

UNIVERSITY OF CAPE COAST

FINANCIAL CONSTRAINT OF SMALL AND MEDIUM ENTERPRISES
IN GHANA

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BY

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Dissertation submitted to the Department of Business Studies of the College of Distance Education, University of Cape Coast, in partial fulfilment of the requirements for award of Master of Business Administration in Finance

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Signature:

Date:

Candidate's Name: Emmanuel Nana Otoo

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Signature:

Date:

Supervisor's Name: Dr Isaac Dasmani

ABSTRACT

This study was set out to examine the factors that influence financial constraint among borrowers in Ghana, using SMEs as test case. The study used the 2013 World Bank Enterprise Survey data set on Ghana to investigate the problem. Specifically, the aim was to analyze sources of financial constraint faced by borrowers. The study employed logistic and ordered logistic regression models to estimate access to finance and extent of credit constraint faced by SMEs in Ghana. The rationale being that access to finance alone is not enough to model SMEs financial constraint. Hence, the need to estimate access to finance in levels resulting in ordered logit analysis. The study revealed that firm's location, age, size, ownership, and loan history and corruption perception significantly influence access to finance and financial constraint among SMEs in Ghana. Younger firms are more likely to be credit constraint compared to older firms. There is the need for government to create the enabling environment for SMEs to function effectively and efficiently by improving SME access to financing Individual firms of related business objectives can merge to increase their assets based and size and hence improve their access to finance from formal financial institutions in Ghana.

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DEDICATION

To my father, James Otoo, friend, Veronica Nen-nome and pastor, Prophet

Collins Adams Hayford

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LIST OF ACRONYMS

MFI	Micro Finance Institutions
NGO	Non-Governmental Organization
POT	Pecking Order Theory
SME	Small and Medium Enterprises
SSA	Sub-Saharan Africa
WES	World Bank Enterprise Survey

CHAPTER ONE

INTRODUCTION

Background to the Study

The term Small and Medium Scale Enterprises (SMEs) is used to describe businesses in the private sector. There is no single definition for SMEs because of its diversity of businesses. They mostly operate in the service, agricultural/agribusiness, trade and the manufacturing sector. A lot of institutions and well-known academicians have defined Small and Medium Scale Enterprises differently, albeit criticisms. Whatever form SMEs may take, empirical evidence has it that SMEs play crucial role in the growth and development of nations in areas of job creation, human resource development and poverty alleviation (Cook & Nixson, 2000).

Similarly, the Organization for European Cooperation and Development (OECD, 2009) revealed that SMEs are key generators of employment and income, and drivers of innovation and growth. This is evidenced by the fact that they employ more than half the labour force in the private sector of most countries. Despite the importance of SMEs in developing countries, empirical evidence suggests that SMEs in Sub-Saharan Africa are constrained by access to finance (Dauda & Nyarko, 2014; Fatoki & Odeyemi, 2010). Financial constraint is one of the most daunting challenges for small firms. These constraints have seen many enterprises dwindle in their operations and even close shop because of being unable to compete with more stable firms which are given preference by financial institutions when it comes to funding.

A study by Beck and Cull (2014) and Bouri, et al. (2011) found financial constraints are greatest in low-income countries while firms in Sub-Saharan Africa (SSA) countries almost twice as many as outside Africa mentioned availability and cost of finance as the most important growth obstacle. The availability of finance to SMEs is often determined by various factors ranging from the bank's ability raise funds to the firm or entrepreneurial characteristics of the SME. Firm characteristics include factors such as the age of the firm, the size of the firm and the availability of collateral and business information. Entrepreneurial characteristics are those traits or attributes that are specific to the owner of the firm which can impact on the performance of the firm negatively or positively. Entrepreneurial characteristics include the managerial competency of the owner of the firm, networking and gender.

In the context of Ghana, SMEs contribute immensely to employment, economic growth and development. Quainoo (2011) and Abor and Quartey (2010) revealed that SMEs provide about 85 percent of manufacturing employment; contribute about 70 percent to Ghana's Gross Domestic Product (GDP); and account for over 90 percent of businesses, according to available data from the Registrar General's Department. Despite the considerable role of SMEs in economic growth and development as a prolific job creator and income generator, access to finance remains the bane of their very survival. Aryeetey, Baah-Nuakoh, Duggleby, Hettige and Steel (1994) cited in Nkuah, Tanyeh, and Gaeten (2013) reported that a significant number of SMEs surveyed in Ghana mentioned access credit as a dominant constraint.

Financing constraints are particularly severe in start-up enterprises and relatively young firms (three years old or less) According to Aryeetey et al. (1994) 10 percent of start-up firms in Ghana could obtain bank loans but medium size enterprises and older firms are provided with credit three times more often than their smaller counterparts. In Ghana, the requirements that SMEs need to meet to qualify for financing by financial institutions vary from bank to bank. Some of the requirements that are common to almost all financial institutions are collateral security, SME's financial performance, audited financial statements, entrepreneurial experience and age of firm.

Statement of the Problem

In spite of the enormous contributions to the economy of Ghana, SMEs face financial constraints from banks and other formal financial institutions making it impossible to live to their fullest potentials. A difficulty in getting finance is one of the main obstructions to the growth of many businesses, particularly small and medium sized enterprises (SMEs). Therefore, reducing this financing gap in low-income countries should raise the incentive to create SMEs and consequently improve economic growth and increase job creation. In addition, improving SMEs' access to finance is significantly important in promoting performance and firm productivity (World Bank, 2015).

There are various constraints or bottlenecks that hinder the smooth access to credit facilities from the formal financial institutions by the SMEs in Ghana. These constraints include collaterals, high-interest rates, cash flows and turnovers among others. Previous efforts and interventions by government and NGOs through programmes and policies have been rendered ineffective as a result of lack of finance to implement. Despite efforts, studies (Poku &

Frimpong, 2009; Mensah, 2004) have shown that venture owners' access to funds continues to pose the biggest challenge to their firms' growth and survival. Empirical evidence suggests that firm characteristics (age, size, sector of operation, location), owner characteristics (age, educational qualification, and experience), ownership type (sole ownership, partnership, and shareholding), legal status and corruption perception of firm's manager are important determinants of access to finance among SMEs. This study investigates the sources of financial constraint to borrowers in Ghana, using World Bank Enterprise data on Ghana.

Objectives of the Study

The general objective of the study is to investigate the financial constraints faced by borrowers in Ghana. Specifically, the study seeks to:

1. Examine the composition and characteristics of formal SMEs in Ghana
2. Identify the sources of finance to SMEs in Ghana
3. Determine the factors that influence access to finance of SMEs in Ghana
4. Examine the extent of financial constraint faced by SMEs in Ghana

Research Questions

Based on the objectives of the study, the following research questions will be explored?

1. What are the characteristics and composition of SMEs in Ghana?
2. What are the sources of finance to SMEs in Ghana?
3. What are the determinants of access to finance of SMEs in Ghana?
4. What is the extent of financial constraint faced by SMEs in Ghana?

Significance of the Study

This study will be of significance in a variety of ways. The findings of this study will provide an insight to SMEs on the forms of SME classification used by various financial institution and the determinants of finance by financial institutions in order to assist them improve on their eligibility to access financial support from financial institutions. Also, this study will inform SMEs, financial institutions, government and all interested stakeholders about the factors that restrain the provision of finance to SMEs by financial institutions.

Findings from this study could also be used as a reference point for future research studies on ways which could help finance SME in their quest to function properly in economic development. Findings from this study will add to existing literature by enlightening us on the constraint and the extent of financial constraints faced by SMEs.

More importantly, this study will provide a holistic evaluation of financial constraint faced by SMEs in Ghana (since the data set is broad and covered major cities in Ghana), which can be relied on for policy purposes.

Scope of the Study

This study examined formal firms with five or more employees that are not 100 percent state/government owned. The study is limited to 720 firms which were included in the current World Bank Enterprise Data of 2013.

Organization of the Study

This study is organized into five chapters. The first chapter is about the introduction which provides the orientation for the study. It covers the background, statement of the problem, objectives of the research, the research

questions, significance of the study, the scope of the study and the organization of the study. The second chapter deals with the review of literature. Literature review is the process by which other studies related to the problem being investigated and relevant theories of the problem are reviewed to conceptualize the problem and lay foundation for the analysis of the problem. The chapter three focuses on the methodology and approach that were used to investigate the objectives of the study. It will be centered on the research design, population adopted, sampling and sample size, source of data and the data analysis procedures are outlined. The chapter four covers the results and discussion of the data to answer the research question of the study. Chapter five covers the summary, conclusions and the recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Overview

This chapter deals with the review of the determinants of financial constraints of SMEs. Areas covered include: the definition of SMEs, features of SMEs in developing economies, the contribution to economic development of SMEs, sources of finance and challenges faced by SMEs. The chapter also covers the theoretical and empirical reviews. Theories to be reviewed include the Asymmetry of information, and Pecking order theory.

Definition of SMEs

There is no unique definition of what constitute Small and Medium Enterprises (SMEs). They are usually defined based on some common features which vary from country to another. Different organizations and countries have based their definition on headcount (number of employees), sales, amount of investment, annual turnover, market share or spread, loan size and capital; capital assets, skilled labour, turnover level, firm size, legal status, and method of production (Ardic, Mylenko, & Saltane, 2012; Abor & Quartey, 2010; Lopez-Gracia & Aybar-Arias, 2000).

Globally, SMEs constitute a diverse and dynamic group of enterprises in that firms differ in their levels of capitalization, sales, and employment. The Bolton committee (1971) proposed three criteria to define the small enterprises: they have relatively small share of market place; they are managed by the owner or part owner with no formal management structure; they are independent and not a part of any large enterprise (Bolton & Firms, 1971). The most acceptable definition is on the basis of number of employee

(Ayyagari, Beck, & Demirguc-Kunt, 2007). Organizations such as European Commission (EC), UNIDO, OECD, among others have also defined SMEs in terms of the number of employees or employment, putting forward a number of thresholds. In addition, The World Bank and The Inter-American Development Bank generally define SMEs in terms of number of employees, average annual sale, and assets, with thresholds varying by country, and according to the size of the economies and structure of their corporate sector. Ogboru (2007) notes that classification of businesses into large, medium or small scale is subjective and qualitative judgment. Hence, operational definition by researchers based on country context mostly seems to be the order of the day.

Characteristics of SMEs in Ghana

According to Ghana Statistical Service (GSS) firms that have a work force of less than ten are known as small businesses and those with more than ten employees are categorized as Medium and Large-Sized Enterprises. National Board for Small-Scale Industries (NBSSI) a body mandated to promote the growth and development of SMEs in Ghana applies both the fixed asset and number of employees' criteria. NBSSI defines small enterprises as one that employs between 6 and 29 employees with fixed assets of \$100,000; medium enterprises: employ between 30 and 99 employees with fixed assets of up to \$1million (Mensah, 2004). Regardless of the definition used, it is clear that SMEs and particularly micro businesses constitute the vast majority of businesses in Ghana. This paper follows the standardized definition of SMEs provided by the World Bank's enterprise survey: small (5 to 19

employees), medium (20 to 99 employees), and large (more than 99 employees).

Ghana has two groups of SMEs within its business environment. These groups could be tagged as the formalized and the non-informal businesses. The formalized businesses have a well laid structure with a defined business working environment and are mostly found on the urban areas of Ghana. This type of business is organized with a few having board of directors, management and an organizational structure. These businesses could be owned by individuals or by a shared partnership.

The informal enterprises are mostly small in nature and include businesses such as the carpenters, hairdressers, masons, and other artisans who work either in rented or open temporal places. These self-employed workers normally lived on the little that they derive from their business operations. Within this groups, the work force are normally based on families members and apprenticeships and are commonly located in the rural set up with some emerging in the cities these days due to the rural-urban migration in the country. The operation carried out by this group of business are the manufacture of various local washing products, dressmaking, footwear making and selling, petty trading, hairdressing, carpentry, electronic technicians and food processing among others (Liedholm & Mead, 1987; Osei, Baah-Nuakoh, & Sowa, 1993) as cited in (Kayanula & Quartey, 2000).

In terms of education, usually informal SMEs are managed by people who have low level of educational background. Due to this there is a little separation between the income generated by business and that of the owner as

the business are normally owned by the family. There is a total absence of separation of financial account by the business and that of the owner.

Contributions of SMEs in Ghana

The economic value of the various SME are highly noticed as they are able to contribute their quota in terms of job creation, payment of taxes, innovative practices and a strong partners in the global market. Kayanula and Quartey (2000) and Aryeetey (2001) found among others that SMEs are sources of employment generation, help conserve foreign exchange, increase exports through the non-traditional commodities exports as well as contributes to economic growth and development through innovation and creativity. These businesses are also considered by Abor and Quartey (2010) as providing about 85% of employment in the manufacturing sector and are believed to contribute about 75% to Ghana's GDP and also account for 92% of businesses.

Fredua (2007) revealed that Ghana's informal sector contributes to its economic activities, especially contributing significantly to employment estimated to be around 70% of the total labour force. Small firms help create bulk of the jobs as well as contribute to the national revenue by way of tax revenue, but also improve upon national income (Keskin, 2006; Abor & Quartey, 2010).

Challenges of SMEs in accessing loans

The fact that SMEs have not made the desired impact on the Ghana economy in spite of all the efforts and support of succeeding administrations and governments gives a cause for concern. It underscores the conviction that there are fundamental issues or problems, which face SMEs but which up till now have either not been addressed at all or have not been wholesomely

tackled. A review of literature reveals indeed that access to loan is the main problem. The following researchers confirmed it. 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. SME owners in Europe, when asked about the most important problems they faced, they mention access to finance first, ahead of issues such as ‘taxation’, lack of skill, access to public procurements, unfair competition, labour law, access to the single market and so forth (European Commission Report, 2008). In Ghana, the major problem face by SMEs is access to credit (Boapeah, 1993). A few of the challenges of SMEs in accessing loans are discussed below.

Stringent conditions

In many cases, SMEs are not able to access loans from financial institutions because of the conditions attached to the loan. Financial institutions refuse to lend to some small enterprises because they do not have acceptable collateral. Previous researchers have suggested that, bank financing will depend upon whether the lending can be secure by collateral (Storey, 1994; Berger & Udell, 1998). Collateral in the form of assets is only a way for financial institutions to recover their money in event of default. Without adequate collateral, banks have limited or no ways to protect the loan assets. The financial institutions demand collateral in order to mitigate the risk associated with the loans. SMEs with good business plans not back by

adequate collateral are normally refuse credit because financial institutions cannot afford to take any chances of non-repayment of loans. Financial institutions always insist that this collateral requirement is fulfil.

Strict vetting of credit applications

Banks are also strict when vetting credit applications of small businesses. According to Appenteng, the vice president of the Association of Ghana Industries (AGI), (2010) banks are more stringent when appraising credit applications of SMES hence subjecting them to cumbersome credit procedures. The procedure of vetting loan applications waste so much time those loans are delayed and issued when intended purposes have expired.

Short period for repayment

At times, loans received are less than requested and short periods are giving for the repayment of the loans. Ricupero (2002) states that commercial bank loans extended to SMEs are often limited to a period far too short to pay off any sizeable investment and Abereiyo and Fayomi (2005) notes that the majority of commercial bank loans offered to SMEs are often limited to a period far too short to pay off any sizeable investment.

Unaware of factors financial institutions take into considerations

Small enterprises do not know factors financial institutions take into consideration before lending to its customers. Financial institutions generally do not lend to whoever would be willing to pay higher interest rates, because doing so would attract riskier borrowers. They have ways of checking credit worthiness of their customers. They lend to businesses, which they are convince that they have the ability to repay the loan (Ocansey, 2006). It has been observed that a key factor that makes the SMEs unable to access

financial assistance was the lack of understanding in the operations of banks and vice versa. Consequently, in effect SMEs suffer from the frustration of delay in accessing bank credits or denied completely. Banks demand things like audited financial information, convincing business plan, and bankable proposal before they lend to small business. Most small enterprises do not have technical capacity to do these things. This makes it difficult for them to access loans.

Alternative Sources of funds for SMEs

In reality there are quite a few potential sources of finance for SMEs. However, many of them have practical problems that may limit their usefulness. Among different sources here are some of the major sources of finance for SME as initial sources or additional capital needed to conduct business.

The SME Owner, Family and Friends

This is potentially a very good source of finance because these investors may be willing to accept a lower return than many other investors as their motivation to invest is not purely financial. The key limitation is that, for most of us, the finance that we can raise personally, and from friends and family, is somewhat limited (Menberu, 2018).

Trade Credit

SMEs, like any company, can take credit from their suppliers. However, this is only short-term and, indeed, if their suppliers are larger companies who have identified them as a potentially risky SME the ability to stretch the credit period may be limited.

The Venture Capital

A venture capitalist company is very often a subsidiary of a company that has significant cash holdings that they need to invest. The venture capitalist subsidiary is a high-risk, potentially high-return part of their investment portfolio (cited in Menberu, 2018) Venture Capital refers to the provision of capital for growth and expansion to companies with underdeveloped or developing products and revenues at an early stage in their corporate lifecycle. It also refers to the provision of development capital to mature companies at a later stage in their corporate life cycle. Typically, investee companies are unquoted, small to medium sized enterprises (Menberu, 2018).

Crowd Funding

Crowd funding involves funding a venture by raising finance from a large number of people (the crowd) and is very often achieved over the internet. Crowd funding has grown rapidly and in 2013 it has been estimated that over US\$5bn was raised worldwide through crowd funding. There are now in excess of 500 crowd funding platforms on the internet and over 400 crowds funding campaigns are launched every day. Crowd funding has the potential to be very beneficial to SMEs. It allows them to contact and appeal directly to investors, who may be willing to take the risk involved in funding the new technologies and innovations, which SMEs are often so good at producing.

Sources of Finance for SMEs in Ghana

These are the avenues by which small and medium enterprises can have access to finance either as start-up or expansion. Quaye and Sarbah (2014) identify the following sources for SMEs in Ghana.

Loans from Banks

This is a common source of finance to the small businesses in Ghana Coffie (2012). Bank loans are sometimes too expensive for small start-ups since they come with fixed interests and repayment of principal over a particular period of time. In spite of the high interests charged by the banks for the loan, they also request for collaterals in the form of fixed assets that can be liquidated in case of default in payment. Overdrafts are monies withdrawn in excess of savings and can be paid back with interest within a particular period. Overdrafts are usually for shorter periods than a loan but they are more expensive than bank loans. Overdrafts are more flexible and help businesses meet immediate cash needs when there is not enough time for loans to be processed.

Personal Savings and Borrowing from Family and Friends

This is the most common source of finance to the small businesses in Ghana. They come in a form of personal contributions like 'SUSU' ('SUSU' is a term which refers to a traditional group contribution scheme where individuals come together and agree on an amount of money to be contributed on regular intervals and given to one member at a time which will continue until the last person takes his/her contribution) and another form of cash balances that can be accumulated by the entrepreneur. It can also come from friends and family in a form of an informal loan without interest. . This source

of finance is the cheapest and comes at no cost to the entrepreneur (Frimpong & Antwi, 2014).

Business Angels

Business angels are individual professionals who invest money in start-up companies. Business angels typically prefer to invest in young companies that have good prospects. They usually invest capital into the start-up companies in exchange for ownership right or in a form of convertible bonds. Convertible bonds are bonds with an option to turn or convert them at a later period into equity at an agreed price (Quaye & Sarbah, 2014).

Venture Capital

This is an amount of money invested or is made available to be invested into a start-up company. Venture capitalists usually invest in businesses with high risks and high returns and do it in exchange of owner equity. Though the definition states that they are invested into start-ups, this is usually not the case. Venture capitalists invest large sums of money and hence the small start-up businesses are too small for them which forces them to invest in medium firms which are already established (Quaye & Sarbah, 2014).

Support from Government of Ghana to SMEs

The government of Ghana has established agencies to see to the operations of SMEs. The government from the year 2000 established various institutions such as the NBSSI, GVCTF and MASLOC to see to the aims establishing the SMEs. Some of the roles being played by these agencies to help solve SMEs problems by providing some fundamental and basic financial services to those under economic ladder in the society. Also assist in terms

policies in the areas of savings and investment as way of accessibility to some financial institutions and individuals who could not access credit from in the conventional banks.

Improved access to loans facilities

Even though most SMEs access credits from MFIs and other financial establishments, the government of Ghana has been able to assist in this direction by providing easy access to this facilities. Through the agency that has been put in place most SMEs which could not have access credit from the financial market now have chance to be granted with loans. In times of fire outbreak and other natural disaster, the government of Ghana sometimes gives financial support in terms of short loans to help these firms rebound into business. Because those that are at the micro operational stage and others that are new entrants into the industry require small loans, the government helped these firms by facilitating the loan application.

Business, Financial and Management Training

Government has provided capacity building support services for SMEs to position them effectively in their operations. Government of Ghana through the Bank of Ghana (BOG) and other mini-banks have had a progressive impact on the various businesses outfit of the SMEs. The government through the Bank of Ghana has created an attractive platform that allows all micro-entrepreneurs to save the little they could on their earnings on a daily basis with more interest at a lower cost from these financial and non-financial institutions as a whole. These help them as a basis to access capital. Therefore the attitude towards saving has greatly been improved.

Theoretical Review

Asymmetry of Information

The basic concept of Stiglitz and Weiss (1981) theory of information asymmetry is a phenomenon where one group is better informed than other groups creating an unbalanced information power play. The theory of information asymmetry arises when the company shareholders and management are better informed about a company's financial prospects than the external investors (López-Gracia & Sogorb-Mira, 2008). In the case of SME financing, SME owners are privy to information on the firm's future prospects, in particular the financial status, while investors are not provided by SMEs with the same information leading to an information gap between the two (Binks, Ennew & Reed, 1992; Holmes, Hutchinson, Forsaith, Gobson & McMahon, 2003).

The theory of information asymmetry is the theoretical foundation of SME financing constraints in relation to finance providers. The critical deterrent of SMEs when it comes to access to external finance is higher level of information opacity than larger firms and absence of information on which investors can base their investment decisions. Information asymmetry in SMEs is caused by their informal financial structure with limited feedback on their financial planning, operation and performance eventually acting as a deterrent to external borrowing (Berger & Udell 2006; Drever, Stanton & McGowan 2007; Liu, Margaritis & Tourani-Rad, 2011). In general, SMEs are characterised by low levels of credit accountability, poor accounting records and low information transparency.

SMEs' high information asymmetry from the lack of accounting records and inadequate financial statements is directly translated into high risk by the finance providers (Allee & Yohn, 2009; Altman, Sabato & Wilson, 2008, 2010). Hence, SMEs' poor financial management practices further accentuate the severity of information asymmetry between finance providers and SMEs. Zambaldi, Aranha, Lopes and Politi (2011) reported that even if SMEs maintained financial records, these were mostly incomplete or inaccurate, without any value addition to the firm.

Due to the high level of SME information opacity, the issue of adverse selection is enhanced, preventing many SMEs from obtaining external financing. Prior studies have reported that smaller firms are more prone to the problem of adverse selection and credit rationing that limit SMEs' ability to raise funds from external sources (Hernández-Cánovas & Martínez-Solano, 2007). The assertions of Diamond (1989) that physical characteristics of the firm, such as their age and size, are inversely related to the challenges of adverse selection and moral hazard, were empirically proven by Hyytinen and Väänänen (2006). Their study on Finnish SMEs revealed that adverse selection of SMEs is inversely related to owners' characteristics and the availability of financial information.

The Pecking Order Theory

Pecking order theory (POT) has been used to describe the financing behaviour of SMEs (Cosh & Hughes, 1994; Lopez-Gracia & Aybar-Arias, 2000; López-Gracia & Sogorb-Mira, 2008). The financing behaviour of SMEs is caused by varying degrees of information asymmetry and related agency costs associated with financing sources. The POT is an extension of

Modigliani and Miller's (1958) work on capital structure which is defined as a mix of finances used by firms from different sources in the form of debt and equity (debt-equity ratio). It was first proposed by Donaldson (1961) and developed by Sunder and Myers (1999), providing theoretical evidence as to how SMEs finance their operations. POT states the existence of a hierarchy of financing sources, where firms prefer to use retained earnings first, followed by external debt and then equity financing as the last option. However, as argued by Petersen and Rajan (1994, 2002), SMEs are not in the position to issue equity (publicly held debt) due to their small size limiting their external finance source to banks, as in the case of Ghanaian SMEs.

Xiang, Worthington and Higgs (2014) stated that the POT theory was developed to cope with the distortions caused by asymmetric information between SMEs and the banks. Likewise, Howorth (2001) and Ang (1991) stated smaller firms do not bother to access external finance, thus reflecting an extreme version of POT termed as a 'constrained POT'. This financing preference has also been linked to limited funding options available to SMEs in comparison to larger firms (Ebiringa, 2011; Petersen & Rajan, 1994). Indicating the presence of constrained pecking order, Holmes and Kent (1991) reported that for Australian manufacturing SMEs, internal funds were the only alternative financing due to difficult accessibility to external finance. Similarly, Okura (2008) observed that, despite China's rapid economic development, SMEs relied more on informal financing sources due to its inability to access finance and high intermediation costs.

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SME Financing Gap

The universal finance theory states that all firms have equal access to the financial market, but SMEs, in comparison to larger firms, face more difficulty in accessing credit from external sources (Carreira & Silva, 2010; Morduch, 1999). Holmes et al. (2003) and Takagi (2002) evidenced that the issue of inadequate SME financing is further enhanced by the largely bank based financial system of developing countries. A survey of Chinese SMEs revealed that owner's funds were the major source of finance for more than three-quarters of SME population (Okura 2008). According to Berger and Udell (1998)'s model, the financial growth cycle of SME's show that the inaccessibility to finance in their initial growth stage resulted in a failure of the business and developmental stagnation in the later stage (Ebiringa, 2011; Zambaldi et al., 2011). Beck and Demirguc-Kunt (2006) also recognized the specific financing needs of SMEs, mainly during their initial growth phase, and their need for special financing mechanisms unlike conventional corporate financing.

Empirical Review

Several factors have been noted as determinants for SMEs access to funds from banks and financial services (Pandula, 2011). These factors broadly include, firm characteristics, owner characteristics, ownership type and legal status, industry sector and corruption perception.

Firm Characteristics

Prior studies support a positive relationship between firms' characteristics (size, age, and sector) and the capital structure determined by their accessibility to finances from different sources (Berger & Udell, 2006;

Cassar & Holmes, 2003; Degryse, de Goeij & Kappert, 2012; Rao, 2003). These studies revealed strong associations between factors endogenous to SMEs, such as firm and owner characteristics and loan repayment capacity and their accessibility to external financing. Empirical studies established that a firm's accessibility to external finance was directly proportional to its physical characteristics defined in terms of its size and age (Bhaird & Lucey, 2010; Chen, 2004; Degryse, de Goeij & Kappert, 2012).

Firm Size

Several studies have established a positive relationship between firm size and its accessibility to financing from the financial institutions (Berger & Udell, 2006; Binks & Ennew, 1996; Brent & Addo, 2012). Kounouwewa and Chao (2011)'s work in African countries confirmed that firm size and ownership were used as the first screening factors for loan approval decision by the banks. Through their study on the SME financing growth cycle, Gregory, Rutherford, Oswald, and Gardiner (2005) established that larger firms are more likely to use public equity funding or long term debt over internal funding, due to their easy accessibility. A firm's financial characteristics such as liquidity, profitability and assets also influenced the degree of accessibility to external financing (Caneghem & Campenhout, 2012; Neeley & Auken, 1996).

Firm Age

The older and established firms have higher accessibility to bank loans in comparison to younger and new firms (Caneghem & Campenhout, 2012; Frank & Goyal, 2003). The theory of information asymmetry induces the POT financing behaviour particularly in new SMEs. Younger firms are associated

with high information opacity and loan repayment uncertainty rendering him risky (Brent & Addo, 2012; Chittenden, Hall & Hutchinson, 1996). These factors make it more difficult for younger firms to access external financing. Due to inadequate tangible assets and a financial record in the market, the smaller firms within the SME sector are offered fewer loans by the banks (Caneghem & Campenhout, 2012). It is been reported that the difficulty in accessing external financing is severe in startup firms with no prior record in the financial market.

Owner Characteristics

The owner is responsible for all business operations and thus plays a dominant role in determining the firm's path of growth including its capital structure (Hamilton & Fox, 1998; Holmes et al., 2003). The thin line between the business and the owner, due to SME's organisational structure, has led to a blending of owner's personal goals with that of the business (Ang, 1991; Neeley & Auken, 2009). The traits of SME owners such as age, gender, educational qualification and managerial experience were found to influence a firm's accessibility to external finance (Cassar & Holmes, 2003; Coleman, 2000; Neeley & Auken, 2009). Norton (1991) and Osei-Assibey, Bokpin and Twerefou (2012) supported with their respective studies that a firm's capital structure was influenced by the socio-economic characteristics of the owner, in addition to the firm's asset value and ownership structure. These studies highlight the central role of SME owners in its accessibility to external financing.

Owner's Age

The age, education level and experience of SME owners were positively correlated to debt accessibility, as these traits created higher value for the firm (Carter, Shaw, Lam & Wilson, 2007; Neeley & Auken, 2009). In the absence of required quantitative information the lenders rely on owner's age to evaluate SMEs' financing demand and its repayment capacity. Literature indicates a strong positive relationship between SME owner's age and its accessibility to external financing (Altman, Sabato & Wilson, 2008; Baas & Schrooten, 2006; Uchida, 2011). These studies indicate that older owners had easier accessibility to financing when compared to younger owners.

Owner's Educational Qualification

Lenders tend to use qualitative measures such as owner's age and educational qualification and gender to evaluate the credit risk of SMEs due to limited financial information (Altman, Sabato & Wilson, 2008; Baas & Schrooten, 2006; Uchida, 2011). Owners' age is directly associated with an established track record and reputation, in particular an ability to meet their financial obligations (Ang, 1992; Bruder, Neuberger & R athke-D oppner, 2011).

Ownership Type and Legal Status

Abor (2008) identified the form of business as one of the factors explaining the capital structure decisions of Ghanaian SMEs. In the paper, ownership structure and the type of firm were found to have a significant impact on financing. In terms of legal form, Cassar (2004) notes that incorporation may be perceived by banks and other finance suppliers as an

encouraging sign of the firm's formality and creditability. Consequently, incorporated firms appear to be in a very favoured position in receiving external funding in comparison with unincorporated firms. Other studies including Storey (1994) concluded that limited private companies are more likely to be reliant on bank financing.

Industry Sector

Factors related to the industry sector in which a firm operates also explain capital structure and financial decisions (MacKay & Phillips, 2005). The effect of industry classification on the capital structure of Ghanaian SMEs was examined by Abor (2007), revealing some differences in the funding preferences of the SMEs across industries. Abor (2007) further concluded that wholesale and retail trade sectors use more short-term credit compared with manufacturing SMEs, whereas construction, hotel and hospitality, and mining industries appear to depend more on long-term finance and less on short-term debt. Abor and Biekpe (2007) also found that the Ghanaian firms involved in the agricultural or manufacturing sector have higher capital and asset structures than those operating in wholesale and retail sectors, making them more bankable.

Corruption

Perception of corruption depicts the opacity of the business environment. Hallward-Driemeier and Aterido (2007) see corruption as relatively less constraining. The frequency of bribes is reported as comparable across the regions, although the frequency with which 'gifts' are expected during inspections is somewhat lower. However, the cost of the bribes paid "to get things done" as a share of sales is 0.89 percentage points higher in Africa.

Indeed, the evidence seems consistent with the perception that corruption is less of an obstacle, even if it is seen as prevalent.

CHAPTER THREE

RESEARCH METHODS

Overview

This chapter covers the methodology of the study which comprises the sources of data, definitions of variables, and justification for the variables, model specification, estimation techniques and methods of data analysis.

Source, Description and Justification of Data

This study employs the most current World Bank Enterprise Survey (WES) data released for Ghana in 2013 which consist of 720 firms. WES is a firm level survey of a representative sample of an economy's private sector, conducted and sponsored by the World Bank. These surveys have been conducted over the past 10 years in over 100 countries with standardized survey instruments and a uniform sampling methodology. The surveys employ the stratified probability/random sampling technique, affording every subset of a statistical population an equal chance of being chosen. Three levels of stratification were used: firm sector, firm size, and geographic region. The enterprise surveys are conducted in selected urban centers which are intended to coincide with the location for the implementation. Enterprise surveys target formal firms with five or more employees that are not 100 percent state/government owned.

The dataset is country specific and extant studies have been done using the same data justifying data credibility. The dataset is chosen because the firms in the sample are not truncated by size and cover many sectors at the same time (industries, services, and other form of services). The firms in the survey include small, medium and large, young and old firms as well as

registered and unregistered firms among other characteristics. The surveys also try to capture business perceptions of the most important obstacles to enterprise operation and growth. Aside from helping to ascertain reasons enterprises do not have loans with formal financial institutions, the Enterprise Surveys allow a detailed exploration of variation in the use of financial services across firms with different characteristics. Apparently, the data contains information that details financial challenges SMEs are facing.

Justification of Variables

Firms' characteristics

Empirical studies support a positive relationship between firms' characteristics (size, age, and sector) and the capital structure determined by their accessibility to finances from different sources (Berger & Udell 2006; Bhaird & Lucey, 2010; Chen, 2004; Degryse, de Goeij & Kappert, 2012). Through their study on the SME financing growth cycle, Gregory, Rutherford, Oswald, and Gardiner (2005) established that larger firms are more likely to use public equity funding or long term debt over internal funding, due to their easy accessibility.

Owner Characteristics

The owner is responsible for all business operations and thus plays a dominant role in determining the firm's path of growth including its capital structure (Holmes et al., 2003). The traits of SME owners such as age, gender, educational qualification and managerial experience were found to influence a firm's accessibility to external finance (Cassar & Holmes, 2003; Coleman, 2000; Neeley & Auken, 2009; Uchida, 2011).

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Audited financial records

Audited financial statements are very useful in accessing credit from financial institutions. Often, banks require audited financial statements before granting credit. In a study by Tagoe, Anuwa-Amarh and Nyarko (2008), the relationship between information management practices of small and medium size enterprises (SMEs) and their access to bank finance was examined. It was found that SMEs that keep records and present certain types of information improve their access to bank finance.

Model Specification

The dependent variable in our model is whether firms benefit from banking facilities or not. It is a binary variable with a value of 1 when a firm benefits from banking facilities and 0 otherwise. This is regressed against factors that possibly limit a firm's access to bank loan. The model is specified as follows:

$$L_i = \ln\left(\frac{P}{1-P}\right) = \alpha + \sum \beta_i X_i$$

Where L_i is the dependent variable with a value of 1 when firm benefits from banking facilities and 0 otherwise. X_i are a vector of explanatory variables which include age of the firm, size of the firm (small or medium), economic activities of the firm, location of the business, legal status of the firm, previous lending history, age and experience of firm's manager and corruption perception. To further analyze the factors that influence credit constraint, the study followed Kuntchev, Ramalho, Rodriguez-Meza and Yang (2014) and classified firms into three – not credit constrained, partially credit constrained & fully credit constrained. Ordered logit model was used to analyze the three category classification of credit constraint.

Description and Measurement of Variables

Dependent Variable: the main outcome variable for this study is access to finance, measured in two different ways: a dichotomous variable and an ordinal variable. The dichotomous variable captures whether the SME has access (finance unconstraint) to finance or do not have access to finance (finance constraint). On the other hand, the other measurement for the access to finance is in levels of constraint: not constraint, partially constraint, and fully constraint as earlier explained. Independent Variable: the explanatory variables used in this study include age of the firm, size of the firm, legal status firm, industry sector, location, turnover of the business, type of collateral, keep financial records and corruption perception. Table 1 shows the description and measurement of variables to be considered.

Table 1: Variable and Measurement

Variables	Definition	Measurement
Access to finance	Whether the SME had access to credit in the last fiscal year or not	Binary variable
Financial constraint	Fully Credit Constraint, Partially Credit Constraint and Not Credit Constraint	Categorical
Firm size	Firm size is a composite measure of permanent and temporary workers worked in a year	Categorical
Age of firm	Age refers to the date of the establishment of the firm up to 2013 when the data was collected	Continuous variable
Registered firm	Registration with the national registry (public or private).	Dummy variable
Gender of firm owner	Whether the ownership of the SME is own by Female or not	Dummy variable
Location of business	Region where SMEs are located (Takoradi, Tamale, Tema, Accra)	Categorical variable
Corruption perception	Whether establishments consider corruption to be the biggest obstacle	Binary variable
Keep financial records	Whether the business has audited records or not	Binary
Sector of business	Either in Manufacturing, Service or Other sector other than the two mentioned	Categorical variable
Legal status	The extent of the liability which defines the level of responsibility of the owner over the firm's obligations.	Categorical variable

Source: Author's construct from WES, 2013

Estimation Techniques

The logit model is justified in its extreme flexibility and widely used function in cases where outcome variable is binary (Wright, 1995). In addition, the logit model is seen to be a powerful tool as a result of its ability to estimate individual effect of continuous and categorical variables on qualitative binary outcome variable. On the other hand, if the outcome variable is a categorical variable other than binary and exhibits levels in the outcome variable, resorting to ordinal measure such as ordered logit is deemed appropriate. In this paper, the outcome variable is measured in two ways: *One captured as dichotomous and another captured in levels.*

The binary variable examines whether SMEs have the opportunity to access credit from financial institutions or not by virtue of certain firm-level characteristics such as age, size (small or medium), economic activities, legal status, previous lending history, age and experience of firm's manager, geographical location, etc. The other variable captures whether SME is highly constrained by credit, moderately constrained or not constrained in any form. These informed the choice of the econometric model.

Methods of Data Analysis

Both descriptive statistics and econometric analysis were used to examine financial constraint of SMEs in Ghana. Patterns regarding access to credit by SMEs were done mainly using descriptive statistics where chi-square was employed to test the significance in the pattern. In determining covariates effect of the likelihood of access to finance from formal financial institution, the study employed both logit and ordered logistic models for the analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

Overview

This chapter presents the empirical results and discussion of the factors influencing credit constraint by SMEs in Ghana. It also presents and discusses the extent of financial constraint by SMEs. The chapter begins with descriptive analysis of the background information of the SMEs which include access to finance, firm size, region of establishment, financial records of the firms, sector of business, legal status of firms, managerial experience, and corruption perception of firms, ownership of firms and sources of finance.

Empirical results from logistic regression and ordered logistic regression estimates are also presented and discussed. In order to enhance the validity of the results, estimation diagnostics of the models are highlighted. The chapter also discusses the results in relation to research questions of the study. Results are presented in Tables, Graphs and are interpreted using percentages, frequencies, p-values and odds ratios.

Background Information of Firms

Table 2 presents the descriptive statistics of variables used in the study. Out of the 720 cases in the 2013 World Bank Enterprise Data for Ghana, 631 firms indicated whether or not they had access to finance from formal financial institutions; 89 cases were missing in the data set. As a result, 631 firms were used for the estimation. Out of the 631 firms on which the analysis is based, about 79.71% did not have access to credit from financial institutions; only 20.29% had access to finance. Out of those who could access finance, about 15.69% had outstanding debt. About 73.53% of the firms were

small firms; 12.68% and 13.79% were medium and large firms, respectively. Majority (about 74.01%) of the firms had registered their business operation at public registry; only 28.05% of the firms were owned by females. Majority (about 62.44%) were sole proprietorships; 32.33% were partnerships; only 5.23% were shareholding firms. About 67.35% of the firms saw corruption as a major obstacle to their business operation, whilst 32.65% did not. Most (about 58.80%) of the firms' financial records were audited by external auditors. Majority of the firms were into industrial production (about 61.33%); 16.32% and 22.35% of the firms were, respectively, into services and retailed trade.

Table 2: Descriptive Statistics of variables

Variables	Categories	Frequency	Percent (%)
Access to finance	No	503	79.71
	Yes	128	20.29
Outstanding debt	No	532	84.31
	Yes	99	15.69
Firm size	Small	464	73.53
	Medium	80	12.68
	Large	87	13.79
Registration	No	164	25.99
	Yes	467	74.01
Owner (female)	No	454	71.95
	Yes	177	28.05
Legal status	Shareholding	33	05.23
	Sole proprietorship	394	62.44
	Partnership	204	32.33
	Corruption perception	Not obstacle	206
Corruption perception	Major obstacle	425	67.35
	External audit	No	260
External audit	Yes	371	58.80
	Sector of business	Industrial	387
Services		103	16.32
Retail trade		141	22.35

Source: Author's construct from WES, 2013

An attempt was made to examine if access to finance differs across firm size. As a result, a chi-square test was used to analyze whether a significant differences exist with regard to access to finance and firm size. The results is presented in Figure 1. As depicted in Figure 1, about 39% of Large SMEs had access to finance as compared to 23% for medium SMEs and 17% for small SMEs. The Pearson chi square value of 14.4972 was statistically significant at 1% level of significance. This means that there is a significant difference among the firms with regard to their ability to access external finance for their business operations. This result reinforces tragedies small size firms are facing. Small size SMEs are grappling with the access to credit problem. Reasons include: informational opacity, lack of trading history, the high risk of failure (Huyghebaert & Van de Gucht, 2007); poor management and accounting practices (Idowu, 2010; Huyghebaert & Van de Gucht, 2007; Cork & Nixson, 2000); among others. These factors set the SMEs and particularly the small size firms unlikely to meet the standards set by formal financial institutions.

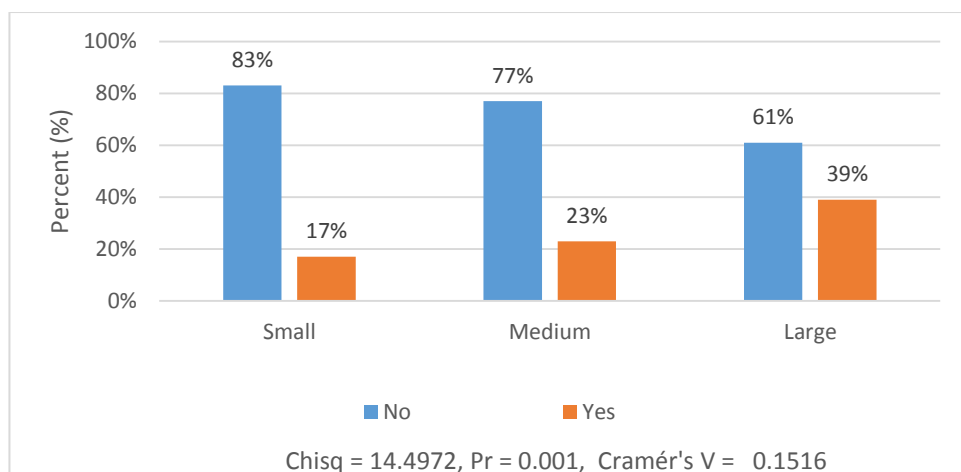


Figure 1: Access to finance across firm size
 Source: Author's construct from WES, 2013

Reasons SMEs do not apply for Loan

Among the firms surveyed, only 128 firms applied for external finance. As a results, attempt was made to find out the institutional factors that deter SMEs from applying form loans. Host of factors were identified to explain why some SMEs do not apply for loan. The study revealed about 133 firms (26.44%) saw no need to apply for loan because their establishments had enough internally sourced finance to assist in their operations. About 77 (15.31%) of the firms saw the application procedures to be complex; 26.64% identified unfavorable interest rates to be a deterrent to seek for external credit. High cost of collateral requirement was also identified by 85 firms representing about 16.90%; insufficient loan size and maturity were identified by 35 firms representing about 6.96%; whilst 39 firms (about 7.75) thought the loans would be approved. Table 3 shows the distribution of factors that hinder firms from applying for external credit.

Table 3: Reasons for not applying for loans

Reasons	Frequency	Percent (%)
No need	133	26.44
Complex application procedures	77	15.31
Unfavorable interest rates	134	26.64
High collateral requirement	85	16.90
Size of loan and maturity were insufficient	35	6.96
Did not think loan would be approved	39	7.75
Total	503	100.00

Source: Author's construct from WES, 2013

Sources of finance to SMEs in Ghana

Majority of the firms (about 76%) obtain credit or loans from private commercial banks; 16% of the firms obtained finance from state-owned banks. Only 8% of the firms obtained finance from other sources such as friends, relatives and money lenders. Further analysis was made to examine if sources of finance differ across firm size. As a result, a chi-square test was conducted and the results revealed a statistically insignificant difference between firm size and the source of finance. The results further indicated that small firms were more likely to obtain loans from friends, relatives and money lenders, as compared to medium and large firms.

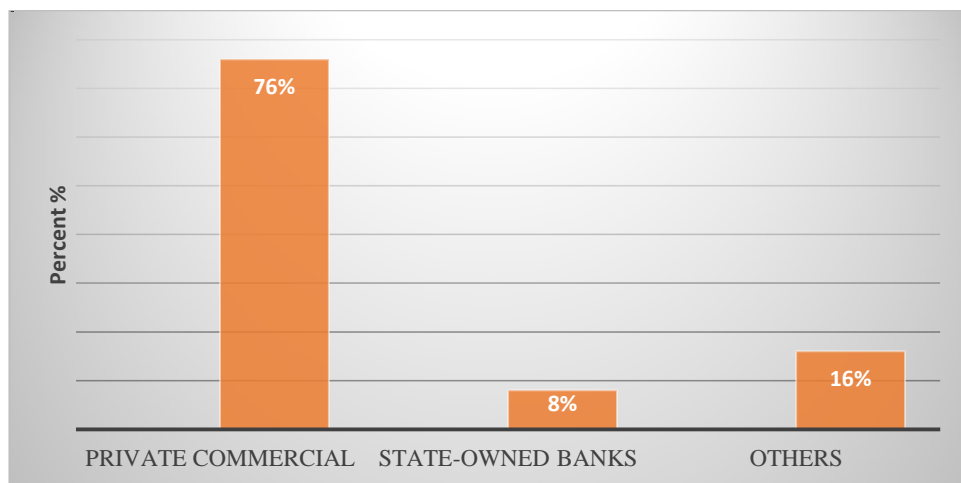


Figure 2: Sources of Finance to SMEs in Ghana
Source: Author's construct from WES, 2013

Financial Constraint across firm size and location

Firms were further analyzed with regard to the extent of financial constraint, and the results are shown in Table 4. It was observed that small firms were more likely to be constrained financially than medium and large firms. This relationship was statistically significant at 1% level of significance (chi-square value of 26.4468, p-value = 0.000). Large firms were least constrained financially compared to medium and small firms. Firms in the

northern part of Ghana, Takoradi and Tema were less likely to be constrained financially as compared to firms in Accra. This revelation was statistically significant at 1% level of significance (chi-square = 20.76, p-value = 0.002).

Table 4 shows the extent of credit constraint across location of firms.

Table 4: Crosstab between credit constraint and firm’s location

Extent of credit constraint	Location of firm			
	Accra	Tamale	Takoradi	Tema
Not constraint	32	14	5	22
Partially constraint	59	42	21	33
Fully constraint	220	77	25	81
Chisq (6)= 20.76, pv = 0.002				

Source: Author’s construct from WES, 2013

Logistic Regression Estimates of Access to finance

Binary logistic regression model was employed to estimate the factors influencing access to credit to SMEs in Ghana. Given that majority of the variables in the model were categorical, odds ratios were computed to examine the relative ease of obtaining external credit in relation to not obtaining credit. The odds are the ratio of the probability of accessing external finance to that of not accessing credit. Therefore, odds ratio (OR, relative ease of access) is the ratio of two odds. Table 5 presents the estimates of the odds of accessing credit among SMEs in Ghana.

In order to ensure existence of no linear dependence among the explanatory variables used in the estimation, variance inflation factor (VIF, uncentered) test for multicollinearity was conducted. Multicollinearity exists when there is correlation between predictors (i.e. independent variables). Its presence can adversely affect the regression results. VIF estimates how much the variance of a regression coefficient is inflated due to multicollinearity. VIF

of less than 10 is acceptable threshold (Gujarati, 2005). The mean VIF of 6.55 (see Appendix B) indicates nonexistence of serious multicollinearity of the covariates.

Linktest was performed to test the null hypothesis of correct model specification. Results as presented in Appendix A indicate that the model was correctly specified. This is evident from the no significance of the coefficient associated with the \hat{u}_i (hat square) variable. Therefore at 5% level of significance, we fail to reject the null hypothesis of correct model specification.

The Pseudo R-square of the model was 0.1259 which means that the explanatory variables in the model accounted for about 12.59% of the variations in the dependent variable (Access to finance). This R-square is quite low but according to Woodridge (2005), low R^2 is not as important as statistical and economic significance of the independent variables (Woodridge, 2005). The likelihood Ratio chi square with 16 degrees of freedom was statistically significant at 1% level of significance (as indicated by p-value of the chi-square statistic in Table 5). This means that the model fit the data used in estimating the factors influencing access to finance among SMEs in Ghana.

Table 5: Regression estimates of the determinants of Access to finance

Dependent Variable = Access to Finance			
Variables	Categories	Odds Ratio	p-value
Managerial experience		0.9942	0.679
Age of firm		1.8398**	0.015
Financial records audit		1.5667*	0.081
Legal Status (Reference= Shareholding)			
	Sole proprietors	0.3372**	0.014
	Partnerships	0.3413**	0.015
Firm Size (Reference = large)			
	Small	0.5113**	0.026
	Medium	0.4689*	0.058
Registered Firm		0.8407	0.540
Location (Reference =Accra)			
	Tamale	1.2789	0.416
	Takoradi	1.5942**	0.011
	Tema	1.5867*	0.086
Sector of business (Ref= Industries)			
	Services	1.1433	0.660
	Retail/wholesale	0.9166	0.741
Female owner		0.8545	0.538
Corruption perception		1.8577**	0.048
Outstanding debt		0.6624***	0.000
Sample Size = 624	R-square = 0.1259	Mean VIF = 6.55	
Linktest	Coefficient	Standard Error	p-value
y_hat	0.7721	0.2323	0.001
y_hat squared	-0.1152	0.1044	0.270

Source: Author's computations from WES, 2013

Stars *p<0.10; **p<0.50; p<0.01, correlations significant at 10%, 5% and 1%, respectively.

Results, as shown in Table 5 revealed age of firm, external auditing of financial records, legal status, firm size, loan history (i.e. outstanding debt) and corruption perception, as the factors that influence SMEs access to credit in Ghana. One-unit increase in age of establishment was associated with

83.9% (OR=1.8398) more likelihood of accessing external credit; and this association was statistically significant at 5% level of significance. This finding supports that of Fatoki and Asah (2011) that SMEs have a far better chance to be successful in their credit applications compared to younger SMEs. In addition, the finding is consistent with Beck and Cull (2014) and Quartey (2003) who observed a positive effect of firms' age on the ability to access external finance.

Firms with audited financial records were 56.7% (OR= 1.5667) more likely to access finance than none audited firms; and this relationship was statistically significant at 5% level of significance. Sole proprietorship firms were 66.2% (OR= 0.3372) less likely to access credit compared to shareholding firms. Similarly, at 5% level of significance, partnership firms were 65.8 % (OR= 0.3413) less likely than shareholding firms in accessing finance. This finding supports that of Storey (1994) who found direct relationship between external finance and incorporated firms. Cassar (2004) revealed that incorporation may be perceived by banks and other finance suppliers as an encouraging sign of the firm's formality and credibility.

Small SMEs were 48.8% (OR = 0.5113) less likely to access finance compared to large SMEs in Ghana; and this relationship was statistically significant at 5% level of significance. Similarly, medium-size firms were 15.9% (OR = 0.8407) less likely to access finance compared to large SMEs; and this association was statistically significant at 10% level of significance. These findings corroborate Aryeetey, et. al (1994) and Cassar (2014) who observed a positive correlation between firm size and banks' willingness to provide credit.

Firms located in Takoradi and Tema were found to be 59.4% (OR = 1.5942) and 58.9% (OR = 1.5867), respectively, more likely to obtain credit compared to firms located in Accra. Firms who perceived corruption as a bane to business operation were 85.8% (OR = 1.8577) more likely to access finance compared to firms who did not see perception as an obstacle to business; and this association was statistically significant at 5% level of significance. This finding contradicts that of Hallward-Dreimeir and Aterido (2007) who found corruption to be less an obstacle, even if it is seen as prevalent in Africa. Firms with outstanding loans or line of credit were 33.8% (OR = 0.6624) less likely to access credit than those who had no outstanding debt with financial institutions; and this association was statistically significant at 1% level of significance. This finding supports that of Nega and Hussein (2016) who found negative relationship between loan history, (i.e., whether or not the firm had records of previous loans) and access to finance.

Ordered Logit results for Credit Constraint

Further investigation was conducted to measure the extent of financial constraint faced by SMEs in Ghana based on the independent variables highlighted earlier on. Credit constraint was measured on ordinal scale with three levels: not credit constraint (NCC), partially constraint (PCC) and fully credit constraint (FCC). Firm that use external source of finance for working capital and/or investment in the last fiscal year and have an outstanding loan at the time of the survey; or applied for loan in the last fiscal year and the loan was granted or did not apply for loan by virtue of the fact that there is enough finance for their business are said to be not credit constraint (NCC). Partially credit constraint (PCC) firms were SMEs that used external source of finance

as working capital and/or investment during the last fiscal year and have an outstanding loan in the previous fiscal year; or did not apply for loan for reasons other than having enough finance for their operation. Fully credit constraint (FCC) represents SMEs limited to external finance from formal financial institution due to the fact that loan application was refused or did not consider applying for loan for reasons other than having enough finance. Descriptive analysis of the level of financial constraint among SMEs in Ghana revealed that majority (about 63.87%) of the firms were fully credit constraint; 24.56% were partially credit constraint; and 11.57% were not credit constraint.

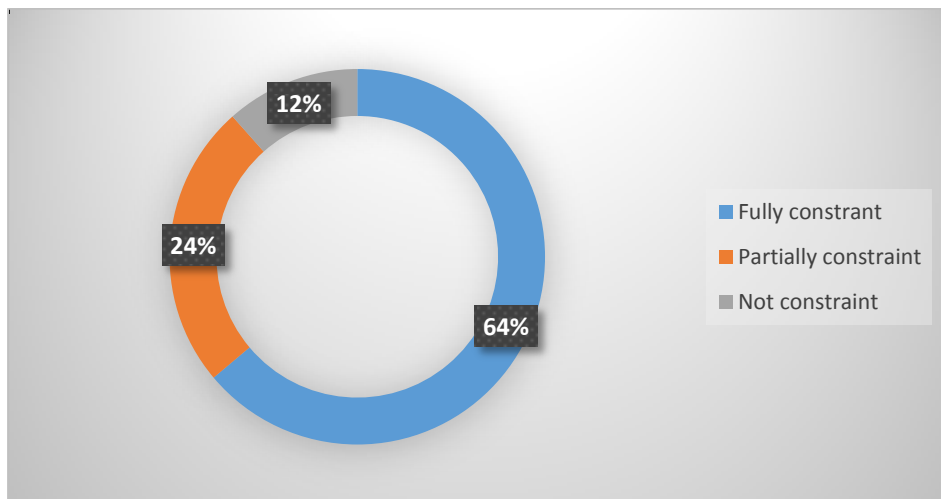


Figure 3: Levels of credit constraint of SMEs in Ghana

Source: Author's construct from WES, 2013

The empirical results as depicted in Table 6 revealed firm's age, manager experience, audit of financial records, legal status, firm size, loan history (outstanding debt) and corruption perception were statistically significant in explaining the extent of credit constraint among SMEs in Ghana.

Firms with experienced managers were less likely (OR = 0.0426) to be credit constraint. One unit increase in age of firms was associated with 97.5% (OR= 0.0249) less likely to be credit constraint; and this relationship was statistically significant at 1% level of significance. Sole proprietors were more

likely to be credit constraint than medium and large firms. Firms in Tema and Takoradi were less constrained financially than firms in Accra. These findings are consistent with studies by Norton (1991) and Osei-Assibey, Bokpin and Twerefou (2012) that a firm’s capital structure was influenced by the socio-economic characteristics.

Table 6: Ordered logit estimates for extent of Credit Constraint

Dependent Variable = Credit Constraint			
Variables	Categories	Odds Ratio	p-value
Manager experience		0.0426***	0.001
Age of firm		0.0249***	0.002
Financial records audit		0.6343**	0.025
Legal Status (Reference= Shareholding)			
	Sole proprietors	1.6439***	0.005
	Partnerships	1.4587***	0.003
Firm Size (Reference = large)			
	Small	0.3294**	0.014
	Medium	0.9593**	0.013
Registered Firm		1.0794	0.745
Location (Reference =Accra)			
	Tamale	0.6929	0.136
	Takoradi	0.6678**	0.085
	Tema	0.5970**	0.032
Sector of business (Ref= Industries)			
	Services	1.0356	0.889
	Retail/wholesale	1.1965	0.425
Female owner		0.8285	0.349
Corruption perception		0.4908***	0.000
Outstanding debt		1.0279**	0.019
Sample Size = 624			
	/Cut1	2.4538	
	/Cut2	2.0780	

Source: Author’s computations from WES, 2013

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

This final chapter presents a summary of major findings of the empirical study on the factors influencing financial constraint of SMEs in Ghana. It includes the main conclusions drawn from the study and policy recommendations derived from the analysis of the available data. Limitations of the study are highlighted and suggestions for further research are also outlined.

Summary

This study was set out to examine the factors that influence financial constraint among borrowers in Ghana, using SMEs as test case. The study used the 2013 World Bank Enterprise Survey (WES) data set on Ghana to investigate the problem. Specifically, the aim was to analyze sources of financial constraint faced by borrowers.

The study employed logistic and ordered logistic regression models to estimate access to finance and extent of credit constraint faced by SMEs in Ghana. The rationale being that access to finance alone is not enough to model SMEs financial constraint. Hence, the need to estimate access to finance in levels resulting in ordered logit analysis. Detailed information on firm characteristics such as firm location, age, size, ownership and other factors were all considered. The study discussed extensively the issue of SMEs financing or access to credit. It offered a broader array of investigation of factors influencing SMEs access to credit.

Preliminary diagnostic checks for multicollinearity and model specification were undertaken. Both descriptive and inferential statistics were used to analyze the data. Data analysis was conducted in Stata 13 statistical software.

The study revealed that firms in Ghana were dominated by small enterprises and few medium and large firms. Most of the firms are registered firm and are mostly owned by individuals and families (i.e. sole proprietorships); and few shareholding enterprises. Most of the enterprises in Ghana are located in Accra. Majority of the firms were operating in the industrial sector of Ghanaian economy; and few firms were owned by females. Most of the firms perceived corruption as a bane to their business operations.

The major source of finance to firms in Ghana was from private commercial banks. Only few firms obtained credit from state-owned banks and other sources of finance which included friends, relatives and money lenders. Small firms were less likely to obtain finance from commercial and state-owned banks.

Age of firms was associated with high odds of accessing finance from financial institutions in Ghana. Firms whose financial records were externally audited had higher odds of accessing finance. Corruption perception of firms was associated with higher odds of accessing finance. Firms in Tema and Takoradi were more likely to access finance compared to those in Accra. However, small SMEs were less likely to access finance compared to large SMEs. Firms with outstanding loans were less likely to access finance from financial institutions in Ghana. Firms owned by individuals and families had lower odds of obtaining finance. Firm's age, manager experience, audit of

financial records, legal status, firm size, loan history (outstanding debt) and corruption perception were statistically significant in explaining the extent of credit constraint among SMEs in Ghana. Small firms were more likely to be financially constrained compared to larger enterprises.

Conclusions

Based on the major findings of the study, the researcher makes the following conclusions:

Firms in Ghana are dominated by small enterprises and are mostly located in Accra. Small firms have poor access to finance and they are likely to be credit constraint than medium and large firms. State-owned banks are less likely to provide credit facilities to small enterprises compared to private commercial banks.

SMEs in Ghana face credit constraint which limit their smooth functioning of their business operations. Firms' characteristics such as firm's location, age, size, ownership, and loan history and corruption perception significantly influence access to finance among SMEs in Ghana. Shareholding firms are more likely to access finance than sole proprietorships and partnership firms. Firms with experienced managers are less likely to be credit constrained. Younger firms are more likely to be credit constraint compared to older firms. In short, small size SMEs are more prone to financial constraints as shown by both the descriptive and the regression results. This could be due to reasons such as inadequate managerial and operational experience, inadequate collateral, among others.

Recommendations

Taking cognisance of the findings from the study, the following policy recommendations are proposed for reducing financial constraint among borrowers in Ghana:

- Individual firms of related business objectives can merge to increase their assets based and size and hence improve their access to finance from formal financial institutions in Ghana.
- There is the need for government to create the enabling environment for SMEs to function effectively and efficiently by improving SME access to financing, providing quality of infrastructure, access to market, access to modern technology and low investment in research and development.
- In addition, the government should provide regulatory, legal and financial frameworks conducive to entrepreneurship and SME start-up to grow and function. Any support for SMEs by way of policy interventions is worthwhile because of their immense contributions to the GDP growth of the economy.
- Firms must put in effort to pay loans they mostly contract to enhance their credit worthiness and improve their ability to access more finance for their business operation and investment.

Limitations of the study

The study is limited by several factors that need to be highlighted. The first limitation of the study concerns the use of secondary data, as a result, variables such as size of loan, interest rates on loans, owner's age, educational level which are believed to be important in evaluating the extent of finance

constraint were not considered. The data did not capture the difference between how much loans were applied for and received by firms studied.

It must be emphasized that there may be possibility of correlation between the variables that were not considered (but captured in the error term) and some of the independent variables in the model; hence, there may be a problem of endogeneity, which limit the validity of the results.

Again, there may be a possibility that the sizes of the odds ratios are different across the small, medium and large firms, but the study did not consider the extent of difference in odds.

Suggestion for further Research

Further studies could investigate the institutional factors that hinder financial institutions from advancing loans to SMEs. Such study can explore the problem using primary data by measuring quantitatively the amount of finance advanced to SMEs in Ghana.

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APPENDIX B: Multicollinearity Test

vif, uncentered

Variable	VIF	1/VIF
-----+-----		
Manager_ex~r	4.39	0.227813
Age_est	47.48	0.021061
female_owner	1.55	0.644812
1.Fin_aud	3.20	0.312170
region		
2	1.69	0.592896
3	1.32	0.760284
4	1.50	0.668588
indus_sector		
2	1.39	0.719640
3	1.44	0.696766
1.Loan_his	1.31	0.762553
firmsize		
1	7.36	0.135861
2	2.06	0.484428
leg_stat		
2	14.76	0.067763
3	7.57	0.132025
1.Curr_per~p	3.21	0.311474
1.Regist	4.63	0.216066
-----+-----		
Mean VIF	6.55	