Conclusions from all the papers are based on the findings, and valid suggestions and recommendations in line with the objectives of the entire thesis are made. This chapter also provides directions for future research in the area.

10.2 Summary

This thesis is a collection of stand-alone essays on the capital structure and financing of SMEs in Ghana and South Africa. Chapter Two of this thesis contains a review of SME development in Ghana and South Africa. Chapter Three to Chapter Nine are empirical essays examining various issues on the capital structure and financing in the two countries.

Chapter Two discussed the roles, characteristics, contributions of SMEs to economic development, and the constraints to SME development in developing countries with particular reference to Ghana and South Africa. SMEs are noted to constitute a vital element of the development process, and their contributions in terms of production, employment and income in developing countries are widely recognised. Interest in the role of SMEs in the development process for that matter, will continue to be high on the agenda of policy makers. Notwithstanding this recognition, the development of SMEs has always been constrained by a number of factors, such as lack of access to appropriate technology, limited access to international markets, the existence of laws, regulations and rules that impede the development of the sector, weak institutional capacity and lack of management skills and training. The problem of financing, however, remains the greatest concern for the majority of SMEs.

Chapter Three empirically compared the capital structures of large, publicly quoted firms and SMEs in Ghana. The results showed that quoted firms exhibit significantly higher debt ratios than those of SMEs, confirming the fact that larger firms have easier access to debt finance than smaller ones. Short-term debt represents a greater proportion of total financing of both SMEs and listed firms. The regression results indicated that the age of the firm has statistically significant positive relationships with long-term debt and total debt ratios among SMEs. Age was also significantly and positively related to short-term debt and total debt ratios among quoted firms. However, in the case of quoted firms the results revealed a statistically significant negative association between age and long-term debt ratio. Size of the firm was found to have a statistically significant positive relationship with short-term debt and total debt ratios of SMEs. In the case of large firms, size was found to have positive associations with long-term debt and total debt ratios. The results revealed significantly negative relationships between asset structure and the debt ratios, except in the case of SMEs, where the long-term debt model was positive, and long-term debt ratio of large firms, which was insignificant. The results of this study seem to support the pecking order hypothesis, given that all debt ratios for both sample groups (except short-term debt ratio of large firms) registered significantly negative associations with profitability. Firm growth was found to be significant and positive in only the long-term debt model of listed firms. Only the SME sample showed significantly direct relationship between risk and short-term debt, and total debt ratios. For the SME sample it was found that, factors such as level of education of the entrepreneur, gender of the entrepreneur, industry and location of the firm are also important in explaining the capital structure of Ghanaian SMEs.

Chapter Four examined two main issues. First, the paper examined the determinants of SMEs' reliance on bank financing in Ghana. The results revealed that bank finance account for less than a quarter of SMEs' total debt financing, with short-term bank credit representing a greater proportion of bank finance. The results also showed that the age of the firm, size of the firm, asset tangibility, and growth have significantly positive associations with long-term bank debt, while profitability is negatively related to long-term bank debt. With respect to the short-term debt model, the results indicated significantly positive relationship between short-term debt and size, but showed significantly negative relationships between short-term debt ratio and profitability, and growth. Second, this paper

investigated the awareness and use of various financing schemes (quasi-commercial credit) available to the Ghanaian SME sector. The study also ascertained the difficulties SMEs encounter in accessing these financing sources. The results of the study revealed low awareness and usage levels of the various financing initiatives among SMEs. Most of the schemes are perceived as difficult to access.

In Chapter Five, we explored the determinants of Ghanaian small and medium sized NTEs' choice of formal/informal finance. The results of this study showed that Ghanaian NTEs largely depend on formal financing sources with bank finance representing a greater percentage of NTEs' total financing. The empirical results revealed a negative relationship between age and formal finance, suggesting that, newer firms depend more on formal finance and less on informal finance. The results also showed a positive and significant relationship between formal finance and size of the firm suggesting that as firms expand, they require more funds to finance their expansion and therefore tend to rely more on formal finance as opposed to informal finance. In addition, the study showed a significantly positive association between growth and formal finance.

Chapter Six assessed how ownership and corporate governance structures affect the performance of SMEs in Ghana and what the implications are for financing opportunities. The results showed that board size, board composition, management skill level, CEO duality, inside ownership, family business, and foreign ownership have significantly positive impacts on profitability. The results also showed that board size, management skill level, inside ownership, and foreign ownership have statistically significant and positive associations with employment level. However, we found that board skill level, and CEO duality have negative impacts on level of employment. It is clear that corporate governance structures influence performance of SMEs in Ghana. The paper concluded that the adoption of good corporate governance structures could lead to better management decisions and help SMEs to attract better financing resources.

Chapter Seven focused on South African SMEs. This chapter examined the relationship between agency factors and the capital structure decisions of SMEs quoted on the Johannesburg Stock Exchange. The results indicated that firms with one major institutional

blockholder are able to monitor the opportunistic behaviour of management more effectively than those with more than one institutional blockholders. Effective monitoring could result in more debt being used by management to increase shareholder value. This suggests that the sole blockholder would take ownership of the firm and strictly monitor the activities of management and inside owners. Also firms with high growth potential tend to exhibit high debt ratio than those with low growth opportunities. With the exception of the number of institutional blockholders and growth opportunities, the associations between the other factors and capital structure were not significant.

In Chapter Eight, we explored the relationship between the choice of finance (debt-equity) and the development of the financial market (including the stock market and banking sector) in South Africa. The study investigated the extent to which the capital structure of quoted SMEs could be explained by the level of development of the financial market. The paper also compared the results with what the situation is for large, listed firms in South Africa. The results indicated that developments in the financial market greatly affect both long-term debt/equity and short-term debt/equity decisions of large firms. However, for SMEs, it is the long-term debt/equity decision that is mostly affected by developments in the financial market. The results of this study suggest that over time, both SMEs and large firms do not vary their debt-equity ratio.

Chapter Nine, which is the final empirical paper, examined the effect of debt policy (capital structure) on the financial performance of SMEs in Ghana and South Africa. The paper investigated the relations between measures of capital structure and financial performance. Using various measures of performance, the results of this study indicated that capital structure influences financial performance, although not exclusively. By and large, the results of this study indicate that capital structure, especially long-term debt and total debt ratios, negatively affect performance of SMEs. This also suggests that agency issues may lead to SMEs pursuing very high debt policy, thus resulting in lower performance.

10.3   Recommendations

In the light of the above observations made during the entire research, the following recommendations are made with the aim of enhancing the capital structure and financing of SMEs.

It is essential to put in place strategies aimed at developing long-term capital market. Government and donor funding agencies could consider developing long-term innovative financial packages for SMEs. Policy makers would have to place greater emphasis on the facilitation of equity capital, since it provides a base for further borrowing, reduces businesses' sensitivity to economic cycles, and provides SMEs with access to syndicates of private and institutional venture capital suppliers. There could also be policies aimed at encouraging SMEs to access public equity capital through the reduction of listing requirements and subsidising flotation cost. This should enable SMEs to restructure their financing so as to rely on less debt, particularly short-term debt, and thereby improve their liquidity. Also, for academics, trainers and consultants, it may be beneficial to help SMEs access equity capital and to work at structuring deals that minimise perception of threats to control.

It is also important to consider giving female-owned businesses access to long-term credit on more flexible terms. Financial institutions should be encouraged to have special credit schemes for promoting female-owned businesses. There should be incentives for developing female banking models like the Women's World Banking. Government, for instance, could grant tax relief to financial institutions that focus more on financing female-owned SMEs. Government and donor funding agencies should consider developing special funding packages for promoting female-owned SMEs. These policy directions would not only help improve upon female-owned SMEs' access to long-term finance, but would also encourage women to aspire to be more entrepreneurial. Special financing schemes could be created to assist SMEs located in the rural areas. Sole-proprietorship SMEs are encouraged to move towards more organised forms of business such as limited liability companies, since such firms are often viewed positively by debt finance providers. SMEs with limited liability status tend to gain easier access to debt finance than SMEs that are sole-proprietorships.

It is evident that SMEs that have long business relationships and those with adequate collateral tend to gain easier access to bank sources of finance. SME entrepreneurs and managers should seek to develop and improve on their information management practices by keeping proper and accurate records of the firm's operations. This has the potential of reducing banks' perception of risks and also facilitates easier access to financing at favourable terms of credit. To expand SME lending, banks also need to develop alternatives to property as collateral to secure loans. Personal guarantee, sales contracts, and lien on equipment financed could be explored. Banks could also collaborate with informal finance providers in granting credit. With this arrangement, banks are able to take advantage of informal finance lenders' superior information on small clients and the relatively low cost of frequent small transactions. Banks are encouraged to set up departments that will concentrate solely on granting credits to the SME sector.

Policy actions should include better information provision regarding financing sources available to SMEs. This could involve the financing initiatives pursuing a more aggressive and continuous marketing communication campaign to inform SMEs of the various financing schemes available to the sector. Eligibility criteria should be made a bit more flexible to enable more SMEs to qualify for access to these funds. Routing these facilities through the commercial banks should be reconsidered. Evaluation of applicants' proposals could be done by qualified consultants affiliated to these schemes and the banks should rather be appointed as managers of the loan facilities for a fee. In that case, government bears the credit risk. This could further expedite processing and give applicants a better chance of accessing these facilities. These policy prescriptions could go a long way towards improving SMEs' access to long-term financing to spur on growth.

SMEs initiatives could be encouraged to assist SMEs NTEs to reduce information asymmetries by means of improving managerial capabilities and also building on their asset base. Such an important move could give SMEs easier access to external financing. Growth in terms of export diversification is also encouraged among SMEs NTEs. This has the tendency of increasing internally generated funds and the liquidity situation of Ghanaian NTEs.

One way by which SMEs could improve on their managerial capacity is by adopting good corporate governance structures. Corporate governance can greatly assist the SME sector by promoting better management practices, stronger internal auditing, greater opportunities for growth and new strategic outlook through external directors. Good governance mechanisms among SMEs are likely to result in boards exerting much needed pressure for improved performance by ensuring that the interests of the firms are served.

One major implication of a well functioning corporate governance system is easier access to funding from investors and financial institutions. SMEs have generally been noted to encounter greater difficulty in gaining access to financing due to problems of information asymmetry and moral hazards. Ensuring proper accounting practices, internal control systems and adequate information disclosure are likely to increase the confidence of investors in the firm, reduce the problems associated with information asymmetry and make the SME less risky to invest in. The presence of external supervisory parties and monitoring system could also curtail the problem of moral hazard by discouraging entrepreneurs from redirecting borrowed funds to invest in unapproved projects. Often, businesses seeking new funds find that they have much work to do before confidently going to the market. A consistent track record of good governance will greatly assist when that point arrives. The existence of a board will induce rapid growth strategies in the SME for rapid profits; this will at a point require the firm going public for more finances.

It is not enough only to encourage SMEs to go public, but it is also necessary to focus on improving the financial markets, given that developments in the financial markets could have implications for the financing of firms. Also, SMEs that pursue very high debt policy compared to the industry average should also consider increasing the equity component in their capital structure in order to avoid the negative effects of excessive debt on performance.

10.4   Conclusions and Directions for Future Research

The findings of this thesis provide a framework for understanding the capital structure and financing of SMEs, and have significant theoretical and practical implications. This thesis,

contributes to the literature on small business finance in a number of respects. The study identified such determinants of SMEs' capital as age, size, asset structure and profitability of the firm and that unquoted SMEs exhibit different financing behaviour from large, quoted firms, confirming results of previous studies. The findings of this study also identified unconventional factors such as industry and location of the firm, level of education and gender of the entrepreneur as important in explaining SMEs' capital structure. It is clear that SMEs tend to rely more formal finance especially bank sources of financing. However, they are often discriminated against since age, size, and asset 'collateralbility' are used as measures for SMEs' access to long-term credit. SMEs are mostly unaware of other alternative sources of funding, as hitherto these financing sources have not been proactive enough in creating awareness among SMEs on available funding for the sector. The existence of proper governance structures among SMEs could help in resolving problems of financing. External board members for instance may have good knowledge or useful information on financing facilities. The adoption of good governance system is likely to address two main problems SMEs tend to experience with finance suppliers. It may reduce the problems associated with information asymmetry and make the SME less risky to invest in. Also, the presence of external supervisory parties and monitoring system could curtail the problem of moral hazard by discouraging entrepreneurs from redirecting borrowed funds to invest in unapproved projects. A good governance system will enable the SME to qualify for listing on the stock market. It is noteworthy that a well developed financial market may have important implications for SMEs access to long-term financing and this is evident in our research. Listed SMEs are able to gain access to both long-term financing from both the debt market and stock market. Encouraging SMEs to get listed on the stock market may help to reduce the negative effects associated with the excessive reliance on debt finance.

One major limitation with respect to research in the area of small business finance is access to financial data. SMEs and institutions in charge of small business issues must be encouraged to make financial data available for researchers. Research institutions must also focus on getting sufficient information on SMEs, including financial issues. Our findings raise a number of issues for future research, such as, Determinants of capital structure of unquoted SMEs in South Africa, Corporate governance issues and financing choice of unquoted SMEs in South Africa, and Agency costs and the capital structure of unquoted

SMEs in Ghana and South Africa. This research also suggests a need for similar studies to be carried out in other sub-Saharan African countries to confirm or refute the model emanating from this thesis. In spite of these limitations, the thesis provides results that are interesting for the capital structure and financing issues of SMEs from the perspective of developing economies.