STRATEGIES FOR FINANCING REAL ESTATE DEVELOPMENT IN GHANA

by

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Declaration

I declare that I have wholly undertaken the research reported herein under supervision and that due acknowledgement have been given where other scholarly works were utilized,

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I declare that I have supervised the student in undertaking the research reported herein and I confirm that the student has effected all corrections suggested by the examiners.

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I declare that I have supervised the student in undertaking the research reported herein and I confirm that the student has effected all corrections suggested by the examiners.

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Abstract

Financial strategies have become an efficient instrument for providing real estate developers with the necessary financial proficiency to enhance their operations. Financial affairs of firms play an obvious momentous role in their routine business activities. Real estate developers are confronted with challenges which require allocation of scarce resources (land, cash, lines of credit, and the like) to various land uses in different time periods so that the value of the developers' benefit flow is optimized. Paradoxically, finance and access to finance for real estate development in developed countries has attracted a great deal of attention from researchers. Nonetheless, diminutive empirical research has been conducted to investigate the financial practices of real estate developers in developing countries like Ghana. The research extends current knowledge and understanding of financial practices of real estate firms in Ghana.

The government of Ghana has shifted from a direct provider of residential properties to a facilitator by creating the necessary enabling environment. This has resulted in the establishment of several real estate companies, under the umbrella of Ghana Real Estate Developers Association (GREDA). This research draws theoretical explanations from real estate and finance literature to identify the gaps in knowledge. These gaps directed the setting of aim and objectives for the study.

In an attempt to investigate the financial constraints confronting the developers, the research adopted a questionnaire survey approach as its methodology. A total of 48 real estate firms were involved in the study. The data collected were then analysed using both descriptive

statistics and multivariate analyses which reduce the number of variables and detected the structure of relationships between them.

The empirical evidence of the research revealed that the number of constructed residential properties for outright sale by real estate firms have a positive relation with the age of firm, mean annual expenditure and firm size (number of employees). The study established the major financial sources of real estate finance in Ghana to be retained profits and advance deposits with former as the main finance acquisition pattern.

Financial difficulties in the form of medium and long-term were also discovered to be prevalent in the financial lending system. The inability of real estate firms to provide acceptable collateral and transaction cost were identified as some of the key constraints confronting developers on the difficulties in obtaining finance.

This research has provided several policy directions to be formulated by stakeholders in terms of establishment of more mortgage lending institutions, establishing manufacturing and supply companies to enhance trade credit and high purchase facilities to real estate firms and establishment of real estate investment trust.

Key Words: Financial Strategy, Real Estate, Factor Analysis

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CHAPTER ONE

INTRODUCTION TO THE RESEARCH

1.1 BACKGROUND OF THE STUDY

The real estate sector comprises a major component of the national economy and is closely linked with its financial markets (Ermisch 1990, Miles 1994). Real Estate development in Ghana is changing in response to developments in its political and economic context. Real estate delivery systems are in transition, as a part of a more general trend towards privatisation and regulation of public tasks. The government of Ghana has made some interventions in the establishment of Home Finance Company (HFC) to provide secondary mortgage to individuals, companies and groups to purchase houses constructed by private real estate developers. Also, the government has introduced some incentives into the country's Investment Code for the benefit of those who want to invest in housing. They include tax holidays, zero rating of all equipment and machinery imported into the country and unrestricted transfer of loan and interest repayment, as well as dividends, fees and royalties (Corporate Ghana, 2005). These changes suggest that it is not a prerequisite for real estate developers to become financially self-reliant to embark on development projects. Although this concerns the private real estate sector in particular, it also affects the social housing sector since they both contribute their quota to shelter provision.

Private and commercial investors have faced financial and market pressures for a long time. In addition, the importance of rationalised, transparent strategies has increased, not only in the social sector, but also in the commercial sector. This holds true in particular for larger, mostly institutional real estate investors, like pension funds and other mortgage companies.

Sources of financing corporate real estate and the utilisation, techniques and motivations involved in leasing real estate by manufacturing and service corporations have been investigated by Redman and Tanner. These researchers found out that significant sources of funds to acquire real assets for production and distribution were operating cash flows rather than external sources. Leasing was a common technique to finance and acquire assets, allowing for managerial flexibility and tax-sheltering benefits and creating off-balance sheet financing (Redman and Tanner, 1989).

Funds for real estate development in Ghana are acquired through diverse sources. Some are obtained through the debt finance with some relatively few banks in the country giving financial support to real estate developers provided all requirements are fulfilled. Surveys throughout the country also indicate the persistence of informal financing methods such as the use of homeowners' own sweat equity, barter arrangements and remittances from abroad , (Debrah *et al*, 2002 and Erguden, 2002). The loans acquired are given on short, medium and long terms repayment period with interest rates charged on them. There are various forms of funding that can be considered by real estate firms in Ghana. Some of these are bonds, mortgage facilities stocks investment trusts, merchant and commercial banks and mortgage companies,.

Moreover, there are other forms of financial relieve that are being enjoyed by real estate developers. Trade crediting involves the delay of payment of creditors beyond the normal period, high purchasing system enables a company to enjoy a full use of goods or equipment but avoids initial full sum payment.

The provision of real estate is subject to the performance of macro-economies within which the various housing finance systems are located. This research therefore, examines and classifies main trends of real estate finance systems and factors considered in making financial decisions towards real estate development in Ghana. This research will also shed light on the sources of finance and techniques used by real estate developers and examine the motivation behind using those sources and strategies. This is anticipated to show some unique activity in the Ghanaian real estate finance system.

Firstly, it should be borne in mind that the housing finance system consists of three markets: the primary mortgage market, the secondary mortgage market, and the capital market. In the primary mortgage market, mortgages are created and funds are loaned directly to borrowers. In the secondary mortgage market, lenders and investors buy and sell existing mortgage loans and mortgage-backed securities (MBS). In the capital market, investors buy and sell long-term investment vehicles such as MBS, stocks, and bonds. By investing in mortgages and MBS, capital market investors help increase the flow of funds available for mortgage lending.

1.2 THE PROBLEM STATEMENT

The growth in the size and cost of projects over the years has brought a new dimension to the real estate industry with regards to international project financing. Innovative financial instrument such as Project Finance Initiative and Public Private Initiative are well-known in Northern American real estate finance markets. For years, real estate financing in Ghana has been dominated by traditional mortgage credits with risk minimisation being the most important issue. While in the Northern American real estate markets, innovative financing instruments appear to be part of the standard repertoire of specialised institutions, in Ghanaian banks; these instruments play a minor role, (Iblher and Lucius, 2003).

An extensive review of related literature and personal interactions with real estate developers has convinced the researcher of the importance of reviewing the theoretical literature which might give insight into and provide an understanding of the constraints concerning the mode of accessibility of finance for real estate development in Ghana. This research will therefore provide the theoretical understanding on the financing of real estate firms in Ghana.

A research study which embraces the current practices and problems of the real estate industry will have a momentous contribution to literature considering the augmenting need of the industry for competitive and accessible finance options regarding their investment actions. On the contrary, some researchers have identified financial gaps in developed countries even though others are of the view that there were no such gaps (Galizia and Steinberger, 2001). However, this might not be applicable in developing countries like Ghana. This research will attempt to identify challenges that real estate developers face in funding their activities in a developing country like Ghana.

The level of financial knowledge and capabilities of real estate managers to a large extent influences their financial decisions to incorporate financial and accounting information into their operations. However, personal interaction with real estate developers has convinced the researcher that, neither the idea of what factors influence financial decisions of real estate developers nor any relationship between these developers and their level of financial capabilities are known among most of the developers for any possible measures to be explored in closing up these challenges. The importance of a research in this field will offer policy makers a profound insight about the real estate industry and how frantic efforts geared towards their financial challenges could be met.

Microeconomic variables such as interest rate, tax and inflation have an impact on a firm's decision in choosing between debt and equity (Modigliani, 1958 and Narayanan 1988). In the context of a developing country like Ghana, the use of these variables may not clearly be applicable considering the visible volatility of these variables. Probably, other factors could better account for the financial methods and decision criteria of real estate developers.

Ghana has a huge housing deficit of about 1.57 million and there is the need for 2.76 million units by 2020, (Minister for Water Resources, Works and Housing 2011). Approximately 90% of the housing stock in Ghana is produced informally, (GoG, National Shelter Strategy 1999). There is therefore the need for financial strategies and accessibility to enhance delivery of residential properties by real estate developers. This calls for the participation of lending institutions to provide financial assistance to real estate developers to expand their activities.

Real estate is a capital intensive investment and developers often face challenges in accessing finance, to complete the various stages in their development process which they commence with cash savings and personal loans from family members (and in some cases from moneylenders). Local banks advance just 2% of financial assistance to the housing sector as against 27% for commerce and finance and 22% for manufacturing, (Ghanaian Times, July 18, 2005. Pg.7).

One of the main reasons why finance for real estate delivery has received little attention is the large capital that is needed to buy or rent a residential property (Derban, et al. 2002). Most banking institution however, demand higher interest rate and guarantees rendering loan acquisition intricate. However, generally, lack of confidence in the banking system by the

public, the banks' inability to engage in venture capital, high default rates, widespread fraudulent practices and lack of expertise to properly appraise projects are some of the problems facing the banking system (Hanson, 1999).

In Ghana, lack of access to long term capital is a major barrier to real estate delivery. Even though the government policies recognises the private sector's dominant role in housing provision, the banks have short term funding and unable to lend on medium or long-term bases, thus crippling the real estate industry (Adjonyoh, 2007).

Currently, there is a research gap between financial strategies, access to finance, the borrowing capacity and real estate development in Ghana. With the rising need of Ghana for technological and financial inputs in the field of real estate delivery, a research study which deals with techniques of financing real estate development in Ghana in will have a significant contribution to knowledge.

1.3 JUSTIFICATION

Real estate finance in Ghana has followed a conventional pattern of traditional loan acquisition from financial institutions, (Asare, 2004). In most developing countries including Ghana, access to financing remains extremely difficult owing to the high risk operating environment (London Financial Group, 2005). As a result, real estate finance in the 1980s was seen as remaining in a primitive state compared to the rapid development of the banking sector, (Jaffe and Renaud, 1996). There is, however, a clear segregation between the real estate sector and the financial market in Ghana since there is little or no long term seed capital for real estate development. There has been a rapid expansion in the range of public private sector financial initiatives in recent times. Additionally, the speedy growth in

financial liberalisation minimising constraints and barriers to competitive access to finance from diverse sources (Gilbert and Scott, 2001) makes it necessary to reposition lending institutions to assist in an attempt to eliminate or minimise the difficulties in accessing finance for real estate activities so as to ensure its sustainability in Ghana.

There is a general recognition of the importance of the real estate sector and the value of its contribution to the health of the economies of developed and developing countries. In Ghana, generally, it takes a long period, often between five and fifteen years, for private individuals to complete their residential property development, which can massively increase construction costs, (Asare, 2004). Nonetheless, funds that could effectively be used for other income generating ventures are tied up in the property. Relatively, countries with a developed real estate finance system tend to enjoy both lower construction costs and the use of real estate assets to support broader investment opportunities through formal institutional frameworks (Boleat and Coles, 1987). The financial market is critical to the development process for real estate developers and investors, (Miles *et al* 2000). This suggests that with the development of a real estate formal sector in Ghana, investment can be enabled and payments spread over a long period of time with regards to earnings and capacity.

Real estate markets and housing construction in various economies have served as an engine of growth. The real estate sector can typically play a leading role in the process of economic recovery from depression. This is especially true in wealthier societies, notably the US and Japan. For example, residential property was found to be leading in the business cycle ahead of all other investments, according to a study of business cycles in the US between 1959 and 1992, (Green, 1997). In Japan, there has been the use of public residential activities and residential loans as a macro-economic stabilizer to increase supply and create employment

during recessions in the 1970s and 1990s, (Hirayama, 2003). Other countries, such as Thailand and Singapore, have also used investment in real estate as a recovery measure, (Sheng & Kirinpanu, 2000; Phang, 2001). A key advantage of residential properties is that it is a domestic sector, and as such is protected from external influences. It could therefore, be used to achieve short and long-term economic objectives, (Arku, 2006).

Ghana has an estimated total population of 22,409,000 with an occupancy rate of 5 persons per household and a population growth rate of 2.7% per annum, (Ghana Census Department 2007). With a domestic housing deficit of nearly 1.57 million units as at 2011, there is therefore a huge housing insufficiency in the country, hence the need to find solutions to the problem through financial techniques to real estate developers (Minister for Water Resources, Works and Housing 2011).

Ownership of property, especially houses, is a very important aspect of the Ghanaian tradition. Houses do not only provide shelter, but also serves as a measure of social standing and prestige. Despite this high importance placed on houses and property, the Ghana Real Estate Developers Association (GREDA), notes that only 5% of those who want to own a house can do so from their own resources. 60% would need some form of financial assistance and the remaining 35% are not capable of owning and building a house in their lifetime. Between 1990 and 1998, some 15,000 houses units between a single bedroom to four bedroom or executive five bedroom mansion with an out-house have been bought either through mortgage financing or cash-and–carry (outright payment). In addition, the Social Security and National Insurance Trust (SSNIT) has provided over 30,000 blocks of flats over the same period. Ghana, however, needs over 130,000 units annually over a ten-year period to be able to meet the growing housing needs (Statistical Service, 2004). Research on finance

strategies will bridge the gap in housing deficit through various forms of financial package which can be made available to real estate developers in Ghana.

This study has been conducted with specific attention to the financial sources, difficulties in accessing finance, trends in real estate finance and decision criteria of real estate developers. Though the supply of funds for real estate development is still crucial in a developing country like Ghana, little or no empirical research has been documented on how real estate developers finance their projects. Hence a research geared towards the above discussed issues will contribute immensely to knowledge in Ghana.

The importance of the subject will be further enhanced through formal research by way of contributions to the literature and by developing new criteria and concepts relating to theory of financial methods and their relevance to the investment strategies of the Ghanaian real estate industry.

1.4 AIM

The main aim of the study is to contribute to a better understanding of the financial practices and problems on the growth of real estate firms in Ghana. In pursuing this main aim, the study attempts to explore the variables that explain the practices and problems of financing the growth of real estate firms.

1.5 OBJECTIVES OF STUDY

The objectives of the study are:

i. To identify major sources of real estate finance

ii. To examine difficulties faced in raising finance

iii. To identify the determinants of financial supply from lending Institutions

iv. To identify the financial decision factors used by real estate developers

1.6 RESEARCH QUESTION

In pursuance of the above objectives, the study will attempt to answer the following question with regard to real estate finance in Ghana.

i. What is the association between the characteristics of real estate firms and the total value of real estate holding in Ghana?

The answer to this question will present an assessment of financial characteristics of real estate industry in Ghana. The question will also be able to explain the practices and problems of financing the industry in Ghana. Hence, the answers will portray the influential characteristics in an order of importance with regard to sources and strategies of real estate finance in Ghana.

1.7 SCOPE

In order to achieve the above listed objectives, the research examines the role of the government of Ghana and financial institutions in the provision of mortgage finance services to developers. The theory of real estate firms and their provision of finance, intricacies in raising finance in terms of financial difficulties and decision criteria in finance provision by the firms are discussed in the subsequent sections. This research samples the financial strategies of active members of Ghana Real Estate Development Association (GREDA) members in Ghana.

1.8 METHODOLOGY

To identify major sources of real estate finance

Empirical study was conducted into principal sources of finance, the types of finance available and financial patterns. This was achieved through sample survey of questionnaire design and interviews by assessment of the incidence patterns, types of finance and difficulties faced by real estate developers in sourcing for finance.

To examine difficulties faced in raising finance

Literature was reviewed and a sample survey of questionnaires were designed and administered to obtain empirical data on the problems faced by real estate developers in raising finance from the perspective of both lending institutions and the developers. Related constraints in raising finance like debt constraints, equity, information and knowledge, financing planning and management constraints are broadly discussed.

To identify the trends and innovations in real estate finance

This aspect of the research examines past trends and innovations such as financial sources, the type of lending institutions used and the difficulties encountered in the real estate industry. Sample survey of questionnaire design and interviews were conducted to obtain the needed empirical information.

To investigate the financial techniques and decision criteria used by real estate developers

Literature was reviewed on financial variables to ascertain financing decision strategies used by real estate developers. The literature will be broadened to incorporate financial variables such as income statement, balance sheet, cash flow assessment and other key financial ratios

which help real estate developers in making financial decisions. Data was gathered through the use of questionnaires and interviews.

1.9 ORGANISATION OF THE THESIS

The thesis has been organised according to the research process employed in this study. It comprises five chapters. **Chapter One** contains a general background to the research. It states the aim and objectives of the research, scope, methodology and its importance have been justified. **Chapter Two** presents an extensive review of the related literature consisting of theoretical, empirical and discursive writings. The need for finance, sources of finance, difficulties in raising finance and financial decisions factors are all discussed in this chapter. This chapter also highlights the importance of the characteristics of a firm, its growth patterns and the planning techniques used on real estate construction projects.

Chapter Three considers the method to be adopted for the study. The selection of research methodology for data collection and analysis was influenced by the works of Bryman (1992) and Bryman (2004). The choice of research methodology must not be influenced by more popular adopted scientific strategies, but rather careful consideration should be given to the relevance and usefulness of the research and the researcher must select the most befitted strategy to accomplish his purpose (Bryman 1992). Furthermore, research strategies to enhance good-quality research are dependent on the how the methodology and available data are awarded the due inclination (Bryman 2004). This will inspire further research into the theoretical framework to guide the study.

Data was obtained from GREDA members and financial institutions. Questionnaires were distributed to all 69 active members of GREDA and some selected financial institutions. Data

collected was analysed and discussed in **Chapter Four**. A multi-variation analysis was used in analyzing data collected. Under multi-variation analysis, principal component analysis and factor analysis were used to group influential factors and their components. Multiple linear regression was used to rank the factors in order of importance indicating their relationship with other principal components through the use of its co-efficient. A non-parametric test was conducted to confirm test results. **Chapter Five** gives a summary of the research findings and research contributions, limitations of the research and the main conclusions. The chapter will also include recommendations to the real estate finance and future research.

1.10 SUMMARY OF CHAPTER

This chapter has presented an introduction to the study, the problem statement, aims and objectives and research importance have been presented. The relevance of the research contribution to knowledge and methodology directing this research has been highlighted. The subsequent chapter discusses a review of related literature.

CHAPTER TWO

LITERATURE REVIEW:

REAL ESTATE FINANCING IN GHANA

The chapter reviews literature on real estate financing in Ghana and is divided into nine correlated sections. The first section provides a prelude to the general concept of real estate, discussing its overview and development process, demand and supply sources, and marketing. The second discusses the theory of real estate industry and the provision of finance. The next challenge of the review establishes the sources of finance available for real estate development. The forth section discusses the real estate financial system and financial cycle. This motivated the study to identify the various types of finance available for development of the real estate industry in Ghana. The next phase of the review is geared towards the difficulties in raising real estate finance which inspired the research to establish what literature says about financial constraints (gaps) and whether this is particularly the case with the real estate industry in Ghana. The rationale is to establish the conceptual grounds for further investigations using empirical data. The succeeding section discusses the theory of real estate firms and external financial constraints. The penultimate section reviews literature on financial variables and financial decisions of real estate firms, discussing the financial ratios which provide the bases for the developers in financial choices. The last stage of the

review focuses on innovations in real estate finance such as securitisation, venture capital and Real Estate Investment Trusts (REITs).

2.1 CONCEPT OF REAL ESTATE

Real estate is defined as land and all the things permanently attached to it, such as trees, buildings and minerals beneath the surface, (World Book Encyclopedia, 2001). It also refers to land including all the property on it that cannot be moved and any attached rights, (Encarta, 2007). Real estate is also property consisting of land or buildings, (usually residential) that are bought or sold, (Collins Gem dictionary). In this study, real estate is defined as a property comprising residential buildings for sale or lease. For the purpose of this study, real estate must be differentiated from real property.

Real estate is a physical entity including the land and improvement affixed to the land while real property is a legal concept that gives the individual the right to use and control the real estate or physical entity, (Smith, Tschappat and Racster, 1981). Real estate property is bound to land making it an immovable assert. Land is also a finite and valuable resource, which is affected by numerous legal, physical and environmental constraints and interests.

2.1.1 Overview of Real Estate Development Processes and Risk

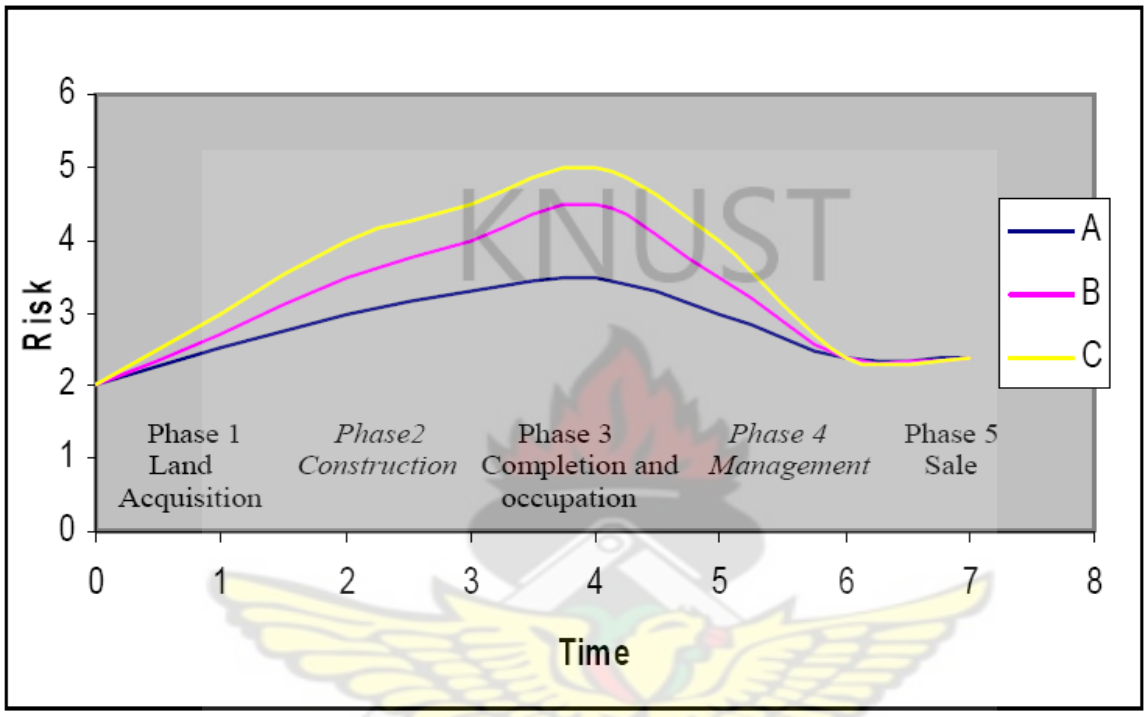
The planning and management of large, multiple- use real estate projects is an extremely difficult task. There are complex and uncertain financial, political, and social factors affecting real estate developments. Major concerns lie in the long time horizon and large capital investment necessary to convert land into a merchantable product, (Miles M. & Wurtzebach C. H., 1977, Wendt P. F. & Alan C. R., 1969). Besides technical engineering problems, the real estate developer must deal with the volatile demand for real property and with constantly changing costs over the planning and construction periods.

Real estate projects could be developed in many kinds. A few general concepts are common to their developments though each kind has its own unique set of characteristics (Brueggeman and Fisher, 2005 pg 432). The typical development process is applicable to developing countries including Ghana and common to most categories of project development, but not at their management phase as shown in figure 1. Basically, a developer; acquires a site, develops the site and constructs building improvement, provides the finish-out and makes ready the space for occupancy by tenants, manages the property after completion, and may eventually sell the property. Specific risks are associated to all these phases. Accordingly, risk starts with land acquisition and steadily grows as construction begins until expected cash flow from leasing phase is materialised. The World Bank estimates that registering formal ownership/lease over a piece of unencumbered land in Ghana is the third longest registration process in the world (World Bank, 2004). Risk diminishes at management phase since tenants are committed to lease. The type of business strategy adopted by a developer dictates the exit period or selling time for the project and the economic success. A developer creates value by combining land and building improvements in a manner that is highly valued in excess of its cost, (ibid; pp 433-434).

Furthermore, the business strategies of developers are broadly classified into three groups. Firstly, real estate developers who have leasing and management as integral part of their businesses in conjunction with the development role, have the minds of owning and managing the properties after completion. Secondly, some developers sell properties after completion, and hence, usually rely on outsourcing for other professionals. Thirdly, some developers also normally develop land and commercial properties such as parks and industrial parks for onward lease in a master-planned development. Many developers, in the

nutshell, purposely specialise in one or many phases of property development, (ibid; pp 433-434).

Figure 1.1: Phases of Real Estate Project Development and Risk



(A) Lower than normal predevelopment leasing, completion behind schedule

(B) Normal predevelopment leasing, completion on schedule

(C) Greater than normal predevelopment leasing, completion ahead of schedule

Source: Brueggeman and Fisher, **2009**

The real estate developer's problem requires the allocation of scarce resources (land, cash, lines of credit, and so on) to various land uses in different time periods so that the value of the developer's benefit flows is optimized. Specifically, the developer's problem entails, firstly, the estimation of the expected future cash receipts and expenditures associated with various land uses and financing conditions; secondly, land-use allocations and timing that result in a maximization of the net present value of the future cash flows; and thirdly, satisfaction of the

financial, technological, and societal conditions that limit the prerogatives of the developer, (Gau G. W. and Kohlhepp, 1980).

Developing countries like Ghana face a financing shortfall of $270-700 billion in 2009, as private sector creditors shun emerging markets, and only one quarter of the most vulnerable countries have the resources to prevent a rise in poverty. 94 out of 116 developing countries have experienced a slowdown in economic growth. Of these countries, 43 have high levels of poverty, and currently the most affected sectors are those that were the most dynamic, typically urban-based exporters, construction, mining and manufacturing, (World Bank Report 2009). This suggests that the financial crisis will have long-term implications for the developing of real estate in Ghana. Also debt issuance will increase dramatically, crowding out many developing country borrowers, both private and public. Developing countries that can still access financial markets will face higher borrowing costs, and lower capital flows, leading to weaker investment and slower growth in the future.

2.1.2 Demand Sources of real estate

Home ownership remains the key priority of most Ghanaians. However due to limited sources of mortgage financing, this priority has remained a dream for a significant proportion of the population. The demand for housing in the country has risen tremendously. Whilst many private developers have concentrated on the middle and upper end of the housing market, very few private developers have concentrated on affordable and economic housing for Ghanaian masses and the average Ghanaian worker leading to a deficit in housing delivery. With the estimated aggregate demand in Ghana may be between 1.57 million units and 2.76 units by 2020, (Minister for Water Resources, Works and Housing 2011), Housing

is not easily accessible to majority of Ghanaians partly due to financial constraints. The main sources of demand in the country are; locally resident Ghanaians, non-resident Ghanaians, expatriates living in Ghana and corporate organizations. Foreigners, like Nigerians, Liberians, Sierra Leoneans etc are increasing number from the West Africa sub-region.

2.1.3 Supply Sources of real estate

Historically, the government through the State-owned state Housing Corporation has played a significant role in housing delivery. However, under the Government liberalization policy, since 1992 the state has reduced its role in the housing sector and encouraged the participation of the private sector to provide housing.

One of the government's interventions is the establishment of the Ghana Real Estate Developers Association (GREDA) and Home Finance Company (HFC) to provide secondary mortgage to individuals, companies and groups to purchase residential properties constructed by GREDA and other private developers. The government has introduced some incentives into the country's Investment Code for the benefit of those who want to invest in residential properties. These include tax holidays, zero rating of all equipment and machinery imported into the country, and unrestricted transfer of loan and interest repayments, as well as dividends, fees and royalties, (Corporate Ghana, 2004).

The real estate industry is also besieged with land acquisition problems. Land acquisition in Ghana usually, has been crippled with disputes and litigations. The government, through its ministry of Land, Forestry and Mines is facilitating the acquisition of 30,000 acres of land for housing investors. This should also come with the establishment of effective regulatory and

monitoring mechanisms to streamline land acquisition and registration to eliminate litigation and encroachment, (Corporate Ghana, 2004).

The government, through the Ministry of Lands, Forestry and Mines, Ghana, has secured approximately one hundred and nineteen thousand, four hundred thirty-five hectares (119,435 ha) of Land into the Land Information Bank for potential investors in Ghana. Most of these lands could be used for agricultural purposes. There are quite a large number of parcels of land which can also be used for Real Estate Development, Industrial or Commercial purposes depending on the location. (Ghana land bank directory www.ghanadistricts.com 2008).

2.1.4 Real Estate Marketing

The focus on this segment of the market falls fully in the formal sector of commercial real estate which can be defined as income producing residential real estate assets. Real estate academics and professionals are among the few who realize that real estate is the most complex and sophisticated asset anyone is likely to study (Scribner, 1997). As a financial vehicle, real estate competes for investment with stocks, bonds, and other forms of securitisation. However, because of its physical nature, real property enjoys or suffers from location and social trends and forms of obsolescence different from other financial investments. Therefore, its analysis is intricate, requiring specialized knowledge. Since marketability analysis of real estate is the precursor to economic feasibility, its role should be defined explicitly.

A marketability study involves determining to what extent a specific land use or specific combination of land uses on a particular piece of property can be marketed. It analyses the

latent or present demand and the future demand for each proposed use on that property and the existing and likely future supply of closely competitive facilities. A marketability study includes: analyses of economic quality in terms of sales prices or rent levels for each use together with their corresponding physical quality levels; estimates of the building size or quantity of space in each use that the market can absorb at the previously estimated quality levels and an absorption schedule; and the specific conditions, such as floor layout, interior and exterior finishes, services and amenities unit prices, marketing suggestions, and even financing that may be necessary to achieve or enhance the absorption (Downs, 1966).

Real estate markets in developed countries have been securitized in the stock market, offering diverse marketing opportunities to its investors; but in a developing country like Ghana, the real estate industry is yet to mature to this extent., much of the development which has occurred in the formal sector in Ghana has been fostered by Government policy, providing an enabling environment for public and private sector participation. The Ghana Real Estate Developers Association (GREDA), for example, draws together representatives of Government departments, property professional bodies, brokers and major developers to co-ordinate public policy and the private sector. The members of GREDA are the major suppliers of new rented residential real estate in Ghana and have contributed significantly towards the development of residential markets in Accra, Tema, Kumasi and Takoradi. Their new gated communities in Accra are emerging as preferred residential locations, with strong demand from expatriate workers in Ghana as well as Ghanaians in the high-income bracket. Other prominent real estate developers are state agencies such as the Tema Development Company, State Housing Company, and the Social Security and National Insurance Trust (SSNIT).

Both residential and non-residential properties in the formal sector of Ghana are let on varying lease terms. Lease lengths run from two years upward, typically with provisions for rent reviews to market values every two to five years. Rents are usually quoted in US Dollars, but payable in local currency (Cedi) because financial regulations frown on payment in other currencies. Dollar denominated rents offer landlords – many of whom are foreign-based Ghanaians - some protection against currency fluctuations and local inflation. A convention of paying rents for the first year in advance also offers some protection against inflation (Anim-Odame, Key and Stevenson, 2006).

2.1.4.1 Economically feasible

This involves the financial analysis of the real estate to consider feasibility in market terms. The use which meets or exceeds the market's threshold by the greatest amount is considered to be the highest and best. An economic feasibility study builds on and, therefore, presupposes a marketability study. A feasibility study on real estate development compares an analysis of forecast net cash flows, capital costs, and risks with specific market investment criteria. Whereas the marketability study is used to forecast the intensity and density of the real estate property, the feasibility study estimates its economics in terms of its potential success to a market investor. If the return meets, or exceeds, the market's requirements, the real estate project is considered feasible.

Economic feasibility of real estate development is distinct from technical feasibility wherein projects may be considered "feasible" because all permits and plans required to move forward have been received and approved. Technical feasibility is limited to legal, governmental, architectural, and engineering approvals, but does not consider the market.

In concluding an economic feasibility study, it is worth noting the positive and negative factors which may affect the foreseeable, future behaviour of the real estate property. The investment criteria should not be left out given the economic, market, and political risks that affect the property. This level of due diligence is especially important with emerging countries like Ghana. Some factors that need to be reviewed include the country's economic base, its financial stability, and the way it is viewed by the international real estate market which considers the political stability and support given by other countries and international groups such as The World Bank and International Monetary Fund.

2.1.4.2 The Levels of Real Estate Complexity

The dominant feature of real estate, being the rationale for detailed market analysis is its immobility. Fixed in location, each real property is subject to external influences of other neighbouring properties be it good and bad. An aspect of a residential property's immobility is its durability, thus a longer economic life than for most other assets. While long-term plans of many corporations begin at one year and a durable good to the US Department of Commerce has an economic life of at least three years, short real estate investment periods are rarely less than ten years and often much longer. Many non-residential leases in the USA are for five, ten or more years and in the UK they tend to be for even longer terms (Scribner, 1997). Similarly in Ghana, real estate investment periods take a longer time for recuperation, particularly when viewed from the land acquisition and development stage, through the construction to leasing or eventual sale of the property.

Corruption and land disputes, especially involving public lands in urbanizing areas, have been experienced by significant majorities (CDD Report, 2000). The lack of uniformity, complex codes, administrative requirements, and the dualism in land tenure is a risk to an

effective real estate finance market due to the uncertainties and litigation potential. Rising prices on land with clear titles on the one hand and multiple, disputed sales of land with clouded titles on the other, are especially vexing risks, at least in urban areas. This situation, however, makes it challenging by testing the capacity of some financial institutions to make secured residential finance available to qualifying real estate developers, who do indeed have some formal legal or customary security and want to invest their savings and credit in residential properties.

In contrast to a property's immobility is the financial aspect of real estate. Most properties are bought by investment teams consisting of equity and debt investors connected to each other by a mortgage, thus a mathematically structured contract wherein the relationship between borrower and lender changes with each amortization payment. In real estate appraisal, the crucial role involves examining the financial viability of specific properties or locations as investments in comparison with other properties, locations, and financial vehicles.

2.2.4.3 Tax and Property Valuation in Ghana

In Ghana, the Land Valuation Board (LVB) undertakes the valuation exercises to arrive at rateable value of properties. The (LVB) uses the cost method, which is the replacement cost. The replacement cost is the cost involved in restoring the real estate property into its new state. The rateable value is arrived by subtracting the cost of depreciation from the replacement cost of the property. The rateable value should not exceed 75% of the replacement cost (Muna and Osei, 2007). Consequently, since the rate of depreciation of immovable properties, if any, in Ghana appears to be less than the cost of the property when valuated at any given time, its tax will always appreciate. In addition, the Tax Administration Law in Ghana makes a provision for leased properties to pay a property rate of 75% or more

of the rateable value whiles owner occupied properties are taxed up to 50% of rateable value (Muna and Osei, 2007). This suggests that, if real estate properties are developed for sale, owner occupants bear a lower tax burden than owners of leased properties. This will also influence real estate developers in their marketing strategies to either opt for an outright sale or lease of the real estate properties after completion. In this situation, the tax burden will either be bored by the real estate firms or the occupants.

2.1.5 Firm Turnover and Productivity Differential

Analysis of producer turnover and productivity differentials is a recently emerging literature. Jovanovic (1982) presented the first formal model on the relation between productivity differentials and firm turnover and growth. According to this model firms update their prior expectation after entry through experience and become certain about their true 'type'. Those firms which experience low true costs survive or/and expand, while firms with higher costs shrink or/and exit. The model also predicts that firm survival is positively related to firm size and age as these variables themselves are the results of previous market selection process.

There are different views about the relative productivity of new entrants and the incumbents. The vintage effect argument predicts higher productivity of young firms (i.e due to their advantage of acquiring new technology) than old firms, and thus productivity declines with the age of the firm. However, entering firms are on average less productive than incumbents. A higher firm turnover might reflect the existence of market selection process, but it doesn't necessarily imply that only inefficient firms are driven out of the market. Particularly in developing countries, where shocks smoothing instruments such as insurance, are lacking sound firms might be also driven out. Therefore, it is useful to explore empirically whether

exit is random or the result of a persistent productivity fall. The latter is known to be a 'shadow of death' effect following Griliches and Regev (1995).

2.2.0 THEORY OF THE REAL ESTATE INDUSTRY AND THE PROVISION OF FINANCE

Ghana, which epitomises the characteristics of any other Sub-Saharan African city, faces formidable residential problems such as finance, which has been uncovered to be of one the major factors affecting real estate development. Notwithstanding this problem, hundreds of residential properties are produced by the private sector including members of Ghana Real Estate Developers Association. External financing has been a significant feature of residential development as a result of its high unit value (huge capital outlay). Unfortunately, large traditional lending institutions particularly banks and other major lenders are reluctant in extending Acquisition, Development and Construction finance (ADC finance) to these private estate developers. This section of the study reviews related literature to provide the theoretical underpinning on real estate financing and the constraints that confront real estate developers in acquisition of finance.

2.2.1 Asymmetric Information

Institutional investors usually require certain information about the performance of firms in order to advance financial assistance to them. The investors look out for the commercial viability of the project before making decisions whether or not to grant finance. As Lin et al. (2008) indicates financial statements are dressed up to the point that they do not accurately reflect a company's profitability, and companies frequently hide material information or delay its disclosure. Because periodically-disclosed financial statements do not provide

warnings of problems, information asymmetry prevents investors from being fully informed and protected (Zhou, 2007).

Information is at the root of credit rationing (Jaffee and Russel, 1976; Besanko and Thakor, 1987a, 1987b). This idea rests on two main assumptions about the lack of financial capital observed among small firms, in particular during their start-up phase: firstly lenders cannot distinguish between high and low-risk borrowers, and borrowers cannot easily signal their own risk-taking behavior, secondly, loan contracts are subjected to limited liability. According to this theory, credit is rationed when the amount lenders are willing to offer to borrowers is limited, or when no lender is willing to make a loan to a borrower. Despite the ongoing theoretical discussion, little consensus has been reached about whether credit rationing is an economically significant phenomenon (Berger and Udell, 1992).

There are two major forms of informational asymmetry. One type, sometimes referred to as "hidden information," occurs when one party to a transaction knows relevant information that is not known to the other party. The problem arises because the informed party typically has an incentive to misrepresent the information. Furthermore, the market may become crowded with "low-quality" projects, precisely because it is hard for investors to distinguish between good-quality and poor-quality projects. This phenomenon is called adverse selection. Potential investors understand that adverse selection exists and may therefore be wary of funding such entrepreneurial endeavours, (Amit R., Brander J., and Zott C., 1998). The other type of informational asymmetry is often described as "hidden action." In this situation one party to a transaction cannot observe relevant actions taken by the other party (or at last cannot legally verify these actions). This problem leads to what is called "moral hazard." The

informed party then has an incentive to act out of self interest, even if such actions impose high costs on the other party, (Amit R., Brander J., and Zott C., 1998).

This suggests that banks and real estate firms operate in an uncertain world when information is not perfect and is often expensive to obtain. The problem of unavailability of information affects the willingness of the banks to supply debt finance to real estate firms, on the grounds of greater uncertainty. Moreover, real estate developers are likely to be significantly better informed about their operations than an outsider, such as a lending institution, when information is not readily available to the outsider. This problem leads to the existence of 'debt gap' where commercially viable projects do not obtain funding.

2.2.2 Adverse Selection and Moral Hazards

Lending institutions such as banks face the problem of making correct lending decisions (adverse selection) and appraising and monitoring loans for projects (moral hazard), (Osei S. K. & Antwi F., 2004), which eventually create a debt gap, especially under conditions of uncertainty and asymmetric information. Adverse selection becomes obvious when lenders have less information about the expected success of projects; hence, they charge higher interest rates to all borrowers to cover the cost of additional monitoring requirements as well as the likelihood of bad debts. Accordingly, low risk (but low-return) borrowers will not proceed with their projects due to the higher interest rate. Therefore, the lender is left with high-risk (but high-return) borrowers, a portfolio which can result in lower returns to the lender.

Moral hazard and adverse selection create a market failure in entrepreneurial financing, which might lead many worthwhile projects to be unfunded or underfunded. Furthermore, moral hazard and adverse selection create problems which are more acute for younger firms, and most acute for start-ups. This explains why venture capitalists focus on later stage entrepreneurial firms (Amit, Brander, and Zott, 1998). Both adverse selection and moral hazard may arise in any investment environment, but they seem particularly acute in entrepreneurial finance. With large established firms, investments are made safer by the use of existing assets as collateral, and the development of reputation. Collateral and reputation effects can mitigate the negative effects of both adverse selection and moral hazard. Because entrepreneurial firms lack assets to provide as collateral, and because they lack the "track record" necessary to establish their reputation, the effects of informational market failures are more severe in entrepreneurial finance than in financing established firms (Amit, Brander, and Zott, 1998).

Ability to provide collateral is a determinant factor for undertaking credit operations. By demanding collateral, creditors transfer the monitoring costs inherent to debt to the entrepreneurs. During credit negotiations, creditors weigh the collateral value much more than the earnings registered in firm accounts, probability due to the shortage or lack of credible information about firms (Esperanca Gama and Gulamhussen 2003). To overcome these problems, collateral or personal security is required by the banks to ensure the owner-manager's commitment to the project (Berry et al, 1993). The willingness of the entrepreneur to provide collateral indicates a signal to the bank, the likelihood of the success of the project, earls there will be no commitment of personal resources to it (Storey, 1994). Moreover, provision of personal security or collateral serves as an incentive for the entrepreneur to seek less risky projects, owing to the fact that if the project fails, losses will be incurred (Storey,

1994). Since not all firms have access to collateral and due to insufficiency of collateral, most firms fail to expand (Binks et al., 1988).

2.2.3 Agency Problems

Agency relationship occurs when an owner-manager of a small firm acts as an agent for the lender (principal) with the duty of the lender being to ensure that, the agent acts in accordance with the contract, thus repaying the loan and its interest as well. The lender is to ensure that a contract, which can be monitored, is drawn up which provides an incentive for the agent to satisfy the requirement of the principal. The interests of the two groups – principal and agent – are therefore not identical (Storey, 1994). Agency costs are the costs that arise as a result of a principal-stakeholder relationship, such as the relationship between equity-holders or managers of the firm and debt holders. Given the incentive for the firm to benefit equity-holders at the expense of debt holders, debt-holders need to restrict and monitor the firm's behaviour. These contracting behaviours increase the cost of capital offered to the firm, (Myers and Majluf 1984). Thus, firms with relatively higher agency costs due to the inherent conflict between the firm and the debt-holders should have lower levels of outside debt financing and leverage.

In summary, the general problem of information asymmetry can manifest itself in one of three ways: acceptance of the loan application but at a higher than risk-adjusted interest rate; acceptance but with strict collateral requirements; or outright rejection of the loan application. Acceptance, but with higher than risk-adjusted interest rates, can result specifically from the adverse selection problem or as a result of greater concentration in the market for finance. Acceptance but with more severe/ strict collateral requirements is likely to result from moral hazard, compounded by the trend towards longer-term debt. Outright

rejection of a loan application can result from moral hazard, market concentration, centralisation of lending decisions, and the increasing use of computer credit scoring.

2.3 SOURCES OF FINANCE FOR REAL ESTATE DEVELOPMENT

An important financial decision facing firms is the choice between debt and equity capital (Glen and Pinto, 1994). The need for finance in a business might arise on four occasions, (Bates and Hally, 1982). The first and most usual is the need for start-up capital to help in the foundation of a new business. The second occasion is the finance expansion: the purchase of new buildings, plant, or machinery; to finance working capital by holding more stocks/ work-in-progress and trade debtors. Finance might also be needed for taking over another existing business.

The third occasion is when 'venture capital' is required, possibly to finance an innovation. This might coincide with the first or second, or might occur independently. This type of capital, sometimes known as 'risk capital', has a significant degree of risk attached; hence it requires a large reward. The venture capitalist may want to sit on the board and may even seek a controlling interest if the venture fund feels that is necessary to protect its investment. The final occasion is to adjust the existing financial structure of the business, for example, changes in the proportion of equity to debt or the proportion of longer-term to shorter-term debt, (Bates and Hally, 1982).

A diverse range of finance is employed by real estate developers. These are commonly categorised into three types: personal investment, including personal savings and gifts from

family and friends; private external finance, including overdrafts, loans, asset finance (leasing and high purchase), asset-based finance (factoring, invoice discounting and stock finance) and equity finance, and; public investment, in the form of enterprise grants, subsidised loans and public equity finance (Marlow et al., 2003; Rouse, 2004).

2.3.1 Debt Finance

Debt capital, or debt finance, can be obtained from two sources, formal and informal sources. Formal sources are normally regarded as institutional sources, whereas informal sources refer to sources other than institutional sources such as family, friends, directors, trade credit and suppliers. Debt finance is normally repayable according to an agreed schedule. This type of finance is usually described as short, medium, or long-term. Sources of debt finance can be in the form of term loan, overdraft, bill finance, leasing, hire purchase, factoring, mortgage, and trade credit.

Geographically diversified firms operating in several countries may have an opportunity to use more debt than domestic firms. The reason is that multinational firms are able to diversify their cash flows and, therefore, they have potentially less fluctuation in their profits and a lower risk of bankruptcy. The other factors causing higher debt financing of multinational firms are liquidity and hedging. Liquidity is explained as the ability to reach the sources of global capital (Eiteman et al., 2001), and hedging is to reduce the exchange rate risk (Doukas and Pantzalis, 2003). Younger firms are the most dependant on debt, because they cannot count on a cushion of accumulated revenues generated by past investments (Esperanca Gama and Gulamhussen 2003).

The important determinants of corporate debt financing choices are identified as the amount of fixed assets, firm size, growth opportunities, risk, profitability and tax debt shield (Opler and Titman, 1994; Rajan and Zingales, 1995; Booth et al., 2001; The other determinant of debt financing is the level of the tangible fixed assets. A high level of tangible fixed assets creates more collateral for a firm, which helps the firm to raise more debt. The relationship between tangible fixed assets and debt financing is related with the maturity structure of debt, (Booth et al. 2001).

There is a positive relationship between operating assets (fixed assets) and long-term debt in Ghana. Ghanaian banks with a higher proportion of operating assets are financed by long-term debt capital, (Amidu, 2007). This could be due to the fact that higher proportions of banks' operating assets denote less operating risk; therefore, the banks may not be exposed to more risk from the use of more long-term debt capital. There is also a negative relationship between size and long-term debt, (Amidu, 2007). This suggests that smaller banks, due to their limited access to equity capital market tend to rely on long-term debt for their financing requirements. However, long-term debt structure is positively and statistically related to operating assets (Amidu, 2007). More than 87 per cent of the Ghanaian banks' assets are financed by debts, of this, short-term debts appear to constitute more than three quarters of the capital of the banks (Amidu, 2007). This highlights the importance of short-term debt over the long-term debt in Ghanaian banks' financing. Empirical evidence suggests that profitability, corporate tax, growth, asset structure and bank size are important variables that influence banks' capital structure.

Better corporate frameworks benefit firms through greater access to financing, lower cost of capital, better performance and more favourable treatment of all stakeholders Claessens et al.

(2002). Firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time (Abor, 2007). This suggests that the ability of the firm to access debt capital at lower cost could be dictated to a large extent by how the market gauges its corporate governance system. Easier access to debt capital at lower cost, ultimately leads to improved company performance.

2.3.2 Equity Finance

Equity is essentially permanent risk capital and is not repayable. Internal sources of equity finance can be in the forms of owner-managers' funds, directors' funds, or profits retained in the firm. Retained profits can be the major type of the funds needed to finance the expansion. Unless the firms have been consistently ploughing back adequate profits into the business, they need to obtain external source of equity finance, typically from formal venture capital funds or informal investors. Equity capital is obtained in return for a proportional share of a firm's value. Equity capital can be provided by the owner or by the directors of the firm, or through profits earned and retained by the business, known as internal equity. On the other hand, equity can be provided by third parties, external equity.

Research has shown that internally generated profits were the most frequently used source of finance, particularly for mature small firms (Mason & Harrison, 1995a; Roberts, 1991). Even though the majority of businesses rely primarily on personal savings for start-up, most of them still require access to outside finance (either equity or loan) in order to grow. Businesses reduce their reliance on personal savings significantly as businesses develop and diversify their sources of external finance (Mason, 1996). Venture Capital, represents an important source of externally generated equity for firms seeking to expand (Lauder, Boocock, and

Presely, 1994; Hall, 1992). The rapid growth of venture capital in recent years is due to “tax incentives and interest in the activities of dynamic companies which could grow into the giants of tomorrow” (Wilson, 2004). The emergence of venture capital has allowed firms to be supported with capital and skills in order to exploit market opportunities. The venture capital funds in the UK have a high rejection rate. Venture capitalists are only interested in firms with potential for growth and place great emphasis on the quality of management within the firms (Lauder, Boocock, and Presely, 1994).

Successful companies do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits. Firms with high profit rates, maintain relatively lower debt ratio since they are able to generate such funds from internal sources (Myers, Stewart, and Nichola Majluf, 1984).

2.3. 3.1 Leasing

A lease is defined as a rental agreement that extends for a year or more and involves a series of fixed payments (Brealey and Myers2003). Leasing is a contract between two parties, where the party that owns an asset (the *lessor*) lets the other party (the *lessee*) use the asset for a predetermined time in exchange of periodic payments. Leasing allows real estate developers that do not wish to purchase building materials and construction equipments (because leasing is cheaper) or cannot do so (because they do not have the required funds and lack access to bank finance) the opportunity to use materials and equipments without outright payment or having to own them. The business philosophy that motivates leasing is that profits are earned through the use rather than the ownership of assets (Gallardo 1997).

In broad terms, there are two types of leasing; finance leases and operating leases. Considering the case of finance lease, the lease period typically extends for a considerable period to enhance the economic value of the residential property and risks of material and equipment obsolescence and insurance are borne by the lessee. Usually, finance leases are not cancelable and bind the lessee to a series of future payments, making them similar to term-loans which involve interest and principal.

Operating lease covers a period that is substantially less than the duration to enhance the asset's economic life. The lessee does not intend to purchase the asset. The lessor recovers the asset cost through multiple leases and the asset's final sale. Hence, estimation of residual value of the asset (value at the end of a lease term) is important in operating leases. Costs of maintenance and obsolescence risks lie with the lessor. To provide operating leases, lessors may also need additional institutional infrastructure such as warehouses and maintenance personnel. Thus, operational leasing bears additional risk over and above financial leasing. The types of leases available in a market depend on the maturity of the leasing sector in that market (Amembal 2000). At the emerging stage, the major type is usually a simple finance lease; primarily a mechanism to buy building materials and equipment. As the market develops, creatively designed finance leases and operating leases catering to market niches become more common.

In Ghana, there are several registered leasing companies which offer four types of products, namely, finance leases, operating leases, trade finance and hire purchase. Finance leases constitute more than 90% of the average total operations. There are no restrictions as to the type of industry and equipment that leasing companies can finance. There is equally, no restriction as to the size of businesses served by the leasing industry; however, the modal

range of total leases financed between 2004 and 2005 was under $50,000. The average lease period for leasing in Ghana is 36 months. This suggests that leasing companies need to source the right mix of funds, to operate good information and management systems and to adopt sound credit and risk management policies in order to be more beneficial to real estate developers and other sectors of the economy.

2.3.3.2 High Purchase

Hire Purchase can be defined as "an agreement for the bailment of goods under which the bailee may buy the goods or under which the property in the goods will or may pass to the bailee…" In Ghana, hire purchase operations such as are defined above, require a licence under the Financial Institutions (Non-Banking) Law, 1993 (PNDCL 328). Hire purchase transactions are governed by the Hire Purchase Decree of 1974 (NRCD 292). Although NRCD 292 envisaged the enactment of Regulations by the Minister of Trade to provide for the regulation and control of hire-purchase agreements and in particular to provide for the form of such agreements, including a limit on the rate of interest and other charges, the minimum deposit to be paid by a hirer, the maximum period of payment, and the amount and frequency of instalments or rentals, among other things, this was never enacted.

2.3.3.3 Factoring and Invoice Discounting

The global pattern of factoring suggests that it may have an advantage compared to other types of lending, such as loans collateralized by fixed assets, under certain conditions. Factoring appears to be a powerful tool in providing financing to high-risk well informed opaque borrowers. Its key virtue is that underwriting in factoring is based on the risk of the accounts receivable themselves rather than the risk of the borrower.

In factoring, the underlying assets are the seller's accounts receivable, which are purchased by the factor at a discount. The remaining balance is paid to the seller when the receivables are received, less interest and service fees. Thus, a factor raises funds by issuing commercial paper, notes, and debentures; it purchases accounts receivable from clients, advancing about 70% to 80% of the value of the receivables; and it takes over billing and collection of the accounts. Once customers have paid their bills, the factor pays the remaining value of the invoices to its client, after deducting a discount fee that ranges from 1% to 5%, plus interest charges on the advance that was made.

However, smaller independent factors have shown that factoring can compete in "niche" markets as they service primarily smaller, growth-oriented firms whose business is outside the traditional factor business; textiles and apparel, by providing specialized services that these firms cannot obtain from commercial banks and other competitors (Remolona and Wulfekuhler 1992; Doherty 1986). These factors are willing to take equity interests in their clients, and they will make secured and unsecured loans in excess of collateral offered.

Factoring has advantages and disadvantages when compared to commercial banking. Factors are not subject to the supervision and regulation imposed on commercial banks unless they are part of a bank holding company. While this is potentially a source of risk, and, in the bankruptcy of United Factors, a large factoring concern, unrecognised losses played a major role (Rutberg et al, 1993). It also makes it possible for a factor to work closely with its client to work out problems that might be encountered. Given the "people-intensive" nature of small scale factoring, the credit department of a factor is well-positioned to monitor the financial condition and to judge whether work-outs will be cheaper than calling-in loans and forcing bankruptcies.

There is a fundamental difference between normal bank lending and factoring: the bank's attention is focused on the credit-worthiness of the customer to which it is lending, while the factor is less concerned with the credit-worthiness of its client than it is with that of the client's customers.

> *At the extreme, the factor's client, in this case being the real estate developers, may have no equity, no assets, and no credit record as in the case of start-up businesses; however, if the client's customers are creditworthy and the factor believes the real estate developer can deliver the residential properties ordered by the customers, then advances can be made to the developers once the properties are delivered.*

One can imagine many cases in which the factor can till a niche that could not be filled by a bank, given this difference of operating procedure. First, a factor raises its funds through the issuing of commercial paper or other short term borrowings, and through notes and debentures. An established real estate firm with an established customer base can use its credit line to meet a wage bill for building materials to produce the residential properties ordered by customers, who typically pay for them after construction.

2.4 REAL ESTATE FINANCIAL SYSTEM AND FINANCING CYCLE

Real property can be described as the power, right and privileges associate with the utilization of real estate. Real estate is land and all fixed and immovable improvement on it. The link between real estate and the financial market is a crucial one to both investors and developers of real estate.

Financial institutions execute the transfer of money and credit for the purpose of developing and acquiring real property. The financial system of a country consists of institutions of the country that create and buy the instruments for the transfer of money and credit, and the market or the environment, within which the transfers are done, (ibid).

Real estate projects are important part of the financial market, and even transcend borders of countries. Market forces reinforce the global view of real estate development as a subject of the financial market particularly in the United States, (Clauretie et al; 2003). As residential properties are expensive to buy, they are often purchased with the aid of loan finance in industrial countries (Boléat & Coles, 1987). As these properties have a long service life, loan finance with small repayments over a long period of time is a more or less logical strategy; especially if the owner does not have enough capital to pay the purchase price outright.

Three types of formal residential property finance systems have been identified, which organize the availability of real estate finance for potential owner-occupiers: the deposit-taking system, the contract system, and the mortgage bank system, (Boléat & Coles 1987). These systems will now be described in turn.

The deposit-taking system is also known as the retail system because a deposit-taker attracts retail funds from savers who deposit cash with the deposit-taking institutions. These institutions, which may be commercial banks or savings banks, then lend these funds to borrowers. In this case the borrowers are households wishing to fund the purchase of a residential property. One weakness in this system is its susceptibility to mismatches between the assets and the liabilities of the institution, which borrows short while it lends long. The funds attracted via short-term deposits are volatile, while the funds for long-term mortgage

loans are fixed. If the interest rates on mortgages are set for longer periods than the interest rates for deposits, a mismatch could result.

The contract system is a variant of the deposit-taking system. It is basically a closed system, as potential borrowers have to make deposits, before they can take out a mortgage. If the savers in such systems are satisfied with lower-than-market interest rates, they can borrow at lower-than-market interest rates as well. A contract system's disadvantage is its inflexibility because there are never enough funds for every saver.

In a mortgage bond system, mortgage banks raise funds from the wholesale market instead of from depositors in the retail sector. The mortgage bank raises cash by selling mortgage bonds to investors, who may be deposit-taking financial institutions or institutional investors such as pension funds, which attract funds from the retail market as well. These funds may be raised on a secured basis, backed by mortgage loans, or on an unsecured basis. In the latter case the mortgage bank may have to offer collateral.

Considering an economy as a whole, the total tangible investment must be equal to saving, and this is known as savings/ investment cycle. The financial market place is the system whereby savings are transferred from surplus income units (lending hand) to deficit income unit (borrowing hand). Both units are divided into three main classes, namely, individuals or household, business and government. This is illustrated by a simple flow of funds in the savings/ investment cycle, being the environment of real estate finance, (Miles et al; 2000). Flow of excess funds from the surplus income unit to the deficit income unit occurs either directly or through intermediaries. Financial intermediaries are the financial institutions which channel excess funds from the surplus income units to the deficit income units. These

institutions function with the primary objective of facilitating the flow of funds in the financial system, (Miles et al, 2000).

Real estate property development also begins from the land acquisition phase through the construction phase. Real estate financing is categorized according to when the source of finance is secured, into land acquisition, land development, construction of facilities on the land–ADC loans. These Acquisition, Development and Construction (ADC) loans are forms of non-permanent financing. However, the final stage in real estate financing cycle, the permanent financing is also highlighted, and this starts when the property is put to use by owner or by tenants who have leased space (Miles et al, 2000; pp 366).

This section however, discusses the various forms of finance available to real estate developers in Ghana. It dwells primarily on financial intermediaries, secondary mortgage markets, mortgage finance institutions, money and capital markets, land acquisition and development finance, and construction and permanent finance.

2.4.1 Financial Intermediaries

Financial intermediaries are significant in the financial market and take financial charges on risks or rendered services associated with lending. These intermediaries make funds more liquid to savers, give short term lending, and evaluate credit risks of borrowers. Since the financial intermediaries have the ability to evaluate credit risk, they are able to manage the risk that the borrowers may pose, in terms of defaulting on loans, (Miles et al, 2000). Among them are the commercial banks, insurance companies, investment companies, pension funds and thrift institutions.

Commercial banks principally, accept demand deposits (checking accounts), time deposit accounts and certificates of deposits. Commercial banks advance funds to individuals, business and the government. These banks operate under the tutelage of the central bank. They are important source of funds for residential loans and the commercial real estate sector particularly loans for acquisition, development and construction of real estate projects, (ibid).

Thrift institutions include savings and loan associations, mutual savings banks and credit unions. In the early 1980s, they were the major institutions handling the depository of individual savings, hence their name, 'Thrift'. These institutions were prohibited from accepting demand deposits; however, they compete with the commercial banks for demand deposits in recent times (ibid).

Investment companies also pool funds of savers and invest them in a portfolio of assets. Most of these companies invest in stocks while others specialise in only growth stocks, income stocks or stocks of some industries. Real Estate Investment Trust (REIT), for instance are into estate property or mortgages on real estate properties. Life insurance companies particularly, accept payment from individuals or organisations periodically or a lump sum to make future payment in return if certain incidents happen, (Miles et al, 2000). More importantly, insurance companies need to build up a pool of funds towards unforeseen futuristic eventualities. Many life insurance companies invest in commercial real estate properties because they have a long investment horizon (ibid).

Pension funds are private pension funds created through the contributions of employees and they are invested like funds from insurance companies. Essentially reserves must be built to meet the contributors' retirement needs. The amount of investment of pension funds into

commercial real estate properties, however, is not as large as that of insurance companies, though it is on the increase (ibid).

2.4.2 Direct financing

Flow of funds in the saving-investment cycle can occur without intermediaries thus, surplus income units advance funds directly to deficit income units, however with the help of brokers as transaction facilitators. Direct financing occurs for instance when a home seller grants a buyer a note or if someone buys a bond directly from the federal government. Brokers are normally involved in cases where corporate securities are bought (ibid).

2.4.3 Secondary mortgage market

The role played by secondary mortgage agencies and firms in the financing of real estate projects are of great significance. In the United States of America, among these agencies and firms are the Federal National Mortgage Association (FNMA), the Government National Mortgage association (GNMA), the Federal Home Loan Mortgage Corporation (FHLMC), and many private firms in the US. By issuing securities (mortgage-related securities, -MRSs) usually through brokers, they generate funds. These funds are used to buy mortgages and the servicing of the interest payment on the MRSs is made with the stream of the cash flow from the mortgages (ibid).

Essentially, the difference between primary and secondary markets must be distinguished to identify the significance of these markets, principally the secondary market to the flow of funds in the financial system. The transaction which involves creation and selling of securities for the first time by the deficit income unit takes place in the primary market. Hence, new securities are created in the primary market and any subsequent sales of these

securities occur in the secondary market. Secondary markets are helpful to the primary market in that their activeness make securities more liquid and also reduce marketability or liquidity risk (ibid).

The Ghana Government through different enactments formed the entire respondent mortgage financing institutions to provide mortgage financing to prospective house owners. The Building Society Ordinance No. 30 in December 1955 by the Ghana Government formed the First Ghana Building Society and started operation in June 1956 (First Ghana Building Society). The State Insurance Company (SIC) was set up in 1962 and converted to a limited liability company in August 1995 pursuant to the Statutory Corporation Act 1993. SIC however has its principal objective as insurers and re-insurers for general risk with mortgage financing as an additional responsibility.

The government of Ghana in 1990, as a secondary mortgage financing institution established the Home Finance Company (HFC). Initially this was a non-banking institution, which emerged as a result of the introduction of the Home Mortgage Finance Law, 1993 (PNDCL 329), although it has since been converted to a banking institution (HFC Bank, 2005). Its objective was to provide the service of mortgage finance and also to raise funds for mortgage finance. Three objectives were laid down; first there would be strong government support for HFC given the acute housing shortage in Ghana. Second, the creation of a secondary market institution would jump start primary lending. Thirdly, the newly created banking system would be insulated from risk, with the primary lenders bearing 10% default risk and the government bearing the remaining 90%. Whether the government was prepared and capable of bearing that proportion of risk and how much it was prepared to contribute to risk sharing in the market that developed is another question. The beneficiaries of HFC mortgage schemes include Banks, Building Societies and other corporate bodies who can refinance their

mortgage loans in addition to servicing (account maintenance) facilities for their customers. HFC offers long-term loans to enable qualifying individuals to purchase or build their own houses. Recognised groups, associations and institutions also benefit from special packages, which enable them to own their own houses.

2.4.4 Mortgage Financing Institutions in Ghana

First Ghana Building Society (FGBS)

The Society was formed mainly to: encourage savings; to achieve this objective the Society operated with attractive rate of interest and to provide mortgage facilities from its savings to those in need to build houses.

State Insurance Company (SIC)

The policy of SIC regarding housing finance is to ensure the maintenance of the value of insurance payments by its customers and also to assist the government in realising her social objective of housing the people. To achieve the above objective the SIC has introduced three different mortgage portfolios for the granting of loans to the public. These are: the individual mortgage loan scheme, the group loan scheme and the SIC staff housing scheme. Another policy of the SIC is to involve itself directly in the development of housing through the acquisition of building plots and the award of contract to building contractors to build houses for the Corporation for outright sale or rental.

Home Finance Company (HFC)

The principal objectives of Home Finance Company and its subsidiaries continue to be: to operate and manage a fund for the provision of long term resources for home mortgage financing, to issue and deal with bonds and other financial instruments, to undertake the business of housing finance and to undertake the management of investments including real estate and arrangement of capitalisation/financing packages for its clientele.

The Pilot Scheme was to support the provision of about 3000 housing units, made up of 2000 new ones and 1000 existing rental units owned by the State Housing Corporation and the Tema Development Corporation at an estimated cost of Gh₵ 8.4 million an equivalent of USD 8.0 million.

Ghana Home Loans

To address the shortages in housing finance on the domestic market, the Bank of Ghana licensed a new mortgage finance institution, Ghana Home Loans Limited, to operate in Ghana (Ghana News Agency, 2008). Ghana Home Loans, a specialized mortgage provider in Ghana, and FMO, The Hague-based Dutch Development Bank have signed and partially disbursed a $15.5 million long-term facility to Ghana Home Loans. This facility enables Ghana Home Loans to further grow its residential mortgage lending portfolio and improve better access to housing finance for Ghanaians, (Ghana News Agency, 2008). FMO's funding allows Ghana Home Loans to provide both Cedi and US Dollars based loans to Ghanaians to enable them to acquire, complete or improve their homes. Applicants are not required to open a bank account with Ghana Home Loans or participate in any kind of saving scheme before qualifying for a mortgage.

Ghana Home Loans is currently the leading mortgage finance institution in Ghana with loans advances and commitments of over $40 million. Ghana Home Loan's key objective is to leverage information technology and modern mortgage finance techniques to consistently provide Ghanaians with competitively priced long term mortgage finance to facilitate home ownership and to become the pre-eminent mortgage finance institution in Ghana. Shareholders of Ghana Home Loans include Standard Bank (South Africa), FMO (The Netherlands), Broad Cove Partners (USA), and the Company's staff.

2.4.4.1 Credit Facilities offered by Mortgage Institutions in Ghana

First Ghana Building Society

The Society provides credit for people to build or buy their own houses for occupation in the form of loans under two scenarios. In the first instance it provides 80% of the total cost of construction if the applicant is to build a new house. On the other hand if the applicant proposes an outright purchase from the State Housing Corporation, Tema Development Corporation or a private individual, the Society provides 100% finance.

State Insurance Company (SIC)

The SIC grant credit to individuals to either build their own houses or buy a house from an individual or another Real Estate Company. Individuals and Institutional organisations are granted loans with a repayment period of 25 years and below.

Home Finance Company (HFC)

The HFC operates various schemes to support housing finance. Funds provided for the various schemes ranges from USD10, 000 to USD145,000. However for purposes of this

survey, attention will be focused on schemes that allow real estate developers to access finance for their activities.

Home Purchase Mortgage- The HFC Home Purchase Mortgage (HPM) is a mortgage financing facility designed to assist interested individuals and real estate companies to purchase residential properties. Applicants under the HPM may be resident, non-resident Ghanaians or corporate customers, with verifiable and sustainable monthly incomes sufficient to repay the loan within a specified term. Loans granted do not exceed 70% of the value of the property or, amount of USD80, 000 or the equivalent in cedis for individuals. Applicants are required to make a minimum down payment of 30% of the cost of the property and secure the loan with the property under a mortgage deed. To qualify for an HPM loan the customer must have opened a deposit account in HFC Commercial department, and save with HFC for six (6) months before their applications can be processed.

Home Completion Mortgage- The HFC Home Completion Mortgage is designed to assist applicants with financing to complete construction of their uncompleted houses.

This facility is available for applicants with verifiable income, and the ability to repay the loan within a specified term. Loans under this scheme do not exceed 70% of the total cost of construction of the property or a maximum amount of USD 80,000 or the equivalent in cedis whichever is lesser. Applicants are required to have contributed at least 30% of the total construction cost of the property.

'Own a Home at Home' Scheme- This scheme is aimed at assisting Ghanaians living abroad to also acquire residential properties in Ghana for their own use, for rental or for occupation by their relatives. The facility is also available to non-Ghanaians wishing to purchase houses for their spouses, children or dependants. To be eligible for a loan under this scheme an applicant must be a Ghanaian whose residence abroad is for the purposes of employment

and/or carrying on a business or vocation and also must indicate whether the duration of his stay is for an indefinite or definite period.

Ghana Home Loans (GHL)

Ghana Home Loans currently offers the following type of mortgage products: First Time Buyers, Buy to Let, Equity Release, Refinance and Home Completion.

First Time Home Buyers: Applicants looking to buy their very first home may enter into this option. These are typically individuals or young couples (joint applicants) looking to establish a home. The target group is borrowers looking to acquire their first property at a fixed rate of (currently 12%) or variable with the miximum loan subject to credit profile of applicants and a maximum term of 15years. A loan to Value up to 85% with a facility and processing fee of 1% and $200 (or Cedi equivalent) respectively are the service charged on condition that the property must be owner occupied.

Buy to Let: Applicants who already own a home but wish to acquire second investment property for the sole purpose of renting it out to tenants may enter into this option. This loan package attracts a fixed rate of (currently 12%) or variable with the miximum loan subject to credit profile of applicants and a maximum term of 15years. A loan to Value up to 85% with a facility and processing fee of 1% and $200 (or Cedi equivalent) respectively are the service charged on condition of evidence that rental revenue can cover monthly mortgage payments or Payment to Income ratio of 40%.

Equity Release: Applicants who own their homes outright but wish to borrow on a long term basis to expand their business, undertake home improvements / expansion, pay overseas school fees etc using their home as collateral may also enter into this option. This loan package attracts a fixed rate of (currently 12%) or variable with the miximum loan of $100,000 and a maximum term of 15years. A loan to Value up to 40% with a facility and processing fee of 1% and $200 respectively are the service charged on condition that

borrowers must demonstrate evidence of ownership in the form of clear title and/or existing mortgage documents of evidence that rental revenue can cover monthly mortgage payments or Payment to Income ratio of 40%.

Refinance (Switch): Some applicants may have an existing mortgage with another provider but wish to switch to Ghana Home Loans to benefit from thier competitive rates and quality customer service.

Home Completion Loan: If a developer is building a residential property that is at gable level or beyond, Ghana Home Loans can help in its completion.

(www.ghanahomeloans.com, 2008).

2.4.4.2 Source of funds by mortgage institutions in Ghana

The First Ghana Building Society (FGBS)

It started operation in June 1956 with a grant of Gh₵8.70 from the Government for a period of five years (1956-1961) to cover its administrative cost. These grants were not considered loans and were not repayable. In 1959 the Government of Ghana invested in Preference and Ordinary shares in the Society to the tune of Gh₵27.90. Government funding of the Society could not be sustained. Therefore the Society currently derives its funds from interest and profit on other banking activities and other investments.

The State Insurance Company (SIC)

The State Insurance Corporation derives its funds for housing mortgage finance from Insurance Policy holders particularly from Life Insurance Policy fund, Interest and profits from other investments, Contribution from Shareholders and Other banking activities and consortium with other financial institutions.

The Home Finance Company (HFC)

The company's first funds were provided under a pilot housing finance scheme, which has been in operation since July 1991. SSN1T and the IDA, an affiliate of the World Bank through the Government of Ghana, funded the pilot scheme. HFC's other funds are raised through Bond issues on the domestic capital/money market. HFC also mobilises funds from households for the housing finance scheme and assist Ghanaians save towards the required minimum deposit of 20% of the mortgage amount through the HFC Unit Trust (HFC-UT).

The HFC has other sources of funding including:

The Borrowers Deposit Fund- This is a flexible rate investment option for borrowers under the mortgage schemes whose applications are under consideration and /or houses are not ready. The mandatory 20% deposit of prospective mortgagors is placed in this account and invested in the highest yielding instruments on the money markets.

Real Estate Investment Trust (REIT)- Home Finance Investment Fund Ltd. (HFIF) manages the HFC REIT. The REIT is an open-ended collective investment scheme dedicated to investment in real estate. Its purpose is to mobilize funds for investment in real property. (HFC, Accra).

HFC Home Save Account- The HFC Home save Account is offered to future homeowners. It is an opportunity for saving towards homeownership. This allows individuals to save with the Company towards the acquisition of their own houses. The prospective applicant then qualifies for a long-term mortgage loan to buy a property after saving up to 20% of the total cost of the house.

2.4.4.3 Terms and Conditions for granting Loans.

The First Ghana Building Society

The Society endeavours to exercise precaution when granting loans in order not to expose itself to more risk. The Society therefore grants loans to prospective house owners under the following terms and conditions:

i. The applicant must have good title to the land and also ensures that the property is not encumbered.

ii. There should be a valid Building/Development Permit covering the property

iii. The building should conform to Planning /Development Regulations specified by the Local Authority. Alterations and extensions should have prior approval of the Society in writing. In the case of new construction the Society monitors the various stages to ensure that the developments conform to specifications contained in the Building Plan.

iv. There should be equal monthly amortizations with interest over a period of 25 years and the money released in stages as the development progresses. For applicants who opt to build on their own, the Society inspects the progress of the construction work before another instalment is released. However if the applicant opts for outright purchase the monthly instalment is paid directly to the vendor.

v. Salaried workers are made to give an undertaking authorising their employers to effect the monthly deductions at source for the loan repayment.

The SIC

An applicant for SIC loan must be a Life Insurance Policy holder for a period of 5 years and above and must have title to the proposed land for development. Furthermore, there should be equal monthly amortizations with interest over a period of 20 years.

Ghana Home Loans

A firm commitment can only be provided when all the application documents have been verified and confirmed as valid. Prospective borrowers are obliged to submit the following:

i. Apply online by visiting the Apply Now link on this website or submit a completed Ghana Home Loans mortgage application form (available as a download from this website or request a copy from applications@ghanahomeloans.com);

ii. First Time Buyer's and Buy-to-Let mortgage applicants should submit a completed Purchase and Sale Agreement (or an Offer Letter) signed by both the prospective borrower and the seller of the property or estate developer and which sets out the details of the transaction. Applicants for Equity Release or Refinance (Switch) mortgages should provide a certified copy of a surveyor's site plan and an unencumbered Title Deed with official stamps showing proof of ownership;

iii. Proof of Identification – Passport or Driver's License

iv. Proof of Income – Employer's certification of income, with contact information to allow verification by Ghana Home Loans (Most recent three months' paycheck stub /salary certificate showing all withdrawals and deductions will suffice); Self employed foreign residents may submit Tax return forms for 3 financial periods; informal sector borrowers may submit audited accounts to demonstrate their income.

v. Proof of employment – Employer reference, confirming that borrower is currently in employment. Certified statement of income for self employed persons;

vi. Proof of address – recent utility bills, property rates, rental agreement etc;

vii. Authorization for Ghana Home Loans to obtain credit history report**;**

viii. Copy of Title Documents and Deed of Mortgage (for property to be mortgaged);

ix. A Valuation Report (professional valuation of prospective home), can be deferred until an 'Approval in Principle' has been granted the borrower;

x. Statement on existing mortgage loan (if any);

xi. Statement of exiting life insurance policies (if any);

xii. For First Time Buyer's Loan or Buy-to-Let mortgage – a deposit of at least 15% of the value of the property. For Equity Release or Refinance mortgage, a recent valuation report from a Ghana Home Loans approved valuer will suffice;

xiii. Processing Fee of $200;

xiv. Facility Fee – 1% of the amount to be borrowed;

xv. The equivalent of three monthly mortgage payments (The mortgage calculator should be used to estimate the monthly payments corresponding to the amount to be borrowed);

Foreign residents are advised to execute a Power of Attorney authorising an individual resident in Ghana to act on their behalf. It is worth noting that the 'Attorney' must be an individual over the age of 18 years and does not have to be a lawyer. (www.ghanahomeloans.com, 2008).

In recent years, Home Finance Company and Ghana Home Loans are the two active mortgage institutions that advance mortgage facilities for real estate development. Not only has HFC created new savings and investment products including Real Estate Investment Trusts (REIT), but also an Equity Fund and a Unit Trust. HFC is currently listed on the stock exchange, and its "house bonds" are the only corporate bonds on the market. HFC has been converted to a universal banking model, enhancing domestic resource mobilization and a range of financial services. HFC has experienced excellent financial results over the past several years and is poised for growth. Ghana First Building Society is in the process of restructuring its operations financially, to be able to offer competitive mortgage facilities to

real estate developers and the general public, but it now receives deposits and gives out loans to Small and Medium sized Enterprise (SME).

2.4.5 Money and Capital market

The market in which flows of funds takes place can be classified into two, namely the money markets within which short term securities are traded, and the capital markets which deal in long term securities. Many institutions deal in both markets. Most real estate financing take place in the capital market and the exception is short term financing at both development and construction phases (ibid pp 8).

2.4.6 Land Acquisition Finance

The first stage of real estate financing cycle is funding of the acquisition of a raw land to be developed. In the United State of America, a purchase money mortgage is common source of financing for land acquisition. Commercial banks and thrifts are normally local lenders who dominate in land financing, since they are in good position to evaluate the risks concerned in land loans. Repeatedly, developers in financing the sales of parcels of land are accommodated by the respective sellers in several ways, such as option financing, seller financing, and subdivision trusts (Clauretie et al, 2003and Miles et al, 2000).

The most unique feature in the land acquisition commerce is the absence of large institutional lenders in land acquisition financing. Land loans are frequently avoided in total or restricted to a small portion of a good number of institutions´ portfolios. The use of land acquisition loan is risky given that, raw land does not generate operating income. Moreover, raw land can

be inappropriate for its ultimate highest and best use, and will be expensive to prepare for such use. Rather than buying land outright, many developers buy options to procure land at a future time. Developers wish to be in a situation of having options on other parcels of land at the same time as developers buy and develop it (ibid pp 367).

Another means by which sellers accommodate the sales of parcel of land are subdivision trusts. By a subdivision trust, developers pay only part of the sales price and agree to pay the remaining when the properties are developed and sold. The seller of the land reassigns title to a trust and is nominated the first beneficiary of the trust. As the developers nominate the second beneficiary and sell parcels of the developed property, they are at liberty to have portions of the land unconfined by the trustee. Developers have the autonomy to develop the property as they see fit under a typical subdivision trust. Thus, the vesting of the title to the property in the hands of the developer are avoided to serve as cushion for occurrence of developer default and bankruptcy (*ibid* pp 370).

The two types of investors; thus, the speculators and the developers who typically acquire raw land for development are worth mentioning. The speculators are those investors who have no development plan for the land they acquire. They acquire the land base on their anticipations for price appreciation opportunities, due to growth constraints, new transportation facilities, zoning changes and other economic or institutional changes that will appreciate the value of the property to in the near future. Developers, contrary to the speculators, have definite plans for their properties. Developers normally specialized in a particular type of development, such as industrial facilities, housing, or shopping centres (ibid 367).

In particular, large developers are able to warehouse substantial amount of property. Warehousing is the act of holding of large track of properties in advance of the development process. As developers desire to tie up as little equity as possible in large tracks of land, financing becomes paramount which necessitates for lowest cost financing as possible (ibid).

2.4.7 Land development finance

Land development involves making the acquired raw land or site ready for development of improvements. Several steps are involved in this process, which includes zoning where necessary, engineering and surveying, subdividing if applicable and physical work, the final stage in this process involves the physical work of grading the land and putting in utilities, streets, landscaping etc. These preparations of the land are costly hence; the expenses involved in the first three steps are greater than those of the actual physical work. Though there are no physical changes to the land, through its preparation, value is added to the land (Miles et al, 2000; pp 370-371; Clauretie et al, 2003; pp 75-76).

Land development lenders are skilful to make good judgment about how development of a land increases its value. They ensure that the loan proceeds and developer's equity is less or equal to the value of the land when it is ready for construction. Apart from ensuring loan credentials, they offer deadlines for attaining the indispensable government approvals, and they are sentient of local land use directives and requisite governmental approval for developing a land (Miles et al, 2000; pp 371; Clauretie et al, 2003; pp 76).

Some of the vital government approvals are subdivision control ordinances and impact fee. Subdivision control ordinances necessitate developers to put up a minimum infrastructure either prior to building residences or selling it, and are linked with residential development.

Municipalities also levy on developers, impact fees which are used to cover the added costs of burden to the infrastructure that results from a new development. Costs of burden may include more libraries, firehouses, waste-water and sewage treatment facilities (Miles et al, 2000; pp 371).

2.4.8 Construction finance

Construction loan is the final type of financing for a project prior to the permanent or take-out loan in real estate construction finance, when the project is completed and set for operation. This type of financing is short-term and covers the construction period only, with variable and deferred interest usually higher than the prime rate of the lender financed by lenders, and loan-to-value ratio of 70% to 80% and 60% to 70% for commercial project and speculative projects respectively (Miles et al, 2000; pp 172).

Additionally, there is a specialized process with wholesale role by commercial banks. Primary collateral is the real estate and sometimes post additional collateral like other real estate, securities, or possibly third-party guarantees. Similar to land development loans, it is disbursed in stages as construction progresses. Often permanent loans are the source of repayment for construction loans. Being short-term loan and as means of hedging, construction loan lenders require developers to obtain permanent loans commitment as condition of obtaining construction loans. Permanent loan commitment or take-out commitment is the agreement of other lender to grant permanent loan, which are granted when the project is completed in concurrence to the approved plan and specifications (Clauretie et al, 2003; pp 76).

2.4.9 Permanent financing

This is the last financing stage in the real estate cycle. It begins with when constructed property is put to use by owners or tenants, thus at this point the long term loan is funded. Most of these loans are used to pay off the construction lenders (Clauretie et al, 2003; pp 76). Aside the completion of improvement as a requirement for permanent loan commitment, sometimes, a minimum level of tenants should be attained before full permanent loan is funded. This is for the lenders to ensure that enough income is forthcoming for loan servicing otherwise developers use gap financing from other lender. Gap commitment is when a new lender agrees to offer permanent second mortgages especially to developer in an event where full amount of permanent first mortgage is not advanced when construction is completed. Gap financing is expensive in terms of both interest and origination fee (ibid).

The common ways by which permanent loans are repaid are amortization, refinancing and prepayment. Amortization, as a method of loan repayment occur when loan is gradually paid off during its term, eventually the loan is paid in its entirety at maturity. At maturity of the loan, owner's equity interest equates the full market value of the property (ibid). Alternatively, refinancing occurs in several ways for some reasons, prior to its maturity, an original mortgage owner may; renegotiate its terms with the original lender, so that property's potential for sale increases which makes the financing more lucrative to buyer (ibid).

The structure of general loans used to finance development depends on what the developer expects to do with the property after construction and leasing is completed. Some of the most likely aims of developers are; firstly, the property may be sold upon completion and lease-up to investors who want to own real estate but who do not want to bear the risk of development and initial leasing. The profit of the developer, in this case, will be the difference between the

developer's cost and the price received for the completed property and therefore the developer will consider short-term financing structures.

Secondly, ownership may be retained by the developer with the anticipation to continually manage, operate and lease the property as an integral part of the business. Many developers maintain relationships with tenants and may have opportunities to develop and lease to these tenants if future expansion becomes necessary. In this situation, a developer will seek both short and longer-term financing structure, namely, construction and permanent loans respectively. Construction loans are loans that are contracted for the period of construction and must be repaid by the developer right upon completions of the project. After the construction loan has been paid, a permanent loan has to be contracted which is a long-term loan and payment is spread over a long period.

Thirdly, a developer may consider the sale or refinancing of a property upon completion. This option amalgamates elements of the two loan structures mentioned above. In this loan structure, the developer may seek short-term construction financing, coupled with a either an option, or commitment to extend financing for one or two years beyond the construction period. This allows additional time beyond construction to prepare the property for sale, or provide the opportunity for refinancing at most attractive interest rates, as the project should be less risky to lenders. These types of loans are known as mini-perm loans and have maturity time ranging from five to seven years. The disadvantage with this structure is that, interest rates may be higher than was the case when construction began and the developer may be forced to pay a higher rate than may have otherwise been available had a pre-commitment for permanent loan been made at the beginning of the development process.

2.5 DIFFICULTIES IN RAISING REAL ESTATE FINANCE

The real estate finance in Ghana is fraught with problems following its conventional pattern with a preponderance of informal funding. For participants in the informal sector, it becomes protracted, often between five and fifteen years, to complete a residential property, which can substantially increase costs of construction. Moreover, funds are tied up in the property that could effectively be used for other income-generating ventures. Comparatively, countries with a developed housing finance system tend to experience lower construction costs and the use of housing assets to support broader investment opportunities through formal institutional frameworks (Blasko and Sinkey, 2005). The financial market is critical to the development process for real estate developers and investors, (Miles *et al,* 2000). There are suggestions that poor access to private external finance relates to demand-side problems, particularly a lack of information about available sources, rather than a lack of available credit (Fraser, 2004). Generally, there is a gross persistence of informal financing methods throughout Ghana. Residential property owners in Ghana as in most developing countries use their own sweat equity, barter arrangements and remittances from abroad to build their houses (Debrah *et al*, 2002 and Erguden, 2002).

Major concerns lie in the long time horizon and large capital investment necessary to convert land into a merchantable product, (Miles & Wurtzebach, 1977 and Wendt & Alan, 1969). Besides technical engineering problems, the real estate developer must deal with the volatile demand for real property and with constantly changing costs over the planning and construction periods.

Lenders are also concerned about completion of projects as scheduled. Construction delay results in outsized balance due on the loan at completion. Force majore, material shortage and

worker strikes can cause delay in project completion, and the construction cost may be greater than the value of the project, making acquisition of the loan more risky. In this regard, lenders normally require developers to incur some of the construction cost if project durations are protracted. Furthermore, lenders demand an approval of permanent loan with balance which cover the loan in case a project is terminated before formalisation of the loan.

One reason for the low long-term debt ratio of developing countries is the impact of inflation. High and volatile inflation rates prevent corporate borrowing. Especially long-term debt financing is affected due to higher contracting costs (Demirgüc-Kunt 1999). However, it should be noted that (more or less) automatically rolled over short-term loans serve the same purpose as long-term loans (Sing/Hamid 1992).

The difficulties in raising finance for real estate development will be discussed in terms of debt constraint, equity, information and knowledge, financial planning and management constraints, and the role of financial institutions in real estate finance.

2.5.1 Financial Constraints

The evaluation of financial constraints is a very sensitive issue in literature investigating the relationship between financial variables and firm's access to finance. Theory offers only limited guidance in this domain, so that a clear-cut consensus has still to emerge. Internal and external sources of finance under perfect capital markets should be perfectly substitutable (Modigliani and Miller, 1958), so that the availability of internal funds should not affect investment decisions. Firms are defined as financially constrained or unconstrained based on their dividend payout ratio by Fazzari et al. (1988) and continued that likely constrained firms display higher investment-cash flow sensitivity. Several successive studies find supporting

evidence using different variables to identify firms which are financially constrained (see for instance Bond and Meghir, 1994; Gilchrist and Himmelberg, 1995; Chirinko and Schaller, 1995).

Nonetheless, other researchers have reported that larger firms (less likely to be constrained) exhibit a higher cash flow coefficient in the regression equation, even after controlling for sector heterogeneity (Devereux and Schiantarelli 1990). There has also been evidence of a negative relation between investment-cash flow sensitivity and financial constraints as reported by Kadapakkam et al., (1998) and Cleary, (2006).

Alternative strategies consist of simply classifying firms according to various proxies of informational asymmetries since these represent the main source of financial markets imperfections. Therefore, variables such as size, age, dividend policy, membership in a group or corporation, existence of bond rating, and concentration of ownership are used to capture ways to cope with imperfect information, which thwarts access to capital markets (Devereux and Schiantarelli, 1990; Bond and Meghir, 1994; Gilchrist and Himmelberg, 1995; Cleary, 2006). Other researchers use survey data where firms give a self-assessment of their difficulty to obtain external financial funds (e.g. Becchetti and Trovato, 2002).

The key limitation of these strategies as already noted by Hubbard (1998) is that most of the criteria tend to be time invariant whereas one can imagine that firms switch between being constrained or unconstrained depending on overall credit conditions, investment opportunities and idiosyncratic shocks. Moreover, all the above mentioned works rely on a one-dimensional definition of financial constraint, thus it is assumed that a single variable can

effectively identify the existence of a constraint, which is viewed as a binary phenomenon either in place or not.

Notable exceptions are the works by Cleary (1999), Lamont et al. (2001) and Whited and Wu (2006). Cleary (1999) derives a financial score by estimating the probability of a firm reducing its dividend payments, which is viewed as a sign of financial constraints, conditional on a set of variables that are observable also in the case of unlisted French firms of Enquete Annuelle d'Entreprises (EAE). Lamont et al. (2001) build a multivariate index by collapsing into a single measure five variables weighted using regression coefficients taken from Kaplan and Zingales (1997). The chief setback here rests with the need to extrapolate results derived from a small sample of US firms and apply them to a larger and different population. Whited and Wu (2006), based on a structural model, used the shadow price of capital to substitute for financial constraints.

Liquidity ratios and leverage ratios as employed by Greenaway et al. (2007) are other measures of financial constraints. The liquidity ratio is defined as a firm's current assets minus its short-term debt over total assets; the leverage ratio, as a firm's short-term debt over current assets. There are two main shortcomings in these measures. Firstly, they only capture one dimension of access to financial markets, thus a firm may be liquid but however present a bad financial situation; on the other hand strong fundamentals may compensate for a temporary shortage of liquid assets. Secondly, both ratios may suffer from some endogeneity. This is to say that there are no clear-cut theoretical proceeding on the relation between either liquidity or leverage and financial constraints. In general, while regarding a sign of financial health, firms may be forced to be liquid by the fact that they are unable to access external resources. Financially constrained firms tend to hoard cash, so that liquidity would be associated with financial constraints, not lack thereof (Almeida et al. 2004). Similarly, a high

leverage, while signalling potential dangers, suggests also that the firm has enjoyed, at least in the recent past, wide access to external financial funds. Hence, one could argue that highly leveraged firms are not financially constrained.

To make up these potential problems, the researcher built other measures of financial health according to the methodology first proposed by Musso and Schiavo (2008) who exploited information coming from seven variables: size (total assets), profitability (return on total assets), liquidity (current asset over current liabilities), cash flow generating ability, solvency (own funds over total liabilities), trade credit over total assets, and repaying ability (financial debt over cash flow). Each of these variables will be discussed in subsequent sections of the research.

2.5.2 Debt Constraint

Gap is defined as unwillingness on the part of suppliers of finance to supply it on the terms and conditions required by small business. Expressed in its most casual form, indications of a 'gap' include the difficulties of obtaining small sums of equity capital, of the difficulties which some businesses have in obtaining bank finance, Storey (1994). In generic terms, financing constraint defines the difference between the demand and supply of external finance by lending institutions over a given period and measures the need for external funds.

Debt constraint which can be described in terms of 'finance gap' is a function of limited debt funding opportunities for small firms because the cost of debt to small firms is significantly greater than for large firms (Holmes, Dunstan and Dwyer, 1994, p. 27). For micro-small and small firms, application cost including costs associated with completion of the information requirements of the lending institution, represented a significantly greater proportion of total

funds borrowed than for medium and large firms. Small firms can experience a loan gap because they have insufficient business collateral (Holmes, Dunstan and Dwyer, 1994). Many firms need debt in order to grow before they reach the stage when they become attractive to external investors. This is particularly true in high-technology firms. Some of these firms have managed their initial development almost entirely from loans (Smith, 1990).

Many researchers conclude that the access to credit by small firms is restricted primarily because of stringent lending conditions imposed by financial institutions. Loans from banks in the initial years are difficult, as younger firms are less likely to command bank loans since they have no established track records (Binks, 1990).

Most financial institutions believe that it is risky and administratively expensive to lend to small firms, including real estate establishments, (Wilson Committee, 1979; Salazar, 1986) and even if the small firms do get external finance, they are usually required to pay a higher rate of interest and offer a higher level of security and collateral (Storey, 1987; Hall, 1989; Economist, 1994). It is believed that, as firms grow in size, they may enjoy less expensive financial options since "the prospective lenders have a greater degree of trust in large firms, and accordingly a lower perception of risk" (Peterson and shulman, 1987).

Financial institutions are also unwilling to lend because of the high mortality and failure rates of small firms (Smallbone, 1990). The financial characteristic which distinguishes small firms from large is their relatively high probability of failure", (Storey et al., 1987). Research has shown that the mortality rate of small firms was high among younger firms. In the United Kingdom, the mortality rate of new firms can be as high as 33percent within two years of starting and 60 percent within five years (Pettit and Singer1985). However, the mortality rate

of U.S. small firms is 70 percent and most of these failures occur in the first year of operation, (Bain, 1990).

Real estate firms like any other small firm usually are required to meet strict loan requirements. Lack of material security or collateral is the most serious bottleneck in receiving financial assistance from financial institutions, (Binks et al., 1990). The necessity to provide collateral against loans has become the inhibiting factor for small business owners since most businesses are owned by persons with limited resources. In some cases, small business owners are unable to comply with collateral requirements because they are unable to present appropriate documents/ certificates of ownership and, furthermore, procedures to obtain such documentation take an extended period of time, (Bernanke, Gertler & Gilchrist, 1996).

2.5.3 Equity Constraint

The problems of 'equity gap' among firms reflect both demand and supply factors, (Mason and Harrison, 1993). On the demand side, small firms are reluctant to surrender equity to outsiders because of the perceived loss of independence, control and freedom of action, dilution of earnings and the cost involved (Bolton Committee, 1971; Mason & Harrison, 1999). 75 percent of firms actively resist external participation in order to avoid control by outsiders (Wilson Committee, 1979). Some firms are also reluctant to seek external equity because they are often unfamiliar with the investors, with their protocol and criteria and often the implications of an external equity investment (Binks and Vale, 1990,).

However, on the supply side, the availability of external equity finance for small firms is limited and many institutional investors find that investment in small firms is not attractive because the risks are not commensurate with the potential returns (Mason and Harrison, 1999). Moreover, the majority of new small firms are unincorporated and hence, do not have access to external equity (Binks er al., 1990).

2.5.4 Information and Knowledge Constraint

The fact that some firms have difficulty in obtaining finance is not necessarily an evidence of capital market bias. The information constraint has provided the rationale for the activities of many enterprises, which have sought to provide Small and Medium Industries (SMIs) with comprehensive information on funding sources (Aston Business School, 1991). In this regards, many small firms are prevented from getting loans due to lack of information and awareness level. Lack of knowledge or imperfect information is the main reason why SMIs failed to approach appropriate funding bodies (Bannock and Partners, 1991; Harvey, 1992). However, Bates and Hally (1982) and Confederation of British Industry, CBI (1993) pointed out that the root of the problem often lies with the owner managers themselves. This is because, they tend to react late to information and they do not approach the appropriate persons for advice until a funding crisis occurs.

The remaining constraint is really in the entrepreneur, and it is a knowledge and skill constraint with behaviour implications. The knowledge required is of how and where to get funds, and of what kinds of projects are likely to get funds. The skill requirement is in management, particularly in financial management, financial planning control. The behavioural requirement is that entrepreneurs see their financial expansion problems as that entrepreneurs see their financial and expansion problems as arising in area where decision

making required sound analysis of good data, and that the entrepreneur should prepare his financing on sound plans and projects and well-thought-out approaches to properly identified sources of funds (Bates and Hall, 1982).

2.5.5 Financial Planning and Management Constraint

Globally, management weaknesses seem to be one of the problems facing most real estate firms. It has been suggested that the lack of capital among firms is typically an indication of poor financial management (Bates and Hally, 1982). On a broader basis, there are managerial lapses in significant areas of new business development process, including the stages when financial analysis would be logical and appropriate (Littler and Sweeting 1983).

Poor financing planning is also found to be one of the problems of real estate firms (Hankinson, 1997). Most of them are unable to match the sources and uses of funds (Binks et al., 1990). Most researchers agree that financial planning in businesses is a key to survival (Bates, 1991). It is essential for business managers to plan their financial needs before setting out to seek capital. Unfortunately, while many small business managers are aware of the benefits of financial planning, they fail to pay reasonable attention to these activities and they only plan when they are already faced with a need for funds.

2.5.6 The Role of Financial Institutions in Real Estate Finance

Financial institutions are organisations such as a bank or brokerage, offering one or more financial services such as taking deposits, checking accounts or investing customer's money.

A bank is also any financial institution that receives, collects, transfers, pays, exchanges, lends, invests or safeguards money for its customers. This definition includes many other

financial institutions that are not usually thought to be banks but which nevertheless, provide one or more of these broadly defined banking services; these institutions include finance companies, investment companies, insurance companies, pension funds, security brokers and dealers, mortgage companies and Real Estate Investment Trusts (REITS), (Encarta, 2005).

2.5.7 Ghana's Financial Sector

The Banking Law (PNDCL 225) was revised in 1989. The innovations in the new law included, mainly, the tightening of risk exposure limits, establishment of tighter capital adequacy ratios, strengthening of accounting standards and making them uniform for all banks, broadening the scope for audits of the banks, imposition of stringent reporting requirements, and improvement of on-site and off-site supervision of banks by the Bank of Ghana. A revised Bank of Ghana Law (PNDCL 291) was also enacted in 1992 to give more supervisory powers to the central bank. These two laws together provide the legal and regulatory framework for the banking business in Ghana. In order to bring more financial institutions under the purview of the Bank of Ghana a Financial Institutions (Non-Banking) Law (PNDCL 328) was also enacted in 1993. This law covered the activities of discount houses, finance houses, acceptance houses, building societies, leasing and hire-purchase companies, venture capital funding companies, mortgage financing companies, savings and loans companies, and credit unions.

Ghana currently has 25 commercial banks; 121 rural banks**,** 7 finance lease companies; 15 finance houses, 2 discount houses and 18 insurance companies (Wikipedia the free encyclopedia 2012). Banks are governed by the Banking Act (Act 673) and Non-Bank Financial Institutions (NBFIs) are governed by the NBFI Law 328. There were two main amendments in the Banking Act in 2004. These were; the increase in the minimum stated capital from GH¢1 million to GH¢7 million and permitting banks to carry out all types of

banking and nonbanking financial activities. Effective March 2005, NBFIs were also required to increase their minimum capital from GH¢50 thousand to GH¢1 million.

Apart from high excess reserves, banks also hold a large amount of government securities. Banks hold about 20 percent of their assets in government securities, and another eight percent in the paper of public corporations. They hold about 10 percent more in cash. This leaves only about 30 percent to be held in claims on the private sector (Bank of Ghana, 2005a). Most credit in Ghana is short-term. There is inadequate credit for medium- and long-term investments. A number of factors constrain the availability of longer-term credit, one of the most important being the term structure of deposits. As a result of the short-term structure of deposits, banks are limited in their ability to make long-term loans. The lack of long term deposit instruments, deposit insurance, or the existence of secondary markets for loans, severely limits the maturity transformation capabilities of the banking system. As a result, the deposit money banks are unable to provide needed long-term credit. The limited diversity of credit instruments reduces the ability of the financial sector to facilitate the management of risk for producers and investors.

Banks and financial institutions are very vital in the development of real estate and private sector of the housing industry. For lending to take place, financial institutions generally want to establish that certain basic requirements are met. These have been categorised into five Cs – condition, character, capacity, capital, and collateral (Karley, 2002).

Condition refers to the lending environment which can impact negatively on the mortgage market. The state of development of the mortgage market depends to a large part on the degree of macroeconomic stability, the legal system, and government policies in general. The economic climate has not been fertile for a rapid development of mortgage lending given the

high rates of inflation with its resultant high interest rates and the currency depreciation. *Character* refers mainly to the capacity to assess the likely behaviour of borrowers with respect to their loan as well as their home. Assessing the credit worthiness of the borrower is made difficult as many potential borrowers have only a limited association with banks and the use of credit for transaction is uncommon. In terms of *capacity* borrowers are expected to pay the interest on the loan and the principal in the form of monthly or annual repayments. Given the payment-to income ratio (generally a maximum of 25%) and the low level of income in the country, it makes it difficult for even medium income earners to qualify (Debrah *et al*, 2002, Boamah, 2003, and Asare, 2004).

Moreover, the large deposit requirement by the banks – i.e. the *capital* required - is a sufficient deterrent to a number of borrowers. Finally lenders are interested in the quality and security of the property to be used as *collateral*. Over 10% of dwellings, thus, those living in tent, kiosk, container and other non-durable structures, in the country fall short of the standard required as collateral, (The Population and Housing Census Report, 2000). As a result lending is skewed towards the purchase of a new dwelling unit. More generally, rights to possessions are not adequately which are not documented, cannot be turned into capital readily, cannot be traded outside local circles or used as collateral for loan, (De Soto 2000).

Attempts being made to transpose the persistence of informal financial system, to move it towards a more sustainable method of real estate finance, have been in the doldrums due to challenges from the economic, legal and regulatory environment. These proposals have been short-lived because of the lack of the basic foundations, thus, efficient regulatory framework including secure and transparent title; long-term finance; ability to attract external funds; an effective delivery mechanism; and the capacity to ensure repayment.

Examples of institutions which aimed to develop formal debt finance systems for housing are the Bank for Housing and Construction (BHC), Social Security Bank (SSB – now SG-SSB) and First Ghana Building Society (FGBS) but did not achieve maturity in part because of the lack of long-term financial opportunities which were seen as an essential ingredient for a well functioning mortgage market (Ayitey, 2000).

Housing finance is seen as remaining in a primitive state compared to the rapid development of the banking industry (Jaffe and Renaud, 1996). This has resulted in a clear segregation between the housing sector and the financial market in Ghana. To encourage development, it will therefore be prudent to reposition the financial institutions to assist in a new attempt to pull the two sectors together.

2.5.8 The Role of Government in Real Estate Finance

Government assistance is one of the important sources of external finance for the real estate industry besides the private sector, including private venture capital and banks. It is the responsibility of the government to strive to create the economic conditions necessary for some stability to enable any form of housing finance market to thrive (Karley, 2002). This is achieved by ensuring at least a more predictable inflationary environment and a reasonable control over the exchange rate. Within this framework, government can participate directly in the market. This helps to hedge the risk, assists lenders during periods of worsening inflation and helps to ensure that the real value of the investment does not depreciate. At the same time it supports borrowers by stabilizing regular payments. This in turn improves the ability to redeem and reduces the real rate of interest required. More generally the role of government

is not to be a player in the mortgage market but to create an even playing field for the institutions to take part in healthy competition.

As in many other developing countries, even with relatively well developed general banking systems it was apparent that financial institutions were not prepared to take on the risks involved in developing a broadly based formal housing finance system without support. Government intervention was therefore seen as necessary to jump start a formal mortgage system (Buckley, 1996).

In this regard, many reasons have been put forward to explain the limited supply of mortgages in developing countries like that of Ghana. For instance, the cost of post governance contracts account for the limited supply, (Buckley 1996). This contrasted with Williamson's (1985) proposition that the lack of credible contracts is the reason. Williamson explained that the ex ante administrative cost, made up of risk free rate plus fixed cost plus risk premium when internalised into the cost of borrowing, make it expensive hence unattractive. He also observed that limited legal codes to facilitate foreclosure proceedings also add to the administrative cost. Title issues have been emphasised as an influential factor, since gaining clear title to real estate is difficult, (Poterba and Noguchi 1994). However, the relevance of these theories about the limited supply of mortgages to the Ghanaian mortgage market cannot be underestimated.

The problems that need to be addressed can be categorised into three groups; those that affect institutions' preparedness to supply; those that affect consumer demand; and those which relate to the regulatory environment. The first class of factors includes inflation, currency depreciation and the lack of access to long-term finance. The second class includes the low

level of income, lack of credit history, property and credible contract and the attitude of Ghanaians to taking debt finance. The final class includes the lack of governmental support, the limited legal code guaranteeing secure and transparent title and the organisation of the land market in the country, which impedes the development of a solid formal finance market.

2.6 THEORY OF REAL ESTATE FIRMS AND ACCESS TO EXTERNAL FINANCE

The researcher has been convinced through an extensive review of related literature of the importance of reviewing the theoretical literature which would give an insight into and provide an understanding of real estate firms regarding their external financial practices and constraints. This section reviews related literature to identify some particular factors that influence real estate firms in their pursuit to secure external sources of finance. These factors have been grouped under the characteristics of real estate firms and growth patterns of the firm.

2.6.1 Characteristics of Real Estate Firms

The financial behaviour of firms in association with its characteristics can be considered in two groups of factors. Explicitly, the first group of factors refer to the characteristics of the firm; thus its size and age. The second group reflects decision criteria made by real estate firms; thus use of external advisers, legal status and existence of business plan.

2.6.1.1 Age of Firm

The age of a firm is measured by the number of years since the firm was established up to the year of survey. Research reviews that constraints in raising finance are inversely proportional to the size and age of the firms, as the smaller and/ or younger firms encounter more difficulties (Moore et al, 1983; Bannock et al, 1991). The smaller and/or younger the firms,

the lower the value of their assets which can be used as security (Bannock et al, 1991; Binks et al, 1990), and as a consequence, they are more likely to encounter difficulties in raising finance. Eventually, the firms are likely to rely on personal savings of the owner-managers (Bates, 1982). The capital required for expansion tends to diminish as firms' growth augment and the range of financial institutions and sources of equity available to these firms increase (Bannock et al, 1991).

Before granting a loan, banks tend to evaluate the creditworthiness of entrepreneurs as these are generally believed to pin high hopes on very risky projects promising high profitability rates. If the investment becomes profitable, shareholders collect a significant share of the earnings; but if the project fails, creditors have to bear the consequences (Myers, 1977). To overcome the problems associated with the evaluation of creditworthiness, the reputation of firms is used. Firm's reputation refers to the good name a firm has built up over the years (historical), and which is understood by the market, which has observed its ability to meet its obligations in a timely manner (Diamond, 1989).

2.6.1.2 Size of Firm

A company size is one determinant of financial structure. In general, large firms rely on more long-term debt, even if the level of short-term debt is independent of the size (Booth et al. 2001). This empirical finding can be explained by the relatively low bankruptcy costs of large firms, the fact that large firms can be more diversified, and transaction costs for market issues. This suggests that small firms may be less levered than large firms and may prefer to borrow through bank loans. In developing countries, larger firms normally have better access to credit markets, and so particularly to long-term debt (Schmukler and Vesperoni 2000). In the G7 countries, large firms have substantially less debt than small firms in Germany, which

reflects the legal specialties of German corporate and bankruptcy law as well as the special relationship between German SME and their banks (Rajan and Zingales 1995).

It has been observed that, due to dissimilar characteristics of industries and countries, cross-industry and cross-country dynamics have necessitated studies into this controversial subject yielding varying findings in the review of theories on firm size. Nonetheless, there is no single uniformly acceptable definition of firm size (Story, 1994).

Literature has shown that firms differ in their levels of capitalisation, sales and employment and hence, definitions which employ measures of size such as number of employees, turnover, profitability, net worth; when applied to one sector or country could lead to all firms being classified as small, while the same size definition when applied to a different sector or country could lead to different results.

The Bolton Committee (1971), made the first attempt to formulate an "economic" and a "statistical" definition of a firm size. The economic definition states that large firms are managed through the medium of formal management structure unlike their counterpart small firms. Different definitions of the firm size were used by the Bolton Committee to different sectors of industry. However, there are three key distinguishing features between large and small firms Storey (1994). Firstly, small firms operate in an environment of greater external uncertainty and an internal environment which motivates its action.

Secondly, both small and large firms play diverse functions in innovation but most invariably, there is a possibility of small firms assuming faster innovations than large firms. On the other hand, in terms of product or service, small firms are able to produce something marginally different which differs from the standardised product or service provided by large

firms. Thirdly, small firms undergo evolutional changes through a couple of stages to emerge as large firms. In short, 'size' measured in terms of number of employees, turnover level, market share or whatever, does not provide a sufficiently robust criterion to isolate 'small firms' for the purpose of theory and analysis. What is needed, therefore, is an alternative approach to identifying what small business research is concerned with which will rescue it from an arid search for magic numbers (Curran and Burrows, 1993).

The Bolton Committee's "economic" and `statistical' definitions of small firm size employed 25 employees or less (The Bolton Committee, 1971). The number of employees is an indicator of the size of the company. Firms' sizes in developing countries have been variously defined, but the most commonly used criterion is the number of employees of the enterprise (Steel and Webster 1990; Osei et al 1993). In defining Small Scale Enterprises in Ghana an employment cut off point of 30 employees was used to indicate Small Scale Enterprises by Steel and Webster (1990), Osei et al (1993). In applying this definition, confusion often arises in respect of the arbitrariness and cut off points used by the various official sources. As contained in its Industrial Statistics, The Ghana Statistical Service (GSS) considers firms with less 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.

Researchers have taken the view that large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies (Smith and Warner, 1979; Ang and McConnel, 1982). Lending to small businesses is riskier because of the strong negative correlation between the firm size and the probability of insolvency (Berryman 1982).

Additionally, this could partly be due to the limited portfolio management skills and partly due to the attitude of lenders, (Hall 1995). Small companies, due to their limited access to equity capital market tend to rely heavily on loans for their funding requirements Marsh (1982). Furthermore, small firms rely less on equity issue because they face a higher per unit issue cost Titman and Wessels (1988).

The capacity of a firm to generate future value depends on its assets. Within a broad class of assets many firms possess intangible assets such as technology, human resources, licenses, patents that allow it for innovative products, tap markets. Although these assets are quite difficult to value, they are generally believed to provide a firm with growth opportunities as well. In option theory these grown opportunities are viewed as growth options.

2.6.1.3 Use of External Adviser

External advisers refer to the external sources of information regarding financing which include; relatives and friends, bankers, accountants and auditors, local enterprise agency and chambers of commerce. The reason in most cases, for the difficulty in obtaining finance is either the real estate firms are insufficiently informed or poorly advised about the appropriate sources of finance (The Economists 1997). It is widely recognized that accountants and bank managers are important sources of financial advice for small firms (Smallbone, et al., 1995). The type of assistance most commonly received from the UK banks is related to advice on borrowing, financial analysis and business planning (Smallbone et al., 1995). Lending institutions, particularly the banks, could play a stronger role in encouraging improvements in firms; management and greater use of external sources of expertise. This is particularly important in the context of finance gap (Binks et al., 1990) since the availability of finance "may be vitally dependent upon firms and banks working more closely together" (Keasey and

Watson, 1993a, pg. 40). Clearly, the closer that relationship and the better informed each party is of the constraints under which the other operates, the greater will be the level of understanding between the two. The higher the quality of information ex-changed, the more accurate the assessment of risk in the event of any particular application for funds by the firm (Binks, 1990).

As businesses survive and develop, the range and sophistication of different managerial techniques and practices that is deployed tends to increase (Miller and Friesen, 1984). External advisers, especially its bankers and external accountants, who have a relationship with the business, may have a key role to play in mentoring the owner-managers in general management, planning and control issues, including cost management.

While deficiencies in financial management have been repeatedly cited as a root cause of business failure (Najak and Greenfield 1994) two arguments are advanced for such deficiencies in small and medium enterprises (SMEs); that new accounting systems are not relevant and that company managers are unable to make use of accounting system. Arguably, accounting ideas are relevant to firms but a process of innovation combining both knowledge to overcome a barrier of belief and an external shock are necessary in order for innovation to take place.

2.6.1.4 Legal Status

This refers to the ownership structure of businesses. It consists of sole proprietorship, partnership, limited liability companies and corporations. The most common perception of owner-managers about the factors influencing their choice of legal status has been that limited company status gives them greater credibility (Freedman and Godwin, 1992), and it is perceived as a method of solving problems in raising finance (Posner, 1986). In obtaining

finance, firms which are unincorporated are constrained by the availability of collateral (Godwing, 1994). However, banks often require personal assets of owner-managers for collateral purposes (Batstone, 1993) and consequently, even with limited company status, the personal assets of the owner are typically at risk.

Even so, Freedman and Godwin do not believe that the provision of limited liability status to micro-enterprises is necessarily appropriate, since it can be 'undermined' by the need for the entrepreneur to provide personal guarantees for bank loans, and secondly by the costs of incorporation – most notably that of the statutory audit. Nevertheless, the empirical studies suggest that, other things being equal, limited companies generally are associated with more rapid rates of employment growth that either sole proprietorships or partnership.

This suggests that the decision to opt for limited company status is made when the business begins trading, but this is not necessarily the case. Freedman and Godwin report that 40 per cent of limited companies in their sample started as either a sole proprietorship or a partnership and then moved to limited company status at a later stage. In this regard, any association between limited company status and growth could be considered to be reversed, with the change in legal status being the result of growth, rather than an aspiration or motivation to achieve growth. The empirical studies have generally categorised firms according to current legal status, rather than initial legal status when the business began.

The choice of legal form of a business has some influence on the level of difficulties in obtaining external finance. In obtaining finance, firms which are unincorporated are constrained by the availability of collateral (Bernanke et al 1996). However, banks often require personal assets of owner-managers for collateral purposes (Binks & Ennew 1996) and

therefore, even with limited company status; the personal assets of the owner are typically at risk. Firms either need to develop a close relationship to their bank or post collateral in order to access external loan (Binks & Ennew 1996). Banks prefer private collateral over firm collateral since the former mitigates moral hazard problems through increasing the debtors incentives. Some firm owners are also reluctant to post privately held assets as collateral. Furthermore, plant equipment is in many cases viewed to be too illiquid to serve as collateral.

Previously, real estate capital mostly was raised in the private market. Through commercial brokers, developers sell equity interest in their projects, and take loans from banks, mortgage companies and life insurance companies. However, lately the trend is changing toward raising capital relatively in the public market, where both equity and debt funds are generated through securitization, although the old model still predominates. The table below depicts some equity types and their features.

Table 2.1: Features of Selected Ownership Forms in the USA

Ownership Forms	Ease of Formation	Ability to Raise Fund	Management	Personal Liability	Income Tax Treatment	Transfer of Ownership	Dissolution
Individual	Simple and inexpensive	Limited	Limited lexible, Independence, may lack Expertise	Unlimited	Single	Single and inexpensive	Excellent
Tenancy in common	Simple and inexpensive	Limited but Superior to Individual ownership	Depends on Owners, may be cumbersome	Unlimited	Single	Potential difficult	Potential Difficult
General Partners	Moderately ease	Limited but Superior to Individual ownership	Generally by Designated Partner (s)	Unlimited	Single	Poor	Fairly simple
Limited Partnership	Moderately difficult and expensive	Limited but Superior to General partnership	Good, by general partners or agents	Limited for Limited partners ,unlimited for general	Single	Poor for general partners, fair for unlimited partners	May be timeconsuming and tie up invested capital

				partners			
Ordinary Corporation (C corpora - tion)	Complex and expensive	No problem If closely held, if public, depends on investment	Continued and centralized	Limited	Double	superior	Simple process but Needs share-Holders approval
S. Corporation	Complex and expensive	Limited, unsuitable for income property	Determined by Relative share of ownership	Limited	Single	Impeded by ceiling on number of shareholders	Simple process but Needs share-Holders approval
Real Estate Investment Trust	Complex and expensive	Good	Centralized by Advisory group	Limited	Modified single	Superior	Complex

Source: Clauretie et al, 2003; pp 70

2.6.1.5 Business plan

The preparation of business plan is the most important step in launching a new venture (Roberts, 1983). It is even more essential in expanding the existing one (Pettit, and Singer 1985). The business plan is the principal tool for raising finance (Timmons et al., 1997). It is more than a financing device (Timmons et al., 1997); when prepared and used properly, it acts as a blueprint to guide and control the firm's daily operation (Shuman et al., 1985). Moreover, "business plans were written either for external funding exclusively or a combination of internal and external uses" (Shuman et al., 1985).

Most firms which apply for external finance cannot get access to the loan due to lack of realistic and workable business plan (Roberts, 1983; Salazar, 1986; ACOST, 1990; Boocock, Lauder, and Presely, 1994). It has been observed that in examining various plans of high-technology ventures, the more significant the deficiencies in a business plan, the less likely is the venture being financed by a venture capitalist, (Roberts, 1983; ACOST, 1990 pg. 31).

The major consideration in deciding whether or not to supply capital is the quality of the business plan presented by the potential borrower, from the investor's viewpoint. If a firm's

management cannot formulate a coherent business strategy, analysing the market opportunity and competitive advantages of its products, together with a clear implementation plan, it can hardly be expected to induce an investor to assess accurately, or bear part of, the risks of the business (Roberts, 1983; ACOST, 1990 pg. 31).

2.6.1.6 Tangibility of Assets

The tangibility of assets, i.e. the proportion of net fixed assets on the balance, determines the availability of collaterals. This can also be called "maturity matching". The theory describes that collateralized loans can be offered at more favourable terms and thus firms tend to use more debt financing (Titman and Wessels 1988). Rajan and Zingales show a very significant positive relation between asset tangibility and adjusted total debt ratio (market and book values) in the G7 countries. For Japan, there is a very high positive relation, for Canada a very low positive relation Rajan/Zingales (1995).

For developing countries, there is a low but significant negative relation between total debt and asset tangibility and a slightly significant positive relation between long-term debt and asset tangibility (Booth et al 2001). The latter result is also approved by (Beck, Demirgüc-Kunt, Levine, and Maksimovic 2000) who suggest that, there is a decreasing debt ratios with increasing asset tangibility through a reduction in short-term debt (Schmukler/Vesperoni 2000). The difference in the use of long-term debt is very obvious when comparing developed and developing countries. The significantly greater reliance on long-term debt in developed countries than in developing countries can be attributed to the fact that companies own more fixed assets in developed countries (Demirgüc-Kunt/Maksimovic 1999).

2.6.2 The Growth of Real Estate Companies

Growing firms place a greater demand on their internally generated funds. Consequentially, firms with high growth tend to look to external funds to finance the growth. Firms therefore, look to short-term, less secured debt than to longer-term more secured debt for their financing needs. Also, firms with a higher proportion of their market value accounted for by growth opportunity will have debt capacity (Myers 1977). Leverage is inversely related to growth rate because the tax deductibility of interest payments is less valuable to fast growing firms since they usually have non-debt tax shields Auerbach (1985).

The difficulties of raising adequate finance is recognised as a major constraint for growth of firms in discussing financing problems of firms. This adequacy of finance is due to the nature and size of the firms. Small real estate firms are also insufficiently informed and poorly advised about appropriate sources of finance. These firms are also facing problems of poor financial management and planning.

Banks are the main sources of external finance and also important sources of financial advice for small real estate firms. Difficulties encountered by small firms in getting bank finance however, have raised a number of issues: high interest rates, insufficient collateral, and allocation of finance to small firms. It has also been suggested in literature that collateral signals commitment from the borrower and it also helps to reduce problems of adverse selection and moral hazard.

Studies have shown that the characteristics of firms and the growth strategies of the firms are the key variables which affect the availability of external finance. The firm characteristics

such as size, age, use of external advisers, legal status, type of industry and business plan have been shown to have some influence upon the financing difficulties of real estate firms.

2.7 FINANCIAL METHODS AND DECISION FACTORS OF A REAL ESTATE FIRM

Management of real estate development should be keen about the application of elementary financial techniques that influence their choice of finance. Additionally, real estate managers, once on the job most invariably do not bother to acquire essential skills in finance but rather rely greatly on so-called experience to make financing decisions and choices without knowing the consequences of their decisions and sometimes puts undue pressure on the firm's cash flow (Alan, 2005). This section of the research reviews detailed conceptual outlooks of the various financial variables that are associated with firms' financial conditions and decisions such as income statement, balance sheet, statement of cash flow, analysis of financial ratios, trends and common size.

2.7.1 Financial Variables and Firm Access to Finance

Theoretical evidences supported by empirical findings revealed that; financial variables play an increasingly important role on various aspects of firm financing decisions (Bridges and Guariglia, 2006). Conversely, studies on the application and significance of these financial variables in financial acquisition decision-making have been largely neglected in both finance and real estate literature (Wahab, 1996). This section, discusses the basic variables that prompt financial and financing decisions of real estate developers.

It also discusses the financial ratios necessary to facilitate the financial and financing decision-making process. Predominant variables that influence financial decision making

process to enable decision-makers to understand the key finance concepts, analyse financial statements, have a working knowledge of the budgetary process, justify financial decisions and monitor the financial performance of the firm will be discussed. The financial variables that will be examined include various forms of financial statements and financial ratios. Traditional forms of financial statements that will be considered are; the income statement, balance sheet statement, profit/loss statement and cash-flow statement.

2.7.1.1 The Statement of Cash Flow

The statement of cash flow is used to assist in the financial management of current assets and current liabilities and also to control the company's exposure to insolvency (Titman and Wessels, 1988). It gives an indication of current cash in-flows and out-flows, and projections on cash solvency and budgetary solvency of the real estate firm. There is the possibility to use the statement of cash flow model to gauge insolvency or liquidly crisis once the financing plan has been formulated to meet liquidity needs (Brealey and Myers, 1996).

Free cash flow can be defined as equal to the after tax operating earnings of a company plus non-cash charges less investment in working capital, property, plant and equipment, and other assets (Copeland et al., 1991). Consequentially, this reflect the cash flow generated by a real estate company that is available to all providers of the company's capital, both debt and equity. The statement of cash flow helps lending institutions to make projections based on the flow of funds available to the real estate firms that opt for debt finance method of loan acquisition.

The primary purpose of the cash flow statement is to assess the liquidity, solvency, viability and financial adaptability of a real estate company. Operating cash flow ratios are indicators

of performance (Everingham et al. 2003). They determine the extent to which the real estate company has generated sufficient funds to repay loans, maintain operating capabilities, pay dividends and to make new investments without using external financing. This suggests that cash flow ratios can be used to answer questions on a real estate company's performance since debt obligations are met with cash. Such an analysis will result in adequate lines of credit, unrestricted cash availability, debt maturity schedules with respect to financing requirements and the willingness to issue common equity. It will allow an analyst to examine the financial health of a real estate company, and how the company is managing its operating, investment and financing cash flows (Palepu et al., 2000).

2.7.1.2 The Balance Sheet

The balance sheet is a snapshot of the real estate firm (Sumit and Hamid 2004). In summary, it describes what the firm owns (assets) and what it owes (liabilities) and gives an indication of assets, liabilities, liquidity, net working capital and the total financial condition of the firm (Titman and Wessels, 1988). The balance sheet has assets on its left-hand side.

Assets are generally in two traditional forms; current assets and fixed assets. Current assets are defined as cash, work in progress, inventories valued at lower end of market value, marketable securities and receivables payable on demand or within 12months. Current assets have lifespan of less than one year (Shawa, 1995). Conversely, fixed types of assets are those with relatively long life such as tangible assets (e.g. residential properties) or intangible assets (e.g. patents).

On the other hand, the right-hand side of the balance sheet displays liabilities. Like assets, there are of two traditional forms of liabilities namely; current liabilities and long-term liabilities. Current liabilities mature in less than one year (e.g. bank borrowings and accounts

payable on demand of within 12 months), long-term liabilities on the other hand mature in more than one year (e.g. long-term debt and employee future benefits) (Moore and Reichert, 1983).

Liquidity refers to the ease with which an asset can be converted to cash; bank accounts, T-bills and similar assets are relatively liquid. Inventory is less liquid; there is no guarantee that the merchandise will be sold. Fixed assets are relatively illiquid. However, assets on the balance sheet are listed from the most liquid to the least liquid (Shawa, 1995). Normally, Net Working Capital (NWC) is the difference between current assets and current liabilities. A positive NWC means that the cash expected to be available over the next 12 months exceeds what which have to be paid over that period.

Definition of the term financial condition from accounting point of view refers to the ability of a firm to generate enough cash over a long-term period to offset its debts and liabilities i.e. cash solvency (McLaney, 2005). In summary, this refers to the real estate firms' ability to generate enough revenues over a normal budgetary period to meet its expenditures and not incur deficits. It also includes the ability of the firms in the long-run to pay all costs of doing business, including those that are annually budgeted and those that appear only in years in which they must be paid.

2.7.1.3 The Income Statement

The income statement describes the firm's operating results over a specific period of time, usually a year (Block, 1999). Revenue and costs are known at the time of the sale, which is dispensable when cash changes hands. Revenue and expense recognition are governed by the

matching principle, which states that operating performance can be measured only if related revenues and expenses are accounted for during the same period (Shawa, 1995; Shash, 2005).

2.7.1.4 Financial Ratios

The use of financial ratios is the most common method of analyzing accounts O'Regan (2002, 2005). When making financing and investment decisions, these ratios are used by analysts and by management for interpreting past performance and setting targets against which future performance can be measured. Financial ratio analysis can be classified into two main categories namely; time-Series- analysis and cross- sectional analysis (Robbie et al 1993 and McLaney 2005). Time-Series- analysis deals with the analyses of the same company over different period, whist cross- sectional analysis is concerned with financial analysis of different companies in a given year. None of these ratios should be analysed and interpreted in isolation. Inter related interpretation of the various ratios should be view from the total perspective of the company when assessment conclusions are to be drawn. Depending on the industry a firm operates, some of the ratios are more important than others (Moore and Reichert, 1983; Shawa, 1995; Graham and Harvey, 2001; O'Regan, 2005 and McLaney, 2005).

Financial ratios are classified into five groups mainly; profitability ratios, liquidity ratios, financial leverage/capital gearing ratios, activity/asset management ratios and investor/market value ratios (Shawa, 1995 and McLaney, 2005). The following discussions will dwell on these groups of financial ratios.

Profitability Ratios

Profitability ratios measure profit levels of a company at any period. They give an indication of how well a firm is doing profit-wise in order to maintain its existence and be at competitive advantage (Moore and Reichert, 1983; Fadhley, 1991; O'Regan, 2002 and McLaney, 2005). Hence, this calls for real estate firms to make enough profits for their growth and survival. Only profit generated from a firm's normal operations should be taken into account so as to assess if the firm is trading profitably, (Fadhley, 1991).

Profitability ratios, when viewed over a number of successive years, should provide a better insight into the position of the company, thereby leading to a better acquisition decisions. Traditional forms of profitability ratios have been identified as; return on equity, return on assets, gross profit margin and net profit margin (Block, 1999; Eyiah and Cook, 2003). Return on assets measures the ratio of net profit before long-term interest and tax to total assets less current liabilities while return on equity is the ratio of net profit after long-term interest and tax to share capital and reserves. Distinctively, gross profit margin measures the ratio of gross profit to total sales/revenue with net profit margin alternatively measuring the ratio of net profit to total sales/revenue. After all of the expenses of running the business for the period have been met, these ratios illustrate what is left of sales revenue. On condition that high profit margins not being earned at the expenses of some other aspect of the ratios should be as large as possible. Corporate profitability may have signalling implications for well performing real estate firms in its capacity as an indicator of future corporate performance (Dhanani 2005). Apparently, if profitability and dividend are complementary, dividend relevance for these firms will increase and dividend policy may therefore play a more relevant role as a monitoring mechanism of profitability for shareholders.

Liquidity Ratios

Liquidity ratios however are used to assess how well a company manages its working capital. Conventional forms of liquidity ratios are current asset ratio, quick asset ratio, no credit period ratio and acid test ratio. On the other hand, current ratio measures current assets to current liabilities and provides some measure of how the balance has been struck between the two assets of working capital.

Generally, companies try to avoid having current assets financed entirely from current liabilities by looking out for current ratios higher than 1:1. By so doing, they hope to give the short-term creditors confidence that there are sufficient liquid assets to comfortably cover their claims. Providentially, the current assets ratio tests whether the borrower has sufficient liquid resources to pay its current debts without having to resort to capital sales (Graham and Harvey, 2001; Ketz, 2003). Current assets need to be well in excess of the current liabilities in order to finance the level of activity required by management. However, when liquidity becomes greater than is necessary the real estate company loses profit and cannot do productive business through retained earnings. Conversely, quick ratio or acid test is a more severe test of a firm's solvency (Shawa, 1995 and Fadhley, 1991). It is the liquidity ratio that compares cash, debtors and other liquid assets immediately available for realization with the current liabilities (Fadhley, 1991). Apparently, sufficient liquidity is essential for a real estate firm to pay its liabilities, as a profitable business could be brought to a halt through insufficient liquid funds (Baker et al 1985 and Brealey and Myers, 1996). Consequently, the real estate firm should ensure that its liquidity is reasonably balanced and it does not suffer from lack of liquidity.

Financial Leveraging or Gearing Ratios

Financial leveraging or gearing ratios deals with the relative size of funds provided by shareholders on one hand and by creditors on the other hand. Financial flexibility in capital structure decisions is one of the most important factors that firms seek when developing their financial policies (Graham and Harvey 2001). Firms characterised by high financial leverage (and accordingly limited financial flexibility) maybe forced to be more flexible with aspects of their dividend policy decisions, than firms with lower leverage. Total debt ratio, debt-to-equity ratio, long-term debt ratio and time-interest ratio are the key conventional forms of gearing ratios. Total debt gearing ratio compares the short-medium-term debt to total assets, long-term debt ratio alternatively, compares the ratio of long-term debt to total assets.

Mutually, they indicate the proportion of debt in the total financing of the assets of the real estate firm (Baker, et al 1985; Brealey and Myers, 1996 and Opler and Titman, 1998); and clarify the extent to which the assets have been financed by incurring debt (Moore and Reichert, 1983). Debt-to-equity ratio generally compares short/medium/long term loans raised to total shareholders fund. This ratio suggests the perceived need of adequate mix of debt and equity in financing the company's total assets (Opler and Titman, 1998 and O'Regan, 2005). The gearing ratios are very important as they reveal the actual character of the capital structure of the real estate firm and it is the best-known criteria for determining the amount of funds, which can be raised from debt or equity (Pinegar and Wilbricht 1989). A real estate company enhances the possibility of getting more profit by widening its base and operations through borrowing of funds.

Cash Flow Ratio

Cash-flow ratio is a vital measure that compares the gross cash-in-flows to total cash out-flows. Theoretical evidences supported by empirical findings revealed that; cash is the life-

blood of any organization and cash-flow reflects many variables, including the stage of business cycle and its effect on revenue generation, net asset disposals, and the success of management effort to control costs, the impact of uncontrollable costs, seasonal requirements and maturing debt (Fadhley, 1991). Nonetheless, the key factor underlying cash flow is the profile of receipts and expenditures from operations (Woodcock, 1989). Growth drains cash; even when real market growth is zero, inflation drains cash (Modigliani and Miller, 1958). Strong cash-flow provides flexibility to help new strategies, particularly those involving fleet or business expansion and real estate development. The use of cash-flow ratio to ascertain the financial strength of a company like real estate firms is quite common (Wilson 1990; Fadhley, 1991; Shawa, 1995). Lending banks will want statements of expected future cash flow of real estate firms and apply ratios based thereon (Rouse, 2002). This could be written in such a form that the outstanding loans at any time are always less than 50 per cent of the discounted present value of the net cash flows from proven developed resources.

This suggests that since cash flows from investing activities of real estate firms represent inflows and outflows that occur within an accounting period and concerns all the investments that the company makes it is prudent for real estate companies to generate a substantial and sustainable flow of cash to enhance their credit score for external funding. Cash flow information is useful to lending institutions in order to evaluate the ability of real estate firms to generate cash and cash equivalents to enhance their acquisition of funds. Lending institutions arrive at beneficial economic decisions based on the evaluation of the ability of real estate firms to produce these cash and cash equivalents and on the timing and certainty of the production of the availability of these cash flows.

Activity/Asset Management Ratios

Activity/Asset management ratios help to evaluate the efficiency with which a company utilizes its assets to ensure maximum profit without endangering liquidity. Since the ratios indicate the relationship between sales and assets they are known as 'turnover ratio'. The higher the ratio, the better it is for the real estate company. Net asset turnover, stockholding period and average payment period are the main forms of activity ratio. The net asset ratio compare sales revenue to total assets less current liabilities, which enables judgment to be made on the extent to which the business has generated revenue. As in the return on capital ratio, the net assets figure is used as a measure of the size of the business. This ratio is a measure of the effectiveness with which assets are being used to generate sale.

As discussed above in the context of the gross profit margin ratio, the size of this ratio will be a reflection of the business's strategy on margins and turnover. A high ratio is not necessarily favourable if margins are so small that the net profit generated is unsatisfactory. Conversely, the stockholding period ratio indicates the average of days for which stock remains in the business before it is taken into production by comparing stock held with stock used times 365 days. A good stock management being consistent with the presence of sufficient stock available to meet production needs would cause this figure to be as low as possible. On the other hand, average payment ratio depicts how long, on average, following a purchase on credit; the business takes to meet its obligation to pay for the goods or services bought by comparing trade creditors with credit purchases times 365 days. A well-managed creditor policy will lead to as much 'free' credit being taken as possible without damaging the goodwill of suppliers.

2.7.1.5 Trend Analysis

Trend analysis is a more useful evaluation of how real estate companies chart their financial ratios over a given period of time. Trend analysis of financial ratios can lead to early detection of a deteriorating financial condition or a possible weakness in the overall financial structure of the company (Myers, 1985). The usefulness of comparing financial ratio of different real estate firms is limited as each firm has its own financial characteristics (Fadhley 1991 and Shawa 1995). A real estate firm can also manipulate its financial ratios through transactions that are for those specific purposes (Shawa, 1995). Should a firm for instance, need to improve its short-term position of current assets versus current liabilities, selling fixed assets such as residential properties will provide cash that in turn will improve the value of current ratio to be viewed by a potential creditor. Assessment of the various financial ratios that measure profitability, liquidly, financial strength, and activity over a period can give a good indication of financial conditions of real estate companies (Fadhley, 1991; Shawa, 1995). It is worth noting that comparing the financial ratios of real estate firms with those of other firms of different sizes, being much bigger or smaller would be a meaningless analysis or deceptive.

2.7.1.6 Common-Size- Analysis

Common size analysis (CSA) facilitates comparison of income statements and balance sheets of different companies without considering their size as noted by some researchers (Fadhley, 1991; Shawa, 1995). There are two traditional forms of CSA; common-size-income statement, which shows each item on the income statement as a percent of sales; and common-size-balance sheet, which shows each item on the balance sheet statement as a percent of total assets. Some researchers argue that common-size analysis helps to understand how the firm evolves over time and allows quick comparisons between financial statements of different firms.

In summary, the interpretation of the profit and loss account and balance sheet gives an important insight into the financial position and performance of a real estate firm, but information about cash flows is of equal importance to stakeholders who have financed its operations. The ability to generate sufficient cash to pay liabilities gives confidence to investors, who in turn provide the long-term injection of funds which enables managers to renew fixed assets and plan the long-term strategy of the business. The cash flow ratio furnishes much of the information on which investors and lenders base their decisions. The reconciliation of operating profit to operating cash flow of real estate companies brings a further dimension to the interpretation of financial statements, and links comment to working capital management.

2.8 Innovations in real estate finance

Financial economic theory stresses the need to diversify portfolios across different types of assets to obtain the optimal risk and return tradeoffs. This theory has stimulated researchers who are interested in real estate to think about whether the inclusion of real estate in mixed asset portfolios increases portfolio efficiency. Accordingly, a substantial number of research papers have appeared that evaluate the financial performance of securitised real estate, venture capital, Real Estate Investment Trusts (REITs), project finance initiative and many more which are not discussed in this study. The goal of this section is to review literature specifically on securitisation of real estate, REITs and venture capital. The financial market has observed essential innovations over last two decades, partly attributed to the dramatic changes in the institutional and regulatory settings in which investors function. However, real estate finance in 2000 differs from those in the 1980s (Clauretie et al, 2003; pp 100).

The crisis of short and long term loans in the 1980s resulted in the origination of opportunity funds. This innovation in real estate finance has the specialty of identifying and purchasing problem properties at sizeable discount. Over extensive period, very high returns are generated through the combination of professional management and presence of right side of the real estate cycle. In the 1990s opportunities became difficult to come by in the U.S. as the cycle was smoothened, where opportunity funds started to be explored for investments in Europe and Asia (*ibid*).

To avoid cluster risk and to benefit from greater flexibility in terms of investments, investors have increasingly been directing their attention toward indirect real estate investments in recent years. That means investing in real estate stocks, funds or investment trusts. Investors' money is not tied up directly in bricks and mortar and instead is traded freely in the form of a security. One method of investing indirectly in real estate which has enjoyed increased popularity in recent years is securitization. Real estate securitization – also known as asset swaps – involves contributing one's own real estate to a real estate investment vehicle in return for a unit certificate.

This section of the study however, discusses some of the indirect real estate investment options like securitization, venture capital, Real Estate Investment Trusts (REITs) and non-banking financial institutions in real estate finance.

2.8.1 Securitization

Securitization is a financing system whereby banks and other financial institutions acquire capital by converting assets into tradable securities, (Colton, 2002; Fabozzi & Modigliani, 1992). Securitization is one of the ways in which financial institutions raise capital so that

they can offer residential mortgage loans to home-buyers. The financial institutions sell securities to investors, with the pool of mortgages acting as collateral. The interest that home-buyers pay on the mortgages is then distributed to the providers of the capital – the buyers of the mortgage securities – as return on investment. After these securities are sold to an investor, the assets disappear from the balance sheet of the financial institution, thus improving the capital-to-asset ratio, (De Nederlandsche Bank (DNB), 2002a). Securitizable assets are assets that are expected to generate a future flow of income, which can be converted into cash via securitization. Mortgage receivables, receivables from consumer loans or credit card use are examples of such income streams.

Securitization takes place on the secondary mortgage market, where financial institutions raise capital by selling the mortgages issued to home-buyers on the primary mortgage market. The financial institution is said to 'originate' the mortgage loans. The mortgage receivables are sold to intermediaries, also known as 'conduits' or Special Purpose Vehicles (SPVs). These receivables are then converted into specific securities and sold on to investors. The SPVs are said to originate these securities. The investors that purchase the securities purchase the right to the future flow of income, which consists of the interest payments and the payments towards the principal made by the borrower, after the deduction of the costs of bank and SPV. As the securities are backed by a portfolio of mortgage loans, they are called Mortgage-Backed Securities (MBSs), or more specifically Residential MBSs (RMBSs). The term Commercial MBSs (CMBSs) is used for mortgages on non-residential property.

The simplest type of MBS is called a 'pass-through'. The security acts as a vehicle for the payments for interest and principal from the borrower that are passed on directly to the investor after the costs have been deducted. This way, the risks of penalty free prepayment

(specific for the US) and the risk of default are evenly spread over the investors. If securitization is not applied and the financial institution keeps the mortgages in its own portfolio, then it must bear these risks itself. Securitization also makes it possible to share the risks on a non-pro-rata basis among investors. Different classes or tranches of securities are created here, each with its own risk, i.e. non-receipt of the future expected income, and hence no return on investment. Many types of securities are therefore created with different risk-return ratios.

2.8.2 Venture capital

A venture capital industry evolves through a combination of the demand for alternate, unconventional forms of financing and a financial sector mature enough to absorb a higher level of risk and uncertainty in investment decision-making. Venture capital (VC) can be described as an imperative intermediary in the financial markets, making capital available to firms that have difficulties of attracting finance. These firms are distinctively small and young, afflicted with high level of uncertainty and large information asymmetry problems for entrepreneurs and investors. In addition, these firms primarily have few tangible assets and manoeuvring in very rapid changing markets. Venture capital organization finance high-risk, latently high-rewarding projects, purchasing equity or equity-linked stakes nevertheless the firms are privately held (Gompers and Lerner, 2001 pp 145).

In Ghana, venture capital funding does not seem to be a popular equity finance method. The Ghana government established the Venture Capital Trust Fund (VCTF) Act 2004 (Act 680) solely to provide venture finance for companies whose total asset base excluding building and land do not exceeding cedi equivalent of one million US Dollars. Venture capitalists have

been described as intermediaries with advantages of financing risky investments. Venture capitalists specialize in controlling risk in a particular industry at lower cost compared to others in the market, stemming from their specific know-how, experiences, and access to network and information (Jungwirth and Moog 2004).

Venture Capital has pretty diverse denotation around the globe. There are significant distinctions in the stages of investment (early-investment, late-investment or in-between the two) in which venture capital industry is engaged across countries, as well as their sources of finance (Mayer *et al* 2005). There is a relationship between sources of finance and VC activities in Germany, Israel, Japan and the UK and their variations in sizes of funds, corporate form and type of investment, source of finance, and type of investment activities in terms of location, sector and investment stage. The variations in financing and investment activities are related and therefore, banked-backed funds are more closely focused on late-stage investment, whereas early-investment is the hub of individuals, corporate backed and these variations diverge in these countries and not in line with simple financial systems (ibid).

2.8.3 Real Estate Investment Trust (REIT)

A REIT is a corporation or trust that owns, manages, acquires, develops, and finances real estate. As publicly traded company, a REIT allows smaller investors to invest in commercial real estate by purchasing shares of the REIT on a public stock exchange. There is a wide array of investors that own shares of REITs — pension funds, insurance companies, mutual fund companies, banks, and individual investors.

According to National Association of Real Estate Investment Trusts (NAREIT, 200), there are around 300 REITs in the United States with assets totalling over $250 billion.

Approximately 155 trade on the New York Stock Exchange, 30 trade on the American Stock Exchange, and 13 trade on Nasdaq. The 300 REITs can be broken down into three broad segments: equity REITs, mortgage REITs, and hybrid REITs.

Equity REITs own the real estate, with their income being produced from rent and occupancy. Equity REITs currently account for 97% of the total REIT capitalization. Mortgage REITs loan money to real estate owners, so their revenue comes principally from interest earned on the mortgage. Mortgage REITs account for 1% of the total REIT capitalization. Hybrid REITs use a combination of both equity and mortgage REITs, and account for only 2% of the market capitalization (Barney, 2000).

This came into being gradually in the 1960s through the changes in tax code to allow small investors to enjoy the benefits of commercial real estate that were previously available only to wealthy individuals and large institutions. REIT had rapid growth in the mid 1980s fuelled by changes in tax laws, the growth of opportunity funds which could access real estate finance only in ´securitized´ form, and the indistinguishable market conditions that fascinated opportunity funds. Many REIT companies evolved from growth to value in the 1990s as a resultant of the market's competitiveness.

2.9 SUMMARY OF CHAPTER

Some important generic issues concerning the real estate industry of Ghana and the significance of the external financial market towards provision of finance for real estate developers have been discussed in this chapter. As a result, attempts have been made to identify research gaps that would need crucial attention after a critical review of research trends in the field of finance has been conducted. The literature suggests that a potential

obstacle to firm growth is the access to funds. Arguably, limitation of firm's ability to access external finance to fund investment projects has been linked to market imperfections such as those caused by underdeveloped financial and legal systems. A working definition of finance gap has also been argued in the context of the research in this chapter. A critical review of the fundamental financial variables that explain the financial conditions of firms and assist in financing decision making are also considered. The next chapter highlights the justification of research methodology adopted given that the research requires scientific enquiry.

CHAPTER THREE

RESEARCH DESIGN, METHODOLOGY AND ANALYSIS

The theoretical framework upon which this study is based has been developed in the previous chapter with the identification of important variables in order to be able to design a research method that constitutes the best way of data collection.

This chapter focuses on the design of the research. A research design is basically a plan of procedures for data collection and analysis. The research design will also offer the researcher a direction to follow from the commencement to the completion of the study.

Research is in the nature of sailing off to chart unexplored seas or, more concretely, trudging off to map unexplored territories. Research design is about aiming in the right direction, getting your bearings right (from previous studies) and making sure your are adequately equipped to get there and back. Columbus set sail to find the western route to the East Indies and came across the West Indies and America instead. Research designs which fail in their original intentions are not always quite so lucky, but it helps if one is clear that their original plan made sense, can offer some reasons on why it went awry, and describes what was discovered instead (Hakim, 1987).

This chapter in describing the research design for this study begins by reviewing the precedent research methodologies, follows with a description of the nature of this research, its data collection and sample selection procedures, and design of questionnaire and pilot test. The techniques used for data analysis are finally outlined.

3.1 RESEARCH PARADIGM

This entire research falls into the domain of management research. As such the selected research paradigm is based not only on the nature of the study itself but also on the

epistemological perspective of the researcher. The use of both quantitative and qualitative studies in this field is widespread.

3.1.1Epistemological Perception of the Researcher

Epistemological positioning deals with questions about how and what is possible to know (Thurairajah, et al 2006). It also refers to the grounds of knowledge (Hassard, 1991). According to Meredith et al (1989), there is an epistemological continuum which has at each of its extremes pure existentialism and pure rational logic:

> *At one extreme is rationalism, which uses a formal structure and pure logic as the ultimate measure of truth. At the other extreme is existentialism, the stance that knowledge is acquired through the human process of interacting with the environment. Thus, in existentialism an individual's unique capabilities, in concert with the environment, are regarded as the basis of knowledge. The former conforms to the traditional deductive approach to research, the latter to an inductive approach.*

Although there is some sympathy with the notion of objective truth, derived from logic, the researcher believes that knowledge is acquired through interaction with the environment. Consequently, the researcher's epistemological viewpoint would be towards the middle of the continuum, but tending towards the existential perspective. Research carried out from this angle is usually more inductive, less structured, more subjective and requires more interaction with the environment than that carried out from the rational pole. Moreover, the researchers are more likely to be concerned with linking their findings to the real world than with existing theories or laws (Meredith et al 1989).

3.1.2 Nature of the Study

Research paradigm associated with an existentialist philosophical stance is labelled the interpretative, or hermeneutic, paradigm, (Gummesson 1991), derived from the Greek word 'hermeneuein,' – to interpret. This is different from the rational, positivist paradigm associated with the natural sciences since it accepts the possibility of researcher being biased and, instead of trying to find objective cause and effect relationships, looks to interpret the available evidence in order to gain an understanding of a given situation (Gummesson, 1991). The process of hermeneutic investigation is described as a circle whereby understanding a phenomenon in its natural context is considered an iterative process through which enhanced understanding is gained incrementally (Dilthey 1976).

This suggests that the nature of hermeneutics means that conventional, positivist research methods are improper. Accordingly, clearly in this tradition it is believed that special methods, not simply those of natural science, are required to understand such uniquely human processes (Checkland 1981). Therefore, the hermeneutic paradigm is in close association with case-based research methods, whereby a comparatively diminutive number of in-depth studies are carried out to gain an in-deep understanding of the problem area in specific contexts.

3.2 RESEARCH STRATEGIES

Research strategy embody organisation of research activity to incorporate data collection in ways that are most likely to achieve the research aims (Thurairajah, et al 2006). Decisions making about research strategy and design is basic to both the philosophy highlighting the research and the expected possible contributions of the research (Thurairajah, et al 2006; Harty and Leiringer, 2007). The actual research methods that are used to investigate the

problem and to collect, analyse and interpret data are however directly or indirectly influenced by the research strategy. A variety of research methods that trigger philosophical position of research is evident as experiment, survey, interviews, case study, action research and ethnography (Thurairajah et al 2006). This suggests that research methods cannot be viewed in isolation from the ontological, epistemological and axiological position adopted by the research (Dainty, 2007a).

3.2.1 Previous Studies Methodology

This section provides a guide to the research design and methodology employed in this study by reviewing methodologies of previous studies. By way of stressing the importance of review of methodologies to make original contribution to knowledge, the review should reveal that the researcher has a complete grip of existing knowledge on methodological tools Kumar (1995). The essential research strategies to excellent and quality research are the preference given to available data and methodological tools (Wahab 1996). Understanding the influence of competing methodologies is elementary to appreciating the contribution it makes to knowledge (Dainty 2007b).

This suggests that the review of methodologies will help firstly, to examine research methodologies of previous related published and unpublished information which will give an insight into the direction of the research. Secondly, it will broaden the perception of the researcher in research design and serve as a guideline in choosing a suitable research methodology. Lastly, the study will be enhanced by studying previous related survey design methods.

Given the relative significance of methodological review, it is however, necessary to review literature relating to questionnaire design, interview, case study design and data analysis. This review stimulates new thoughts concerning a range of issues pertinent to methodological concerns of studies in real estate finance. This study will proceed with a rationalized and guided-process of conceptualization, data collection, data analyses and documentation.

Previous studies have been reviewed using a five-scale classifications scheme introduced by Paulin et al (1982) and implemented by Alias (1990). These classifications are research purpose, research strategy, research design, data collection and data analysis methods.

The review was extended to cover works done as far as 2002 and recent studies in 2008. The underlying principle was to outline the trend and pattern of research that has been discovered in the field of real estate over these periods to apparently identify the methodology for this study. Moreover, this is to enhance the validity of the research methods to be used in this study. However, the review was constrained by the limited number of studies relating to real estate financial strategies. Most of the studies reviewed were in the field of real estate financing in developed countries; with quite a few in developing countries, such as those authored by Attakora- Amaniampong (2006), and Agyenim Boateng (2002). Essentially, most of the studies reviewed were related to the real estate and finance research. It was discovered from the review of previous studies that majority of researchers adopted survey questionnaires. Most often than not, questionnaires and interviews have been frequently used to collect data, whereas several studies also rely upon published data. None of the studies reviewed has been found to use participant observation or ethnography, a technique which is acknowledged as true way to study the life of firms (Holliday, 1992). Ethnography is a research method which “provides a detailed insight into the day-to-day activities and

operations of the firms" (Holliday, 1992). Some common research strategy employed by some researchers in the related works have be presented in the table below

Table 3.1 Real Estate Finance Strategies: Summary of Previous Studies Methodology

Research Reference	**Sampling and Data collection Method**	**Statistical Technique**
Redman, Tanner and Manakyan (2002), Corporate real estate financing methods: A statistical study of corporations' choices	935 members of the International Associationof Corporate Real Estate Executives(NACORE), using Mailed Questionnaires	T-Test
Z. Ali, S. McGreal, A. Adair and J. R. Webb (2006), Corporate real estate strategy in the UK and Malaysia	UK(100) and Malaysia(49) companies using Mailed Questionnaires	T-Test
MezianeLasfer (2007), On the financial drivers and implications of leasing real estate assets	2,343 quoted UK companies through the use of Questionnaires Interviews	Univariate and multivariate analysis. Regression
F. Iblher and D. Lucius (2003), Innovative real estate financing in Germany-a financial desert?	52 Banking institutions using Questionnaires Interviews	percentages
Samuel Osei Kwame and Francis Antwi (2004), The impact of Land Delivery and Finance in the supply of Residential Accommodation in the urban centres of Ghana. The Case study of Accra, Tema and Kumasi	498 people using Questionnaires Interviews	Percentages
Joshua Abor (2007), Corporate governance and financing decisions of Ghanaian listed firms	22 firms listed on the Ghana Stock Exchange (GSE) 1998-2003 using Panel data modelInterviews	Multiple Regression Analysis
Attakora- Amaniampong Elvis (2006), Residential development and borrowing in	3 banks and 4 private estate developer using Questionnaires Interviews Published data	SWOT Analysis.

Ghana; A challenge for banks and private estate developers		
Marc Kirchhoff, Dirk Schiereck and Markus Mentz (2006), Market valuation of real estate finance mergers	69 firms using Questionnaires Interview	Regression
AgyenimBoateng (2002), Determinants of capital structure Evidence from international joint ventures in Ghana	41 firms in Ghana using Questionnaires Interview	T-test or ANOVA
Wouter De Maesebeure (2007), Small and Medium size Enterprises (SMEs), Foreign Direct Investment, international and financial constraints	32 SMEs using Questionnaires Interviews, Published data	T-Test
HalitGonenc (2005), Comparism of debt financing between international and domestic firms	580 Turkish industrial firms using Questionnaires	Multivariate regression analysis F-Statistics Chow Test
J.R. Brown, S.M. Fazzari and B.C. Petersen (2008), Financing innovations and growth	1,347 firms using Questionnaires	Regression T-Test Chi-Square test, Percentages
S. Roulae at al. (2004), Corporate strategic decision making	150 companies using Questionnaires	Percentages
S.B. and A. Guariglia, 2007,Financial Constraints, Global Engagement, and Firm Survival in the UK: Evidence from Micro Data	9420 UK firms the period 1997-2002 using Panel data model Interviews	Regression

Source: Researcher's construct (2009)

Concerning the data analysis, most of the studies observed had used quantitative data method in describing qualitative subjects. Relating to statistical methods in research, this is in consonance with studies made by Gibbs (2002). Similar to observations by Alias (1990), the use of statistical tools demonstrated considerable drift from comparatively basic statistical

tools such as percentages and ratios to more complicated statistical tools such as Chi-Square Test, T-Test, F-Test, Significance Test, and Correlation Analysis (Keasey, K. and P. McGuinness, 1990).

The review observed that 21 percents of the studies had utilized simple percentages to analyse data. Meanwhile, 37 percent adopted regression, 28 percent had used t-test, 7 percent utilized chi-square test and 7 per cent adopted swot analysis. Essentially, the strengths and weaknesses of alternative statistical tools used by other researchers will guide the selection of the most appropriate technique for this study through the review on data analytical methods employed in other studies.

All the studies reviewed used questionnaire interview approach of data gathering. The incorporation of clever statistical methods offer an inclusive understanding of issues and serves as a platform for further in depth studies to be done on the subject (Dainty 2007).

3.2.2 Adopted Research Methodology

Concerning research design, choosing the best approach is a matter of appropriateness. The question of research method cannot be answered without careful consideration of the nature of the objects under study (Denzin and Lincoln, 1994). The review of the previous research methodologies above reveals that the most topical and regularly strategies adopted by most researchers in real estate and finance researches were survey methods and interviews. The choice of research methodology must not be influenced by more popularly or regularly adopted scientific approaches, but rather careful consideration should be given to the relevance and usefulness of the research and the researcher must select the most appropriate methodology to realize his goal (Bryman, 1992).

Multi-methodology will be adopted for this study regarding the nature of this research, which is oriented between quantitative and qualitative approaches. Consequently, thedata collection method to be used will incorporate the integration of published data, interviews and survey questionnaires. Each of the strategies has its own strengths and weakness; “it is these strengths and weakness that lie behind the rationale for integrating them” (Bryman, 1992). The combination of these strategies “can serve as an exercise in clarification: in particular it can help to clarify the formulation of the research problem and the most appropriate ways in which problems may be theorised and studied” (Bryman, 1992).

3.3 SURVEY METHOD

This aspect of the research design and methodology deals with data collection tools, methods, and approaches as mentioned above in the preceding introduction of this chapter. It addresses the methods to be used to achieve the aims, objectives and answer the research question. The level of detail is essential to consider in survey instruments, data collection and data management. However, it is worth noting that clear descriptions of these significant components of the research design and methods are critical in addressing research issues.

3.3.1 Types of Survey

The various types of survey which are regularly used in social research include questionnaires, interviews, observation and content analysis. The most widely used data collection technique in survey research is the questionnaire (de Vaus, 1986).

The questionnaire method was chosen in order to obtain data from all the 69 active members of Ghana Real Estate Development Association (GREDA). Generally, there are three

different ways in which the questionnaires can be administered: face to face interviews, by telephone and mail.

Face to face interviews are best suited to the exploratory stages of research and the main advantage of this method is that the researcher can adapt the questions asked as necessary. The key shortcoming of the face-to face administering are intrinsic in the geographical limitations that may impose on the surveys and the vast resources needed if such surveys are to be carried out nationally or internationally; making it more expensive and time consuming (Frazer and Lawley, 2000). Telephone interviews are best suited for asking structured questions where responses need to be obtained quickly from a geographically spread sample. The main demerit of this method is that the respondent could unilaterally terminate the interview without warning or explanation by hanging up the telephone.

The mail questionnaire survey is best suited when a substantial amount of information is to be obtained from geographically dispersed sample through structured questions at minimal costs. The disadvantage of mail questionnaire however, is that too many questions which require effort on the part of the respondents will result in non-response.

3.3.2 Total Design Method

The use of mail questionnaires requires thoughtful and cautious considerations regardless of its popularity and extensive usage in literature as a good method of quantitative and qualitative research data collection. To facilitate in minimising the weaknesses of a mail questionnaire, the survey method used in this study has adapted the Total Design Method (TDM) developed by Dillman (1978). The implementation of the TDM involves two steps. Firstly, to identify each aspect of the survey process that may affect either the quality or

quantity of the response, and this is guided by a theoretical view about why people respond to questionnaires. The second step is to organize the survey efforts so that the design intentions are carried out in a complete detail. This step is guided by administrative plan to ensure the implementation of the survey is in accordance with design intentions. This method has been used extensively and it is anticipated that the method will be capable of producing high response rates (Dillman 1978).

The implementation of the TDM suggests that the mail survey method should adhere to the following procedure:

i. Letters to respondents are individually printed with individual names, positions, correct organisation names and addresses at the top of the letters.
ii. Letters are written on official letter-head of the institution of the researcher.
iii. A stamped return envelope is included for mail questionnaires.
iv. A booklet type questionnaire is used with an attractive cover and no questions on the front and back covers.
v. The individually addressed envelopes are posted first class.
vi. A follow-up postcard is sent one week after the first distribution with a date.
vii. A second follow-up is sent to all non-respondents three weeks subsequently.
viii. A third follow-up is sent to all non-respondents, seven weeks afterwards.

The elements of cost and time are major constraints associated with TDM regardless of the obvious advantages characterized with its usage, which ensures that quality and quantity of the responses are achieved. In this regard, the researcher will adhere to the most appropriate process to obtain optimal output.

3.4 SAMPLE FRAME

A sample frame consist of a list from which a sample can be taken and which leads eventually to the sample of units about which information are to be obtained. There are several advantages of sampling as stated by Moser and Kalton (1985). Firstly, in contrast to a complete coverage of the population, the information is cheaper to collect. Secondly, sampling saves labour since it requires fewer people to collect and analyse the data. Thirdly, sampling saves time as a sample is faster to analyse and process. Fourthly, sampling often permits a higher level of accuracy than a full enumeration.

There are several approaches used in determining the sample size. These, include using a census for small populations, imitating a sample size of similar studies, using published tables, and lastly applying formulas (e.g. Kish formula) to calculate a sample size Israel (1992). It was therefore essential for the target population and sampling size to be clearly defined by the researcher. With the objectives of the research in mind, the population was defined which adopted census approach as suggested by Israel (1992).

A suitable sample frame from the population being sampled should have the following characteristics (Levy and Lemeshow 1991):

i. The frame should contain a list of members of the defined population
ii. The frame should be a complete, up-to-date list of the population
iii. No population member should be listed more than once.
iv. The list should contain information about each individual that could be used for stratifying the sample.

The study adopted census approach due to the relatively sizable number of targeted respondent, being only the active members of GREDA. The use of census approach however, requires no statistical calculation to determine the sample size (Israel 1992).

3.5 QUESTIONNAIRES DESIGN

After a conclusive decision that a questionnaire is the most appropriate method of collecting data for this study, the next step is to focus on designing the questionnaire. The questionnaires were designed to address the study objectives. The way in which questions are presented in the questionnaire affects the quality of responses and therefore it is important not only that the right questions are asked, but also the questions are understood and asked in the right way (Oppenheim, 1996). A poor questionnaire will result in errors and biases and will tend to increase the amount of non-response in a survey.

In this study questionnaires were designed for all the 69 registered GREDA members. The purpose of the questionnaires was to elicit basically four different types of information: background and firm characteristics, past trends and innovations in real estate finance, financial sources and difficulties and firms' financial acquisition of skills with GREDA members as respondents.

The survey questionnaires were pre-tested by trying them out on a small number of respondents having similar characteristics to those of the sample frame of respondents once they have been drafted. The purpose of the pilot test was to observe how the survey would be done and whether changes were necessary before the full-scale study began.

The questionnaires were designed by considerations of appeal to respondents, ease of reading, completing and coding. The design incorporated the use of both close-ended questions and scaled-response questions. Close-ended questions had more than one response options, while the scale-response measured the strength or intensity of respondent's opinion. Questionnaires however, were kept in simple language, devoid of technical words to curtail prospective errors from respondents (Mangiome, 1995). With this in mind, questionnaires were structured to contain information such as: difficulties in accessing finance, trends and innovations in real estate finance and sources of finance for real estate development. When questionnaires are administered through personal delivery, the researcher can adapt easily to the questions and also pick up non-verbal cues from the respondents (Larvrakas, 1993).

In order to facilitate the collection of data and its accuracy, the researcher decided to employ the personal delivery of questionnaire survey method since most of the GREDA members are operating in Accra, Ghana.

3.5.1Contents of the Questionnaires

A booklet type of questionnaire was used as proposed by Dillman (1978). Additionally, as suggested by Dillman (1987), the questionnaire started with salient and non-threatening questions. Threatening questions were asked towards the end of the questionnaire. The subsequent step focused on the design of the actual questions that were asked to solicit for the requisite information for the study, having identified the respondents for the questionnaires and their characteristics. Questionnaires were prepared for all the 69 registered members of Ghana Real Estate Development Association (GREDA). The questionnaires consisted of thirty questions mainly; closed-ended and scaled-response type, and the questions were printed on standardA4 sheets with an introductory letter as a cover page. In order to conserve

paper and cost of printing as well to make the questionnaire look smaller, the questionnaires were printed on both sides of the pages.

The questionnaires were divided into four sections:

Section A: Background and firm characteristics

Section B: Past trends and innovations in real estate finance

Section C: Current financial sources and difficulties

Section D: Firms financial proficiency and acquisition of skills

Some of the questions in the previously reviewed works like Meziane Lasfer (2007) were utilised in designing the questionnaires. Specific principles with regards to asking relevant questions (Sudman, Bradburn & Schwarz 1996; and Converse & Presser 1982), wording of questions (seeBelson1981; and Sudman, Bradburn & Schwarz 1996), and questionnaire format (see Fowler 1995; and Jenkins & Dillman 1993) were utilised. The contents of the questionnaires (in appendix 2) incorporated all variables developed from the Literature Review.

3.5.2 Format of the Questionnaires

As suggested by Mangiome (1995) and Dilman (1978) a booklet type of questionnaire was adopted for this study. The reasons for using booklet type of questionnaire are that it prevents pages from being misplaced, it makes it easier for the respondents to turn the pages and is also easy to pursue. The questions will be grouped by topics and placed chronologically to build a sense of continuity. The early part of the questionnaire explored the background and respondents' characteristics with the most important questions placed in front to maintain the respondents' interest with personal questions placed afterwards.

3.5.3 Pilot Study

Questionnaires do not emerge fully-fledged; they have to be created or adapted, fashioned and developed to maturity after many abortive tests flights. In fact, every aspect of a survey has to be tried out beforehand to make sure that it works as intended (Dillman 1987).

The questionnaires were pre-tested by two different groups, namely, researchers and stakeholders (potential users of the research findings, mainly real estate developers and financial institutions) as suggested by Dillman (1987) and Frazer and Lawley (2000). After the pre-testing of questionnaire on these two groups, it was revised accordingly based on the feedback received from those groups.

3.5.4 The Interviews

When a researcher attempted to gain insights and depth of meaning as well as understanding about specific observations, face-to-face interviews are considered suitable methods of investigation (Gillham, 2000a; Merriam 1998 and Frazer and Lawley 2000)). Depending on the type of data required, they range from highly formalised questionnaire-style interviews, to totally unstructured discussions. Semi-structured interviews are interviews that are characterised by having a relatively small number of key, open-ended, questions which interviewees are encouraged to expand upon through the use of probes from the interviewer. In semi-structured interviews the interviewer is normally required to ask specific questions but is free to probe beyond them if necessary (Ackroyd and Hughes 1992).

Interview is one of the major sources of data collection, and it is one of the most difficult forms of data collection to get right (Larvrakas 1993). Interviews reflect the distinctive structure and aims that are discourse shaped and organized by asking and answering questions (Frazer and Lawley 2000). Three types of interview styles with different

characteristic and structures have been identified by (Merriam 1998).The interview structure ranges from highly structured, questionnaire driven interviews, to unstructured, informal interviews.

Owing to the apparent lack of updated list of all real estate firms by the Ministry of Water Resources, Works and Housing (MWrWH), the research had to rely on the active registered members of Ghana Real Estate Developers Association (GREDA). It is imperative to state clearly that this category of real estate developers have been selected based on the initial criteria set for achievement of the research objectives.

Government intervention has helped to establish the Ghana Real Estate Developers Association (GREDA) as an initiative for public and private sector participation in housing investment and delivery. The Ghana Real Estate Developers Association (GREDA) draws together representatives of Government departments, property professional bodies, brokers and major developers to co-ordinate public policy and the private sector. The new gated communities in Accra are emerging as preferred residential locations, with strong demand from expatriate workers in Ghana as well as Ghanaians in the high-income bracket. Other prominent real estate developers are state agencies such as the Tema Development Company (TDC), State Housing Company, and the Social Security and National Insurance Trust (SSNIT).

GREDA serves as the official “mouthpiece” of estate developers in discussions with government and the financial institutions. GREDA was formally inaugurated on 28th October, 1988 with 34 members, after a series of meetings between the Ministry of Works and Housing and invited Estate Developers. To avoid multiple listing of firms, these firms

have been listed once as recommended by (Levy and Lemeshow 1991). GREDA is registered under the laws of Ghana (Act 179 of the Companies Code of 1963) as a Private Company limited by guarantee.

The objectives for which the Association was formed are (GREDA, 1999):

i. *To provide a central organization for real estate developers*
ii. *To provide a united front in making recommendations to the government on ways of promoting real estate development and in seeking solutions to the practical problems in the property market*
iii. *To promote the development of residential estate, to increase the stock of housing units thereby ensuring adequate provision of affordable housing for all classes of the population*
iv. *To pool resources together towards greater economies of scale in real estate development and also ensure that products of members conform to national building standards and planning laws.*
v. *In the spirit of the search for appropriate technology, the Association shall promote the use of local inputs and finance research into the suitability of local building materials in the country*
vi. *To liaise with financial institutions in developing an effective mortgage house ownership scheme for prospective owners and also impress on the institutions the need for long-term financing in real estate development*
vii. *To establish links with real estate institutions and allied bodies at home and abroad with the aim of promoting the development of the industry.*

Although the provision of affordable housing for all classes of the population is one of the objectives of GREDA, most of the estate houses, by the time they are ready for occupation, are out of the reach of the average Ghanaian. This is evident in the estate developers seeking buyers from outside Ghana to purchase the houses. However, the estate developers also argue that the high cost of land acquisition, coupled with expensive infrastructure, which they have to provide instead of the municipal authorities, as well as high interests on bank loans, in the end make the houses expensive. It will be prudent to have GREDA members putting up blocks of flats, which will reduce the cost of purchase, but with assurance of a ready market for such flats. On the other hand, the Social Security and National Insurance Trust (SSNIT) of Ghana, has put up several blocks of flats in several parts of the country which have been hugely popular with Ghanaian workers.

3.5.5 Problems Encountered

Being largely not enumerated, the real estate sector in Ghana, as elsewhere, suffers from a number of data deficiencies; there was little reliable information on either its size and nature or characteristics. Added to this was the inadequate record-keeping; and suspicion on the part of the entrepreneur about the motives of the interviews conducted which made it difficult to obtain the requisite information.

Access to adequate information in Ghana, as in other developing countries, proved to be a herculean task. Either the required information was not documented, or getting official access by way of permissions from top officials proved to be rather bureaucratic and time consuming.

Generally, many of those real estate companies contacted were willing to comment on general issues, but when it came to specifics, there were hesitations. Either the information was “confidential”, or it was “company policy not to release such information” or “permission has to be sought from the overall boss”. The researcher is optimistic that other researchers familiar with research work in developing countries like Ghana will recognise these constraints. However, despite these odds and problems encountered, the researcher managed to get the requisite information contained in this thesis.

3.5.6 Study Area

The study was undertaken in the Department of Building Technology, Kwame Nkrumah University of Science and Technology Kumasi. A total of 69 questionnaires were sent to the active members of GREDA through personal delivery. The addresses and telephone numbers of the members were obtained from the GREDA office at the premises of the Ghana Trade Faire company Ltd., Accra. Distribution of questionnaire was done by the researcher and trained research assistance.

3.5.7 Sampling Procedure

Empirical data were collected to identify the financial institutions that provided their firms with finance for real estate development over the past years. Forty-eight respondents were selected and questionnaires (Appendix 1) administered. Most of the responses were graded based on Likert-type scale, with the follow designated:

Least important - 1

Fairly important - 2

Important - 3

Very important - 4

Most important - 5

A total of 51 questionnaires (73.9 percent) were returned. However, 3 of questionnaires had to be discarded for not being completely filled. Some of the real estate firms considered by GREDA to be active members were either too young, just about to start operation or had been out of operation for some time now. Some of the firms were then organising themselves and had not started any activity regarding soliciting for funds and construction of residential property. Such companies returned the questionnaires unopened with a reason that the firm was not in full operation. Though these hindrances were virtually evident from some of the respondents, others returned the questionnaires filled and usable for analysis. A total of 48 questionnaires were therefore usable for analysis, representing a response rate of 69.6 percent.

3.6 DATA ANALYSIS

Raw data was gathered, processed and put into a form suitable for analysis. A test methodology was defined for the statistical tool to be used in the data analysis. Data was edited during and after data collection. Most of the diagrams were based on grouped vertical bar charts and line graphs. Multivariate analyses were used for some sections. If a data conformed to some statistically acceptable criterion of many correlation matrix of 0.3 or more and Kaiser-Meyer-Oklin statistic (Tabachnick and Fidell, 1996) value of 0.6 of more for categorical data, factor analysis was employed. Non-parametric statistical methods mainly based on Kruskal-Wallis Test and Friedman Test (Daniel, 1990) was extensively used where appropriate.

3.6.1 Review of Data Analysis Techniques

3.6.1.1 Multiple Regression

Regression analysis is not just one technique, but a family of techniques that can be used to explore the relationship between one continuous dependent variable and a number of independent variables or predictors. Multiple regression is based on correlation but allows a more sophisticated exploration of the interrelationship among a set of variables. This makes it ideal for the investigation of more complex real-life, rather than laboratory based research questions. Multiple regression provides information about the model as a whole and the relative contribution of each of the variables that make up the model. It also allows a researcher to test whether adding additional variable contributes to the predictive ability of the model, over and above those variables already included in the model. It can also be used to statistically control additional variables when exploring the predictive ability of the model. Some of the main types of research questions that multiple regression can be used to address are; how well a set of variables is able to predict a particular outcome, which variable in a set of variables is the best predictor of an outcome, and whether a particular predictor variable is still able to predict an outcome when the effects of another variable are controlled for.

3.6.1.2 T-Test

The t-test assesses whether the means of two groups are statistically different from each other. There are a number of different types of t-test available but two types will be discussed: independent-samples t-test, used when comparing the mean scores of two different groups of people or conditions; and paired-samples t-test, also used when comparing the mean scores for the same group of people on two different occasions. Both cases are used when comparing the values on some continuous variable for two groups, or on two occasions.

3.6.1.3 Correlation

Correlation is a statistical technique that can show whether and how strongly pairs of variables are related. A correlation is a single number that describes the degree of relationship between two variables. The correlation is one of the most common and most useful statistics. A correlation is a single number that describes the degree of relationship between two variables. Most empirical research belongs clearly to correlation or experimental research. In correlational research, researchers do not influence any variables but only measure them and look for relations (correlations) between some set of variables. In experimental research, some variables are manipulated and the effects of this manipulation measured on other variables. Data analysis in experimental research also comes down to calculating "correlations" between variables, specifically, those manipulated and those affected by the manipulation. However, experimental data may potentially provide qualitatively better information: Only experimental data can conclusively demonstrate causal relations between variables.

3.6.1.4 Chi-square

There are basically two types of random variables which yield two types of data: numerical and categorical. A chi square (X^2) statistic is used to investigate whether distributions of categorical variables differ from one another. Basically categorical variable yield data in the categories and numerical variables yield data in numerical form. Chi-square is a family of distributions commonly used for significance testing. The most common variants are the Pearson chi-square test and the likelihood ratio chi-square test.

Types of Chi-square

Pearson's chi-square is by far the most common type of chi-square significance test. If simply "chi-square" is mentioned, it is probably Pearson's chi-square. This statistic is used to test the hypothesis of no association of columns and rows in tabular data. It can be used even with nominal data. It is worth noting that chi square is more likely to establish significance to the extent that; the relationship is strong, the sample size is large, and/or the number of values of the two associated variables is large. A chi-square probability of .05 or less is commonly interpreted by social scientists as justification for rejecting the null hypothesis that the row variable is unrelated (that is, only randomly related) to the column variable.

Yates' correction is an arbitrary, conservative adjustment to chi-square when applied to tables with one or more cells with frequencies less than five. It is only applied to 2 by 2 tables. Some authors also apply it to all 2 by 2 tables since the correction gives a better approximation to the binomial distribution. Yates' correction is conservative in the sense of making it more difficult to establish significance. Some computer packages label Yates' correction as **continuity corrected chi-square** in their output.

Chi-square goodness-of-fit test. The goodness-of-fit test is simply a different use of Pearsonian chi-square. It is used to test if an observed distribution conforms to any other distribution, such as one based on theory (ex., if the observed distribution is not significantly different from a normal distribution) or one based on some other known distribution (for example, if the observed distribution is not significantly different from a known national distribution based on Census data). The Kolmogorov-Smirnov goodness-of-fit test is preferred for interval data, for which it is more powerful than chi-square goodness-of-fit.

Likelihood ratio chi-square test, also called the likelihood test or G test, is an alternative procedure to test the hypothesis of no association of columns and rows in nominal-level tabular data. It is supported by SPSS output and is based on maximum likelihood estimation.

Though computed differently, likelihood ratio chi-square is interpreted the same way. For large samples, likelihood ratio chi-square will be close in results to Pearson chi-square. Even for smaller samples, it rarely leads to different substantive results.

Mantel-Haenszel chi-square, also called the *Mantel-Haenszel test for linear association* or *linear by linear association chi-square*, unlike ordinary and likelihood ratio chi-square, is an ordinal measure of significance. It is preferred when testing the significance of linear relationship between two ordinal variables because it is more powerful than Pearson chi-square (more likely to establish linear association). Mantel-Haenzel chi-square is not appropriate for nominal variables. If found significant, the interpretation is that increase in one variable are associated with increase (or decreases for negative relationships) in the other greater than would be expected by chance of random sampling. Like other chi-square statistics, M-H chi-square should not be used with tables with small cell counts.

Stratified analysis, also called blocked analysis and matched analysis, is a form of control variable analysis conducted with the Mantel-Haenszel coefficient. For each of k categories of a control variable (called the *stratification* variable), a 2-by-2 table is created for the independent and dependent variables. The stratification variable need not be ordinal but it is assumed that the row and column marginals be the same for each of the k 2-by-2 tables, a circumstance which occurs mainly in experimental situations. The Mantel-Haenszel chi-square coefficient tests whether the common odds ratio across the k strata is 1.0, indicating no effect of the stratification variable. SPSS provides a macro (mh.sps) for Mantel-Haenszel stratified analysis which outputs M-H chi-square and its significance.

3.6.1.5 Factor Analysis

Factor analysis takes a large set of variables and looks for a way that the data may be summarised using a smaller set of factors or components. In factor analysis, factors are estimated using a mathematical model, where only the shared variance is analysed (Tabachnick and Fidell, 1996). In addition, uncorrelated variables in factor analysis are linear combinations of the original variables (Velicer and Jackson, 1990).

The main applications of factor analytic techniques are: to *reduce* the number of variables and to *detect structure* in the relationships between variables, that is to *classify variables.* Therefore, *factor analysis* is applied as a data reduction or (exploratory) structure detection method

The family of factor analytic techniques has a number of different uses. It is used extensively by researchers involved in the development and evaluation of tests and scales. The scale developed starts with a large number of individual scale items and questions, which can be refined and reduced to form a smaller number of coherent subscales by using factor analytic techniques. Factor analysis can also be used to reduce a large number of related variables to a more manageable number, prior to using these variables in other analyses such as multiple regression or multivariate analysis variance.

There are two main approaches to factor analysis; exploratory and confirmatory. Exploratory factor analysis (EFA) is often used in the early stages of research to gather information about (explore) the inter-relationships among a set of variables. Confirmatory factor analysis(CFA) on the other hand, is a more complex and sophisticated set of techniques used later in the research process to test (confirm) specific hypotheses or theories concerning the structure underlying a set of variables.

The consideration of these various overlapping usages are related to several aspects of scientific method - induction and deduction; description and inference; causation, explanation, and classification; and theory building (Norusis, 2000). For the purpose of this study, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) will be principally utilised.

3.6.1.6 SWOT Analysis

SWOT is an abbreviated word which simply means Strength, weakness, Opportunities and Threats. SWOT analysis is a popular and simple tool in marketing due to its ease of usage. However, SWOT analysis can be very subjective making it defective to be relied upon. Two people rarely come-up with the same final version using SWOT analysis.

In SWOT, *strengths* and *weaknesses* are internal factors. For example: A strength could be:

- A specialist marketing expertise.
- A new, innovative product or service.
- Location of a business.
- Quality processes and procedures.
- Any other aspect of a business that adds value to a product or service.

A weakness could be:

- Lack of marketing expertise.
- Undifferentiated products or services (thus in relation to competitors).
- Location of a business.
- Poor quality goods or services.
- Damaged reputation.

In ***SWOT***, *opportunities* and *threats* are external factors. For example: An opportunity could be:

- A developing market such as the Internet.
- Mergers, joint ventures or strategic alliances.
- Moving into new market segments that offer improved profits.
- A new international market.
- A market vacated by an ineffective competitor.

A threat could be:

- A new competitor in a home market.
- Price wars with competitors.
- A competitor has a new, innovative product or service.
- Competitors have superior access to channels of distribution.
- Taxation is introduced on a product or service.

Some of the problems that may be encountered with SWOT analysis are as a result of one of its key benefits which is its flexibility. Since SWOT analysis can be used in a variety of scenarios, it has to be flexible. However this can lead to a number of anomalies.

3.6.2Choice of Statistical Technique

The selection of the analytical tool is dependent on a thorough review of available analytical and statistical tools. The use of factor analysis in social research of this type has been identified by the researcher to have several possible benefits and flexibility. Since none of the studies earlier reviewed had used factor analysis, it suggests the unfamiliarity of researchers in this field despite its immense benefits.

Considering these observations with regards to data collection and analysis, a multi-methodology approach was utilised for this study while using both quantitative and qualitative data collection tools and upholding the use of quantitative analytical tool to explain qualitative incident.

3.7 SUMMARY OF CHAPTER

In this chapter, the importance of a research design has been stressed in order to undertake the study successfully. In selecting the most suitable method for this study, the researcher has extensively and critically reviewed the research strategies employed in the previous studies. A review of the research methods has revealed that survey is the most appropriate approach for extracting the relevant data. The researcher has chosen both the personal delivery of questionnaire survey and interview methods for this study

There have been discussions in this chapter for the design of the questionnaire for the survey in order to illicit descriptive and subjective data from the samples. Also the research has critically reviewed and adapted some of the questions used in the previous studies of real estate firms. A booklet format questionnaire was in order to achieve a good response. In order to determine the potential effectiveness of the questionnaires and to evaluate whether it meets the objective of the study, a pre-test and pilot study of the questionnaire was conducted before the full scale study. The questionnaire survey method was used in order to obtain more information on the past performance and growth potential of the firms. Using the survey respondents as a sampling frame, 69 firms were selected to participate in the study.

The data collected through the questionnaire survey were processed using Multivariate analyses Diagram were mostly used based on grouped vertical bar charts and line graphs. If a data conformed to some statistically acceptable criterion of many correlation matrix of 0.3 or more and Kaiser-Meyer-Oklin statistic (Tabachnick and Fidell, 1996) value of 0.6 of more for categorical data, factor analysis was employed. Non-parametric statistical methods mainly based on Kruskal-Wallis Test and Friedman Test (Daniel, 1990) was extensively used where

appropriate. Characteristics of the survey for obtaining the relevant data were enlightened including the sampling frame, the sample size and techniques. The next chapter considers analysis of the collected data.

CHAPTER FOUR

RESULTS AND DISCUSSION

Results and discussions of the survey are presented in this chapter after data collection through the questionnaire survey. This chapter seeks to discuss the characteristics of real estate firms, the influence of financial institutions and determinants of supply of funding for real estate development, difficulties in obtaining external financing, trends in real estate financing, real estate financial management difficulties and financial decisions and skills acquisition by real estate firms.

4.1 CHARACTERISTICS OF REAL ESTATE FIRMS

As earlier discussed in section 2.6.1, the financial behaviour of firms in association with their characteristics refers to the period of establishment of firm, number of residential properties, number of employees, legal status, annual turnover and expenditure which are all key factors that influence the total value of the firm's real estate holding in Ghana.

4.1.1 Period of Establishment, Ownership Status and Number of Employees of Firms

The distribution of real estate firms corresponding to period of establishment, legal status and size of work force is presented in Table 4.1. Most of the firms were established between a 10

and 20 years accounting for about 52.1 %, while real estate firms established less than 10 years ago are also dominant forming about 35.4 % of the total number of firms. However, 8.3% of the firms had been in existence between 20 and 30 years with only a few real estate firms (4 %) have survived more than 30 years ago. These differences in the number of firms among age classes are significant (χ^2 = 8.99; df = 3, $p<0.05$).

The results conform to findings by other researchers who discovered that constraints in raising finance are inversely proportional to age of the firms, as the young firms encounter much difficulty (Moore *et al*, 1983; Bannock *et al*, 1991) and find it difficult to survive accounting for the relatively moderate number of firms. The young firms have low assets value to use as security (Bannock et al, 1991; Binks *et al*, 1990), and as a consequence, they are more likely to encounter difficulties in raising finance to survive. According to Hall (1995), old firms generally have more time to learn about their costs, and so will have more accurate estimates of their costs than young firms. Again, in the case of old firms unpleasant surprises in their cost and concomitant future output levels are less likely thus they are more likely to survive.

Table 4.1 The distribution of real estate firms according to period of establishment, legal status and size of employees

Number of employees	Ownership Status (L)	Period of establishment of real estate firms				Total
		<10years	10 - 20 years	21 - 30 years	>30years	
<50 workers	L1	0	0	0	0	12
	L2	12	0	0	0	
	L3	0	0	0	0	
	L4	0	0	0	0	
50-75 workers	L1	0	0	0	0	18
	L2	1	10	0	0	
	L3	4	2	0	0	
	L4	0	1	0	0	
76 -100 workers	L1	0	0	0	0	2
	L2	0	2	0	0	
	L3	0	0	0	0	
	L4	0	0	0	0	
>100 workers	L1	0	0	0	0	16
	L2	0	10	4	1	
	L3	0	0	0	0	
	L4	0	0	0	1	
Total		17	25	4	2	
Total	L1= 0; L2= 40; L3= 6; L4= 2					

L1 = Enterprise/ Sole Proprietorship; L2 = Private Limited Company
L3 = Partnership/ Joint Venture; L4 = Others (e.g. Public Trust/ Funds)

The operations of employee of real estate firms is very much dependent on the legal ownership as the chi-squared test value of differences is 181.6 ($p < 0.005$; $df = 3$). Private Limited Company are the dominant ones (Table 4.1) accounting for 40 out of the 48 real estate firms, while sole proprietorship is almost non-existent. Also the number of real estate firms in each ownership classes varied significantly over period of establishment ($\chi^2 = 7.74$; $df = 3$, $p<0.1$).

The legal form of a business company has some influence on the level of difficulties in obtaining external finance which affects their operations and existence. The choice of legal form, particularly the choice of incorporated status for small business in the United Kingdom, has been examined in detail by Freedman and Godwin (1992, 1994) from surveys of entrepreneurs and business and observed that the prime benefit of corporate status is a limited

liability, followed by apparent increased credibility which the business has with both its customers and its lending institutions. Consequently private limited companies are able to derive high benefit and ensure their prevalence.

The number of employees of a real estate firm does not have much influence on the prevalence of real estate firms in Ghana (χ^2 = 2.58; df = 3, p<0.10). Table 4.1 shows that, apart from the low number of workers (4 %) in the class 76-100, all the workers classes have between 25-37.5 % of the total work force. This is perhaps in contrast with the observation made by Hall (1995) who observed that the probability of a firm failing increases with expansion of size. There is the possibility that large firms may be in a better position to build a better banking relationship, credit history or satisfy the financial lending requirements of banks to qualify for funding. Additionally, smaller firms 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, small real estate firms often cannot obtain long-term finance in the form of debt and equity. However, the difficulty in raising finance is still prevalent and cuts across all sizes of real estate respondent firms in Ghana.

Most real estate firms in Ghana which were established between 10 and 20 years are predominantly private limited companies. This is partly due to the fact that the death or misappropriation of managerial role of the manger of a real estate firm can lead to its collapse making enterprise or sole proprietorship misguided option. Moreover, only 2 public trust or funding institutions invest in real estate development leaving the rest of the real estate industry in the care of the private sector.

4.1.2 Financial Expenditure and Turnover of Firms

The prevalence of real estate firms is less dependent on the annual financial expenditure (χ^2 = 0.99; df = 3, p<0.40). However, real estate firms with annual financial expenditure exceeding GH ¢1.5 m are slightly dominant, accounting for 50 % of firms. (Table 4.2). The number of real estate firms is less influenced on the annual financial expenditure (χ^2 = 2.03; df = 3, p<0.40). However, real estate firms with annual financial expenditure between GH ¢1.0m and GH ¢1.5 m are slightly prevalent, accounting for 44 % of firms, while firms with annual financial expenditure less than GH ¢0.5 m are not common, accounting for 8 % of firms (Table4.2). Besides the number of real estate firms in each period of establishment of firm class varies significantly over annual financial expenditure of firm class (χ^2 = 9.67; df = 3, p<0.022). Real estate firms established between 10 – 20 years and with annual financial expenditure value more than GH ¢1.5 m are most prevalent, accounting for 27 % of all firms.

It has been repeatedly documented that in the early years of existence, young firms cope with a significantly lower survival rate than incumbents. Reasons point both to firm-level characteristics such as smaller size for young frms, structure of ownership (Audretsch and Mahmood, 1999) and access to financial resources (Aghion et al., 2006) and to industry characteristics such as the minimum efficient scale, technological regime (Audretsch, 1991) and the stage of the industry life cycle (Argawal and Audretsch, 1995). Firms differ in their levels of capitalisation, sales and employment hence, definitions such as number of employees, turnover, expenditure, profitability and net worth are employed in the measurement of firm size. Working capital may have influence on firms' ability to access external finance (Appiah-Okoh and Song 2000). The observation is consistent with the research that larger or more profitable firms are likely to have access to a larger pool of earnings that can easily be reinvested in the firm, as well as a broader set of credit

instruments.

Table 4.2 The distribution of real estate firms according to annual expenditure and annual turnover

		Annual expenditure (GH ¢1000)				
Annual Turnover (GH ¢1000)		<500	500-999	1000-1500	>1500	**Total**
	<500	4	0	0	0	**4**
	500-999	4	4	0	0	**8**
	1000-1500	0	9	1	5	**15**
	>1500	1	0	1	19	**21**
	Total	**9**	**13**	**2**	**24**	

4.1.3 Number of Residential Properties and Total Value of Firms

The total value of a firm for the purposes of this research has been defined as the net worth of a firm in terms of its financial holding in the construction sector of the economy. Table 4.3 shows the distribution of real estate firms according to total value and number of residential properties. The existence of real estate firms is not much dependent on the total value of real estate holding (χ^2 = 4.81; df = 3, p<0.30). However, real estate firms with total value of real estate holding more than GH ¢1.5 m are slightly high, accounting for 54 % of firms (Table 4.3). The number of firms with total value less than GH ¢0.5 m are low, accounting for 8 % of firms (Table 4.3). Also the number of real estate firms in each period of establishment of firm class varies significantly over total value of firm class (χ^2 = 9.38; df = 3, p<0.025). Firms established between 10 – 20 years and with total asset value more than GH ¢1.5 m are the commonest, accounting for 25 % of all firms. The total number of firms is not significantly influenced by the number of constructed residential properties ((χ^2 = 2.58; df = 3, p<0.50). However, real estate firms with number of constructed residential properties less than 50 are slightly predominant, accounting for 35.75 % of firms, (Table 4.3). The number of firms with number of constructed residential properties between 100 and 149 is not common, accounting for 8 % of firms (Table 4.3).

The empirical evidence presented above is more consistent with that registered by (Opler and Titman, 1994; Rajan and Zingales, 1995; Booth et al., 2001; who reported that the important determinants of corporate financing choices are identified as the amount of tangible fixed assets, firm size, growth opportunities, risk, profitability and tax debt shield. This suggests that as real estate firms grow by age, they acquire a high level of tangible fixed assets to create more collateral for the firm, which helps the firm to raise more funding. The relationship between tangible fixed assets and debt financing is related with the maturity

structure of debt, (Booth et al. 2001). In this case, the level of tangible fixed assets may help firms to obtain more long-term debt. Also, real estate development is capital intensive and requires the allocation of scarce resources (land, cash, lines of credit, and so on) to various land uses. Loans from banks in the initial years are difficult, as younger real estate firms are less likely to command bank loans since they have no established track records (Binks, 1990), which is consistent with results from the research. Most financial institutions believe that it is risky and administratively expensive to lend to small firms, including real estate establishments, (Wilson Committee, 1979; Salazar, 1986) and even if the small firms do get external finance, they are usually required to pay a higher rate of interest and offer a higher level of security and collateral (Storey, 1987; Hall, 1989; Economist, 1994). It is believed that, as firms grow in size, they may enjoy less expensive financial options since "the prospective lenders have a greater degree of trust in large firms, and accordingly a lower perception of risk" (Peterson and shulman, 1987). These financial constraints discussed make it challenging for real estate firms to expand their operations to increase the number of their residential properties and other fixed assets.

Table 4.3 The distribution of real estate firms according to total value and number of residential properties

		Total value of real estate holding (GH ¢1000)				
Number of constructed residential properties		< 500	500-999	1000-1,500	>1500	**Total**
	< 50	4	0	5	9	**18**
	50-99	0	4	0	4	**8**
	100-149	0	0	4	0	**4**
	150-200	0	5	0	6	**11**
	> 200	0	0	0	7	**7**
	Total	**4**	**9**	**9**	**26**	

4.2 INFLUENCE OF FINANCIAL INSTITUTIONS ON REAL ESTATE DEVELOPMENT

Ghana currently has 21 commercial banks; 121 rural banks, 7 finance lease companies; 15 finance houses, 2 discount houses and 18 insurance companies. With the exception of the Bank of Ghana and delegated supervisory bodies, each of the financial firms hold the potential to deliver housing finance to meet effective demand in the housing market. Some types of institutions are better equipped than others to offer sustainable housing mortgage products that benefit both real estate developers and households. The degree of concentration in the banking system has fallen somewhat in the last few years, but it remains high. The top five banks hold about 70 percent of the banking assets and deposits. Moreover, there is significant evidence of interest rate coordination among the banks (Buchs and Mathisen, 2005; Bawumia, *et. al*, 2005).

4.2.1 Dependence of Real Estate Firms on Lending Institutions

Individual frequencies were multiplied by their corresponding values of factors under each rank of 1-5 and the sum was divided by the product of total number of respondents and 5 (highest figure on the five-point Likert-type scale).

Weighted mean of number of Real Estate Firms, X

$$= \frac{(1X_1+2X_2+3X_3+4X_4+5X_5)}{5 \times \text{Total Number of Respondents}} \quad ($$

where X_1, X_2, X_3, X_4, X_5 are corresponding values of factors under each rank of 1-5

The mean score for all the variables used scale-response type of questions resting on a five-point Likert-type scale, with "1" denoting the least and "5" being the highest. Majority of real estate firms derive most of their funding from Commercial Banks with a Relative Importance

Index (RII) of 0.954 (Table 4.4), Advance deposit is the second most important source of funding for real estate firms with RII of 0.908, followed by Merchant Banks with RII of 0.879. Most of the banks (including Home Finance Company (HFC) Bank, Fidelity Bank and others) that provide funding for real estate development operate as commercial banks. Currently there are 25 commercial banks operating in Ghana which offer products and services like mortgage facilities to individuals provided they qualify for funding. Some real estate developers most invariably demand a percentage of the total cost of construction, known as advance deposit, from prospective homeowners to fund their activities. This financial option eliminates interest rate charges which makes it lucrative provided developers are able to secure such funding. Merchant Banks in Ghana concentrate most of their activities on providing funding for timber and mining companies in the 1990s but lately these banks have been funding real estate development.

Table 4.4 Rank of importance of financial sources for real estate development in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Commercial Banks	1	1	0	4	42	48	229	0.954	1st
Development Bank	36	12	0	0	0	48	60	0.250	7th
Merchant Banks	1	2	3	13	29	48	211	0.879	3rd
Leasing Companies	27	12	5	0	4	48	86	0.358	5th
Finance Houses	40	8	0	0	0	48	56	0.233	11th
Discount Houses	39	8	1	0	0	48	58	0.242	9th
Building Societies	36	9	0	0	4	48	74	0.308	6th
Mortgage Finance Institutions	23	18	0	3	4	48	91	0.379	4th

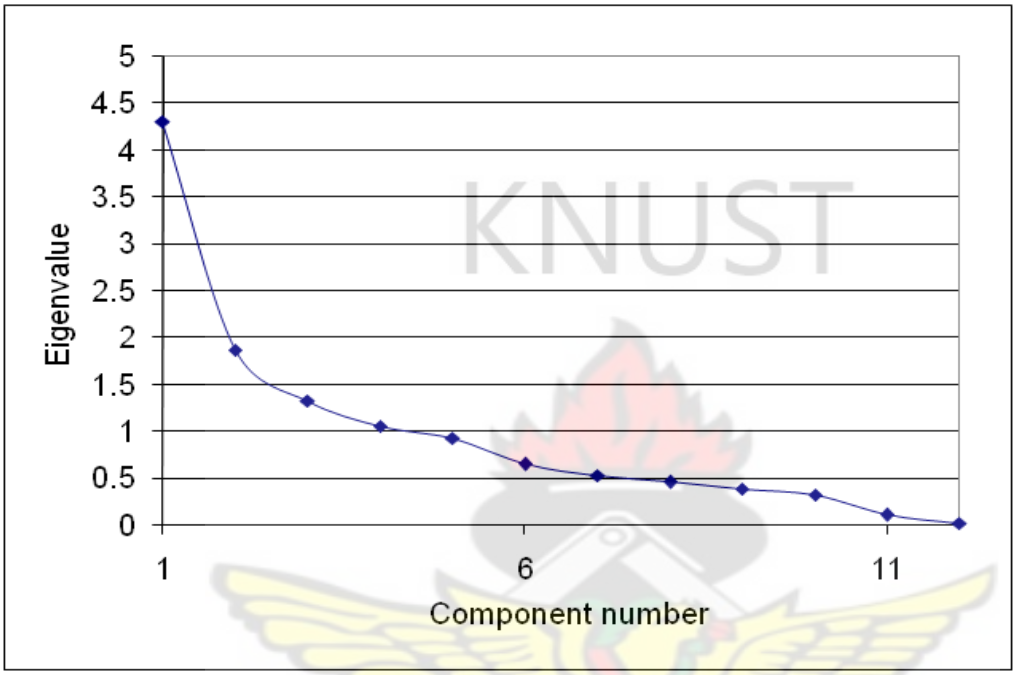
Venture Capital Funding	38	8	2	0	0	48	60	0.250	7th
The Trust Houses	39	8	1	0	0	48	58	0.242	9th
Insurance Companies	43	5	0	0	0	48	53	0.221	12th
Advance Deposit	1	2	0	12	33	48	218	0.908	2nd

RII = Relative Important Index

In order to evaluate the contributions of sources of lending to finance the real estate industry in the study area, 12 financial institutions of rank of importance (Likert-type) were subjected to principal components analysis (PCA). Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Oklin value was 0.61, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($\chi = 318.3$; $p<1.03x10^{-34}$ and df = 66), supporting the factorability of the correlation matrix.

The principal components analysis revealed the presence of four axes with eigenvalues exceeding 1.0, explaining 36.89 per cent, 15.64 per cent, 11.04 per cent and 8.85 per cent of the total variance respectively, resulting with a cumulative variance of 71.43 %.. The corresponding screeplot of eigenvalues (Figure 4.1) shows a change (or elbow) in the shape of the plot after the fourth component number. The loading of variables (financial firms) are presented in Table 4.4.

Figure 4.1 Screeplot of financial institutions concerned with funding of real estate practitioners in Ghana



The loadings of at least one lending institution on each of the four principal components (PC) axis were strongly significant (above 0.4) as Table 4.5 depicts.

Table 4.5: Component Matrix of Factor Analysis concerned with funding of real estate

Variables	PC1	PC2	PC3	PC4
Commercial Banks		0.3	-0.364	0.516
Development Banks	0.804			
Merchant Banks		0.354	-0.731	
Leasing Companies				0.777
Finance Houses	0.968			
Discount Houses	0.820			
Building Societies		0.897		
Mortgage Finance Institutions		0.884		
Venture Capital Funding Companies	0.695			
The Trust Houses	0.811			
Insurance Companies	0.811			
Advance Deposit	-0.385		0.705	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

In order to clearly interpret the eiginvalues loadings, these principal components were further subjected to factor rotation using the varimax with Kaiser normalization method (Kaiser, 1970, 1974). Only values greater than 0.30 have been listed as recommended Pallant (2001). The resultant rotated component matrix is displayed in Table 4.6 giving the same four principal axes but with slightly different loadings.

Table 4.6 Rotated component matrix of factor analysis concerned with funding of real estate

Factors	Component			
(Varibles)	**PCI**	**PC2**	**PC3**	**PC4**
Commercial Banks				0.627
Development Banks	0.813			
Merchant Banks			0.809	
Leasing Companies				0.771
Finance Houses	0.962			
Discount Houses	0.813			
Building Societies		0.950		
Mortgage Finance Institutions		0.909		
Venture Capital Funding Companies	0.706			
The Trust Houses	0.813			
Insurance Companies	0.803			
Advance Deposit	-0.368		-0.692	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

The twelve factors have been summarized into four new groups which are significantly different and explain the real estate financial sources form of lending institutions. Only loadings of values above 0.4 are used. In Table 4.6 the first grouping (PC1) consists ***of finance house institutions***. The second grouping consists of ***building societies*** (PC2). The third group consists of only ***Merchant Bank*** (PC3), while the fourth group consists (PC4) of ***leasing and commercial institutions***. According to Norusis (2000 and Field, 2005), rotating component matrix of factors is ideal for drawing scientific conclusions as it presents the robustness of the result.

Finance House Institutions

In the first component grouped variables such as Finance Houses (0.962), Development Banks (0.813), Discount Houses (0.813), Venture Capital Funding Companies (0.706), The Trust Houses (0.813) and Insurance Companies (0.803), the respective eigenvalues are indication of the degree of importance attached to the variables. A close examination of these variables may suggest that they are focused on financing firms concerned with housing development. Finance house institutions provide funding for high-risk, latently high-rewarding projects, purchasing equity or equity-linked stakes nevertheless the firms are privately held. In Ghana Venture Capital Funding, for instance, does not seem to be a popular equity finance method. The Ghana government established the Venture Capital Trust Fund (VCTF) Act 2004 (Act 680) solely to provide venture finance for companies whose total asset base, excluding building and land, do not exceed cedi equivalent of one million US Dollars.

Building Societies and Mortgage Finance Institutions

Building Societies and Mortgage Finance Institutions with respective loadings 0.950 and 0.909 are basically building institutions concerned with mortgage financing for housing for both individuals and construction firms. The government of Ghana has licensed some mortgage finance institutions to enhance their operations of credit provision for real estate development. These societies also provide both Cedi and US Dollars based loans to Ghanaians to enable them to acquire, complete or improve their homes. For some of them however, applicants are not required to open a bank account with them or participate in any kind of saving scheme before qualifying for a mortgage. They therefore provide swift loans to their clients and this seems to be popular with real estate developers as the results portray.

Merchant Bank

The third component (PC3) identified as Merchant Bank with a loading of 0.809 is the major bank among all the *merchant banks* in Ghana who are major sources of real estate finance in Ghana. As observed by Suhr's (2006) if one factor seems to contribute to the underlying measure, then the associated eigenvalue of that factor should be relatively high. It should be noted that the evidence of relatively high eigenvalue of 0.809 registered by the variable would validate the findings. The Merchant Bank of Ghana is a primarily engaged in offering financial services and advice to corporations and wealthy individuals on how to use their money. Funding of real estate development by merchant banks has not been fully developed in Ghana but the results have revealed that they provide major sources of finance to real estate developers in recent times. These banks need to partner the real estate developers to enhance their operations.

Leasing and Commercial Institutions

Leasing companies and commercial banks with respective loading of 0.771 and 0.627 are important sources of funding for real estate development as the results show. These institutions are concerned with leasing. The type of leases available in a market depends on the maturity of the leasing sector in that market (Amembal, 2000). At the emerging stage, the major type concerned with leasing is usually a simple finance lease; primarily a mechanism to buy building materials and equipment. Creative designed finance leases and operating leases catering to market niches are now popular in Ghana, as the results show. There are several registered leasing companies which offer four types of products, namely, finance leases, operating leases, trade finance and hire purchase. Finance leases constitute more than 90% of the average total operations (leasing in Ghana, Market Survey Report, International Finance Corporation, 2006). There are no restrictions as to the type of industry and

equipment that leasing companies can finance. There is equally, no restriction as to the size of businesses served by the leasing industry and therefore popular with real estate developers as the results show. The average lease period for leasing in Ghana is however 36 months (leasing in Ghana, Market Survey Report, International Finance Corporation, 2006).

4.2.2 Forms of Real Estate Financial Acquisition

Firms generally start with owner's funds, though perhaps with the help of family and friends, and with the support of bank overdraft finance. Thereafter as the firm expands, they need additional finance. Finance for expansion can be broadly classified as equity finance, debt finance, or government assistance. Equity finance in simple terms is internally generated finance whereas debt finance is externally generated finance. Government assistance is a type of finance usually provided by various government agencies or local authorities to help small firms in financing their expansion plans. Some of the real estate firms also demand finance from prospective homeowners before and during delivery of the property. Table 4.7 presents forms of real estate financial acquisition types.

Advance deposit is the most important option of real estate form of financial acquisition, with a Relative Importance Index (RII) of 0.929 as shown in Table 4.7. Retained profit is the next highly graded financial form of acquisition with RII of 0.917 followed by funding from personal, family and friends sources with RII of 0.813. Government assisted financing scheme, factoring and invoicing discounting are less important in real estate financial acquisition methods in Ghana with RII respective values of 0.233 and 0.217.

The results imply that the most important financial acquisition method for real estate development in Ghana is advance deposits. This contradicts observations made by Myers,

Stewart, and Nichola Majluf who observed that successful companies do not need to depend so much on external funding. They, mostly rely on their internal reserves accumulated from past profits. Firms with high profit rates, maintain relatively lower debt ratio since they are able to generate such funds from internal sources (Myers, Stewart, and Nichola Majluf, 1984). However, the results also conform to observations made by Esperanca, Gama and Gulamhussen, Opler and Titman (1994); Rajan and Zingales (1995) and Booth *et al*., 2001. Young real estate firms mostly depend on debt, because they cannot count on a cushion of accumulated revenues generated by past investments (Esperanca Gama and Gulamhussen 2003). The important determinants of corporate debt financing choices are identified as the amount of tangible fixed assets, firm size, growth opportunities, risk, profitability and tax debt shield (Opler and Titman, 1994; Rajan and Zingales, 1995; Booth *et al*., 2001) A high level of tangible fixed assets creates more collateral for real estate firms, which help the firm to raise more debt. The relationship between tangible fixed assets and debt financing is related to the maturity structure of debt, (Booth *et al*. 2001). This suggests that the level of tangible fixed assets may help firms to obtain more long-term debt. Advance deposit for real estate development in Ghana comes in the form of percentage payments of the total construction cost in instalment from commencement to completion of the property. In this form of funding developers do not incur any cost of interest charges making it lucrative in enhancing the operations of real estate development. Moreover, prospective homeowners consider the ability of real estate developers to deliver the properties as contained in their terms of agreement by looking at their experiences, track record, financial and technical capabilities before entering any contractual arrangement.

The results conform to observation made by Dhanani (2005) and Abor, (2007). Dhanani observed that it is cheaper to finance new projects with internally generated funds than funds

from external markets Dhanani (2005). Firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time (Abor, 2007). Successful real estate firms do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits. Real estate firms with high profit rates, maintain relatively lower debt ratio since they are able to generate such funds from internal sources.

Table 4.7 Rank of importance of real estate financial acquisition methods in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Retained profits	1	2	3	4	38	48	220	0.917	2nd
Personal/Family/Friends	1	1	9	20	17	48	195	0.813	3rd
Partners/Directors/ Shareholders (Equity)	1	4	1	28	14	48	194	0.808	4th
Venture Capital Funding (Equity)	40	8	0	0	0	48	56	0.233	14th
Bank Over-draft (Debit Finance)	17	21	3	0	5	48	93	0.388	7th
Bank Loan (Debit Finance Less than 5 years)	1	33	0	13	1	48	124	0.517	6th
Bank Loan (Debit Finance More than 5 years)	36	12	0	0	0	48	60	0.250	13th
Advance Deposit (Debit Finance)	1	0	0	13	34	48	223	0.929	1st
Leasing	35	9	4	0	0	48	65	0.271	9th
High Purchase	35	13	0	0	0	48	61	0.254	12th
Factoring and Invoice Discounting	44	4	0	0	0	48	52	0.217	16th
Government Assisted Financing Scheme	40	8	0	0	0	48	56	0.233	14th
Partners/Directors/ Shareholders (Foreign)	34	10	0	3	1	48	71	0.296	8th
Venture Capital Funding (Foreign)	40	4	3	0	1	48	62	0.258	11th
Remittances (Foreign)	1	5	11	26	5	48	173	0.721	5th

Bank Loan (Foreign)	36	11	0	0	1	48	63	0.263	10th

RII = Relative Important Index

4.2.3 Factors Influencing Pursuit for Real Estate Finance

Real estate developers consider some factors in financing their operations. Thirteen factors were identified as the main strategies the developers consider in seeking finance from lending institutions. Some of these are information asymmetry, agency cost, tax implication, inflation, corporate policy, bank's limit of lending, interest rate, prepayment conditions, maturity period, transaction cost, credit history, ownership of asset during financing, and cash flow of firm.

In deciding to seek finance for development many real estate developers are influenced mostly by interest rate with highest Relative Importance Index (RII) of 0.963 (Table 4.8). Profitability cash flow is the second most important factor which affects the seeking of finance by real estate firms with RII of 0.883, followed by transaction cost with a RII of 0.804. The results conform to observations made by Binks *et al*. and Confederation of British Industry (1993). Funding from banks in the initial years are difficult, as younger real estate firms are less likely to command bank loans especially when they have no established track records (Binks, 1990). The cost of borrowing in Ghana currently attracts a rate of interest between 25% to 30% (Ghana News Agency, March, 2012). Besides, real estate developers access funding from lending institutions at the same inter-bank rate making their operations relatively expensive. Generally, the real estate industry in Ghana is characterised by uncertainty in future cash flow predictions which increases the challenge of attracting funding from lending institutions. Owing to the fact that there are long-term financial difficulties in Ghana as shown in Table 4.15, it becomes a challenge to secure long term loans for real estate activities considering the development duration. Moreover, real estate investment

periods take a long time for recuperation, particularly when viewed from the land acquisition and development stage, through the construction to leasing or eventual sale of the property. Funds are therefore locked up for all that duration affecting repayment of any source of external funding. In order to offset the risk involved in lending funds to real estate developers, financial institutions lend at high interest rates as a form of insurance against future default in repayment.

Table 4.8 Rank of importance of constraints influencing financial decisions by real estate firms in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Information asymmetry	1	9	26	9	3	48	148	0.617	11th
Agency cost	6	8	29	5	0	48	129	0.538	12th
Tax implication	5	17	16	9	1	48	128	0.533	13th
Inflation	1	4	4	26	13	48	190	0.792	4th
Corporate policy	1	2	19	18	8	48	174	0.725	6th
Banks' limit of lending	2	4	24	14	4	48	158	0.658	10th
Interest rate	1	0	0	5	42	48	231	0.963	1st
Prepayment conditions	1	0	22	9	16	48	183	0.763	5th
Maturity period	1	4	17	18	8	48	172	0.717	7th
Transaction cost	1	4	5	21	17	48	193	0.804	3rd
Credit history	1	5	25	8	9	48	163	0.679	8th
Ownership of asset	1	0	30	13	4	48	163	0.679	8th
Profitability Cash flow	1	1	0	21	25	48	212	0.883	2nd

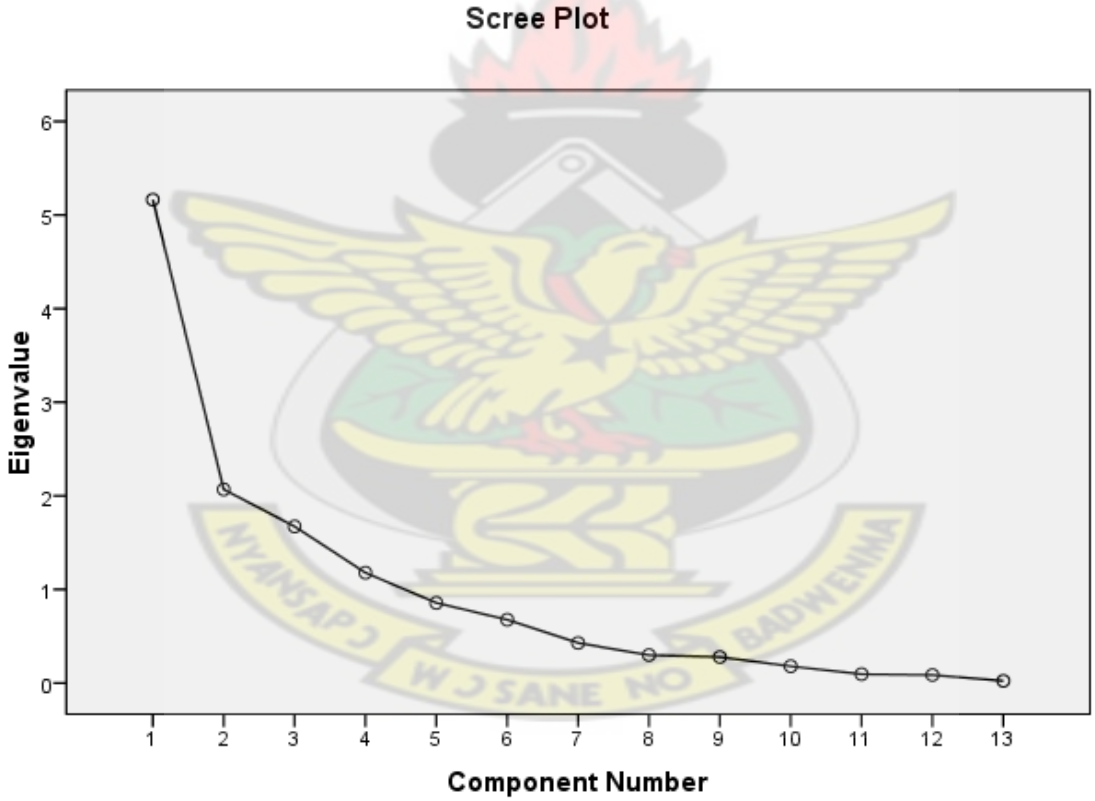
RII = Relative Important Index

The factors were further subjected to principal components analysis (PCA). Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above.

The Kaiser-Meyer-Oklin value was 0.601, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and the Barlett's test of sphericity (Bartlett, 1954) reached statistical significance

(χ^2 = 466.5; p<1.01x10 $^{-40}$ and df = 78), supporting the factorability of the correlation matrix. The principal components analysis revealed the presence of four axes with eigenvalues exceeding 1.0, explaining 39.72 per cent, 15.91 per cent, 12.87 per cent and 9.06 per cent of the total variance respectively, resulting with a cumulative variance of 77.56 %. The corresponding screeplot of eigenvalues (Figure 4.2) shows a change (or elbow) in the shape of the plot after the fourth component number. The loading of variables (financial firms) are presented in Table 4.9.

Figure 4.2 Screeplot of financial institutions concerned with influencing decision to seek funding by real estate practitioners funding of real estate practitioners in Ghana



The loadings of at least one lending institution on each of the four principal components (PC) axis were strongly significant (above 0.4) as Table 4.9 depicts.

Table 4.9: Component Matrix of Factor Analysis concerned with factors influencing decision to seek funding by real estate

Factors	PC1	PC2	PC3	PC4
Information Asymmetry	0.756		0.336	0.325
Agency Cost	0.526		0.336	0.583
Tax Implication		0.834	0.300	
Inflation	0.485	0.369	0.579	-0.363
Corporate Policy	0.465	0.667		
Banks' limit of lending	0.304	0.563	-0.390	0.505
Interest Rate	0.751			-0.424
Prepayment Conditions	0.779		-0.476	
Maturity period	0.717		-0.532	
Transaction cost	0.774	-0.383		
Credit history	0.631	-0.418	0.510	
Ownership of asset during financing	0.729			
Cash flow of firm	0.729			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

The resultant rotated component matrix is displayed in Table 4.10 giving the same four principal axes but with slightly different loadings.

Table 4.10: Rotated Component Matrix of Factor Analysis concerned with factors influencing decision to seek funding by real estate

Factors	PC1	PC2	PC3	PC4
Information Asymmetry		0.315	0.778	
Agency Cost			0.875	
Tax Implication	-0.479	0.382		0.664
Inflation		0.880		
Corporate Policy		0.548		0.571
Banks' limit of lending				0.865
Interest Rate	0.558	0.663		
Prepayment Conditions	0.891			
Maturity period	0.827			0.309
Transaction cost	0.815			
Credit history		0.306	0.773	-0.334
Ownership of asset during financing	0.413	0.507	0.353	
Cash flow of firm	0.413	0.507	0.353	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

The thirteen factors have been summarized into four new groups and explain the real estate financial sources form of lending institutions. Only loadings of values above 0.3 are used. In Table 4.10 the first grouping (PC1) which can be considered as ***financial conditions*** is dominated by prepayment conditions, maturity period, transaction cost in the order of importance with loadings greater than 0.81. Real estate firms like any other small firm usually are required to meet strict loan requirements as prepayment conditions as ranked highest in seeking finance for real estate development. The empirical results presented above confirms to observations made by Binks and De Soto. Lack of material security or collateral is the most prepayment condition required to receive financial assistance from financial institutions, (Binks et al., 1990). The necessity to provide collateral against loans has become the inhibiting factor for some real estate firms since they may be owned by persons with limited resources. Rights to assets to be used as collaterals are not adequate which are not

documented, cannot be turned into capital readily, cannot be traded outside local circles or used as collateral for loan, (De Soto 2000). Hence, some firms are unable to comply with collateral requirements because they are unable to present appropriate documents or certificates of ownership and, furthermore, procedures to obtain such documentation take an extended period of time, (Bernanke, Gertler & Gilchrist, 1996), which increases the maturity periods of loans applications. Moreover, the large deposit requirement by the banks, thus the capital required is a sufficient deterrent to a number of borrowers since lenders are interested in the quality and security of the property to be used as collateral.

The second grouping which can be considered as ***micro-economic indicators*** is dominated by inflation and interest rate (PC2). Inflation is the most important factor in the second group with a loading of 0.88. One reason for the low long-term debt ratio of developing countries is the impact of inflation. High and volatile inflation rates prevent corporate borrowing. Especially long-term debt financing is affected due to higher contracting costs (Demirgüc-Kunt 1999).

Managers of real estate firms may favour debt financing because the repayment of debt will be less cumbersome due to the fall in the real purchasing power of money. However, creditors may be unwilling to supply funds in inflationary conditions for the same reason, unless they are compensated with high interest rates. However, interest rates are normally beyond the control of creditors, being defined by government policy. The urgent task facing Ghana is to stabilize its macro-economic variables in order to create an enabling environment for capital market development. This implies adopting policies that lead to low inflation, stable foreign exchange rates, low fiscal deficits, and a balanced budget. The attainment of these goals is essential to ensure the public's confidence to increase their financial asset

holdings. The role of monetary policy in stabilizing macroeconomic indicators will be enhanced by a complementary fiscal policy undertaken by the government.

A rise in the interest rate increases the opportunity cost of holding cash balances which has a negative impact on money demand. The reduction in money demand creates excess supply of credit and stimulates a rise in aggregate demand. Consequently, price must increase so that individuals can be satisfied to hold the existing stock of money rather than spending it on commodities or interest-bearing assets such as real estate (Bose, 2002). Short-term borrowing at high interest rates causes a need for re-borrowing in order to make debt service payment, and create a vicious circle of high budget deficits and high interest rates Telatar (2002). This suggests that it is likely that economic stability and low inflation can be achieved by reducing nominal interest rate. This requires implementation of credible structural reform of tax and expenditure systems to eliminate the public sector borrowing requirement for reducing pressure on nominal interest rates.

Inflation is a continued rise in price levels that diminishes the value of money. By raising the cost of borrowing, increases in interest rates initially raise the rate of inflation. Since interest is a cost of doing business as highly considered by real estate developers (Table 4.10), increases in interest rates initially raise costs which are passed on as higher prices. Though inflation falls to its initial level, increases in interest rates do not, in the end, lower the inflation rate. Hence, there is a cost to raising interest rates (lower real GDP growth), without any apparent benefit in terms of lowering inflation. On the other hand, real exchange rate initially depreciates when the interest rate goes up. It is essential to note that when the interest goes up, inflation initially increases. This could lead to an initial depreciation of the nominal

exchange rate associated with a transitory real depreciation until prices adjust. Any over-shooting of the exchange rate would exacerbate this initial effect.

The third group which can be considered as ***financial information*** consists of three prominent factors (information asymmetry (0.773), agency cost (0.875) and credit history (0.778). In the third group agency cost is the most important factor. The problem of unavailability of information affects the willingness of the banks to supply debt finance to real estate firms, on the grounds of greater uncertainty. Therefore credit history becomes crucial item which the real estate manager should provide to the lending institutions. The results presented in Table 4.10 corresponds to research by Lin et al. (2008) who indicated that, financial statements are dressed up to the point that they do not accurately reflect a company's profitability, and companies frequently hide material information or delay its disclosure. Because periodically-disclosed financial statements do not provide warnings of problems, information asymmetry prevents investors from being fully informed and protected (Zhou, 2007).

Agency cost may become more severe in firms with more tangible fixed assets, because the information revealed about future profit of projects is less in these firms. Debt financing may also lead to agency costs. Agency costs are the costs that arise as a result of a principal-stakeholder relationship, such as the relationship between equity-holders or managers of the firm and debt holders. Firms with a high level of growth tend to own more risky projects. Financiers may also require the previous credit history of real estate developers to ascertain their performance regarding loan acquisition and repayment. When banks seek information about potential borrowers, they invariably want to know about indebtedness, if any. Some real estate firms are prevented from getting loans due to lack of information and awareness level since they may not know the required documentations for its processing or the cost

involved. By sharing credit information, firms help lenders assess risk and allocate credit more efficiently. This frees managers of real estate firms from having to rely on personal connections alone when trying to obtain credit for development. Also the establishment of a strong banking relationship between real estate firms and lending institutions improves loan contract terms such as lower interest rates and collateral requirements.

The fourth group (PC4) which can also be considered as ***lending policies*** consists of dominant factors, namely bank's limit of lending (loading of 0.865) and tax implication (loading of 0.664). Prepayment condition is the over ridding factor considered by real estate mangers in deciding to seek finance for real estate development in Ghana. The results indicated that reducing the tax burden is a consideration in choosing debt as a financial method. This is consistent with the findings of Norton (*1991*) and others who reported that tax benefits are a determinant of capital structure. Also real estate firms place importance on bank's limit of borrowing and corporate policy.

Prevailing macro-economic environment is more influential in dictating how banks structure their portfolios than are the institutional credit ceilings, as illustrated by the way their 'favoured' sectors coincide with the 'high-performing' economic sectors. This may be understood by looking at the institutional contribution to gross domestic product (GDP) and relating this to credit share. The institutional ceilings binding on the banks are designed in such a way that, once a bank has exceeded the ceiling for a sector, it could only utilise funds earmarked for loans on sectors where the ceilings had not been reached. Banking institutions in Ghana need to have the full financial capacity to supply finance to real estate developers.

The Bank of Ghana should loosen its credit ceilings to support credit expansion for real estate development. This would allow a more rapid increase in money and credit, which, can lead to somewhat more rapid real economic growth. This policy will need to be supported by other changes in the financial sector if it is to have a major impact on infrastructural development. Lending policies are important determinant in seeking financial aid as reflected in the results. For example in Ghana's 2006 budget to improve lending policies, a mortgage market initiative was introduced by Ghana government to channel long-term local currency funds from institutional investors to the banking system for residential mortgage lending and in addition for estate-developers. In the course of the year 2006, the following measures were taken in line with the objective of amendment to the tax code to enable deduction of mortgage interest for home owners; and enactment of a Collateral Security Act to provide the appropriate legal framework for the creation, registration, perfection and enforcement of collateral. Also there was Government's recognition of the capital market as the key medium for resource mobilization for private sector development. The Government attempted to ease the development of capital markets in Ghana. Therefore the private sector, including real estate developers can have access to long-term sources of finances. This suggests that the Government of Ghana is making some pragmatic efforts to ease the difficulties associated with capital funding of investment projects but more stringent lending policies need to be done in support of real estate funding

4.2.4 Real Estate Financing Options Regarding Micro-economic Environment

Real estate developers most often than not consider the micro-economic environment within which they operate to make financial decisions critical. In a developing country like Ghana where micro-economic indicators such as interest rate on bank loans, inflation and foreign exchange keep fluctuating and swinging like a pendulum ball, these micro-economic

indicators cannot be overlooked. It is worth noting that foreign exchange rate depreciates when interest rate goes up with increasing inflation. Because interest is a cost of doing business, then increases in interest rates initially raise costs which are passed on as higher prices to end users.

Table 4.11 Real Estate Financial options regarding the micro-economic environment

Factors	Equity Finance (%)	Debt Finance (%)
High interest rate	100	0.00
Low interest rate	2.10	97.9
High inflation	100	0.00
Low inflation	2.10	97.9
High foreign exchange rate	91.7	8.30
Low foreign exchange rate	10.4	89.6
High cash flow of the firm	83.3	16.7
Low cash flow of the firm	18.8	81.2
High transaction cost	91.7	8.30
Low transaction cost	10.4	89.6
High risk factors	29.2	70.8
Low risk factors	72.9	27.1
Favourable repayment period	2.10	97.9
Unfavourable repayment period	100	0.00
Required collateral	60.4	39.6
No required collateral	2.10	97.9
Favourable repayment conditions	2.10	97.9
Unfavourable repayment conditions	100	0.00
Ownership of asset during financing	45.8	54.2
No ownership of asset during financing	31.2	68.8
Credit History	47.9	52.1
No credit history	43.8	56.2

Table 4.11 shows that, majority of the respondent firms consider the use of equity finance when; there is high interest rate (100 percent), high inflation (100 percent), high foreign exchange rate (91.7 percent), high cash flow of the firm (83.3 percent), high transaction cost (91.7 percent), low risk factors (72.9 percent), required collateral (60.4 percent) and unfavourable repayment period (100 percent). On the other hand majority of them also

consider the use of debt finance when; there is low interest rate (97.9), low inflation (97.9 percent), low foreign exchange (89.6 percent), low cash flow of the firm (81.2 percent), low transaction cost (89.6 percent), high risk factors (70.8 percent), no required collateral (97.9 percent) and favourable repayment period (97.9 percent) and no ownership of asset during financing (68.6 percent). The rest of the factors including ownership of asset during financing, and the issue of credit history did not portray a convincing interest by the respondent firms.

There is a negative relationship between debt and profitability on the basis that successful companies do not need to depend so much on external funding (Myers 1984). Companies, instead, rely on their internal reserves accumulated from past profits. Firms with high profit rates, all things being equal, would maintain relatively lower debt ratio since they are able to generate such funds from internal sources (Titman and Wessels 1988 and Barton et al. 1989).

This is consistent with Binks *et al*. (1990) who reported that lack of material security or collateral is the most serious bottleneck in receiving financial assistance from financial institutions,. Meanwhile mortgage finance is more lucrative when the property has been completed due to the numerous number of risks associated with construction in Ghana. The traditionally accepted view is that given two sources of funds, debt or equity, there should be benefits from the use of debt when debt is cheaper than equity and vice versa, resulting in an increase in the yield of shareholders' investment. Firms continuously have to take a complex and interdependent sets of decisions regarding output, investment, costing, prices, employment and finance. Also, firms must continuously decide how much they are going to produce and what prices they will charge. These decisions will be based on the quantity they expect to sell at those prices and the change in investment they will undertake depending

existing pressure and capacity together with expectations about financial conditions and profitability.

Merrill and Tomlinson (2006 b) in a report for USAID and the African Union for Housing Finance (AUHF) noted that high and volatile interest rates, high inflation rates, the crowding out effect of government debt issuance, and so on limited the ability of banks to engage in mortgage finance delivery.

Debt and equity percentages of financial options, for example, high interest rate (100 percent), high inflation (100 percent), with high foreign exchange (91.7 percent) and high cash flow (83.3 percent), accounts for the different financial strengths of individual real estate firms. Firms most likely to be unconstrained by concerns over debt capacity primarily use debt to fill their financing deficit while those with limited debt capacity exhibit a heavy reliance on external equity financing. Some firms may still go in for debt finance under high level of collateral required since the company might have built up enough tangible assets to serve as collateral. A high level of tangible fixed assets creates more collateral for a firm, which helps the firm to raise more debt. The relationship between tangible fixed assets and debt financing is related to the maturity of structure of debt, (Booth *et al*. 2001). In this case, the level of tangible fixed assets may help firms to obtain more long-term debt. High interest rate inevitably makes real estate firms resort to the use of equity finance since it does not attract any interest rate. One reason for the low long-term debt ratio of developing countries is the impact of inflation. High and volatile inflation rates prevent corporate borrowing. Especially long-term debt financing is affected due to high contracting costs (Demirgüc-Kunt. 1999).

Generally, a well-established corporate governance system suggests effective control and accounting systems, stringent monitoring, effective regulatory mechanism and efficient utilisation of firms' resources resulting in improved performance. Firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time (Abor, 2007). This means that the ability of the firm to access debt capital at lower cost could be dictated, to a large extent, by how the market gauges its corporate governance system. Easier access to debt capital at lower cost, ultimately leads to improved company performance.

A country cannot simultaneously adopt fixed exchange rate, free capital movement and an independent monetary policy without experiencing involuntary adjustments like a currency crisis. In this respect, Ghana has been no exception. In general, when a country is in fiscal dominance with unsustainable public debt and budget deficits the credibility of the public debt decreases and default risk becomes serious, which immediately leads to a deterioration in the risk premium and a large depreciation. While a standard argument predicts that an increase in interest rates will lead to an exchange rate appreciation by attracting foreign capital, fiscal dominance makes inflation targeting policy difficult due to higher default risk and depreciation caused by the increase in interest rates. The combined effects of demand and supply channels determine the results of exchange rate fluctuations on price.

Real estate demand variations are able to evoke inflation. Inflation has less probability to happen, when money release into market corresponds to demand of money to circulation of goods and services process, as it depends on prices of goods and services and their quantity. While other housing-market specific factors have had an influence, interest rate developments

are likely to play a key role and there is also a tendency for real prices to fall less at low inflation. Increased interest rates would reduce investment into real estate and construction cost would decline together with inflation slow down. Higher inflation rate depreciates the real estate property and future profit from investment reduces as well.

4.3 DETERNIMANTS OF LEVEL OF FUNDING FOR REAL ESTATE DEVELOPMENT

Under this section, empirical data was collected to determine how theories from literature review apply practically to strategies for financing real estate development in Ghana**.** Lending institutions usually want to know much about the particular real estate firms they supply funding to by using certain criteria for assessment so as to be well informed. For instance the financiers would want to know the legal status of a firm, age, size, average annual turnover and the number of constructed residential properties, which are all variables that can be summed up under one main chief factor, the total value of real estate holding. This section however, seeks to identify the determinants of supply of funding from lending institutions which is in accordance with the third objective; ***to identify the determinants of financial supply from lending Institution.***

4.3.1 Total Value of Real Estate Firms

The relationships between the variables listed are presented below giving insights to determinants of supply of funding for real estate development in Ghana. These are;

x_o = Total value of real estate holding (GH¢)

x_1 = Period of establishment of firm (years)

x_2 = Number of employees of firm

x_3 = Mean annual turnover for 5 years of firm (GH¢)

x_4 = Mean annual expenditure (GH¢)

x_5 = Total number of constructed residential properties of firm

x_6 = Mean annual number of residential properties produced by firm

x_7 = Number of constructed residential properties for rent by firm

x_8 = Number of constructed residential properties for outright sale by firm

x_9 = Number of constructed residential properties for lease by firm

x_{10} = Number of constructed residential properties for joint venture by firm

x_{11} = Financial demand by firm from lending institutions (GH¢)

x_{12} = Financial supply to firm from lending institutions (GH¢)

x_{13} = Mean annual capital formation of firm (GH¢)

x_{14} = Mean annual savings of firm (GH¢)

The model which relates current total value of an estate firm (y) to variables which significantly contribute to this total value is given below:

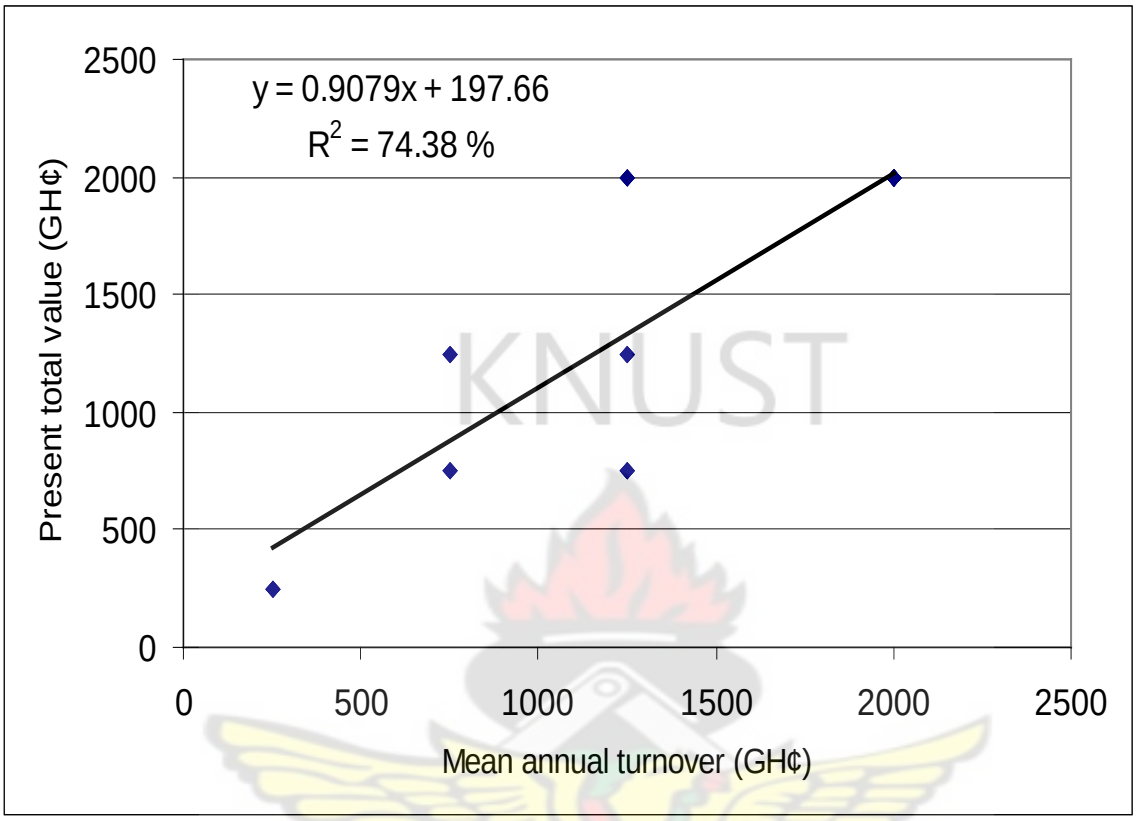
$$\mathbf{y = 1.184724\ x_3 - 1.21889\ x_2 - 0.00608\ x_4 + 3.496291\ x_5 + 2.798663\ x_7 - 0.53567\ x_8 - 1.30101\ x_9 + 1.398933\ x_{11} - 0.44578\ x_{12} - 0.32192\ x_{14} - 1085.8\ ;\ R^2_{adj} = 99.99\ \%}$$

Table 4.12 Statistics of the equation which relates current total value of an estate firm (y) to variables which significantly contribute to total value of a real estate company.

Variable	Coefficient	t-statistic value	Probability level	Rank of Importance
Intercept	-1085.80	-298.822	3.41E-64	
x2	-1.21889	-46.4341	2.09E-34	9
x3	1.184724	399.95	7.09E-69	1
x4	-0.00608	-2.68	0.011053	10
x5	3.496291	189.97	6.41E-57	7
x7	2.798663	271.04	1.26E-62	4
x8	-0.53567	-330.91	7.84E-66	3
x9	-1.30101	-182.87	2.62E-56	8
x11	1.398933	386.30	2.56E-68	2
x12	-0.44578	-249.54	2.68E-61	5
x14	-0.32192	-193.49	3.25E-57	6

The mean annual turnover for the past 5 years of real estate firm (GH¢) is the most important determinant of current total value of an estate firm with the highest *t*-value of 399.95 (Table 4.12). The financial demand by firm from lending institutions (GH¢) is the second most important variable influencing variation in the current total value of an estate firm with *t*-value of 386.3. The number of constructed residential properties for outright sale by firm is also very important determinant of total value of a real estate firm with *t*-value of -330.91, even though it contribution is negative.

Figure 4.3 Relationship between current total value of real estate firms and its mean annual turnover for the past 5 years



The relationship between current total value and the mean annual turnover for the past 5 years of firm is presented in Figure 4.3. The relationship is very strong with coefficient of correlation of 74.38 %. Current total value increases when the mean annual turnover increases.

Cooley and Quadrini (2001) assume young firms have a limited amount of equity and play off the mechanism that external debt financing involves higher costs. Production allows a firm to accumulate equity through retained earnings. A firm's equity grows as it ages. The accumulation of internal equity reduces a firm's reliance on debt. The portion of debt used for financing falls even through a firm may continue to increase its debt with expansion. Within

Cooley and Quadrini (2001)'s framework, leverage ratios should fall with age as a firm's need for debt falls. Cooley and Quadrini (2001)'s prediction of a negative correlation between age and leverage (debt-to-asset ratio) is consistent with the current data.

This suggests that in practice, when the capital formation of a real estate firm is high, the firm tends to demand huge funding from lending institutions which are mostly supplied thereby increasing the annual running capital, the number of constructed residential properties and the annual savings of the firm in the end. Additionally, when firms produce more residential properties for sale, their financial demand increases which intend require lending institutions to supply huge funding to support their operations. Furthermore, the annual capital formation of the firms increases, augmenting their annual savings which impacts the total value of their real estate holding.

4.3.2 Financial Supply to Real Estate Firms

The financial supply to a firm from lending institutions (y_1) is also highly related to the total value of assets, mean annual turnover for 5 years of firm, mean annual expenditure, mean annual number of residential properties produced by the firm and financial demand by the firm from lending institutions as given by the equation below:

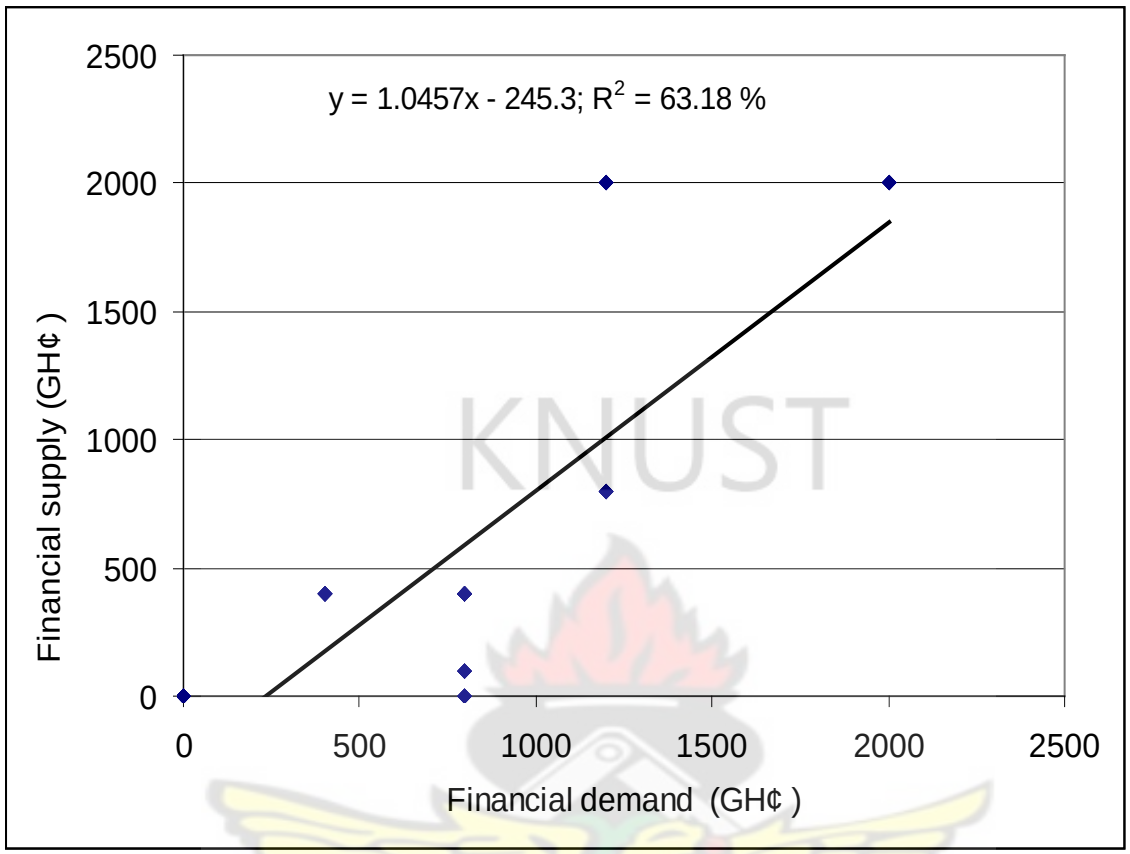
$$\mathbf{y_1 = 0.663944\, x_3 - 0.63095\, x_o + 0.232864\, x_4 + 15.84967\, x_6 - 0.4304\, x_8 + 1.339241\, x_{11} - 1078.04;\ R^2_{adj} = 95.47\ \%}$$

Table 4.13 Statistics of the equation which relates financial supply to a real estate firm from lending institutions to some variables which significantly contribute to its value.

Variable	Coefficient	t-statistic	Probability	Rank of Importance
Intercept	-1078.04	-13.2058	2.33E-16	
xo	-0.63095	-4.45036	6.44E-05	5
x3	0.663944	6.69598	4.44E-08	4
x4	0.232864	2.140264	0.038331	6
x6	15.84967	9.553752	5.51E-12	2
x8	-0.4304	-7.94127	7.99E-10	3
x11	1.339241	18.59776	1.36E-21	1

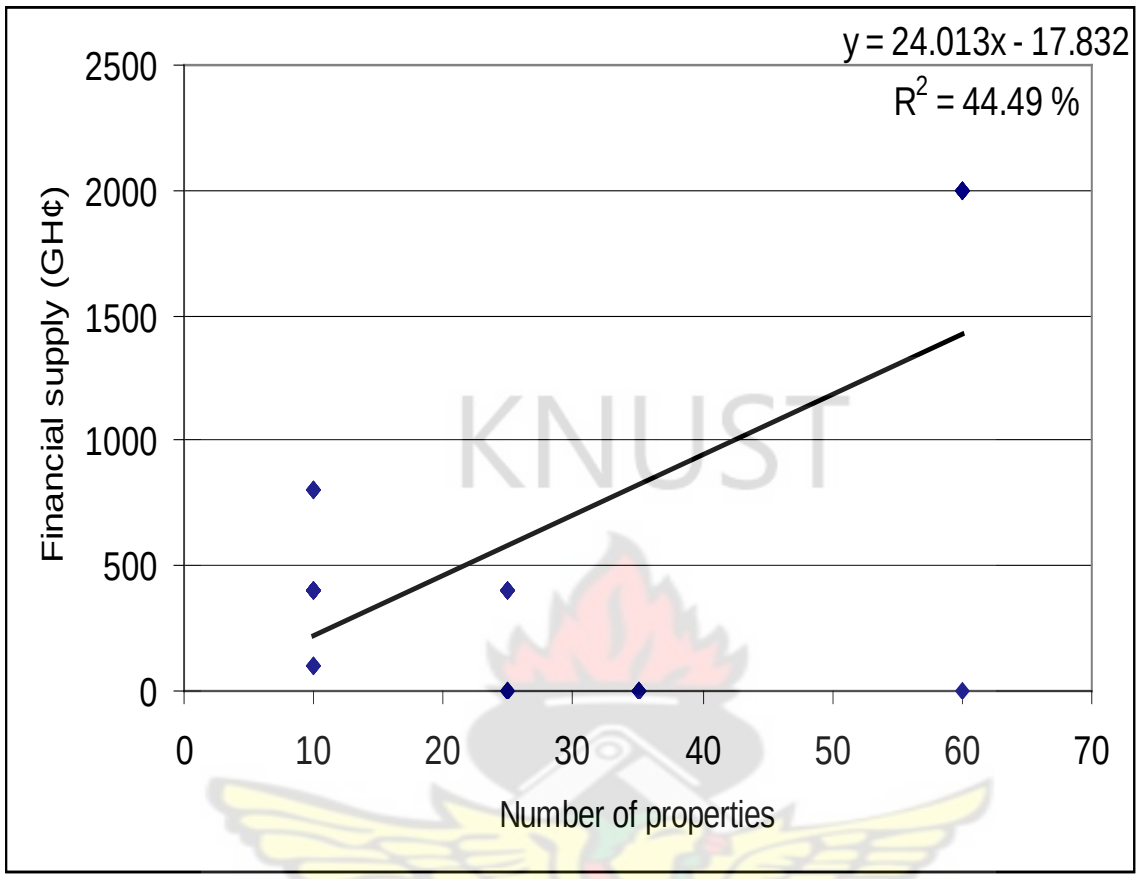
Financial demand by firm from lending institutions is the most influential variable of financial supply to a real estate firm from lending institutions, with a *t*-value of 18.6 (Table 4.13). The mean annual number of residential properties produced by a firm is second most important factor affecting the variation in the financial supply to a real estate firm from lending institutions, with a *t*-value of 9.6.

Figure 4.4 The relationship between financial supply to a real estate firm from lending institutions and the financial demand by firms



Financial supply is dependent on financial demand. Financial supply and financial demand are positively related with coefficient of determination being 63 %. The relationship between the financial supply by firm and the number of properties owned by real estate firms is presented in Figure 4.4.

Figure 4.5 Relationship between financial supply by firm and the number of properties owned by real estate firms



The relationship between the financial supply by real estate companies and the number of properties owned by companies is positively linear with a significant coefficient of determination of 44.5 % ($p < 0.05$).

In practice, this is to say that for a real estate firm to have an appreciable high level of capital investment formation it must achieve a soaring total value of its real estate holding, thus the net worth of a firm in terms of its financial holding in the construction sector of the economy. Moreover, this is also influenced by a high average annual capital formation of the firm and its average annual saving which in all eventually triggers the firm to demand high funding from lending institutions. Financiers consider these factors as very critical among all the other factors in supplying funding to real estate firms.

4.3.3 Financial Savings by Real Estate Firms

The financial savings by real estate firms is significantly dependent on the annual capital formation of a firm, period of establishment of a firm, financial supply to a firm from lending institutions and the number of constructed residential properties for outright sale by firm. The model relating financial savings by real estate firm (y_2) is as follows:

$$y_2 = 23.40978\ x_1 + 0.263068\ x_8 + 0.261858\ x_{12} + 0.26893\ x_{13} - 266.761;\ R^2_{adj} = 78.42\ \%$$

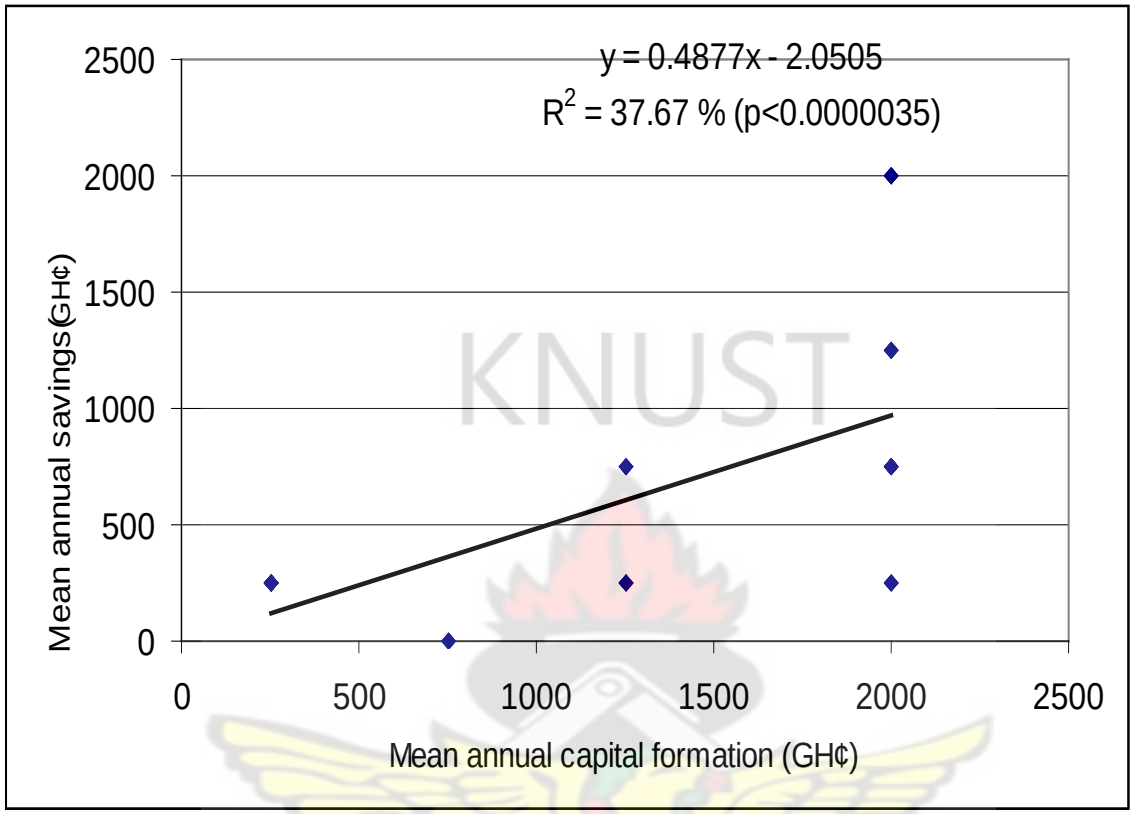
The statistics of this model is presented in Table 4.14

Table 4.14 Statistics of the equation which relates financial savings by real estate firms to some variables which significantly contribute to its value.

Variable	**Coefficient**	***t*-statistic**	**Probability**	**Rank of Importance**
Intercept	-266.761	-2.23295	0.03081	
x1	23.40978	3.581556	0.000864	2
x8	0.263068	2.810963	0.007409	4
x12	0.261858	3.075786	0.003643	3
x13	0.26893	4.426114	6.46E-05	1

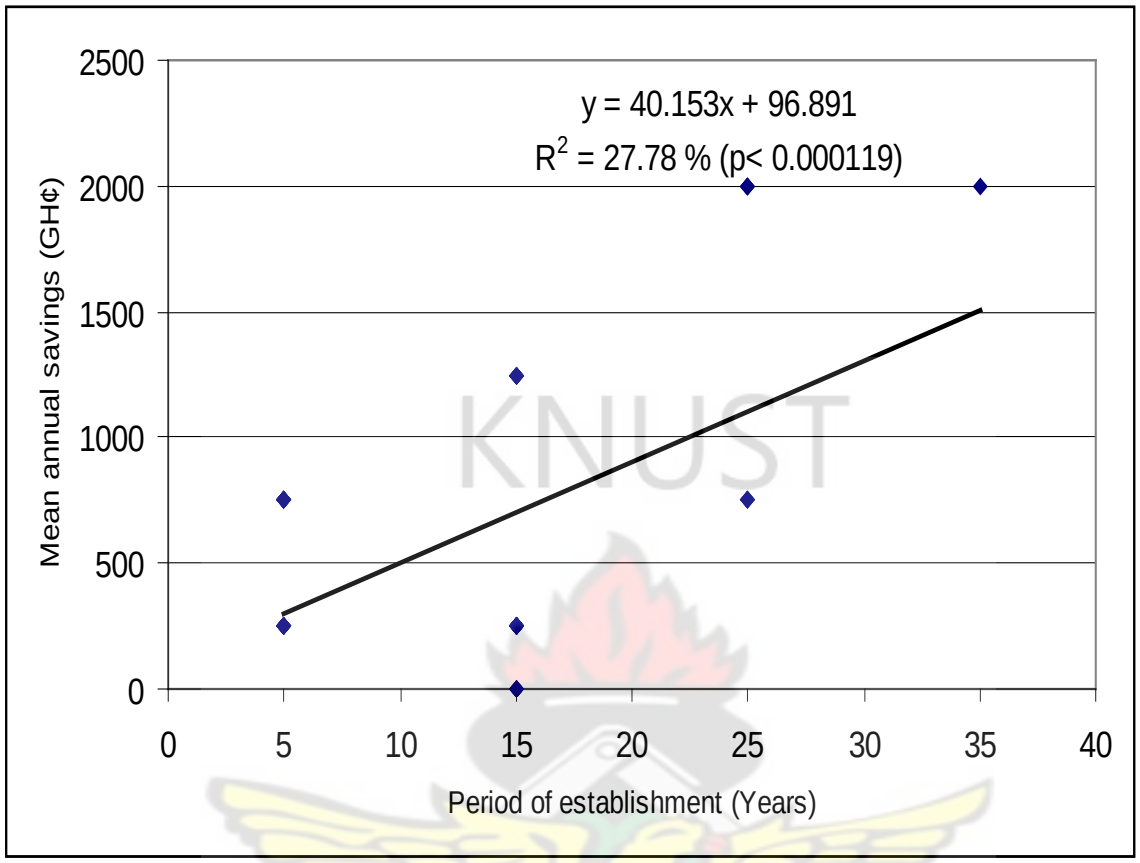
Capital formation of a firm is the highest ranked variable influencing financial savings by real estate firms, with a *t*-value of 4.42 (Table 4.14). The period of establishment of a firm is the second most important and significant variable which affects the variation in financial savings of a real estate firm with a *t*-value of 43.58. The relationship between the mean annual capital formation and the mean annual savings by real estate firms is presented in Figure 4.6.

Figure 4.6 Relationship between mean capital formation and mean annual savings of real estate firms



The positive relationship is linear and significant with a probability level less than 0.00035 %. The relationship between the mean annual capital formation and the period of establishment of real estate firms is presented in Figure 4.6. The positive relationship is also linear and significant with a probability level less than 0.0119 %.

Figure 4.7 Relationship between period of establishment of real estate firms and mean annual savings of real estate firms



Constraints in raising finance are inversely proportional to the size and age of the firms, as the smaller and or younger firms encounter more difficulties (Moore et al, 1983; Bannock et al, 1991). A firm's ability to obtain financial resources provides some information about its future growth.). The capital formation of firms has a positive effect on their future success Zingales (1998. This conforms to results obtained from this study. Higher initial level of assets may provide a proxy for high savings which allows a firm to easily expand in the future. This suggests that high levels of initial assets may indicate a firm has higher growth potential.

There is the possibility that large firms may be in a better position to build a better banking relationship, credit history or satisfy the financial lending requirements of banks to qualify for

funding. Additionally, smaller firms 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, small real estate firms often cannot obtain long-term finance in the form of debt and equity. However, the difficulty in raising finance is still prevalent and cuts across all sizes of real estate respondent firms in Ghana.

When the capital formation of a real estate firm is high the firm turns to increase its savings to expand its operations. Real estate firms that start development with higher level of assets are able to raise substantial amounts of capital indicating significant access to financial resources. These financially fat entrants may face less constraint and thus, are able to grow faster in the future. Nevertheless, new firms with growth opportunities obtain a high level of financial capital as a method to fund future investment projects. Access to financial resources is a function of firm quality; thus, firms with a high level of assets are likely to obtain substantial financing since they are good quality and have good potential investment opportunities.

4.3.4 Quantity of Property Acquisition by Real Estate Firms

The number of constructed residential properties for outright sale by real estate firms is significantly dependent on the work force, annual expenditure and the period of establishment of the real estate firm (Figure 4.8, Figure 4.9 and Figure 4.10). The relationship between the number workers of real estate firms and the number of constructed residential properties for outright sale by the firm is positive, linear and highly significant with a coefficient of determination of 87.7 % (Figure 4.8).

Figure 4.8 Relationship between number of workers and number of constructed residential properties for outright sale by real estate firms

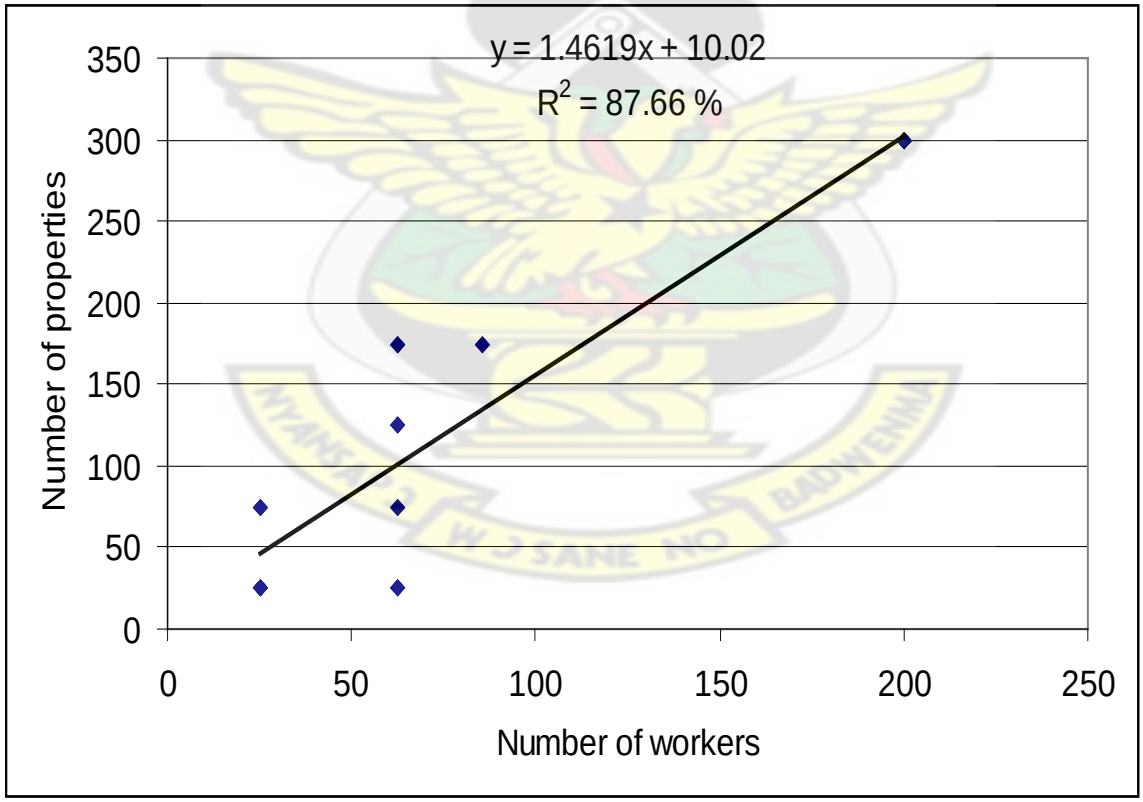
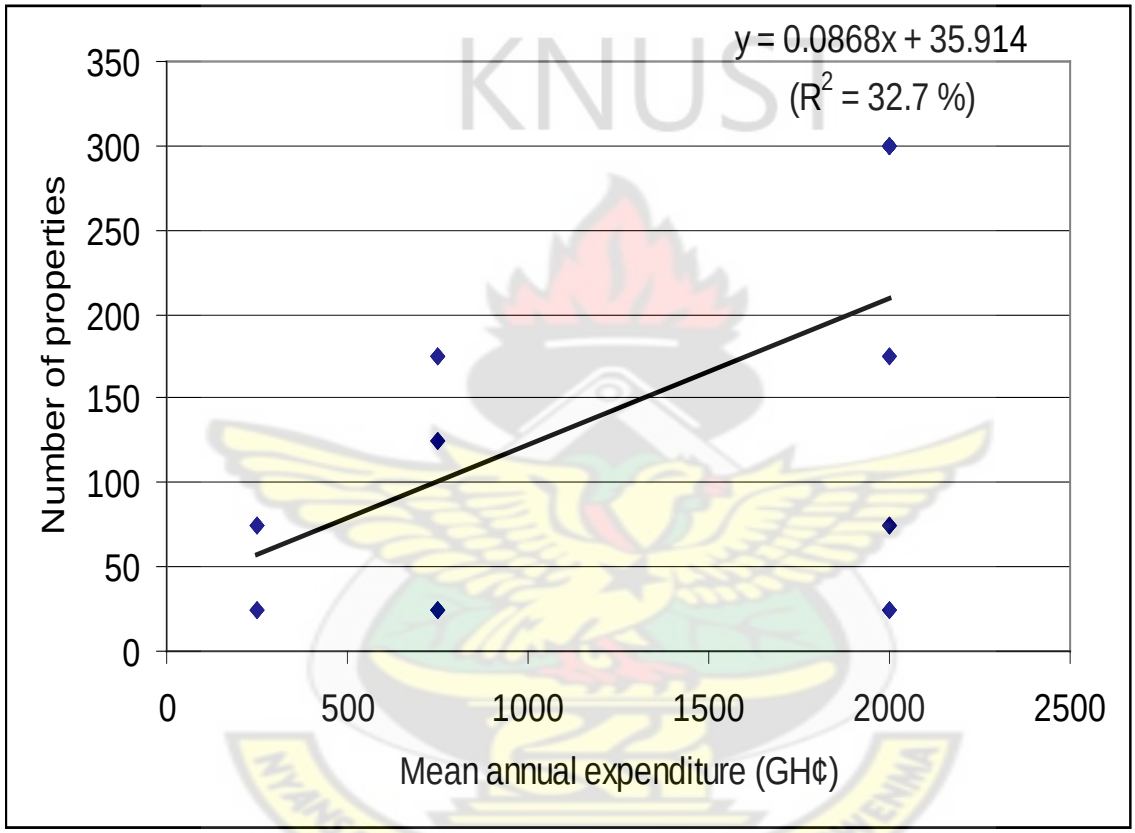


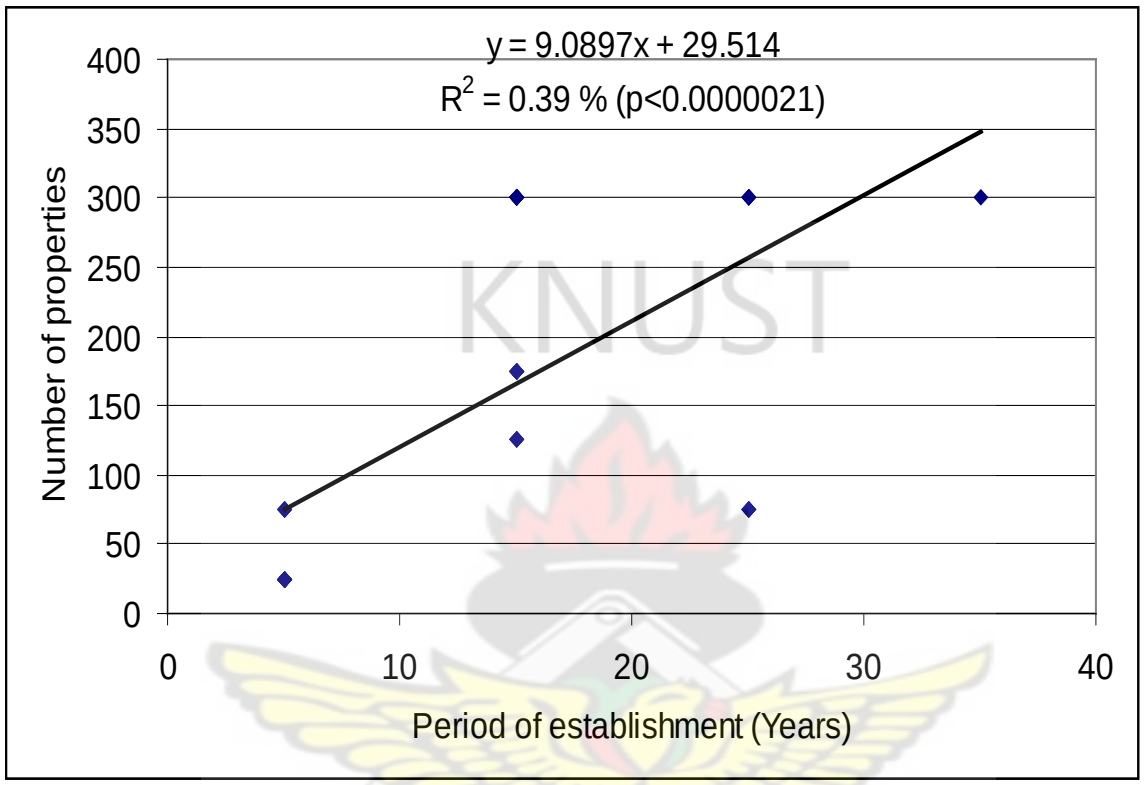
Figure 4.9 presents the linear and significant relationship between the mean annual expenditure of real estate firms and the number of constructed residential properties for outright sale by the firm, with a coefficient of determination of 32.7 % ($p < 0.05$).

Figure 4.9 Relationship between mean annual expenditure and number of constructed residential properties for outright sale by real estate firms



The relationship between period of establishment of real estate and number of constructed residential properties for outright sale by real estate is positive, linear and highly significant with a coefficient of determination of 39 % and probability level less than 0.00021 % (Figure 4.10).

Figure 4.10 Relationship between period of establishment of real estate and number of constructed residential properties for outright sale by real estate firms



Empirical data from Tables 4.8, 4.9 and 4.10 indicate that number of constructed residential properties for outright sale by real estate firms have a positive relation with the age of firm, mean annual expenditure and firm size (number of employees). This suggests that current real estate firm's growth increases with the firm's asset level and financial conditions. The findings are consistent with works by Smith and Warner, who reported that large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies (Smith and Warner, 1979; Ang and McConnel, 1982). Following the trade-off models of capital structure, large firms should accordingly employ more debt than smaller firms. Lending to small businesses is riskier because of the strong negative correlation between the firm size and the probability of insolvency Berryman (1982). Hall (1995) added

that, this could partly be due to the limited portfolio management skills and partly due to the attitude of lenders. The finding contradicts the empirical result of previous studies such as Hall (1995) who found a negative correlation between firm growth with size and age. Marsh (1982) and Titman and Wessels (1988) also report a contrary negative relationship between debt ratios and firm size. Marsh (1982) argues that small companies, due to their limited access to equity capital market tend to rely heavily on loans for their funding requirements. Titman and Wessels (1988) further posit that small firms rely less on equity issue because they face a higher per unit issue cost.

A firm with high expected sales growth should be able to obtain more funds initially. A high amount initial financial asset provides the firm with the necessary financial capital to fund future expansionary investment projects. This alternative explanation suggests that firms have deep pockets for a reason. Investors are willing to provide funds to a firm if there is a belief that the firm is high quality with significant growth potential. Further, a firm with strong sales growth potential may choose to initially have a large amount of physical capital in order to meet future sales demands. However, the empirical report matches with what Cooley and Quadrini (2001) reported that the combination of productivity movements and financial considerations reconciles firm growth's simultaneous size and age dependence. Age controls for the equity (financial) differences across firms, while size captures productivity differences.

4.4 DIFFICULTIES IN OBTAINING EXTERNAL FINANCING

Regardless of the immense role that real estate plays in the economy of every nation mingled with the ingenuity of the emerging lending industry, there are inherent difficulties impeding the financing of the real estate industry. The main purpose is to examine the issue of financial difficulty relating to real estate finance in Ghana so as to ascertain whether there are

constraints in the lending system. This section concentrates on factors that have resulted in the financial difficulties and strategies in reducing any identifiable difficulties.

4.4.1 Financial Tenure Difficulty

Financing constraint defines the difference between the demand and supply of external finance by lending institutions over a given period and measures the need for external funds. To achieve strong empirical backing to theoretical underpinnings of the study, a number of factors were considered.

Majority (79.2 percent) of real estate firms indicated that there was a difficulty in the financial lending system while the minority (20.8 percent) believe that there is no financial lending difficulty. Statistics of the duration of financial supply from lending institutions to real estate developers over an agreed period of time (tenure) classified as presented in Table 4.15.

Table 4.15 Statistics of tenure of financial difficultie

Tenure	Frequency	Percentage
Short Term Difficulty (Less than 1 year)	21	25.6
Medium term difficulty (1-3 years)	26	31.7
Long term difficulty (more than 3 years)	35	42.7
Total	82	100

The most prevalent financial tenure (42.7 %) is long-term of more than three years. Majority of the real estate firms believe that long term financial difficulty was very severe in the lending system of real estate finance. Short-term finance could be secured by real estate developers if their documentations and proposals appear to be viable through an efficient

proof of repayment within the agreed period. Home ownership remains the key priority of most Ghanaians. However due to difficulties in financing, this priority has remained a dream for a significant proportion of the population. Despite the importance of real estate development in Ghana mingled with the global financial market, there are still intrinsic challenges in acquiring finance by the developers.

4.4.2 Factors of Demand and Supply

Demand factors associated with raising real estate finance are the internal constraints that the developers face in accessing finance from lending institutions. Financial lending institutions such as banks, insurance, leasing and investment companies, building societies and mortgage institutions make up the supply factors. These institutions advance funds to individuals, businesses and the government by borrowing them from primary sources. In the cause of business transaction, the unwillingness on the part of suppliers of finance to supply it on the terms and conditions required by real estate developers lead to the difficulties in obtaining finance.

Demand Factors

Demand factors which pose as financial constraint identified were as follows: lack of adequate financial control, absence of forward planning, deficiencies in the financial and managerial skill, real estate firms' inability to repay loan on time, inability of real estate firms to provide acceptable collateral, inability of real estate firms to provide a viable business plan and lack of personal financial contribution.

The rank of importance of financial demand factors in Ghana is shown in Table 4.16. Majority of real estate firms are unable to provide suitable collateral so as to enable them

demand financial aid with the highest Relative Importance Index (RII) of 0.954 (Table 4.16). The capacity to repay loan on time, is also the second important factor with RII of 0.679 followed by personal financial contribution restraining real estate firms from accessing financial aid.

The results are consistent with observations made by Binks and Bernanke, Gertler & Gilchrist (1996). Binks observed that lack of material security or collateral is the most serious bottleneck in receiving financial assistance from financial institutions, (Binks *et al*., 1990). The necessity to provide collateral against loans has become the inhibiting factor for real estate developers since most companies have limited resources. In some cases, some of the real estate firms are unable to comply with collateral requirements because they are unable to present appropriate documents/ certificates of ownership. Furthermore, procedures to obtain such documentation take an extended period, (Bernanke, Gertler & Gilchrist, 1996). In Ghana, financial institutions mostly require the value of the collateral to be higher than the loan value real estate developers seek to acquire and this becomes a challenge to the developers.

Table 4.16 Rank of importance of financial demand factors in accessing funding for real estate development in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Adequate financial control,	18	22	5	1	2	48	91	0.379	7th
Forward planning	24	7	13	2	2	48	95	0.396	6th
Financial and managerial skill	2	16	20	9	1	48	135	0.563	4th
Capacity to repay loan on time,	1	1	26	18	2	48	163	0.679	2nd
Provided acceptable collateral	1	1	1	2	43	48	229	0.954	1st

Provide a viable business plan and	4	19	18	6	1	48	125	0.521	5th
Personal financial contribution	5	2	30	2	9	48	152	0.633	3rd

RII = Relative Important Index

The results are also consistent with observations made by Miles *et al*, 2000who ascertained that lenders may require developers to incur soft cost as equity contribution and, also ensure that thorough monitoring of all aspects of construction development and loan disbursement are done in conformity with engineering and architectural plans. Financial lending institutions require real estate developers to make personal financial contribution sometimes as high as 30% of the amount they seek for inhibiting the activities of the developers.

Major concerns lie in the long time horizon and large capital investment necessary to convert land into a merchantable product, (Miles & Wurtzebach, 1977 and Wendt and Alan, 1969). This affects the capacity of real estate developers to repay loans on time especially in Ghana where long term loans are not well developed. If residential properties are not developed and sold or leased within the short or medium term loan duration, repayment becomes a major challenge. Besides technical engineering problems, the real estate developer must deal with the volatile and constantly changing costs over the planning and construction periods.

Supply Factors

Supply factors were hypothesised as contributing factors in accessing funding for real estate development in Ghana. These are lending policies, high lending cost, lending conditions, co-operating banking institutions, legal framework, limited capacity of banks, rapid expansion of real estate firms, lack of perceived viability of proposal, lack of credit history and exceeding

the limit of past borrowing. High lending cost of borrowing is the most important difficulty of financial supply to real estate developers (Table 4.17), with a Relative Importance Index (RII) of 0.904. Co-operating banking institutions is the second most important difficulty of supply of funding with RII of 0.708, this is followed by stringent lending conditions with a RII of 0.688.

Table 4.17 Rank of importance of financial supply factors in financing real estate development in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Adequate lending policies	4	0	27	12	5	48	158	0.658	4th
High Lending Cost	1	3	2	6	36	48	217	0.904	1st
Stringent lending conditions	1	4	25	9	9	48	165	0.688	3rd
Co-operating banking institutions	1	8	7	28	4	48	170	0.708	2nd
Legal framework	1	13	24	5	5	48	144	0.600	5th
Capacity of banks	5	12	22	5	4	48	135	0.563	7th
Rapid expansion of real estate firms	10	28	4	3	3	48	105	0.438	10th
Perceived viability of proposal	5	9	25	5	4	48	138	0.575	6th
Credit history	14	13	17	4	0	48	107	0.446	9th
Exceeding borrowing limit	10	18	16	0	4	48	114	0.475	8th

RII = Relative Important Index

Chung (1995) and Mushinski (1999) point out that there are high lending costs related to loan application in the formal sector which is consistent with the results of this study. Economic transactions are conducted in highly uncertain and risky environments, which engender eminently more volatile returns to investment. Results from the study are also consistent with finding by Boleat and Coles (1987). Countries with a developed real estate finance system tend to experience low costs of development and the use of the assets to support broad

investment opportunities through formal institutional frameworks (Boleat and Coles, 1987). The co-ordination of banking institutions enhances the share of the cost of funding to real estate developers, since the risk involved in financing would not be so great to warrant such high lending conditions. Lending conditions are caused by the costly acquisition and asymmetric distribution of information, which lead to the problem of moral hazard and adverse selection. Owing to this regard, financiers demand some form of collateral or security from real estate developers so that in default of the debt, the funds can be recovered. Because some real estate firms lack assets to provide as collateral, and lack the "track record" necessary to establish their reputation, the financiers tend to put in place stringent lending conditions by charging higher interest rates, processing fees and insurance costs to all borrowers to cover the cost of additional monitoring requirements as well as the likelihood of bad debts and default on outstanding commitments..

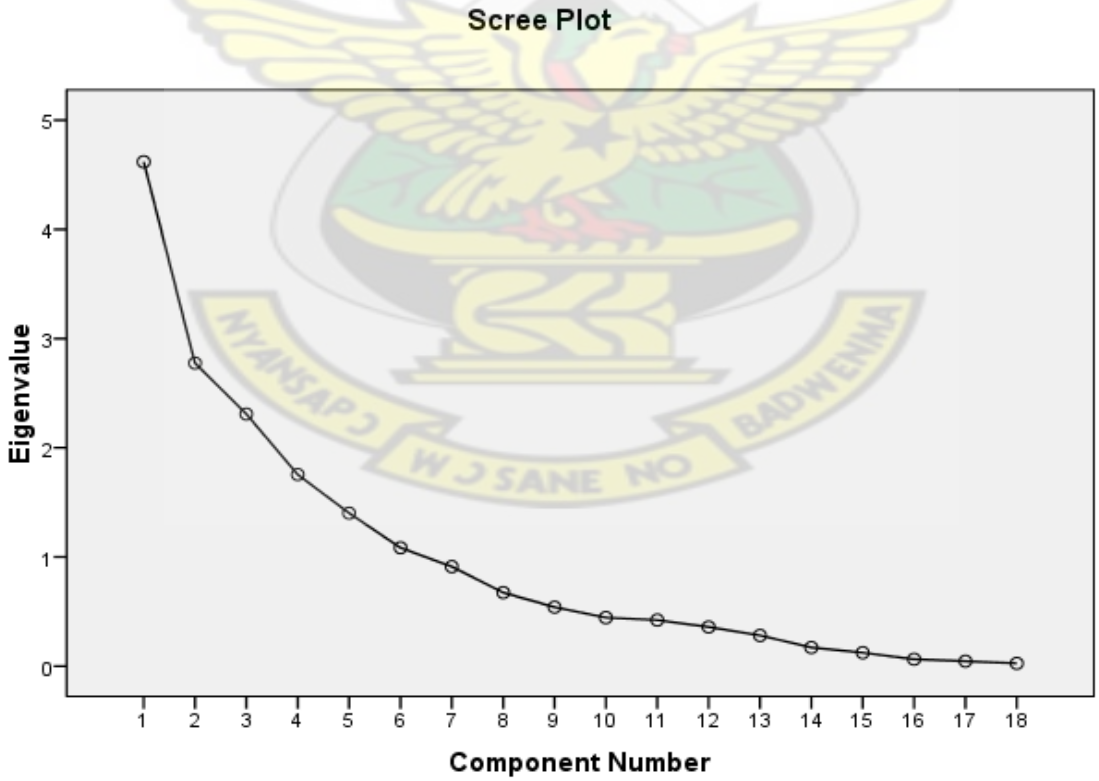
Most financial institutions believe that it is risky and administratively expensive to lend to small firms, including real estate establishments, (Wilson Committee, 1979 and Salazar, 1986) and even if the small firms do get external finance, they are usually required to pay high rate of interest and offer a high level of security and collateral (Storey, 1987; Hall, 1989 and Economist, 1994).

The factors (Table 417) were subjected to principal components analysis (PCA). Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many correlation coefficients of 0.3 and above. The Kaiser-Meyer-Oklin value was 0.602, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical

significance (χ = 552.1; $p<1.03x10^{-20}$ and df = 153), supporting the factorability of the correlation matrix.

The principal components analysis revealed the presence of six axes with eigenvalues exceeding 1.0, explaining 25.67 per cent, 15.42 per cent, 12.83 per cent, 9.74 per cent, 7.79 per cent, and 6.02 per cent of the total variance respectively, resulting with a cumulative variance of 79.46 %. The corresponding screeplot of eigenvalues (Figure 4.11) shows a change (or elbow) in the shape of the plot after the sixth component number. The loading of variables (financial firms) are presented in Table 4.18.

Figure 4.11 Screeplot of financial institutions concerned with financial demand and supply difficulty of real estate practitioners in Ghana.



The loadings of at least one lending institution on each of the four principal components (PC) axis were strongly significant (above 0.3) as Table 4.18 depicts. Table 4.18 represents Component Matrix of Factor Analysis of financial demand and supply difficulty factors.

Table 4.18 Component Matrix of Factor Analysis of financial demand and supply difficulty factors

Component	**1**	**2**	**3**	**4**	**5**	**6**
When the firm has exceeded the limit of its borrowing	0.915					
Failure to establish a legal ramework	0.823					
Lack of perceived viability of roposal	0.795					
Lack of credit history	0.750	-0.384		-.396		
Inability of real estate firms to provide a viable business plan	0.587					
Absence of forward planning			0.509			
Absence of co-operating banking nstitutions		0.890	-0.309			
Too rapid expansion of real estate firms		0.711	-0.309			
High Lending Cost		0.573	-0.375			
Deficiencies in the financial and managerial skill		0.470	0.681			
Lack of adequate lending policies			0.526	0.481		
Inability of real estate firms to provided acceptable collateral			0.456	0.310		0.425
Lack of personal financial ontribution	0.383			0.677		
Lack of adequate financial control	0.396		0.501		-0.554	
Stringent lending conditions	0.337	0.326	0.403	0.452	-0.459	
Limited capacity of banks						-0.724

In order to clearly interpret the eiginvalues loadings, these principal components were further subjected to factor rotation using the varimax with Kaiser normalization method (Kaiser, 1970, 1974). Only values greater than 0.30 have been listed as recommended by Pallant

(2001). The resultant rotated component matrix is displayed in Table 4.19 giving the same six principal axes but with slightly different loadings.

Table 4.19 Rotated Component Matrix of Factor Analysis of financial demand and supply difficulty factors

Component	1	2	3	4	5	6
When the firm has exceeded the limit of its borrowing	0.950					
Lack of credit history	0.874		-0.304			
Lack of perceived viability of proposal	0.871					
Failure to establish a legal framework	0.833					
Inability of real estate firms to provide a viable business plan	0.594			0.423		
Absence of co-operating banking institutions		0.898	0.326			
High Lending Cost		0.688				0.301
Too rapid expansion of real estate firms		0.620	0.308	-0.540		
Stringent lending conditions		0.614	-0.481			
Deficiencies in the financial and managerial skill			0.809	0.341		
Real estate firms' inability to repay loan on time			0.734			
Lack of adequate financial control				0.868		
Absence of forward planning	0.459		0.868	0.531		
Lack of adequate lending policies			0.531		0.762	
Inability of real estate firms to provided acceptable collateral					0.646	
Lack of personal financial contribution	0.303				0.605	0.446
Limited capacity of banks						0.930

The eighteen factors have been summarized into six new groups which are significantly different and explain the real estate financial sources of funding constraints. From Table 4.19, the first principal component (PC1) gave four factors, mainly, is when the real estate firm has exceeded its limit of borrowing, lack of credit history, lack of perceived viability of

proposal and failure to establish a legal framework. . However this financial difficulty is associated with ***transaction conditions and legal policies*** of lending institutions.

Transaction costs of lending, refers to the cost of administering credit and the cost of the risk of default. These are the costs involved in establishing and conducting financial relationships. Most often than not, lenders have less information about the expected success of projects. Transaction costs are determined by both the method and the effectiveness of risk management applied. The transaction costs of lending are the sum of the costs of administering credit (which includes loan screening, monitoring and contract enforcement) and the costs of the risk of default, defined as "those expenses for the risk of loan default incurred by the lending institutions, for example, provision for loan losses, the loan guarantee fees paid, and the actual bad debts incurred".

The informal loans, in particular those from friends or relatives, may be cheaper than formal loans and thus preferred by borrowers Kochar (1992). Chung (1995) and Mushinski (1999) build on Kochar's view of the informal loan sector as the cheapest sector. They point out that high transaction costs related to loan application in the formal sector may discourage households from taking formal loans. Barham et al. (1996) call these real estate transaction cost rationed in the formal sector. Because informal lenders manage greater information about loan applicants, application procedures are easier in the informal sector and transaction costs are lower. As a result, the differences in transaction costs may drive the effective cost of informal loans below the effective cost of formal loans, and real estate financial procurements that are transaction cost rationed in the formal sector may take an informal loan despite its higher interest rate.

Returns of real estate development are highly uncertain. Often there is a high probability of failure combined with the possibility of high returns if successful. Due to fixed interest payments banks do not participate in the high returns of successful outcomes, they are therefore more concerned with the probability of failure when calculating the price for the loan which can lead to high interest rates or to the decision not to lend at all (Stiglitz 1985).

Empirical studies have shown that firms in countries with greater financial development and stronger property rights have increased levels of investment funded by external finance while firms in countries with weaker financial development and property rights are more likely to obtain potentially less efficient financing from development banks, the government or from informal sources (Beck, Demirguc-Kunt, and Maksimovic 2004). This confirms to the results presented above in Table 4.19, (PC2). A country's legal and judicial infrastructure significantly influences the context in which loan contracting is conducted. The legal infrastructure that affects business lending consists of the commercial laws that specify the property rights associated with a commercial transaction and enforcement of these laws.

In Ghana, the Bank of Ghana is responsible for formulation of all financial policies binding the operations of financial institutions. With no legal institutions to enforce contracts effectively and the absence of bankruptcy laws and procedures, banks' attitude to contract enforcement is more subtle. The first line of action is often to persuade delinquent borrowers to resume their payments. Most Ghanaian bankers indicated that delinquency and default was generally not wilful, but due to poor returns on investments, particularly because of bad management of projects. Some banking institutions are sometimes forced to re-financed projects in the hope that these will revive distressed borrowers. However, these banks do not have access to sufficient information to arrange state-contingent loan contracts for borrowers

who are not wilfully defaulted. Nor is there little effective mechanism available to banks to enforce wilfully defaulted borrowers.

The second principal component (PC2) consists of absence of co-operating banking institutions, high lending cost, too rapid expansion of real estate firms and Stringent lending conditions. It is reasonable to suggest that these factors may be inherent in one principal factor, mainly ***financial lending policy*** of lending institutions. Firms finance investment through a combination of internal and external funds. Inducing investment from either source depends on some degree of legal protection. The willingness of firms to reinvest internally generated funds depends on protection of basic property rights (Besley 1995; Johnson, McMillan and Woodruff 2002a); which is consistent with empirical data of this research. The willingness of banks to lend depends on the ability to capture collateral pledged in support of loans (Levine 1998); and the willingness of outside equity investors to take a minority ownership position depends on protection against the threat of stealing, or tunnelling by insiders (Johnson, La Porta, Lopez-de-Silanes 2003, Shleifer 2002). The ability to tunnel is reduced when the quality of the legal system is improved Himmelberg, Hubbard and Love (2001). Outside ownership also implies the need for formal registration of the firm and more formal accounting systems (Djankov, La Porta 2002, Lopez-de-Silanes 2003 and Shleifer, 2002).

Better legal systems might also expand the availability of credit from banks, perhaps by reducing the amount of collateral required for a loan of a given size (Levine 1998; Jappelli, Pagano and Bianco, 2002). An improvement in the legal system reduces the cost of moving to the corporate form of organization by reducing the cost of finding outside partners. An

improvement may also increase the benefits of incorporation by, for example, increasing the demand for real estate properties.

The third principal component (PC3) consists of deficiencies in the financial and managerial skill, real estate firms' inability to repay loan on time and absence of forward planning. However this financial difficulty is associated with ***management challenges*** of real estate firms. Financial planning in businesses is a key to survival. It is essential for business managers to plan their financial needs before setting out to seek capital. Unfortunately, while managers are aware of the benefits of financial planning, they fail to pay reasonable attention to these activities and they only plan when they are already faced with a need for funds. Human capital in the field of real estate management, including education, age, working management experience and the personal wealth or family resources of managers may also play a vital role in gaining access to the financial capital market since efficient management skills enhances the ability of firms to repay loans on time.

As firms with more human capital and good track record of success with business viability are more likely to receive funding from financial institutions it becomes imperative for managers of real estate institutions to receive some form of financial training to make sound financial decisions. This finding is consistent with the notion that managers with lower skills take on excessive risk to improve their investment record (Brown, Harlow, and Starks (1996)). Clearly, a top management team cannot be viewed as a strategic asset unless it possesses superior managerial skills. It is argued that the ability of managers 'to understand and describe the economic performance potential of a firm's endowments' (Barney, 1991: 117) rests on an integration of skills. A top management team is valuable when it analyses opportunities and threats, exploits and neutralises them (Mahoney, 1995). If 'cultural' resources (Wernerfelt, 1989) or organisational skills and abilities in combination with

organisational resources (Barney, 1986) are to generate a competitive advantage, a management team has to build and use them effectively (Castanias & Helfat, 1991: 157).

Resource based strategists and upper-echelon theorists have noted that a firm's top management team has a significant influence on its strategic direction and view it as one of a firm's strategic resources (Barney, 1991; Castanias & Helfat, 1991; Finkelstein & Hambrick, 1996; Hambrick & Mason, 1984). On a broader basis, there are managerial lapses in significant areas of new business development process, including the stages when financial analysis would be logical and appropriate (Littler and Sweeting 1983). However the lack of capital among firms is typically an indication of poor financial management (Bates and Hally, 1982).

From Table 4.19, the forth principal component (PC4) gave ***lack of adequate financial control*** of real estate firms as the only factor. The financial investment returns on real estate development could be highly uncertain. Real estate's permanent nature and high visibility most invariably leads many people to overlook its complexity, thus mistaking its use, analysis and valuation to be simple. Another aspect of a property's immobility is its durability, thus a longer economic life than for most other assets. While long-term

plans of many corporations begin at one year and a durable good to the US Department of Commerce has an economic life of at least three years, short real estate investment periods are rarely less than ten years and often much longer. Many non-residential leases in the USA are for five, ten or more years and in the UK they tend to be for even longer terms (Scribner, 1997). Similarly in Ghana, real estate investment periods take a longer time for recuperation, particularly when viewed from the land acquisition and development stage, through the construction to leasing or eventual sale of the property. The World Bank estimates that

registering formal ownership/lease over a piece of unencumbered land in Ghana is the third longest registration process in the world (World Bank, 2004). Corruption and land disputes, especially involving public lands in urbanizing areas, have been experienced by significant majorities (CDD Report, 2000). The lack of uniformity, complex codes, administrative requirements, and the dualism in land tenure is a risk to an effective real estate finance market due to the uncertainties and litigation potential. Rising prices on land with clear titles on the one hand and multiple, disputed sales of land with clouded titles on the other, are especially vexing risks, at least in urban areas. This situation, however, makes it challenging by testing the capacity of some financial institutions to make secured residential finance available to qualifying real estate developers, who do indeed have some formal legal or customary security and want to invest their savings and credit in residential properties.

The fifth principal component (PC5) consists of lack of adequate lending policies, the inability of real estate firms to provide suitable collateral and lack of personal financial contribution. A closer look at these factors suggests that they may be inherent in the ***financial strength*** of real firms. Access to external financing is shaped by a country's legal and financial environment (Demirguc-Kunt and Maksimovic, 1998). This suggests that in countries with weak legal systems, and consequently, weak financial systems, firms obtain less external financing and that this results in lower growth.

Collateral pledging enhances a firm's financial capacity Stiglitz and Weiss (1981) and Hart and Moore (1994). Providing outside investors with the option to liquidate pledged assets which acts as a strong disciplining device on borrowers. Asset liquidation values thus play a key role in the determination of a firm's debt capacity. The findings is consistent with the notion that collateral and personal guarantees also affect the incentives of creditors, as they

will either substitute for or complement information production by financial intermediaries (Manove, Padilla, and Pagano, 2001; Rajan and Winton, 1995; Boot 2000; Longhofer and Santos, 2000). The presence of collateral and personal guarantees may also depend on the length and intimacy of the relationship between creditors and borrowers (Boot, 2000; Boot and Thakor, 1994; Sharpe, 1990).

In order to enhance the lender's incentive to monitor, loan contracts must be structured in a way that makes the lender's payoff sensitive to the borrower's financial health. Rajan and Winton (1995) argue that collateral and personal contributions may serve as a contractual device to increase the lender's monitoring incentive, because collateral is likely to be effective only if its value can be monitored. Moreover, the use of collateral as an incentive will be more extensive when the value of such collateral depreciates rapidly according to business conditions (e.g., accounts receivable and inventories), than when the value of collateral is relatively stable (e.g., real estate). Internal and external sources of finance under perfect capital markets should be perfectly substitutable (Modigliani and Miller, 1958), so that the availability of internal funds should not affect investment decisions. It is reasonable to suggest that real estate firms need to generate enough cash flow to offset any funding they receive.

The sixth principal component (PC6) gave ***limited capacity of banks*** as the only factor. Monetary policy has been strictly limited by macroeconomic stabilization agreements made with the IMF and World Bank in conjunction with IMF loans, the HIPC (Heavily Indebted Poor Country) initiative and the PRSP (Poverty Reduction Strategy Paper) process.

The primary targets and measures have been structured by IMF financial programming. Under the standard financial programming methods implemented by the IMF, target ceilings are set for central bank monetary and credit expansion and floors are established on net foreign reserves (Barth, *et al.*, 2000, and Blejer, *et al.*, 2002 for good descriptions of these programmes). The original motivation for these restrictions were to ensure the ability of programme countries to reduce their foreign debt and remain solvent, including protecting the ability of the IMF to get repaid. Recently, other goals, such as reducing inflation, increasing foreign exchange reserves and "creating room for private investment," for that matter, real estate development, have been emphasized. The main targets are Net Domestic Assets ceilings (NDA), which are sometimes called domestic credit ceilings, directly limit the amount of credit that the Bank of Ghana can create, and Net International Reserve floors (NIR), which require monetary and fiscal policy to operate so to preserve a minimum level of international reserves.

Some real estate developers lack the "track record" necessary to establish a reputation to attract funding from financiers. Banks assess the credit history of real estate developers to ascertain their loan performance in the past to make sound judgment of their credit worthiness. The enactment, implementation and monitoring of efficient financial policies geared towards the streamlining of real estate financing should be accorded the needed attention so as to enhance its growth and development.

4.4.3 Factors of Financial Market Asymmetry

Subsequent to establishing the main supply and demand factors contributing to the causes of real estate finance difficulties, it is essential to identify and examine the financial market asymmetric factors. Lending institutions and real estate firms operate in an uncertain world when information is not perfect and is often expensive to obtain. The problem of unavailability of information affects the willingness of the banks to supply debt finance to real estate firms, on the grounds of high uncertainty. Moreover, real estate developers are likely to be significantly better informed about their operations than an outsider, such as a lending institution, when information is not readily available to these institutions. This suggests that it is reasonable to make an assumption on the imperfections of the financial market in both developed and developing countries.

Four factors concerned with financial market asymmetry of real estate firms in Ghana were identified. These were mainly information asymmetry, adverse selection, moral hazards and agency problems. The rank of importance of factors of financial market asymmetry of real estate firms Ghana is presented in Table 4.20. The difference of effect of these factors is not very significant (χ^2 = 6.99; df = 3, p<0.10). Moral hazards are more important than other financial market asymmetry factors with a Relative Importance Index (RII) of 0.642 followed by adverse selection with RII value of 0.638 and information asymmetry with RII of 0.608.

Table 4.20 Rank of importance of factors of financial market asymmetry of real estate firms in Ghana.

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Information asymmetry	1	10	28	4	5	48	146	0.608	3rd
Adverse selection	1	10	20	13	4	48	153	0.638	2nd

Moral hazards	1	0	39	4	4	48	154	0.642	1st
Agency problem	9	10	25	4	0	48	120	0.500	5th
Information asymmetry	1	10	28	4	5	48	146	0.608	3rd

RII = Relative Important Index

Lending institutions such as banks face the problem of making correct lending decisions (adverse selection) and appraising and monitoring loans for projects (moral hazard), (Osei & Antwi, 2004), which eventually create a debt gap, especially under conditions of uncertainty and asymmetric information. This is consistent with the results of this research. There are suggestions that poor access to private external finance relates to demand-side problems, particularly this may be due to a lack of information about available sources, rather than a lack of available credit (Fraser, 2004).

The information difficulties stem from the costly acquisition and asymmetric distribution of information, which leads to the problem of moral hazard and adverse selection. Economic transactions are conducted in highly uncertain and risky environments, which engender eminently more volatile returns to investment and highly variable income streams. Real estate developers in Ghana are likely to be significantly better informed about their operations than an outsider, such as a lending institution, when information is not readily available to the outsider. Lending institutions such as banks face the problem of making correct lending decisions (adverse selection) and appraising and monitoring loans for projects (moral hazard), which eventually create a debt constraint, especially under conditions of uncertainty and asymmetric information.

Firms enter an industry with incomplete information regarding their own productivity but gain information through production (Ericson, and Pakes, 1995). The information

infrastructure is likely to have significant effect on the availability of credit to real estate developers. One important aspect of the information infrastructure is the accounting environment. The key issues are existence of strong account standards and credible independent accounting firms. These are necessary conditions for informative financial statements. These are also necessary conditions for the feasibility of many components of loan contracting. For example, financial covenants are not feasible if the financial ratios calculated from bank financial statements are not reliable. Indices of global accounting standards, not surprisingly, indicate considerable variation across countries – not only between developed and developing economies but even among developed economies (La Porta, *et al* and Vishny 1998).

Another important aspect of the information infrastructure is the availability of information on payment performance. The extent to which lenders share information about performance has been shown to have a significant effect on credit availability (Jappelli and Pagano, 2001. Love and Mylenko, 2003). Third party information exchanges or business credit bureaus provide a formal organizational mechanism for the exchange of commercial payment performance information. Moreover, these business credit bureaus have been shown to have power in predicting firm failure beyond financial ratios and other descriptive information about the firm (Kallberg and Udell, 2003).

4.4.4 Strategies for Reducing Financial Difficulties of Real Estate Companies

Most real estate firms consider subsidizing interest rate as the best strategy of reducing estate financial difficulties (Table 4.21) with a Relative Importance Index (RII) of 0.833. Provision of rediscounting facilities and the establishment of special government-assisted financial

schemes are the next most important strategies of reducing financial difficulty of real estate firms with Relative Importance Index value 0.808.

Table 4.21 Rank of importance of strategies for reducing real estate financial difficulties in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
Establishing special lending institutions	4	5	4	14	21	48	187	0.779	5th
Putting ceiling on interest rates	0	8	13	10	17	48	180	0.750	7th
Subsidizing interest rates	0	4	13	2	29	48	200	0.833	1st
Providing rediscounting facilities	0	0	22	2	24	48	194	0.808	2nd
Sharing lending risk with private financial institutions	0	9	15	12	12	48	171	0.713	8th
Establishing special government-assisted financial schemes	0	9	4	11	24	48	194	0.808	2nd
Establishing legal framework and lending	5	0	9	17	17	48	185	0.771	6th

policies									
Establishing credit bureau system	0	4	5	25	14	48	193	0.804	4th
Constituting financial management training programmes	5	9	11	11	12	48	160	0.667	9th
Establishing manufacturing and supplying companies	9	5	12	9	13	48	156	0.650	10th

RII = Relative Important Index

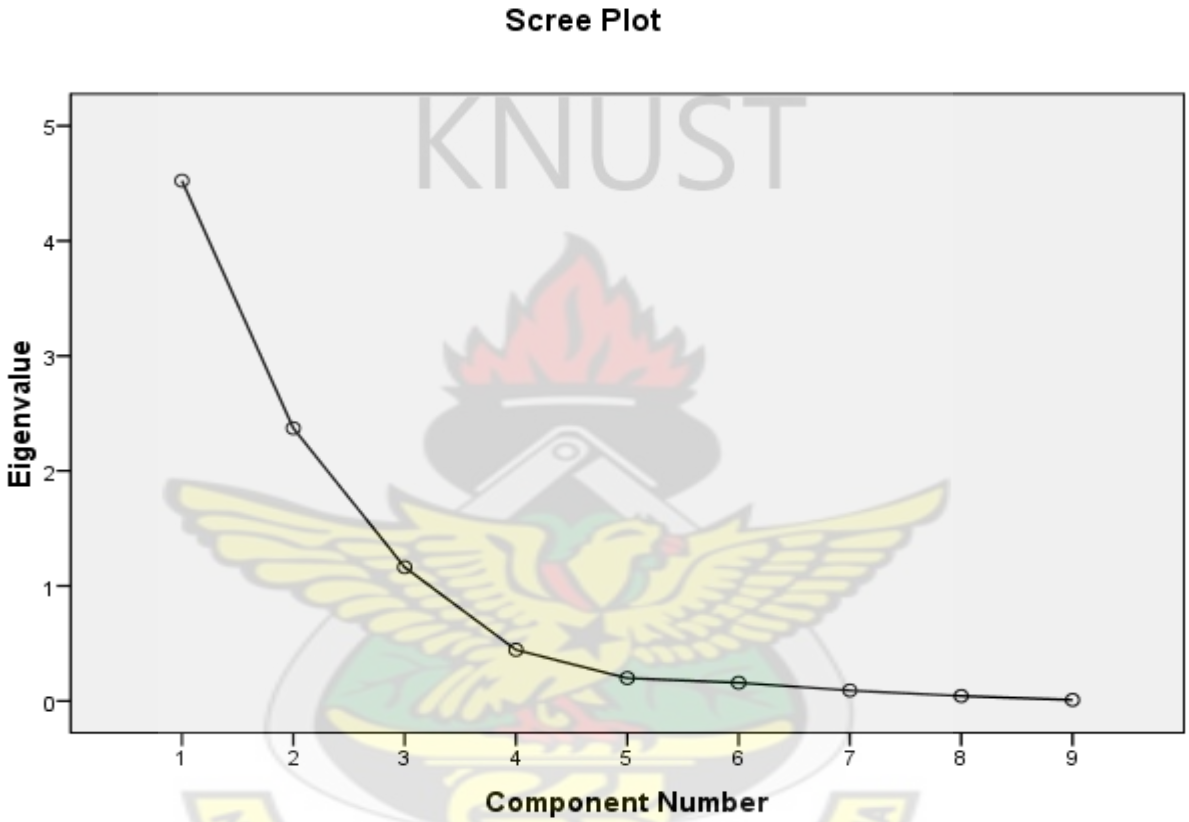
The Ghana government has created the enabling environment for the establishment of the Venture Capital Fund through Parliamentary Act 680 aimed at providing investment capital to SMEs and real estate developers. There are four venture capital fund companies existing in Ghana including Bedrock Venture, Activity Venture, Real Estate Fund and Gold Venture Limited (Ghana News Agency 2008). Such special assisted government schemes alleviate the challenges of financial for real estate development.

In order to evaluate the contributions of these strategies of reducing real estate financial difficulties in the study area 10 factors of rank of importance were subjected to principal components analysis (PCA). Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Meyer-Oklin value was 0.64, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($\chi = 508.366$; $p<1.03x10^{-50}$ and df = 36), supporting the factorability of the correlation matrix.

The principal components analysis revealed the presence of three axes with eigenvalues exceeding 1.0, explaining 50.26 per cent, 26.34 per cent and 12.92 per cent of the total

variance respectively, resulting with a cumulative variance of 89.52 %. The corresponding scree plot of eigenvalues (Figure 4.12) shows a change (or elbow) in the shape of the plot after the third component number. The loading of variables (financial firms) are presented in Table 4.22.

Figure 4.12 Screeplot of financial institutions concerned with concerned with strategies for reducing real estate financial difficulties



The loadings of at least one strategy on each of the three principal components (PC) axis were strongly significant (above 0.4) as Table 4.22 depicts.

Table 4.22 Component Matrix of Factor Analysis concerned with strategies for reducing real estate financial difficulties

Factors	PC1	PC2	PC3
Establishing special lending institutions	0.538	0.745	-
Putting ceiling on interest rates	0.420	0.848	-
Subsidizing interest rates	0.871	0.465	-
Providing rediscounting facilities	0.838	- 0.365	-
Sharing lending risk with private financial institutions	0.898	-	-
Establishing special government-assisted financial schemes	0.810	-	0.399
Establish legal framework and lending policies	-	0.558	0.721
Establish credit bureau system	0.614	-0.417	0.487
Constituting financial management training programmes	0.837	-0.354	-

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

The resultant rotated component matrix is displayed in Table 4.23 giving the same three principal axes but with slightly different loadings.

Table 4.23 Rotated Component Matrix of Factor Analysis concerned with strategies for reducing real estate financial difficulties

Factors	PC1	PC2	PC3
Establishing special lending institutions	0.907		-
Putting ceiling on interest rates		0.979	-
Subsidizing interest rates	0.522	0.791	-
Providing rediscounting facilities	0.943	-	-
Sharing lending risk with private financial institutions	0.920	-	-
Establishing special government-assisted financial schemes	0.758	-	0.574
Establish legal framework and lending policies	-	0.419	0.819
Establish credit bureau system	0.632		
Constituting financial management training programmes	0.924		

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only values greater than 0.30 have been listed as recommended Pallant (2001).

The nine factors have been summarized into three new groups which are significantly different and explain strategies for reducing real estate financial difficulties. Only loadings of values above 0.4 are used. 0

The first principal component (PC1) in Table 4.23 reported high eigenvalues for providing rediscounting facilities (0.943), sharing lending risk with private financial institutions (0.920), establishing special lending institutions (0.907) and constituting financial management training programmes (0.924). This result is interpreted as follows; all the factors are interrelated and inherent in one main which may be embedded in ***management and financial restructure*** of lending institutions.

Investors in real estate, public or private, equity or debt, evaluate risk adjusted returns in the pursuit of their goals. Risk is best conceptualized as uncertainty over likely future outcomes (Bodie, Kane and Markus, 1993). Property income is highly auto-correlated due to long term

leasing contracts especially with development lags, even positive random market shocks always set off a predictable rise and then eventually a fall in asset prices. Numerous researchers have documented the unusually strong predictable component in real estate markets (e.g., Shiller and Case, 1989). When the risk in lending is shared among private finance institutions they allocate less loan-loss reserves to cover expected risks. As financial innovations and credit derivatives have undecided consequences, such innovations create new possibilities of risk negotiation and transfer and mitigation, so that lending institutions become less vulnerable to credit risk.

Managers become expert in the promotion and protection of values (Selznick, 1957). Top management team is accountable for everything that goes on in an organisation. A more detailed classification of the top management's role is provided by Christensen, Andrews, and Bower (1978), according to which it can be identified as the organisation's leader by maintaining the development of the organisation over time and preparing for future horizons). Gaining good organisational outcomes in a competitive market depends on an organisation's ability to identify, develop, deploy, and preserve particular resources that distinguish it from its rivals (Amit & Schoemaker, 1993; Grant, 1991).

Most researchers agree that financial planning in businesses is a key to survival (Bates, 1991). It is essential for business managers to plan their financial needs before setting out to seek capital. Unfortunately, while many small business managers are aware of the benefits of financial planning, they fail to pay reasonable attention to these activities and they only plan when they are already faced with a need for funds. Human capital in the field of real estate management, including education, age, working management experience and the personal wealth or family resources of managers may also play a vital role in gaining access to the

financial capital market. As firms with more human capital and good track record of success with business viability are more likely to receive funding from financial institutions it becomes imperative for managers of real estate institutions to receive some form of financial training to make sound financial decisions.

Financial training programmes need to be organised for managers of real estate firms since the major reason rests not so much on the financial managerial skills possessed by the management team or by one or more members of the team, but rather on how those skills have to be employed to improve the productivity of the organisation.

The Ghana Government through different enactments formed the entire respondent mortgage financing institutions to provide mortgage financing to prospective house owners. Some of these institutions include the First Ghana Building Society, Home Finance Company (HFC) and Ghana Home Loans Limited (private funding institutions licensed by the Bank of Ghana). Although all these institutions have contributed to the success of real estate development in Ghana, they specialise in funding individual home owners instead of real estate companies. The establishment of special lending institutions should be geared towards the provision of sustainable financial packages for real estate companies. This could be the creation of a pool of funds of savers and investing them in a portfolio of assets. Real Estate Investment Trust (REIT), for instance are into estate property or mortgages on real estate properties that some of the investment companies can go into. Literature reveals that REITs tend to have low risk, inflation hedging, and defensive stock characteristics which may behave differently than the overall stock market during periods of high market volatility.

The second principal component (PC2) in Table 4.23 of mainly putting ceiling on interest rates and subsidizing interest rates with respective loadings 0.979 and 0.791. It is reasonable to suggest that these factors are inhibited under one main factor; ***financial discounting policy*** of lending institutions. The issue of interest rate falls under the prerogative power of the central government. The Bank of Ghana licenses, regulates and supervises all commercial banks as well as non-banking finance institutions. It controls all capital market policies such as taxation, micro-economic indicators, the stock exchange and all investment securities. It is the responsibility of the government to strive to create the economic conditions necessary for some stability to enable any form of housing finance market to thrive (Karley, 2002). This is achieved by ensuring at least a more predictable inflationary environment and a reasonable control over the interest rate.

Aristotle criticized interest as the unnatural fruit of a barren parent (Conard 1959, p. 97). Usury laws in most recent times have been widely used in developed and developing countries to introduce regulations about interest rate ceilings of some kind (Helms and Reille (2004). Financial subsidies help to correct allocative distortions created by poor credit markets, and therefore can boost export growth when subsidies are allocated to financially constrained firms (Banerjee and Newman, 2004). This is consistent with the empirical results from this research and suggests that Bank of Ghana needs to make flexible lending policies to enhance the competiveness of funding investment projects by lending institutions.

Within this framework, government can participate directly in the market by, for example, offsetting the interest rate differential as the government of Japan did to assist the corporation responsible for housing finance (Poterba and Noguchi, 1994). This helps to hedge the risk, assists lenders during periods of worsening inflation and helps to ensure that the real value of

the investment does not depreciate. At the same time it supports borrowers by stabilizing regular payments. This in turn improves the ability to redeem and reduces the real rate of interest required. More generally the role of government is not to be a player in the mortgage market but to create an even playing field for the institutions to take part in healthy competition.

The third principal component (PC3) in Table 4.23 has establishment of legal framework and lending policies with loading of 0.918 as the only significant factor. This is embedded in ***financial legal policy*** of lending institutions. According to World Bank (1993), across countries, housing supply tends to be idiosyncratic, primarily because of the housing sector's regulatory environment (especially land use policies and building regulations), but also due to the structure of the construction sector (including the material inputs into the construction process). The willingness of firms to reinvest internally generated funds depends on protection of basic property rights (Besley 1995; Johnson, McMillan and Woodruff 2002a); the willingness of banks to lend depends on the ability to capture collateral pledged in support of loans (Levine 1998); and the willingness of outside equity investors to take a minority ownership position depends on protection against tunneling by insiders (Shleifer, Andrei and Daniel Wolfenzon, 2002). Efficient legal systems reduce idiosyncratic risk, lowering the cost of internal investment funds, and limit the ability of insiders to steal from outside investors, lowering the cost of external investment funds. More efficient legal systems also increase the demand for investment capital by increasing the profitability of investments by a firm. Better legal systems might also expand the availability of credit from banks, perhaps by reducing the amount of collateral required for a loan of a given size (Levine 1998; Jappelli, Pagano and Bianco, 2002) which is consistent with empirical results presented in Table 4.14.

The Banking Law (PNDCL 225) was revised in 1989. The innovations in the new law included, mainly, the tightening of risk exposure limits, establishment of tighter capital adequacy ratios, strengthening of accounting standards and making them uniform for all banks, broadening the scope for audits of the banks, imposition of stringent reporting requirements, and improvement of on-site and off-site supervision of banks by the Bank of

Ghana. A revised Bank of Ghana Law (PNDCL 291) was also enacted in 1992 to give more supervisory powers to the central bank. These two laws together provide the legal and regulatory framework for the banking business in Ghana. In order to bring more financial institutions under the purview of the Bank of Ghana a Financial Institutions (Non-Banking) Law (PNDCL 328) was also enacted in 1993. This law covered the activities of discount houses, finance houses, acceptance houses, building societies, leasing and hire-purchase companies, venture capital funding companies, mortgage financing companies, savings and loans companies, and credit unions. Since all the regulatory and legal reforms are in place the next step the Bank of Ghana can do is to strengthen the use of these policies to ensure optimal result in real estate finance. Insurance companies, pension funds institutions, the Ghana Stock Exchange and other financial institutions can be encouraged to get involved in real estate finance to mutually share the risk of financing real estate development.

4.5 FINANCIAL DECISION AND SKILLS ACQUISITION BY FIRMS

Theoretical evidences supported by empirical findings revealed that; financial variables play an increasingly important role on various aspects of firm financing decisions (Bridges and Guariglia, 2006). One of the decision factors that confront real estate developers is how to finance their operations, through the application of financial ratios. Real estate finance decision involves the determinants of the best possible source and financial pattern required for financing the development of residential properties to derive optimal benefits. The value of a firm depends on its debt-equity mix, hence the financing ratios considered by firms play a important role. The application of financial ratio becomes crucial in taking decision in these situations.

4.5.1 Financial Ratios

Financial ratios are used by financial analysts and financial managers for interpreting past performance and setting targets against which future performance can be measured. The following variables were graded by real estate firms as being useful: balance sheet statement, income statement, statement of cash flow, profitability ratio, liquidity ratio, cash flow ratio, asset management ratio, trends analysis and common size analysis.

There are significant differences in rank of importance of variables of financial ratios (χ^2 = 91.7; df = 3, p<0.0001). The statement of cash flow (Table 4.24) is very important financial ratio variable, which is highly graded in all categories of Relative Importance Index of RII with a value of 0.963. The Balance sheet statement is the second important factor with RII of 0.921 followed by profitability ratio with RII of 0.875. The use of financial ratios is the most common method of analysing accounts according to O'Regan (2002). Statement of cash flow gives an indication of current cash in-flows and out-flows of the firm; and gives projections on cash solvency and budgetary solvency of the firm (Alan, 2005). The results of this research are consistent with observations made by Everingham *et al*. 2003 who reported that operating cash flow ratios are consequential indicators of performance. Cash flow determine the extent to which the real estate company has generated sufficient funds to repay loans, maintain operating capabilities, pay dividends and make new investments without using external financing. Real estate developers in Ghana use cash flow ratios to access real estate company's performance since debt obligations are met with cash. Statement of cash flow are also used to examine the financial health of the real estate company, and how the company is managing its operating, investment and financing cash flows (Palepu *et al*., 2000). Balance sheet statement is significant to real estate developers since it describes what the firm owns (assets) and what it owes (liabilities) and gives an indication of assets, liabilities, liquidity, net working capital and the total financial condition of the firm (Titman and Wessels, 1988)

with the results of this work. Real estate firms' ability to generate enough revenues over a normal budgetary period to meet its expenditures and not incur deficits is an indication of the sound financial decision making to attract external funding. Profitability ratios measure profit levels of a company at any period. They give an indication of how well a firm is doing profit-wise in order to maintain its existence and be at competitive advantage (Moore and Reichert, 1983; Fadhley, 1991; O'Regan, 2002 and McLaney, 2005).

Table 4.24 Rank of importance of financial ratios of real estate firms in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
The balance sheet statement	0	0	5	9	34	48	221	0.921	2nd
The income statement	0	0	9	13	26	48	209	0.871	4th
The statement of cash flow	0	0	0	9	39	48	231	0.963	1st
Profitability ratio	0	0	4	22	22	48	210	0.875	3rd
Liquidity ratio	0	0	9	14	25	48	208	0.867	5th
Cash flow ratio	0	0	14	14	20	48	198	0.825	6th
Asset management ratio	0	2	20	13	13	48	181	0.754	9th
Trends analysis	0	0	17	14	17	48	192	0.800	7th
Common size analysis	0	1	21	13	13	48	182	0.758	8th

RII = Relative Important Index

4.5.2 Financial Usage

Financial usage variables play an increasingly important role on various aspects of firm financing decisions. The following variables were graded by real estate firms as being useful: balance sheet statement, income statement, statement of cash flow, profitability ratio, liquidity ratio, cash flow ratio, asset management ratio, trends analysis and common size analysis There are significant differences in rank of importance of variables of financial usage (χ^2 = 91.7; df = 3, p<0.0001).

Statement of cash flow (Table 4.25) is a very important financial usage variable, having a Relative Important Index (RII) of 0.917. On the other case, cash flow ratio is also important with a RII of 0.867. Income statement and liquidity ratio had a RII of 0.800. Assessment of the various financial usage variables measure profitability, liquidly, financial strength, and activity over a period of the firm, which give a good indication of financial conditions of real estate company (Fadhley, 1991 and Shawa, 1995) which is consistent with observations made in this study. Most invariably, real estate developers in Ghana try to avoid having current assets financed entirely from current liabilities by looking out for current ratios higher than 1:1. By so doing, they hope to give the short-term creditors confidence that there are sufficient liquid assets to comfortably cover their claims by showing evidence of their cash flow, income and profitability ratios. These ratios test the ability of developers having sufficient liquid resources to pay their current debts without having to resort to capital sales (Graham and Harvey, 2001 and Ketz, 2003).

Table 4.25 Rank of importance of financial usage variables of real estate firms in Ghana

	Frequency of Ranking								
Factors	**1**	**2**	**3**	**4**	**5**	**Total**	**Weightings**	**RII**	**Ranking**
The balance sheet statement	0	4	14	17	13	48	183	0.763	5th
The income statement	0	1	14	17	16	48	192	0.800	3rd
The statement of cash flow	0	1	4	9	34	48	220	0.917	1st
Profitability ration	0	5	14	17	12	48	180	0.750	6th
Liquidity ratio	0	1	18	9	20	48	192	0.800	3rd
Cash flow ratio	0	2	5	16	25	48	208	0.867	2nd

Asset management ratio	0	6	17	17	8	48	171	0.713	7th
Trends analysis	0	22	6	19	1	48	143	0.596	8th
Common size analysis	0	26	6	15	1	48	135	0.563	9th

RII = Relative Important Index

4.6 SUMMARY OF CHAPTER

The analysis and discussions of the objectives have been presented in this chapter. The characteristics of respondent firms have been analysed with the use of description statistics, regression and principal component analysis. There is credibility with regards to the data collected since logical inferences drawn from the descriptive analysis implies that the respondents have reasonable experience in real estate finance.

Factor analysis and Principal Component Analysis were used to examine the financial sources, difficulties in acquiring finance and financial decision factors used by respondent firms. The results imply that there is a potential to enhance the financial accessibility of real estate firms in Ghana. The research has contributed to knowledge by observing that finance house institutions, building societies and mortgage finance institutions, merchant banks and leasing and commercial institutions are the principal sources of real estate finance with equity finance being the major form of real estate financial acquisition method used in Ghana. The research revealed restrictive monetary policies, financial and legal policy, transaction conditions and financial lending policies as the decisive factors in seeking real estate finance.

The research has also explored the existence of financial difficulties in the Ghanaian lending system concerning strategies for financing real estate development with empirical data. The existence of such difficulties and other interconnected factors that accounted for them have been displayed. Factor analysis was then used to establish which of the factors causing the

difficulties could be measuring the same underlying effect and to reduce the variables to a manageable size for interpretation.

Management challenges, debt repayment and financial strength under demand factors and information difficulties and agency cost under financial market asymmetry have been identified as some of the factors hindering financial real estate finance in Ghana. Management and financial restructure, financial discounting policy and financial legal policy are some of the recommendations this research has made to enhance the growth potential of real estate development in the country.

It has also been established through this study that the financial supply to real estate developers in Ghana depends on the total value of the real estate holding, mean annual turnover, financial demand and number of constructed residential properties for outright sale by firm of the real estate firms. Results of the research also reveals that the number of constructed residential properties for outright sale by real estate firms have a positive relation with the age of firm, mean annual expenditure and firm size (number of employees). There is a positive linear relationship between the number workers of real estate firms and the number of constructed residential properties for outright sale by the firm. In addition there is a positive and linear relationship between period of establishment of real estate firms and number of constructed residential properties for outright sale which is highly significant.

In addition, the essential financial variables that have been identified to contribute to the decision factors of real estate developers are balance sheet statement, income statement, statement of cash flow, profitability ratio, liquidity ratio, cash flow ratio and asset management ratio. The succeeding chapter summarises and concludes the entire study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The rationale for this study stems from three interconnected issues. Firstly, that there has been a rapid expansion in the range of public private sector financial initiatives in terms of both the total of funds and the range of financial facilities available in recent times. Secondly, that there is a general recognition of the importance of the real estate markets and housing construction in various economies by serving as an engine of growth. Thirdly, despite speedy growth in financial liberalisation, there is widespread perception that financial difficulties continue to exist; the difficulties are perceived to be the main constraints on real estate growth in financial liberalisation. This section discusses the conclusions of the study regarding the contributions of each chapter.

The research identified that most of the real estate firms were established between the last 10 and 20 years. Legal ownership of private limited companies is dominant accounting for 48%. All the workers classes of real estate firms have between 25-37.5 % of the total work force. Real estate firms with annual financial expenditure exceeding GH ¢1.5 m are prevalent, accounting for 44 % of firms. Majority of real estate firms have a total value of real estate holding more than GH ¢1.5 m, accounting for 54 % of firms. Majority of real estate firms derive most of their funding from Commercial Banks grading it with a Relative Importance Index (RII) of 0.954. Retained profit is the most important option of real estate form of financial acquisition which recorded a Relative Importance Index (RII) of 0.929. Financial decision of real estate developers is influenced by interest rate with a Relative Importance Index (RII) of 0.963. Further analytical test using the principal component analysis identified financial conditions, micro-economic indicators, financial information and lending policies as decisive factors used by real estate developers in seeking finance.

With regard to micro-economic environment, respondent firms considered the use of equity finance when; there was high interest rate (100 percent), high inflation (100 percent) and unfavourable repayment period (100 percent). On the other hand majority of them also considered the use of debt finance when; there was low interest rate (97.9), low inflation (97.9 percent) and no required collateral (97.9 percent).

Majority (79.2 percent) of real estate firms indicated that there was a difficulty in the financial lending system. On demand and supply factors associated with raising finance, provision of acceptable collateral recorded a Relative Importance Index (RII) of 0.954 while high lending cost recorded a Relative Importance Index (RII) of 0.904. Principal components analysis revealed six major demand and supply factors, transaction conditions and legal

policies, financial landing policy, inadequate management skills, financial strength, lack of adequate financial control and limited capacity of banks. Factors of financial market asymmetry identified moral hazards as highest in information difficulty with a Relative Importance Index (RII) of 0.642. Most real estate firms consider subsidizing interest rate as the best strategy of reducing real estate financial difficulties recording a Relative Importance Index (RII) of 0.833. Principal components analysis (PCA) revealed the presence of three axes, mainly, management and financial restructure, financial discounting policy and financial legal policy.

This research has also been conducted to enlighten policy makers on the improvement of financial accessibility and provision of requisite financial mechanisms to be at the forefront of real estate development in Ghana. Ghana Home Loans and HFC which are the dominant housing finance institution have made a marginal progress in dealing with the country's acute housing shortage. The low delivery of residential properties is largely contributed by the lack of formal credit facilities to cater for a sizable population. Substantial progress could be made if policies are made to ensure the establishment of more diverse lending institutions, publicly or privately to encourage healthy competitions to make the scheme more accessible.

Some building materials such as Portland cement, lime, pozzolana, burnt clay bricks and tiles and timber are readily available in Ghana. The Building and Road Research Institution (BRRI) has done extensive research into the development and use of local building materials. The government can adopt an integrated participation policy, entering into joint ventures with private interest, to enhance the development in large and medium scale building materials manufacturing industries aimed at promoting trade credit and high purchase services for real estate firms.

In response to the need for alternative financing by Ghanaian developers, real estate trust companies must emerge to fill this gap. Ghana's market for real estate finance environment must have many mezzanine funds. As a form of securitisation, REITs may offer a more acceptable alternative for divestment where developers can raise funds and yet retain claims on the cash flows by keeping a controlling stake in the REIT units.

The structure of the liability side of banks' balance sheets limits the effectiveness of financial intermediation in Ghana. Most of the deposits held by banks are short-term which makes it difficult to extend medium- and long-term credit. A public deposit insurance policy could reduce the risks associated with short-term deposits and encourage the extension of a larger supply of medium- and long-term credit.

To enhance empirical research in Ghana, a couple of areas have been outlined and suggested for further studies. However, further will contribute to knowledge in the following areas; *Financial Lending Strategies for Real Estate Development, Building a Banking Relationship, Impact of Financial Characteristics on Financial Behaviour of Real Estate Firms, The role of Government in Real Estate Finance, Further Development of Regression Models,*

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Appendix 1: Survey Questionnaires

Appendix 1: Questionnaires

SURVEY QUESTIONNAIRES (GREDA MEMBERS)

SECTION A: BACKGROUND AND FIRM CHARACTERISTICS

1. What is the legal status of your firm?

a) Enterprise/Sole Proprietorship [ ]
b) Private Limited Company [ ]
c) Partnership/Joint Venture [ ]
d) Other (please specify) ……..
If Partnership/Joint Venture , who are the partners…….....

2. How long have you been in operation?

a) < 10 years [ ]
b) 10- 20 years [ ]
c) 21-30 years [ ]
d) > 30 years [ ]

3. What is the total number of people working in your firm?

(Owners & employees-full-time and part-time inclusive)

a) < 50 [ ]
b) 51 – 75 [ ]
c) 76 – 100 [ ]
d) > 100 [ ]

4. What is your total average annual turnover for the past 5 years in GH¢?

a) < 500,000 [ ]

b) 500,000 – 1,000,000 [ ]
c) 1,000,000 – 1,500,000 [ ]
d) > 1,500,000 [ ]

5. What is your average annual expenditure on real estate development alone in GH¢?
a) < 500,000 [ ]
b) 500,000 – 1,000,000 [ ]
c) 1,000,000 – 1,500,000 [ ]
d) > 1,000,000 [ ]

6. What is your total value of your real estate holding in GH¢?
a) < 500,000 [ ]
b) 500,000 – 1,000,000 [ ]
c) 1,000,000 – 1,500,000 [ ]
d) > 1,500,000 [ ]

7. What is your projected value of your real estate holding in the next 5years in GH¢?
a) < 500,000 [ ]
b) 500,000 – 1,000,000 [ ]
c) 1,000,000 – 1,500,000 [ ]
d) > 1,500,000 [ ]

8. How many domestic houses have been constructed so far?
a) < 50 [ ]
b) 50 – 100 [ ]
c) 100 – 150 [ ]
d) 150 – 200 [ ]
e) > 200 [ ]

9. What is your average number of houses produced annually?
a) < 20 [ ]
b) 21 – 30 [ ]
c) 31 – 40 [ ]
d) 41 – 50 [ ]
e) > 50 [ ]

10. Please identify the number of houses your firm considers under the following options to exit from housing projects

method	Number of houses
Rental	
Outright sale	
Lease	
Joint venture (between real estate firm and facility management firms)	

Others *(please specify)* • ……...	

11. What is the average amount of funds that you seek from financial institutions annually and how much do you receive? *Please tick*

Amount in USD ($) X 10^3	<200	200-600	600- 1,000	1,000-1,400	> 1,400
Demand from real estate developers					
Supply from Banks					

12. Please provide your firm's average annual capital formation and savings history

Amount in USD ($) X 10^3	<500	500 – 1,000	1,000 -1,500	> 1,500
Capital formation (cash in-flow)				
Savings				

SECTION B: PAST TRENDS AND INNOVATIONS IN REAL ESTATE FINANCE

13. Please identify which of the following financial institutions provided your firm with funding for real estate development over the past years. *(You may tick more than one, if applicable)*

Factors	**Years**		
	<5 years ago	**5-10 years ago**	**>10 years ago**
Commercial Banks			
Development Banks			
Merchant Banks			
Leasing Companies (Trade Credit)			
Finance Houses			
Discount Houses			
Building Societies			
Mortgage Finance Institutions			
Venture capital Funding Companies			
The Trust Houses			
Insurance Companies			
Advance Deposit			

Others *(please specify)* • …….. .			

14. Please identify which of the following financial sources your firm used to finance the development of real estate over the past years. *(You may tick more than one, if applicable)*

Factors	**Years**		
	<5 years ago	**5-10 years ago**	**>10 years ago**
Equity Financing • Retained Profits			
• Personal/Families/Friends			
• Partners/Directors/Shareholders			
• Venture Capital Funding			
Others *(please specify)* • ……			
• ……			
Debt Financing • Bank Overdraft			
• Bank Loan (≤ 5 years term)			
• Bank Loan (> 5 years term)			
• Advance Deposit			
Others *(please specify)* • ……			
Installments Finance/Term Financing • Leasing			
• Hire Purchase			
• Factoring and Invoice Discounting			
Others *(please specify)* • ……			
• ……..			
Government-Assisted financing schemes *(please specify)* • ……			
• …….			
Foreign Sources			

• Partners/Directors/Shareholders			
• Venture Capital funding			
• Remittances			
• Bank Loan			
Others *(please specify)* • ……			

15. Please identify the difficulties you encountered when sourcing for finance over the past years. (You may tick more than one, if applicable)

Factors	**Years**		
	<5 years ago	**5-10 years ago**	**>10 years ago**
High interest rate			
Lack of proper accounting standards			
High level of collateral required			
Limited financial capacity of banks			
Unfavourable repayment periods			
High transaction cost			
Lack of credit history			
Prepayment Conditions			
Others *(please specify)* • ……			
• ……			

SECTION C: CURRENT FINANCIAL SOURCES AND DIFFICULTIES

16. Please identify whether there is a difficulty in the lending system with regard to financing your firm's business activities?

- Yes, there is a difficulty [ ]
- No, there is no difficulty [ ]

17. If YES, what form does this financial difficulty take? ***(You may tick more than one if applicable)***

a) Short term credit difficulty (less than 1 year maturity) [ ]
b) Medium term credit difficulty (between 1-3 years maturity) [ ]
c) Long term credit difficulty (3-5 years maturity) [ ]

18. Please rank the severity of the financial difficulty on the scale of 1-5 with 1=not severe, 2=less severe, 3=quite severe, 4=severe, 5=very severe ***(You may tick more than one if applicable)***

Financial Difficulty	**Ranking**				
	1	**2**	**3**	**4**	**5**
1. Short-term finance difficulty					

2. Medium-term finance difficulty					
3. Long-term finance difficulty					

19. Please identify by ranking the factors that created this financial difficulty on the scale of 1-5 with 1=not significant, 2=less significant, 3=fairly significant, 4=significant, 5=very significant? (You may tick more than one if applicable)

Factors	**Ranking**				
	1	**2**	**3**	**4**	**5**
1. Lack of adequate credit or lending policies or special programmes for real estate firms 2. High lending cost					
3. Stringent lending conditions					
4. Liquidity constraints on the part of financial institutions					
5. The absence of co-operation with banking institutions to reduce risk involved in lending to real estate firms					
6. Failure to establish a legal framework within which banks can operate effectively					
7. Limited capacity of banks					
8. Too rapid expansion of real estate firm					
9. Lack of perceived viability of proposal					
10. Lack of credit history					
11. When the firm has exceeded the limit of its borrowing in the past					
12. Lack of adequate accounting or financial control system					
13. The absence of forward planning					
14. Deficiencies in financial and managerial skills					
15. Real estate firms inability to repay loan on time					
16. Inability of real estate firms to provide acceptable collateral					
17. Inability of real estate firms to provide a viable business plan					
18. Lack of personal financial contribution					
19. Information Asymmetry (disclosure of information on real estate firms to banks)					
20. Adverse Selection					
21. Moral Hazards Issues					
22. Agency Problem					

20. Please identify which of the following financial institutions provide your firm with funding for real estate development. Rank on the scale of 1-5, with 1=never, 2 =not often, 3=quite often, 4=often and 5 =very often *(You may tick more than one, if applicable)*

Factors	Ranking				
	1	2	3	4	5
Commercial Banks					
Development Banks					
Merchant Banks					
Leasing Companies (Trade Credit)					
Finance Houses					
Discount Houses					
Building Societies					
Mortgage Finance Institutions					
Venture capital Funding Companies					
The Trust Houses					
Insurance Companies					
Advance Deposit					
Others *(please specify)* • ……..					

21. Please identify which of the following sources of finance your firm uses to finance the development of real estate. Rank the on a scale of 1-5, with 1 being the least frequently used and 5 being the most frequently used. *(You may tick more than one, if applicable)*

Financing Method	Ranking				
	1	2	3	4	5
Equity Financing • Retained Profits					
• Personal/Families/Friends					
• Partners/Directors/Shareholders					
• Venture Capital funding					
Others *(please specify)* • ……					
• ……					
Debt Financing • Bank Overdraft					
• Bank Loan (≤ 5 years term)					
• Bank Loan (> 5 years term)					

• Advance Deposit					
Others *(please specify)* • ……					
• …….					
Installments Finance/Term Financing • Leasing					
• Hire Purchase					
• Factoring and Invoice Discounting					
Others *(please specify)* • ……					
• ……..					
Government-Assisted financing schemes *(please specify)* • ……					
• …….					
Foreign Sources • Partners/Directors/Shareholders					
• Venture Capital funding					
• Remittances					
• Bank Loan					
Others *(please specify)* • ……					

22. Please rank on a scale of 1-5 the factors you consider when selecting financing strategies for real estate development. Key: 1=not important, 2=less important, 3=quite important, 4=important, 5=very important *(you may thick more than one if applicable)*

Factors	**Ranking**				
	1	**2**	**3**	**4**	**5**
Information Asymmetry (disclosure of information on real estate firms to banks)					
Agency Cost					
Tax Implication					
Inflation					
Corporate Policy					
Banks limit of Lending					
Interest Rate					
Prepayment Conditions					
Maturity period					
Transaction cost					

Credit history					
Ownership of asset during & after financing					
Cash flow of the firm					
Size (total assets of the firm)					
Profitability (return on total assets)					
Liquidity (current asset over current liabilities)					
Cash flow generating ability					
Solvency (own funds over total liabilities)					
Repaying ability (financial debt over cash flow)					
Others (please specify) • ……..					
• …….					

23. Please identify the difficulties you encounter when sourcing for finance. Rank on the scale of 1-5, with 1=no obstacle, 2 =minor obstacle, 3=moderate obstacle, 4=obstacle and 5 =major obstacle, (You may tick more than one, if applicable)

Factors	**Ranking**				
	1	**2**	**3**	**4**	**5**
High interest rate charges					
Lack of proper accounting standards					
High level of collateral required					
Limited financial capacity of banks					
Unfavourable repayment periods					
High transaction cost					
Lack of credit history of real estate firms					
Prepayment Conditions					
Others *(please specify)* • ……					
• ……					
Rejection of proposals for financing due to: Small size (total assets of the firm)					
Low profitability (return on total assets)					
Low liquidity (current asset over current liabilities)					
Low cash flow generating ability					
Insolvency (total liabilities over own funds)					
Low repaying ability (financial debt over cash flow)					
Others *(please specify)* • ……					

• ……					

24. Please identify which of the following financing methods your firm uses to finance the development of real estate in respect to the micro-economic environment.

Factors	**Financing Method**				
	<u>Equity Financing</u> •Partners/ Directors/ Shareholders •Venture Capital funding	**<u>Debt Financing</u>** •Bank Overdraft • Bank Loan	**<u>Installments Finance</u>** • Leasing •Hire Purchase	**Government -Assisted financing schemes**	**Others** *(please specify)*
• High interest rate					
• Low interest rate					
• High inflation					
• Low inflation					
• High foreign exchange rate					
• Low foreign exchange rate					
• High cash flow of the firm					
• Low cash flow of the firm					
• High transaction cost					
• Low transaction cost					
• High risk factors					
• low risk factors					
• favourable repayment period					
• unfavourable repayment period					
•Required collateral					
• No required collateral					
• Favourable prepayment Conditions					
• unfavourable prepayment Conditions					
• Ownership of asset during & after financing					
• No ownership of asset during & after financing					
Credit history					
Lack of credit history					

25. Please identify which of the following measures that needs to be established to close the financial difficulty and indicate the level of importance by ranking from 1-5 where 1=not important, 2=less important, 3=quite important, 4=important, 5=very important

Measures	**Ranking**				
	1	**2**	**3**	**4**	**5**
1. Establishing specialized lending institutions for real estate firms					
2. Putting ceilings on interest rates charged on lending funds					
3. Subsidizing interest rates					
4. Providing re-discounting facilities					
5. Sharing the risk with other private financial institutions through special arrangements					
6. Establishing special government-assisted-financing schemes for real estate firms					
7. Establish adequate legal framework and lending policies within which lenders and borrowers can effectively operate					
8. Establishing credit bureau system					
9. Constituting financial management training programmes					
10. Establishing manufacturing and supplying companies to enhance trade credit and high purchase services for real estate firms **Others** *(Please state and rank)* a)					
b)					
c)					

SECTION D: FINANCIAL CAPABILITY AND SKILLS ACQUIRED BY FIRMS

26. How important is the training of management on financial expertise? Rank on the scale of 1-5, with 1=not important, 2=less important, 3=quite important, 4= important, 5=very important (You may tick more than one, if applicable)

27. Please identify which of the following management executives is/are involved with corporate financial decision. Rank on the scale of 1-5, with 1=not involved, 2=less involved, 3=quite involve, 4=involve, 5=very involved (You may tick more than one, if applicable)

Management Executive	**Ranking**				
	1	**2**	**3**	**4**	**5**
Owner-Manager (CEO)					

HR Manager					
Accountant/Finance Manager					
Contracts manager					
Construction manager					
Others (*Please specify*)					

28. Please identify which of the following financial variables you are familiar with and indicate by ranking your level of expertise in their analysis and application, with 1=very low, 2=low, 3=fairly high, 4=high, 5=very high

Financial Variables and Concepts	**Familiarity** You may tick more than one	**Level of Proficiency**				
		1	**2**	**3**	**4**	**5**
1. **INTERPRETATION OF FINANCIAL STATEMENTS,** • The Balance Sheet Statement						
• The Income Statement						
• The Statement of Cash Flows						
2. FINANCIAL RATIOS • Profitability Ratio						
• Liquidity Ratio						
• Cash Flow Ratio						
• Asset Management Ratio						
2. Trend Analysis						
3. Common Size Analysis						

29. Please identify how important the following financial variables are with regards to making corporate financing decisions, rank on the scale of 1-5 with 1=not significant, 2=less significant, 3=fairly significant, 4=significant, 5=very significant,

Financial Variables and Concepts	**Familiarity** You may tick more than one	**Level of Proficiency**				
		1	**2**	**3**	**4**	**5**
• The Balance Sheet Statement						
• The Income Statement						
• The Statement of Cash Flows						
• Profitability Ratio						
• Liquidity Ratio						
• Cash Flow Ratio						
• Asset Management Ratio						
2. Trend Analysis						
3. Common Size Analysis						

30. Please how often does your real estate company use these financial variables towards making corporate financial decisions, rank on the scale of 1-5 with 1=never, 2=not often, 3=quite often, 4=often, 5=very often

Financial Variables and Concepts	**Familiarity** You may tick more than one	**Level of Proficiency**				
		1	**2**	**3**	**4**	**5**
• The Balance Sheet Statement						
• The Income Statement						
• The Statement of Cash Flows						
• Profitability Ratio						
• Liquidity Ratio						
• Cash Flow Ratio						
• Asset Management Ratio						
2. Trend Analysis						
3. Common Size Analysis						

Contact/ Personal information *(optional)*

Name:	Title (Mr., Mrs., Dr., etc), *please specify*
Address:	Education (HND, B. Sc., M. Sc., PhD,
Telephone/Fax:	Expertise:
Email:	Experience industry:
Position in the Firm **(Director, etc)**	Experience with the firm:
Organization/Company Name	

Please you are at liberty to provide any other extra information concerning this subject, (*continue on separate sheet if applicable)*

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Appendix 2: Tables

Table 3.2 Content and Underlying principle for Questions (GREDA Members)

Research Question	Type of Question	Research Emphasis	Underlying principle for Question
Background and Firm Characteristics			
Q1	close-ended	Respondents were asked to specify their firm's legal status	This question was asked to offer an understanding into the firms' ownership structure
Q2 – Q3	close-ended	Respondents were asked to indicate their firm's age and size	These questions were asked to establish the age of the firms and size based on the 'number of people' involved
Q4 – Q9	close-ended	Respondents were asked to identify their expenditure, turnover, the number of houses constructed and future projections	The reason for these questions were to determine the expenditure, financial capacity, the size asset value of real estate firms
Q10	close-ended	Respondents were asked to indicate their exit options for their housing projects	To allow the researcher to know the marketing methods used by real estate developers
Q11– Q12	close-ended	Respondents were asked to specify the demand and supply of external funds from lending institutions	The purpose of these questions were to compute shortfalls and identify the liaison between demand and supply in external sources of funding
Past Trends and Innovations in Real Estate Finance			
Q13-Q15	close-ended	Respondents were asked to identify the lending institutions, the financial sources and difficulties faced in accessing finance over the past years	The intention was to determine the past trends of financial sources, financial institutions which offered funding and constraints encountered in sourcing for funding.The results of this data was important in achieving the third objective
Current Financial Sources and Difficulties			

Q16-Q17	close-ended	Respondents were asked to identify the presence of financial difficulty and the form it takes	The reason of this question was to establish the form of financial difficulty and how to minimize it to pave way for readily access to real estate finance
Q18-Q19	scaled-response	Respondents were asked to rank the form of financial difficulty and factors that account for these difficulties	These questions were asked to obtain empirical data on the level and significance of financial difficulties which is imperative in realizing the second objective
Q20-Q21	scaled-response	Respondents were asked to identify and rank the lending institutions and sources of funding	The main reason for these questions was to determine the main sources of funding for real estate development which is in line with the first objective
Q22	scaled-response	Respondents were asked to specify the factors they consider in their choice of financial strategies	The rationale for this question was to identify financial decision factors used by real estate developers in Ghana
Q23	scaled-response	Respondents were asked to rank the difficulties they encounter when sourcing for finance	The purpose of this question was to identify the main difficulties that affect real estate finance and to ascertain how to diminish these factors
Q24	scaled-response	Respondents were asked to specify their financial methods in respect to the micro-economic environment	This question was asked to offer understanding into the choice of financial methods in the event of changes in the economic situation in the country
Q25	scaled-response	Respondents were asked to rank by level of importance, factors that need to be established to close up the financial difficulty.	The rationale for this question was to generate opinions from the respondents on ways to militate the financial difficulty
Financial Capability and Skill Acquired by Firms			

Q26-Q27	scaled-response	Respondents were asked to rank the training of management and their level of involvement in finance decision making	This question was asked to determine the level of importance of formal education to management executives and the category of these executives that are involved in corporate decision making
Q28-Q30	scaled-response	Respondents were asked to identify and rank financial variables and their level of significance in decision making	The rationale for this question was to identify how these variables affect financial decision making and the level of familiarity of these variables to management executives

Source: Constructed by the researcher