

Determinants of corporate listings on stock markets in sub-Saharan Africa: Evidence from Ghana

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Abstract:

Sub-Saharan Africa (SSA) economies have established stock markets to encourage the mobilization of domestic funds and attract foreign capital in-flows for corporate investment and growth. But domestic corporate listings on stock markets have been abysmal. This study examines the reasons behind the low patronage of stock markets by domestic firms in SSA using Ghana as a case study. Data for the study was obtained from 110 out of the 200 largest firms in Ghana and included firms which were listed on the stock market and unlisted firms over three time-periods from 2002 to 2009. The findings show that knowledge about stock market dynamics and financial institutions' support encourages listing on the stock market. However, extensive information and disclosure costs requirements, and loss of ownership and control discourage listing on the stock market.

Keywords: corporate listings | stock market efficiency | ownership and control rights | information disclosure requirements | stock market development | Sub-Saharan Africa

Article:

1. Introduction

Firms in Sub-Saharan African economies face the challenge of mobilizing and increasing domestic and international funds for corporate investment activities and development. The increase in the globalization of financial markets in the late 1990's and 2000's provided firms in emerging economies with the opportunity to at least mobilize funds from international sources. This increased globalization of financial markets led many Sub-Saharan African countries to promote and implement structural changes in their economies. The structural changes replaced decades of excessive government intervention, regulation, and protectionist policies with market-oriented economic policies of free trade and economic integration, lower tariff structures, privatization of state-owned enterprises, strengthening of the domestic financial systems, establishment of stock markets, the liberalization of already established stock markets, and the provision of attractive investment incentives.

Financial economists have argued that in a market-oriented economy, a stock market and the associated financial institutions perform the functions of mobilizing domestic savings, allocating

financial resources for investment, monitoring managers and exerting corporate control, facilitating the management of risk, and facilitating the exchange of goods and services (Adelegan, 2008, Levine, 1996, Levine, 1997, Samuel, 2001, Wurgler, 2000). Thus, armed with the experiences of the emerging stock markets in Southeastern Asian economies and their role in improving corporate effectiveness and performance (Claessens, Djankov and Xu, 2000b), many Sub-Saharan African economies established stock markets and/or liberalized their stock markets by allowing foreigners to purchase shares on their domestic stock markets so as to encourage and improve the mobilization of domestic savings and attract the in-flow of international capital to promote the development of private business enterprises (Hearn and Piesse, 2009). Despite the efforts of the governments in Sub-Saharan African economies to provide more financing choices (in the form of both debt and equity, instead of the traditional reliance on debt alone) for firms through the establishment and/or liberalization of stock markets, most domestic firms have refused to go public by enlisting on the stock market. This may be due to the “extreme illiquidity and segmentation” (Hearn and Piesse, 2009: 257) of the stock markets as a source of equity capital for financing business activities. For example, it was estimated that equity finance accounted for about 12% of total asset growth of listed companies in Ghana between 1995 and 2002; 25% in Zimbabwe between 1990 and 1999; and 40% between 1990 and 2000 in Nigeria (Adelegan, 2008, Yartey and Adjasi, 2007). Table 1A, Table 1B shows that in Sub-Saharan Africa only Nigeria and South Africa have more than 100 firms listed on their domestic stock markets as at the end of 2012. Moreover, only three countries – Mauritius, South Africa and Zimbabwe – have domestic stock markets where the market capitalization as a percentage of gross domestic product (GDP) exceeded 50% in 2012. Moreover, the total value of shares traded on the stock markets as a percentage of GDP is very small. Apart from South Africa where the total value of stocks traded on the stock markets was 81.5%, the total value of shares traded on each of the stock markets in Sub-Saharan Africa in 2012 was less than 5% of GDP (World Bank, 2013). These statistics show that not only are the market sizes of the stock market small, but they are also not actively engaging in activities that would provide equity financing choices to firms very easily.

Table 1A. Listed companies on domestic stock markets in selected Sub-Saharan African countries.

| Country | 1991 | 1995 | 2000 | 2005 | 2009 | 2010 | 2011 | 2012 |
|---------------|------|------|------|------|------|------|------|------|
| Botswana | 9 | 12 | 16 | 18 | 20 | 21 | 23 | 24 |
| Cote d'Ivoire | 25 | 31 | 41 | 39 | 38 | 38 | 33 | 37 |
| Ghana | 13 | 19 | 22 | 30 | 35 | 35 | 36 | 34 |
| Kenya | 53 | 56 | 57 | 47 | 55 | 53 | 58 | 57 |
| Malawi | N/A | N/A | N/A | 9 | 15 | 14 | 14 | 14 |
| Mauritius | 20 | 28 | 40 | 42 | 89 | 86 | 86 | 87 |
| Namibia | N/A | 10 | 13 | 13 | 7 | 7 | 7 | 7 |
| Nigeria | 142 | 181 | 195 | 214 | 214 | 215 | 196 | 192 |
| South Africa | 688 | 640 | 616 | 388 | 363 | 360 | 355 | 348 |
| Swaziland | 2 | 4 | 6 | 6 | 5 | 5 | 5 | N/A |
| Tanzania | N/A | N/A | 4 | 6 | 15 | 11 | 17 | 17 |
| Uganda | N/A | N/A | N/A | 5 | 8 | 8 | 8 | 10 |
| Zambia | N/A | 2 | 9 | 15 | 19 | 19 | 20 | 20 |
| Zimbabwe | 60 | 64 | 69 | 79 | 94 | 76 | 75 | 76 |

N/A = not available.

Source: The World Bank (<http://data.worldbank.org/indicator/CM.MKT.LDOM.NO>). Assessed on September 15, 2014.

Table 1B. Market capitalization as a percentage of gross domestic products in selected Sub-Saharan African countries.

| Country | 1991 | 1995 | 2000 | 2005 | 2009 | 2010 | 2011 | 2012 |
|---------------|--------|--------|--------|--------|-------|-------|-------|-------|
| Botswana | 6.62 | 8.34 | 17.36 | 23.76 | 42.3 | 29.7 | 26.9 | 31.6 |
| Cote d'Ivoire | 5.15 | 7.87 | 11.38 | 14.22 | 26.7 | 31.0 | 26.1 | 31.7 |
| Ghana | 1.15 | 25.54 | 10.09 | 15.49 | 9.7 | 11.0 | 7.8 | 8.3 |
| Kenya | 5.56 | 20.85 | 10.11 | 34.07 | 35.0 | 44.6 | 29.7 | 36.7 |
| Malawi | N/A | N/A | N/A | 8.07 | 27.5 | 25.2 | 24.6 | 17.8 |
| Mauritius | 10.92 | 32.94 | 29.05 | 41.65 | 53.6 | 76.6 | 68.1 | 62.0 |
| Namibia | N/A | 5.40 | 7.96 | 5.71 | 9.7 | 10.6 | 9.3 | 9.7 |
| Nigeria | 6.88 | 7.23 | 9.21 | 17.24 | 19.7 | 13.9 | 9.5 | 12.3 |
| South Africa | 139.74 | 185.64 | 154.24 | 228.85 | 248.0 | 174.0 | 129.5 | 160.1 |
| Swaziland | 2.33 | 19.95 | 4.90 | 7.80 | N/A | N/A | N/A | N/A |
| Tanzania | N/A | N/A | 2.57 | 4.16 | N/A | 5.5 | 6.4 | 6.4 |
| Uganda | N/A | N/A | N/A | 1.15 | 25.3 | 11.2 | 49.9 | 36.4 |
| Zambia | N/A | 0.55 | 7.28 | 13.82 | 21.9 | 17.4 | 20.9 | 14.6 |
| Zimbabwe | 16.09 | 28.66 | 32.87 | 70.26 | 47.0 | 121.4 | 99.5 | 94.7 |

N/A = not available.

Source: The World Bank (<http://data.worldbank.org/indicator/CM.MKT.LCAP.GD.ZS>). Assessed on September 15, 2014.

This study explores the reasons behind the low level of patronage of the stock markets by domestic firms in Sub-Saharan Africa, using Ghana's experience as a case study. The data for this study comes from a sample of 110 firms out of the 200 largest firms in Ghana that completed the survey questionnaire over three time-periods — 2002, 2005 and 2009. Twelve (12) of the firms were already listed on the Ghana Stock Exchange, while 98 were unlisted firms.

Specifically, the study attempts to answer the following questions: What are the managerial perceptions about the stock market as a source of obtaining finance for investment? What are the attitudes of managers/owners toward taking companies public by enlisting on the stock market? What are managers/owners perceptions of the advantages or disadvantages in offering ownership of part of their companies to the public? Do banks and financial institutions encourage managers/owners to list their companies on the stock market to obtain additional source of finance for their business operations, and if so, what impact does it have on manager/owners probability of enlisting on the stock market?

Several studies have examined the reasons behind the low patronage and underdevelopment of stock markets in emerging economies. Relying on agency theory, these studies have placed the problem of stock market underdevelopment squarely on the inadequate patronage of these stock markets by investors due to lack of investor protection and inadequate transparency and information disclosure by firms. The studies have, therefore, focused on the development of institutions and enactment of policies that will attract and protect investors from expropriation of the value of their investment by managers and controlling or majority shareholders (Billmeier and Massa, 2009, Black, 2000, Kaya et al., 2012, La Porta et al., 1999, La Porta et al., 1997, La Porta et al., 1998, La Porta et al., 2000. These studies have focused on only the *supply side* (i.e., supply of finance) of the problem of stock market under-development in emerging economies — the structural impediments to investor participation as a result of institutional underdevelopment, natural resource endowments, and diaspora remittances. Unquestionably, supply of funds is a major driver of financial market development, but it cannot be the only explanation. It should be

noted that for investors to even consider investing in a particular stock market, there should be a critical mass of available firms listed on the stock market for them to choose from — i.e., the *demand side* (demand for finance). Therefore, the absence of available demand for funds in the markets to meet the supply of funds could also affect the development of a financial market. Thus, an important contribution of this paper is an attempt to provide a balanced view of the determinants of stock market under-development in emerging economies. This is done by examining both the *supply side* (the legal and economic institutions that create impediments to attracting and protecting investors) and the *demand side* (the lack of companies willing to enlist on the stock market) of the problem from the perspective of managers and owners of domestic firms.

2. Theoretical background and hypotheses

2.1. The role of stock markets in corporate growth

A myriad of theoretical and empirical evidence exist to indicate that there is a positive relationship between the development of financial markets (stock markets, banks, and institutions) and corporate growth and development. Economists have argued that a stock market and the associated financial institutions perform many functions to support the growth and development of firms in a market-oriented economy. Levine (1997) has argued that the role of developed stock markets in corporate growth and development an economy could be categorized into four. First, developed stock markets facilitate the management of corporate liquidity risk through the efficient allocation of capital for investment thereby boosting corporate activities and growth. Second, developed stock markets act as signaling mechanisms by assisting in the acquisition, processing and dissemination of information about firms and managers through published prices. This lowers information costs and promotes more efficient allocation of resources, which enhances technological innovation and long-run corporate growth and development (King and Levine, 1993). Third, developed stock markets act as catalysts for corporate governance by contributing to the monitoring of firm managers and the promotion of corporate control. The improvements in corporate control and managerial effectiveness will, in turn, promote investment, efficiency and effectiveness of firms' productive activities (Demirguc-Kunt and Maksimovic, 1996a). Lastly, developed stock markets facilitate the mobilization of financial resources from different savers (individuals and institutions) for corporate investment activities (Levine, 1997). Thus, developed stock markets do not only mitigate the transaction and information costs associated with mobilizing savings from different agents, but also allow the effective pooling of savings from individuals, and improvement in resource allocation to facilitate firms' business activities and the enhancement of corporate growth.

Recent empirical studies investigating the relationship between financial markets and corporate growth and development have shown that different measures of stock market development are positively related to corporate growth and development. Rajan and Zingales (1998) use manufacturing industry-level data from 41 countries to examine the relationship between financial market development and the growth in industry value-added. They find that the ex-ante development of financial markets (ratio of domestic credit plus market capitalization to GDP and accounting standards representing standards of financial disclosure) facilitates the ex post growth of firms in manufacturing industries dependent on external finance. They conclude that

“financial markets and institutions reduce the cost of external finance for firms” (p. 561). Using samples from 30 developed and developing countries, Demirguc-Kunt and Maksimovic (1998), provide a micro-level test to investigate whether the underdevelopment of the financial and legal systems does prevent firms from investing in potentially profitable growth opportunities. They find that an active (developed) stock market (measured by ratio of market capitalization to GDP and value of domestic trades to size of stock market), and a developed legal system are associated with firm growth financed by long-term external debt and equity.

Wurgler (2000) has also demonstrated that among 65 countries, those with highly developed financial markets are also the ones that are the most efficient in allocating resources and capital among firms, while Morck, Yeung, and Yu (2000) find that stock markets in more developed economies allocate investment resources more efficiently to firms because they incorporate firm-specific information better in their decision making processes. At the same time, Rousseau and Wachtel (2000) find that both stock market activity and banking sector development have a positive influence on corporate growth using data from firms in 47 countries from 1980 to 1995.

Henry (2000) finds that the liberalization of stock markets generates an increase in real private investments due to fall in the cost of equity capital, thus transforming investment projects of firms that have negative net present value (NPV) before liberalization into positive NPV after liberalization in developing countries. Stock market liberalization further generates higher growth rates of firm output, which has a broader impact on economic welfare far beyond the financial premium to domestic shareholders. The foregoing empirical studies clearly indicate that various measures of stock market development (e.g., ratio of market capitalization to GDP; value of domestic trades relative to size of stock market, standards of financial disclosure, etc.), are related to availabilities of resources and capital for firms to undertake their strategic activities. In a recent review of corporate governance research in emerging markets, Claessens and Yurtoglu (2013) find that better corporate governance benefit firms by providing them greater access to financing, lower cost of capital, higher returns on equity and greater efficiency. Thus, the implication from the empirical studies is that stock market development plays a potential role in facilitating corporate growth and development.

2.2. Corporate listings on stock markets in emerging economies

With the strong relationship between stock market development and corporate growth and development observed in many empirical studies, why are so many emerging economies (especially in Sub-Saharan Africa) finding it difficult to develop their stock markets? Why do very few companies go public in a year, or five years or even a decade in Sub-Saharan African economies as compared to the emerging economies of Asia or Western advanced countries? The popular answer provided in the economics and finance literature is the classic agency problem where managerial interests are sharply divergent from ownership or shareholder interests thereby creating structural obstacles to attracting and protecting minority investors (e.g., Beck et al., 2003a, Black, 2000, La Porta et al., 1997, La Porta et al., 1998, La Porta et al., 2000, La Porta et al., 2002, Shleifer and Wolfenzon, 2002).

Studies focusing on Sub-Saharan African stock markets have been championed by Hearn and Piesse, 2010a, Hearn and Piesse, 2010b. Hearn and Piesse (2010a) showed that the barriers to the

development of the stock markets in Swaziland and Mozambique are due to illiquidity, lack of truly dispersed ownership, poverty, wealth inequality, inadequate institutions and constraints to investments. Hearn and Piesse (2010b) and Hearn (2014) have examined the size and liquidity issues in Sub-Saharan Africa stock markets. Hearn and Piesse (2010b) show that there are substantial benefits of size and liquidity in explaining stock returns in West African markets. In West Africa, investors in larger and relatively liquid stock markets (e.g., Nigeria) benefit more than those in smaller and illiquid markets such as those in Cote d'Ivoire and Ghana. Hearn (2014) further show that the attraction of foreign or more distant primary listings on the centralized stock markets in West Africa (e.g., Nigeria and Ghana) is due to the higher illiquidity costs of firms from the more distant regions, which is mitigated by improvements in transparency. Furthermore, Hearn and Piesse (2013) study firm-level and institutional determinants of liquidity in 12 Sub-Saharan African stock markets. They find that while state and foreign venture capitalist participation in firms improves liquidity, the involvement of foreign partners, entrepreneurial founders, domestic venture capitalist, and an extended family business network or business group worsens liquidity. These studies have enhanced our understanding of the obstacles to the development of Sub-Saharan African stock markets and listings on these stock markets, however, the emphasis has been on size and liquidity or illiquidity issues.

I argue that although structural obstacles to attracting and protecting minority investors and therefore financial resources, in addition to liquidity issues have the potential to stymie the development of domestic stock markets in developing countries, other factors preventing domestic firms from enlisting on the stock markets are also important in the underdevelopment of these stock markets.

2.2.1. Efficiency and information disclosure

Agency theory deals with how to resolve problems that occur in agency relationships, especially those between firms' ownership (principals) and management (agents) (Eisenhardt, 1989, Jensen and Meckling, 1976). Due to the separation of ownership and control functions in modern organizations, it is usually difficult or expensive for the ownership to verify whether management is actually acting in their interest. The management of a firm may, therefore, act opportunistically by investing in projects that may benefit them to the detriment of the firm's owners. In the case of stock markets in emerging economies, it has been argued that management and majority or controlling shareholders of firms listed on the stock market have been expropriating the value of minority investors, thus discouraging minority investment on the stock markets (e.g., Morck, Shleifer, and Vishny, 1988). Therefore, external agency control mechanisms such as strong legal institutional mechanisms and accounting and disclosure systems which will eliminate the structural impediments to investor participation in the stock market must be put in place in emerging economies to encourage corporate listings and minority investment. These external control mechanisms, it is argued, will restrain the self-serving behaviors of managers and/or controlling shareholders and provide investors better protection from expropriation by managers and/or controlling shareholders, thus create well-functioning stock markets (i.e., stock markets with higher trading volumes and higher number of listed firms).

A substantial research in financial economics following the lead of La Porta et al., 1997, La Porta et al., 1998 and relying on agency theory reveals that the extent of legal protection of investors in a country determines the development of its financial market because the legal mechanisms mandate the disclosure of information relating to the value and activities of companies, and enable security prices to reflect the available information. Countries whose legal systems (i.e., both laws and their enforcement) afford investors better protection from expropriation by managers and/or controlling shareholders have well-functioning financial markets than countries with poor investor protection laws (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1997). La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) show that whether a country's commercial legal system is based on English (common law), or the French, German and Scandinavian (civil law) legal tradition is important in determining how the country's laws uphold private property rights, minority shareholder rights and creditor rights, mandate corporate transparency and information disclosure, and thus affect the number of companies willing to enlist on stock markets. The origin of the legal tradition in turn explains the level of financial market development with civil law countries demonstrating both poorer investor protection and the least developed financial markets when compared to common law countries (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1997). In fact, in the absence of quality information disclosure and efficiency in the stock market, access to external capital may be either unavailable or costlier than internal financing choices and may discourage companies interested in enlisting on the stock markets to do so.

Black (2000) has expounded on the legal protection argument by categorizing it into two essential prerequisites that would allow more companies to enlist on a stock market and thus enable the stock market to develop as a result of greater capital inflow. First, a country's laws and related institutions must provide minority shareholders good information about the value of a company's business. The laws and institutions should mandate and enforce extensive disclosure of financial and company information, develop an accounting system that address investors' need for reliable information, an accounting profession with the skill and experience to detect some instances of false and misleading disclosure, and investment banking profession that investigates the issuers of securities. Other legal structures and supporting institutions that must be put in place include securities or other laws that impose on accountants and investment bankers enough risks of liabilities to investors should they endorse false or misleading financial statements and underwrite securities that are sold with false or misleading disclosure respectively. Second, the laws and related institutions must provide the assurance that a company's managers and controlling shareholders will not expropriate minority investors and creditors out of most or all of the value of their investment. This should be done through establishing a judicial system that is honest, sophisticated enough to handle complex securities cases, and can prosecute cases and produce decisions without delays. Also important are enacting and enforcing securities or other laws that ensure market transparency, banning manipulation of trading prices, imposing severe sanctions on insiders for false and misleading disclosures, and the willingness to fine or de-list companies that violate disclosure rules. These prerequisites have also been reiterated by Rajan and Zingales (2003). They argue that the development of a country's financial market is related to the establishment of legal institutions that protect and provide respect for private property rights, and enforce arm's length contracts cheaply; an accounting and disclosure system that promotes transparency; and a regulatory infrastructure that protects consumers, promotes competition, and controls egregious risk-taking.

Recent empirical studies have demonstrated that better legal protection of investors is related to financial market development by increasing the patronage of the stock market and the value of corporate assets of listed firms (Claessens et al., 2002, La Porta et al., 2002). Better legal protection has also been linked to access to long-term external finance in the form of both debt and equity, and firm growth (Demirguc-Kunt and Maksimovic, 1998, Demirguc-Kunt and Maksimovic, 1999, Shleifer and Wolfenzon, 2002), informational efficiency of stock prices (Morck et al., 2000), greater dividend payout by listed firms (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000), efficient allocation of capital (Wurgler, 2000), and lower concentration of ownership and control rights (Claessens et al., 2002, La Porta et al., 1999). Johnson, Boone, Breach and Friedman (2000) have also shown that the extent of market decline during the financial crises in East Asia was larger in countries with poor investor protection than the decline experienced by those countries with better legal protection of investors.

Demirguc-Kunt and Levine (1996) find that countries with extensive information disclosure requirements, internationally accepted accounting standards, and unrestricted international capital flows tend to have larger and well-developed stock markets. Claessens et al. (1999) show that because of the poor legal protection afforded minority shareholders in nine East Asian economies, higher concentration of cash-flow rights in the hands of majority shareholders is associated with higher market values. However, higher concentration of control rights in the hands of majority shareholders is associated with lower market values. They conclude that the risk of expropriation of minority shareholders is the major principal-agent problem for large publicly traded companies. Beck et al. (2003b) further show that countries with common law traditions offer better protection of investors and thus experience higher levels of financial market development because of the ease with which they can adapt efficiently to changes in economic conditions when compared to countries with civil law traditions. Patel, Balic and Bwakira (2002) studied the disclosure and transparency levels in 354 firms in 19 developing economies and found a positive relationship between price-to-book ratio of firms and their transparency and disclosure scores in many of the countries.

The above analyses clearly indicate that better legal protection of investors is critical in developing a vibrant and valuable stock market, which in turn should attract firms to list their shares on the stock market. Agency theory, however, may not apply in its totality to firms in most developing economies where ownership and management are usually in the hands of the same people. Thus, single ownership and control of a firm may provide better incentive for the managers of the firm to emphasize long-run rather than short-run organizational goals, in addition to minimizing the expropriation of minority shareholders investment typically encountered in widely owned firms (Anderson and Reeb, 2003). Moreover, managers and owners of firms gain more from improvements in investor protection because of a country's access to capital inflows from other parts of the world (Shleifer and Wolfenzon, 2002). Although extensive information disclosure requirements are beneficial to investors, it also entails significant costs to owners of firms who want to take their companies public. This is because those firms will have to develop an accounting and reporting system that is internationally recognized and also follow the rules and regulations of the stock market in which they intend to list their shares. Thus, in a developing economy like Ghana, owner managers may perceive the

costs of disclosing extensive information to outweigh the benefits they will receive from better investor protection. Thus, we hypothesize that:

H1. Top managers who perceive that the stock market is efficient (i.e., will provide greater access to capital inflow) will be more likely to take their companies public by enlisting on the stock market.

H2. Top managers who perceive that information disclosure requirements are excessive and costly are less likely to take their companies public by enlisting on the stock market.

2.2.2. Role of banking system

Firms can finance their investment activities through debt or equity or a combination of the two. Stock markets are the major sources of equity financing, while banks provide the bulk of debt financing. In many emerging economies with underdeveloped stock markets debt financing and equity financing are seen as alternative means of financing corporate investment (Demirguc-Kunt and Levine, 1996). With the banking system in most developing countries more developed than the stock markets, it is argued that banks are afraid of stock market development because a well-functioning stock market will reduce the volume of the businesses of banks and other financial institutions. Thus, banks and other similar financial institutions in most developing economies view a well-developed stock market as a competitor and may not or are less likely to advise firms who do business with them to enlist on the stock market. However, if banks and financial institutions view the development of stock markets as a complement to their growth and development, they would be more likely to encourage firms who are their clients to go public or engage in activities that will support the development of stock markets.

In a series of studies by Demirguc-Kunt and colleagues (e.g. Demirguc-Kunt and Levine, 1996, Demirguc-Kunt and Maksimovic, 1996a, Demirguc-Kunt and Maksimovic, 2002), it has been shown that in most developing economies stock markets and banks perform different, but complementary roles in providing financing for firms. Demirguc-Kunt and Levine (1996) find that the level of stock market development is highly correlated with the development and efficient functioning of banks. Demirguc-Kunt and Maksimovic (1996a) find that in developing stock markets, large firms become more leveraged as the stock market develops while the smallest firms are not affected by stock market development. They argue that their results imply that initial improvements in the functioning of a developing stock market produce a higher debt/equity ratio for firms and therefore an expansion in business for banks. Demirguc-Kunt and Maksimovic (2002), further find that stock markets and bank development have different effects on the type of external funding firms obtain; in countries with developed stock markets more firms grow at rates that require long-term external financing than countries with underdeveloped stock markets. Thus, managers in banks that see the role of the bank in the economic development of a country to be complementary to that of a developed stock market would advise or encourage their clients to consider the stock market for other sources of funding.

H3. Top managers of companies whose banks perceive that a well-functioning stock market will benefit the banks are more likely to enlist on the stock market.

2.2.3. Ownership and control rights

Stewardship theory offers a contrasting perspective to agency theory with respect to ownership and control functions in an organization (Davis, Schoorman and Donaldson, 1997). While agency theory focuses on the potential divergence between the goal of owners and managers, stewardship theory emphasizes the possibility of goal congruence between owners and managers in an organization. According to stewardship theory, the behaviors of managers extend beyond purely maximizing their individualistic interests and economic goals (Davis et al, 1997). Thus, a stewardship theoretical perspective will influence the behaviors of owners or managers of firms owned and managed by families in societies with highly collectivistic cultures.

Stewardship theory, thus informs the culture of a society as a significant influence on the enlisting of companies and the development of stock markets. Culture is the means by which values, norms, knowledge, and other factors that influence perceptions and behavior are transmitted from one generation to another through teaching and imitation (North, 1990). Stulz and Williamson (2003) have argued that culture affects financial development through the predominant values in a country, institutions (e.g., legal system), and the allocation of resources because of attitudes toward finance (borrowing, interest charges, etc.). Stulz and Williamson (2003) found that differences in culture, proxied by differences in religion and language, have a significant impact on how the legal system protects investors. In East Asian countries, culture has an important influence on the ownership, control and management of firms. Claessens et al., 2000a, Claessens et al., 2000b have shown that a single owner or family not only owns but also controls more than two-thirds of firms in East Asian countries. Moreover, the “separation of management from ownership is rare, and the top management of about 60% of firms that are not widely held is related to the family of the controlling shareholder” (p. 82).

Most African societies, including those in Ghana, have highly collectivistic cultures. That is, the extended family and broader community play an important role in creating the values and behaviors that determine the perceptions of individuals toward property ownership. In Ghana, culture dictates that ownership of property, especially land, is vested in the clan which in turn should be divided among the various families that form the clan (Acquaah, 2007). These family properties are transferred from one generation to the other. Families and individuals who own properties are not only highly respected and regarded, but they also become very powerful and influential in the society. This has led to a situation where family managers and/or owners prefer the family to be the sole owner of a company rather than offer shares to other parties who may eventually become part owners of the company. These family managers or owners foster a dual connection to the company, as it represents a source of identification, wealth and power for the family. Thus, the ownership, control and management in most firms are in the hands of the same individuals or families. In fact, these managers who are also the owners of the firms see themselves as stewards of the family property and do not want to lose the ownership and control rights under their watch.

The behavior of owners and/or managers to listing on the stock market could be explained by stewardship theory. Stewardship theory argues that owner managers maximize their utility functions by acting in the best interest of a firm to attain the firm's objectives (Davis, Schoorman and Donaldson, 1997). From the perspective of stewardship theory firms that are owned by

families and managed by an altruistic family member may exhibit a firm-serving culture which ensures collective ownership of the firm within the family. According to Corbetta and Salvato, (2004, p. 356), firms that are owned by families could be described as “relying on mutual trust, intra-familial altruism in its purest sense (i.e., unselfish concern and devotion to others without expected return to oneself), and clan-based collegiality.” Thus stewardship in a family-owned and managed firm includes high levels of identification with the family goals, commitment to the family business, and values that are shared and aligned with both the family and the business (Corbetta and Salvato, 2004). To ensure family ownership and control of the firm, the owner manager may refuse to list the firm on the stock market so that outsiders would not be able to gain ownership and control rights. Owner managers are therefore reluctant to relinquish control of their companies by taking it public so that the ownership of the business could be transferred to the next generation of family members. They would rather prefer handing over part ownership and control to other members of their family instead of offering shares to the public which they consider as outsiders. We therefore hypothesize that:

H4. Top managers of companies who perceive that they will lose their ownership and control rights when they take their companies public are less likely to enlist on the stock market.

2.2.4. Knowledge of stock market dynamics

Knowledge about the dynamics of the stock market by managers and owners may also influence their attitudes toward taking their companies public. As discussed above, the stock market provides a lot of benefits for organizations and economies. These benefits include facilitating the management of business risk; acting as a signaling mechanism for the efficient allocation of resources for investment purposes; fostering the accountability of managers; and ensuring the protection of shareholder rights in order to prevent expropriation of wealth by controlling interests (e.g., Levine, 1997). Other benefits are creating the opportunity to attract foreign capital and mobilizing domestic savings from the public; and facilitating the exchange of goods and services. However, for these benefits to be realized, managers and owners must be prepared to transfer part of the ownership of their organizations by offering equity shares to the public. They should further understand that their organizations must be registered with a stock exchange (e.g., the GSE), which requires an organization to disclose a great deal of information before they can raise funds through the sale of equity shares (Kim and Singal, 2000). They must also meet certain minimum criteria such as asset size and the number of shares to be issued. With all these requirements (costs) a manager must have a good understanding of the benefits of enlisting in the stock market to go ahead with that decision. Thus we argue that the prospect of listing an organization on the stock market is higher for managers and owners who have knowledge about the benefits they can obtain.

H5. Top managers who are knowledgeable about the role of the stock market in corporate growth and economic development are more likely to enlist on the stock market.

3. Method and data

This study uses a non-probability sample of the largest and medium-sized companies selected from the 2001 database of the *Ghana Business Directory* and the membership directory of the

Association of Ghana Industries (AGI) to test the hypotheses. The following section discusses the research setting, data sources and sample, validity checks, development of the measures and statistical analysis used.

3.1. Research setting

After independence in 1957, Ghana pursued an inward-oriented state-controlled industrialization policy to modernize its economy. However, inefficiencies in the management of the state-owned enterprises led to huge excess capacity and dependence on the government for subsidies and protection under the auspices of the infant industry argument to survive. Political instability and economic mismanagement from the mid 1960's to the early 1980's led to the deterioration of the economy. In order to turn around the economic crises, the government started implementing the IMF/World Bank led economic liberalization program in 1983 to promote efficiency, productivity growth, privately owned enterprises development, economic growth, and trade and investment. The contents of the program include: monetary and banking reforms to improve access to capital; privatization of unprofitable state-owned enterprises; removal of import controls and foreign exchange restrictions; and removal of price controls and local production subsidies (Debrah, 2002). Ghana is one of the few economies to be considered emerging in Sub-Saharan Africa (Hoskisson, Eden, Lau, and Wright, 2000).

As part of the economic liberalization program, the Ghana Stock Exchange (GSE) was incorporated in July 1989 and started trading in November 1991 with 13 companies. Most of these initial companies were privatized state-owned enterprises. The number of companies listed on the GSE increased to 19 in 1995, and 30 in 2005, but has since been experiencing problems with growth with only 36 companies listed on the Exchange (September 2014). As at September 15, 2014, the market capitalization was Ghana Cedis (GHC) 63.95 billion (about US\$17.80 billion) making it one of the largest stock markets in the West African region and Sub-Saharan Africa. However, the GSE is dominated by two companies – Anglo-Gold Ashanti (formerly Ashanti Goldfields Company Ltd. (23.36% of market capitalization), which is also listed on many stock markets such as New York, London, Toronto, and Zimbabwe Stock Exchanges) and Tullow Oil Plc (49.64% of market capitalization) – which account for about 73% of the market capitalization (Ghana Stock Exchange, 2014). The criteria for listing on the GSE include capital adequacy, profitability, spread of shares, years of experience, and management efficiency (West Africa, 1996).

3.2. Data, sample and validity checks

The data for this study were collected through a questionnaire survey from senior executives (chief executive officers (CEOs)/managing directors (MDs)) and their deputies) of manufacturing and service firms operating in Ghana. The sample consisted of the 200 largest companies in Ghana. To solicit participation in the study, I sent letters to the CEOs/MDs of each of the selected companies in early 2002. The letter explained the purpose of the study and requested their cooperation in completing the questionnaires. To ensure a high response rate and the provision of reliable and accurate responses, the CEOs/MDs were promised confidentiality of the information collected. One month after the letters were sent, I personally visited the companies, gave the questionnaires to the CEOs/MDs and agreed on a date to collect the

completed questionnaires. After several visits to the companies, I received responses from 115 firms. However, only 110 questionnaires were usable (twelve (12) of the companies were already listed on the GSE) for a response rate of 55%. The response rate of 55% compares favorably with studies conducted in similar environments (e.g., Appiah-Adu, 1998). Because I was interested in examining the reasons for corporate listings on the stock market over time, I administered the same questionnaire to the 110 companies that provided complete responses to the initial survey in 2002 and in 2005 and again in 2009. In both years (2005 and 2009), I received responses from all the 110 firms, but the useable responses were 107 each. In 2005 the number of listed companies in the sample was 14, while it increased to 15 in 2009. Thus, the number of observations over the three time periods was 324.

Survey responses have greatly aided researchers in studying the strategic organization of firm activities in environments where it is the only feasible way to obtain the desired information (Dess and Robinson, 1984). However, there are several concerns about the validity of perceptual measures collected through survey methods such as the selection of respondents and the biases in their responses. To address these concerns, we made sure that all the respondents who completed the questionnaires were either the CEO/MD or their deputies which happen to be the owners of the organizations or senior management personnel. On the average, the respondents have worked for their companies for almost 10 years and have held their respective positions for over 6 years.

3.3. Dependent variable

The dependent variable, *listing on the stock market*, was coded “1” if the firm is either listed on the GSE or willing to list on the GSE over the next 3 years and “0” if it is not willing to list on the GSE.

3.4. Independent variables

The independent variables in the study were derived from items, which have been argued to affect the development, growth and efficient functioning of stock markets. The questionnaire items were developed after careful review of the economics, finance and management literatures on stock market development in developing economies and corporate governance (e.g., Black, 2000, Claessens et al., 2000a, Demirguc-Kunt and Maksimovic, 1996b, Demirguc-Kunt and Maksimovic, 1998, Demirguc-Kunt and Maksimovic, 1999, La Porta et al., 1997, La Porta et al., 2000, La Porta et al., 1999, Wurgler, 2000). To examine the face validity of the items measuring the various constructs, I sent the questionnaire to two finance professors who are familiar with Africa's emerging stock markets for comments and suggestions. The final items in the questionnaire were arrived at after several editing and refinements to the original instrument based on the comments and suggestions from the two experts. The respondents were provided with statements that deal with the extent to which the development of stock markets affect corporate growth and economic development, and the operation and activities of the GSE. They were then asked to indicate the extent to which they agree or disagree with the statements on a seven-point Likert-scale ranging from “strongly disagree” (1) to “strongly agree” (7). A confirmatory factor analysis of the items yielded five variables as follows: (1) the costs and requirements for disclosing information, (2) the efficiency of the stock market, (3) ownership and control rights, (4) manager's/owner's knowledge about the stock market dynamics, and (5)

the role of banks in encouraging managers/owners to enlist their companies on the stock market. The result of the factor analysis is shown in Table 2.

Table 2. Factor analysis of items for the independent variables.

| Scale and items | 1 | 2 | 3 | 4 | 5 |
|--|--------|--------|--------|--------|--------|
| <i>Information disclosure requirements and costs</i> | | | | | |
| Listing on the Ghana Stock Exchange (GSE) requires a company to disclose a great deal of information such as the value of the company and insiders. | 0.852 | 0.139 | 0.121 | 0.153 | 0.008 |
| Listing on the GSE involves a lot of accounting, legal and selling costs because of the extensive financial disclosure and independent audits of financial statements. | 0.855 | 0.179 | 0.041 | 0.018 | 0.098 |
| Listing on the GSE requires a company to follow stringent legal rules regarding the reporting of business activities; failure to follow the rules could lead to severe fines or delisting. | 0.919 | 0.021 | 0.087 | 0.034 | -0.016 |
| Listing on the GSE exposes a company's business activities to its competitors because of the extensive disclosure requirements. | 0.590 | 0.348 | 0.081 | 0.024 | -0.023 |
| <i>Efficiency of the stock market</i> | | | | | |
| The level of participation in the GSE by investors is very low (R). | 0.055 | 0.903 | 0.135 | 0.135 | 0.027 |
| The stock prices of companies that are already listed on the GSE do not change very much (R). | 0.168 | 0.797 | 0.168 | 0.124 | -0.007 |
| Listing on the GSE has a potential incremental impact on a company's growth and performance. | 0.063 | 0.876 | 0.005 | 0.048 | 0.054 |
| The number of company shares that are bought and/or sold on the GSE is too small (R). | 0.093 | 0.853 | 0.019 | 0.051 | -0.013 |
| The level of participation in the GSE by organizations is very high | 0.135 | 0.855 | 0.064 | 0.123 | 0.086 |
| The stock prices on the GSE reflect the available information about the value and activities of companies | 0.265 | 0.786 | 0.188 | 0.204 | 0.098 |
| <i>Ownership and control rights</i> | | | | | |
| The founders of companies listed on the GSE have lost ownership and control rights in the management of those companies. | 0.200 | 0.033 | 0.727 | -0.116 | 0.004 |
| It is better for the founders of a company to let family members control and manage it than to allow outsiders to own part of the company. | 0.020 | -0.043 | 0.819 | -0.127 | 0.130 |
| Listing on the GSE will allow a company's managers to be controlled by their owners/stockholders. | 0.043 | 0.192 | 0.837 | 0.052 | 0.024 |
| Listing on the GSE will allow a company's managers to be monitored by their owners/stockholders. | 0.064 | 0.135 | 0.893 | -0.017 | -0.059 |
| <i>Knowledge about stock market dynamics</i> | | | | | |
| The GSE can be a channel of capital inflow for domestic growth and development (corporate and economic). | 0.033 | 0.267 | -0.128 | 0.727 | 0.073 |
| Listing on the GSE has the potential to provide companies with needed sources of finance for their business activities. | 0.141 | 0.004 | 0.026 | 0.821 | 0.100 |
| If more companies participate in the activities of the GSE, individuals will be motivated to increase their savings. | 0.013 | 0.139 | -0.097 | 0.850 | -0.024 |
| The GSE can provide companies with the choice of financing their business activities with either debt or equity or a combination of the two. | 0.215 | 0.152 | 0.065 | 0.766 | 0.022 |
| <i>Role of the banking system</i> | | | | | |
| Our company's bank/financial institution have been providing us with all the finances we need for our business activities (R). | -0.028 | -0.104 | 0.375 | -0.117 | 0.663 |
| Our company's bank/financial institution encouraged/has been encouraging us to consider listing on the GSE. | 0.032 | 0.162 | -0.208 | 0.092 | 0.830 |
| Banking activities in Ghana are not affected by the strength of the GSE (R). | 0.052 | 0.022 | 0.081 | 0.394 | 0.575 |
| Eigenvalue | 3.210 | 3.143 | 2.882 | 2.236 | 1.780 |
| Percentage of variance explained | 17.835 | 17.462 | 16.012 | 12.422 | 9.888 |
| Cumulative percentage of variance explained | 17.835 | 35.297 | 51.308 | 63.731 | 73.619 |

(R) denotes that the item was reverse coded.

3.4.1. Information disclosure requirements and costs (DISCLOSURE, $\alpha = 0.91$)

This was measured with four items dealing with the amount of company information to be disclosed, and the costs involved in disclosing information and listing on the stock market. The responses to the four items were averaged to create a composite measure of this variable. Some of the items were “Listing on the stock market (i.e., the GSE) requires a company to disclose a great deal of information such as the value of the company to outsiders”; and “Listing on the stock market (i.e., the GSE) involves a lot of accounting, legal and selling costs because of the extensive financial disclosure and independent audits of financial statements”.

3.4.2. Efficiency of the stock market (EFFICIENCY, $\alpha = 0.89$)

This was measured with six items, which deal with the level of investor participation of the GSE, the changes in stock prices, the potential impact of a company's growth and profitability by listing on the stock market, the extent to which stock prices on the GSE reflect the available information about the value and activities of companies, and the number of shares traded on the GSE. The responses to the four items were averaged to create a composite measure of this variable. A representative item is “The level of participation in the stock market (i.e., the GSE) is very low”.

3.4.3. Ownership and control rights (CONTROL, $\alpha = 0.85$)

This was measured with four items, which deal with the loss of ownership and control of the company's operations and activities by the founder or owner by going public. The responses to the four items were averaged to create a composite measure of this variable. Representative items for this variable are “The founders of the companies listed on the stock market (GSE) have lost ownership and control rights in the management of the companies”; and “It is better for the founders of a company to let family members control and manage it than to allow outsiders to own part of the company”. High values on this scale indicate that the managers/owners perceive that listing on the stock market will deprive them of their ownership and control rights.

3.4.4. Knowledge about stock market dynamics (KNOWLEDGE, $\alpha = 0.81$)

This variable was measured with four items, which examine companies' managers/owners knowledge of the role of the stock market on corporate growth and economic development. The responses to the four items were averaged to create a composite measure for this variable. Representative items for this variable are: “The stock market (i.e., the GSE) can be a channel of capital inflow for domestic growth and development (corporate and economic)”; and “Listing on the stock market (i.e., the GSE) has the potential to provide companies with needed sources of finance for their business activities”.

3.4.5. The role of the banks in stock market development (BANKS, $\alpha = 0.76$)

This variable was measured with three items, which deal with banks' role in encouraging and assisting companies in going public by listing on the GSE. A representative item is “Our

company's bank/financial institution encouraged/has been encouraging us to consider listing on the stock market (i.e., the GSE)”.

3.5. Control variables

I controlled for a number of factors that may influence a firm's ability to go public. The control variables were firm age, firm size, ownership structure, business sector, and market competition. *Firm age* was measured as the number of years since the formation or incorporation of the firm. *Firm size* was measured as the logarithm of the number of employees. *Ownership structure* was operationalized using a dummy variable, coded 1 for wholly owned local firms and 0 for foreign and domestic joint venture firms. *Business sector* was also operationalized using a dummy variable, coded 1 for manufacturing firms and 0 for service firms. *Market competition* ($\alpha = 0.75$) was measured using a previously validated instrument that has been used in an economic environment that has experienced deregulation and privatization of state-owned enterprises (Mia and Clarke, 1999). The respondents were asked to indicate the extent to which the following activities have taken place in their company's industry during the past three years: (1) increase in the number of major competitors; (2) use of package deals for customers; (3) frequency of technological change; (4) frequency of new products or service introductions; (5) the rate of change in price manipulations; (6) increase in the number of companies who have access to the same marketing channels; and (7) frequency of changes in government regulations affecting the industry. These activities were measured on a seven-point scale ranging from (1) ‘very little’ to (7) ‘very extensive’.

3.6. Statistical analysis

A binomial logistic regression model was used to assess the effects of the independent variables on the likelihood of listing a company on the stock market. The general specification of the model was as follows:

$$\ln \left[\frac{P(STMKT = 1)}{1 - P(STMKT = 1)} \right] = \alpha + \beta X + \varepsilon \quad (1)$$

is the probability that a firm is listed and/or willing to list on the stock market, and X is the vector of independent variables. It should, however, be noted that the dependent variable is the log of the odds in favor of listing on the stock market. Thus β is the change in the log odds in favor of listing on the stock market for a unit change in each of the independent variables (Gujarati, 2003). A positive coefficient for each of the variables indicates their likelihood to promote listing on the stock market. The model is first estimated using the pooled sample from the three time periods (2002, 2005 and 2009). The model is then estimated using the separate samples from the different time periods (i.e., 2002, 2005 and 2009 separately). A pooled cross-section and time series logistic regression model was used for the pooled sample because only three periods of data from 110 firms were available, while a simple binomial logistic regression model was used for the separate samples for the three time periods.

4. Results

Table 3 presents the descriptive statistics and correlations among the variables. The correlations show significant relationships between the independent variables, however, none of them raised problems of multicollinearity. The highest correlation is between firm age and firm size ($r = 0.49$). This high correlation is not surprising since it should be anticipated that the older a firm has been in existence, the larger the size of that firm in terms of the number of employees. Table 4 presents the cross-sectional time series binomial logistic regression estimates of the pooled sample, while Table 5 shows the results of the estimates for the various years. Model 1 examines the effect of the control variables on the likelihood of listing on the stock market for the pooled sample. In Model 2 the hypothesized variables are added to the control variables to test the effects of the hypothesized variables on the likelihood of listing on the stock market. The result in Model 2 indicates that *EFFICIENCY* has no effect on the choice to list on the stock market; *DISCLOSURE* and *CONTROL* are negative and significant, while *BANK* and *KNOWLEDGE* are positive and significantly related to the likelihood of listing on the stock market. The results in Models 4, 6 and 8 in Table 5 which report the estimates from the various periods separately corroborate those from the pooled sample reported in Model 2, except in the 2009 sample, where *EFFICIENCY* was positive and significantly related to the likelihood of listing on the stock market. To ease the interpretation of the estimated logit coefficients of the logistic regression models, the odds in favor of choosing to list on the stock market for each of the variables was computed by taking the exponent of the estimated logit coefficients. These are also presented in Model 2 in Table 3, and Models 4, 6 and 8 in Table 5.

Table 3. Descriptive statistics and correlations of pooled data (N = 324).

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| 1. Stock market | | | | | | | | | | | |
| 2. Role of banking system | 0.33 | 0.76 | | | | | | | | | |
| 3. Efficiency of stock market | 0.16 | 0.13 | 0.89 | | | | | | | | |
| 4. Knowledge of stock market dynamics | 0.38 | 0.22 | 0.21 | 0.81 | | | | | | | |
| 5. Ownership and control rights | -0.42 | -0.19 | -0.07 | -0.31 | 0.85 | | | | | | |
| 6. Information disclosure requirements and costs | -0.34 | -0.10 | 0.08 | -0.16 | 0.28 | 0.91 | | | | | |
| 7. Firm age (years) | 0.28 | 0.21 | 0.04 | 0.20 | -0.07 | -0.09 | | | | | |
| 8. Firm size (Log # of employees) | 0.42 | 0.38 | 0.04 | 0.13 | -0.17 | -0.17 | 0.49 | | | | |
| 9. Ownership structure (wholly domestic vs. JV) | 0.34 | 0.21 | 0.09 | 0.19 | -0.11 | 0.02 | 0.39 | 0.46 | | | |
| 10. Market competition | 0.31 | 0.19 | 0.21 | 0.30 | -0.08 | -0.07 | 0.23 | 0.24 | 0.30 | | |
| 11. Business sector (manufacturing vs. service) | -0.15 | -0.24 | -0.06 | -0.15 | 0.14 | 0.12 | -0.10 | -0.21 | 0.07 | -0.01 | |
| Mean | 0.53 | 3.98 | 4.98 | 5.42 | 3.82 | 4.63 | 25.79 | 2.00 | 0.29 | 5.32 | 0.83 |
| Standard deviation | 0.50 | 1.24 | 1.26 | 1.02 | 1.20 | 1.34 | 15.87 | 0.45 | 0.45 | 0.92 | 0.38 |
| Minimum | 0.00 | 1.00 | 1.25 | 1.67 | 1.50 | 1.00 | 4.00 | 1.00 | 0.00 | 2.14 | 0.00 |
| Maximum | 1.00 | 7.00 | 7.00 | 7.00 | 6.25 | 7.00 | 91.00 | 3.30 | 1.00 | 7.00 | 1.00 |

All $r > 0.11$ significant at $p < 0.05$; $r > 0.15$ significant at $p < 0.01$; and $r > 0.19$ significant at $p < 0.001$.

H1 posits that top managers who perceive the stock market to be efficient (i.e., provide greater access to capital inflow) will be more likely to enlist their companies on the stock market. The results in most of the models (except Model 8) indicate that there is no relationship between stock market efficiency and the probability of listing on the stock market. Thus H1 cannot be rejected. H2 states that top managers who perceive that information disclosure requirements are excessive and entail too much cost are less likely to take their companies public by enlisting on the stock market. The results show that *DISCLOSURE* is significantly and negatively related to *STMKT* in all the models. This result suggests that extensive disclosure requirements and its

associated costs discourage firms in Ghana from listing on the stock market. Specifically, companies whose managers and/or owners perceive that the stock market requires too much from them in terms of information and cost are about 25% to 37% less likely to take their company public (see Models 2, 4, 6 and 7). Thus, H2 is supported.

Table 4. Results of logistic regression analysis of pooled data (N = 324).^a

| Variables | Model 1 | | Model 2 | | Model 3 (unlisted firms only, N = 283) | |
|---|---------------------|-------------------------|----------------------|------------|--|------------|
| | Coeff. | Odds ratio ^a | Coeff. | Odds ratio | Coeff. | Odds ratio |
| Efficiency of stock market | | | 0.16 (0.20) | 1.17 | 0.08 (0.21) | 1.08 |
| Information disclosure requirements and costs | | | - 1.06*** (0.23) | 0.35 | - 1.03*** (0.25) | 0.36 |
| Banking system | | | 0.93*** (0.22) | 2.53 | 1.11*** (0.26) | 3.02 |
| Ownership and control rights | | | - 1.42*** (0.24) | 0.24 | - 1.43*** (0.24) | 0.24 |
| Knowledge of stock market dynamics | | | 1.87*** (0.33) | 6.50 | 2.18*** (0.41) | 8.84 |
| Firm age | 0.01 (0.01) | 1.01 | 0.01 (0.02) | 1.01 | - 0.01 (0.02) | 0.99 |
| Firm size (Log number of employees) | 1.56** (0.38) | 4.75 | 1.97** (0.71) | 7.14 | 0.85 (0.75) | 2.34 |
| Ownership structure (domestic vs. JV) | 0.92** (0.34) | 2.50 | 0.87 (0.54) | 2.38 | 0.20 (0.58) | 1.23 |
| Market competition | 0.52 (0.15) | 1.67 | 0.64** (0.25) | 1.90 | 0.81* (0.28) | 2.24 |
| Business sector (manufacturing vs. service) | - 0.85* (0.37) | 0.43 | - 0.27 (0.64) | 0.76 | 0.03 (0.85) | 1.03 |
| Year dummy 2005 | - 0.04 (0.32) | 0.96 | 0.11 (0.48) | 1.11 | 0.33 (0.53) | 1.38 |
| Year dummy 2009 | - 0.02 (0.33) | 0.98 | 0.95+ (0.54) | 2.59 | 1.53** (0.64) | 4.60 |
| Constant | - 5.44*** (1.10) | | - 11.67*** (2.67) | | - 12.59*** (3.03) | |
| Log-likelihood | | | - 177.95 | | - 79.89 | |
| Nagelkerke R ² | | | 0.34 | | 0.79 | |
| Chi-square | | | 95.04*** | | 291.17*** | |
| DF | | | 7 | | 12 | |
| Percent classified correctly | | | 73.3 | | 91.4 | |

Standard errors are in parentheses.

^a The odds ratio was calculated by taking the exponent of the coefficients.

+ $p < 0.10$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Table 5. Logistic regression results of individual periods^a.

| Variables | Period 2002 | | | | Period 2005 | | | | Period 2009 | | | |
|--|------------------------------------|------------|--|------------|------------------------------------|------------|--|------------|------------------------------------|------------|--|------------|
| | Model 4 (all firms, N = 110) | | Model 5 (unlisted firms, N = 98) | | Model 6 (all firms, N = 107) | | Model 7 (unlisted firms, N = 93) | | Model 8 (all firms, N = 107) | | Model 9 (unlisted firms, N = 92) | |
| | Coeff. | Odds ratio | Coeff. | Odds ratio | Coeff. | Odds ratio | Coeff. | Odds ratio | Coeff. | Odds ratio | Coeff. | Odds ratio |
| Efficiency of stock market | -0.19 (0.40) | 0.83 | -0.35 (0.50) | 0.71 | 0.14 (0.34) | 1.15 | -0.02 (0.35) | 0.98 | 1.60* (0.71) | 4.96 | 1.47* (0.75) | 4.36 |
| Information disclosure and costs | -1.39** (0.50) | 0.25 | -1.13* (0.57) | 0.32 | -1.11** (0.42) | 0.33 | -0.87* (0.41) | 0.42 | -1.01* (0.49) | 0.37 | -1.56* (0.69) | 0.21 |
| Banking system | 1.11** (0.46) | 3.02 | 1.54** (0.63) | 4.68 | 1.02** (0.38) | 2.77 | 1.07** (0.40) | 2.92 | 1.50* (0.60) | 4.50 | 1.78* (0.71) | 5.90 |
| Ownership and control rights | -2.03*** (0.61) | 0.13 | -2.28*** (0.71) | 0.10 | -1.08** (0.36) | 0.34 | -1.11** (0.36) | 0.33 | -3.21** (1.07) | 0.04 | -3.07** (1.11) | 0.05 |
| Knowledge of stock market dynamics | 3.52*** (0.97) | 33.68 | 4.72*** (1.41) | 112.62 | 1.57** (0.51) | 4.80 | 1.79*** (0.56) | 5.97 | 1.13* (0.56) | 3.11 | 1.55* (0.73) | 4.71 |
| Firm age (number of years) | 0.06* (0.03) | 1.06 | -0.02 (0.05) | 0.98 | 0.01 (0.03) | 1.01 | -0.02 (0.03) | 0.98 | -0.03 (0.05) | 0.98 | -0.05 (0.07) | 0.95 |
| Firm size (Log number of employees) | 2.00+ (1.18) | 7.38 | 1.29 (1.44) | 3.62 | 1.16 (1.23) | 3.18 | 0.54 (1.25) | 1.72 | 3.33* (1.64) | 27.94 | 1.78 (1.84) | 5.93 |
| Ownership structure (domestic firms vs. foreign domestic JV) | 0.98 (0.95) | 2.66 | 0.23 (1.13) | 1.26 | 1.52+ (0.92) | 4.55 | 1.04 (0.97) | 2.82 | 0.09 (1.32) | 1.09 | -1.05 (1.6) | 0.35 |
| Market competition | 0.85+ (0.50) | 2.34 | 0.99+ (0.56) | 2.68 | 0.82+ (0.42) | 2.27 | 0.74+ (0.44) | 2.09 | 1.72* (0.82) | 5.56 | 2.11* (0.94) | 8.28 |
| Business sector (manufacturing vs. service) | -0.66 (1.20) | 0.52 | 0.42 (1.59) | 1.53 | -0.91 (1.03) | 0.40 | -0.58 (1.09) | 0.56 | 0.62 (3.55) | 1.86 | 0.72 (3.49) | 2.05 |
| Constant | -17.73** (5.86) | | -25.03** (8.61) | | -8.77* (4.28) | | -9.83* (4.57) | | -22.68* (10.29) | | -18.52+ (10.47) | |
| Log-likelihood | -21.97 | | -15.81 | | -30.93 | | -28.17 | | -14.10 | | -10.84 | |
| Nagelkerke R ² | 0.84 | | 0.82 | | 0.73 | | 0.72 | | 0.90 | | 0.91 | |
| Chi-square | 108.52*** | | 99.96*** | | 84.36*** | | 72.58*** | | 118.14*** | | 105.86*** | |
| DF | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| Percent classified correctly | 90.9 | | | | 89.7 | | 91.4 | | 92.5 | | 93.5 | |

Standard errors are in parentheses.

^a The odds ratio was calculated by taking the exponent of the coefficients.

+ $p < 0.10$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

The positive and significant relationship between *BANK* and *STMKT* in all the models implies that all things being equal, top managers/owners who have been encouraged by their banking institutions and also believe that the banking system has an important role to play not only in corporate growth and development, but also in the economic development of the country are about 2.53 to 4.50 times more likely to list on the stock market than those who do not. This result is consistent with H3. H4 postulates that top managers who perceive that they will lose their ownership and control rights by taking their companies public will be less likely to enlist their companies on the stock market. Consistent with H4, the relationship between *CONTROL* and *STMKT* is negative and significant in all models. The odds ratios indicate that holding the other regressors constant, top managers and/or owners who perceive that they will lose ownership and

control rights are about 4% to 34% less likely to take their companies public. The positive and significant coefficient of *KNOWLEDGE* in all the models also indicate that all things being equal, managers/owners who are knowledgeable about the role of the stock market in corporate growth and development are about 3.11 to 33.68 times more likely to take their company public by listing on the stock market than a manager or owner who does not. This result supports H5.

The results in Model 2 (Table 4) and Models 4, 6, and 8 (Table 5) further show that some of the control variables have a positive impact on the likelihood of listing on the stock market by firms in Ghana. Larger firms are more likely to go public than smaller firms, but this is true especially for the 2009 sample. Moreover, firms operating in competitive environments are about 1.90 to 5.56 times more likely to enlist on the stock market than firms operating in less competitive environments. This indicates that as the business environment becomes more competitive managers and owners would recognize that their firms would need more resources to effectively do business in their environment, and thus would turn to the stock market for such resources.

To check the robustness of the results of the hypothesized relationships, I estimated the models using only unlisted firms (see Model 3 in Table 4, and Models 5, 7 and 9 in Table 5). The results are consistent with that from the models with both listed and unlisted firm samples (Model 2 in Table 4, and Models 4, 6 and 8 in Table 5), but with generally higher odds ratios for most of the hypothesized variables.

In order to see in another way what the results are saying, I evaluated the rate of change in the probability of listing on the stock market as a specific regressor varies holding all the other regressors constant. The rate of change in the probability measures the change in the probability of listing on the stock market as a result of a one-unit change in an independent variable (X_k). The rate of change in the probability depends on the slope of the estimated logistic coefficient (B_k) and the level of the probability from which the change is evaluated (P) (Gujarati, 2003). For instance, the level of the probabilities (P) for Models 2 and 3 in Table 4, which were estimated at the sample means of the variables were 0.65 and 0.54 respectively. Similar probabilities were also computed for Models 4 to 9, but they are not reported here. The estimated rates of change in the probability of listing on the stock market for a unit change in the hypothesized independent variables plus firm size and market competition (the significant control variables) for Models 2 to 8 are shown in Table 6. The formula for calculating the change in the probability resulting from a unit change in an independent variable is as follows:

$$\frac{Exp(L1)}{[1 + Exp(L1)]} - \frac{Exp(L0)}{[1 + Exp(L0)]} \quad (2)$$

where Exp is the exponentiation sign, $L_0 = \ln [P / (1 - P)]$ is the logit before the unit change in X_k ; and $L_1 = L_0 + B_k$ is the logit after the unit change in X_k . The above formula yields an *exact* computation of the change in the probability, while $B_k [P(1 - P)]$ is an approximation (Petersen, 1985).

Using the results in Models 2 and 3, the findings indicate that the rate of change in the probability of listing on the stock market decreases by about 26% (25% for Model 5; hereafter shown in parentheses) as the disclosure requirements and the costs involved in listing on the

stock market increases by one unit starting from the mean value of 4.63 (4.72 for only unlisted firms) (neutral position), holding the other regressors constant. At the same time, the likelihood of listing on the stock market (*DISCLOSURE*) decreases by about 34% (34%) with a one unit increase in top managers or owners perception that they will lose ownership and control rights of their business (*CONTROL*) when they take their business public. Similarly, using the mean as the reference point, Models 2 and 3 suggests that a one unit increase in top managers or owners' knowledge of the dynamics of the stock market (*KNOWLEDGE*) increases the likelihood of listing on the stock market by about 27% (29%). The marginal effects of a one unit increase in the role of the banking system (*BANKS*) increases the likelihood of listing on the stock market by about 17% (20%). The results clearly indicate that the likelihood of listing on the stock market is stronger for the model using only unlisted firms (Model 3) than the model using both listed and unlisted firms (Model 2) when top managers are encourage by their banking institutions and also are more knowledgeable about the dynamics of the stock market. The results further show that in general the negative impact of *DISCLOSURE* and *CONTROL*, as well as the positive impacts of *BANK* and *KNOWLEDGE* diminished over time from the 2002 sample to the 2009 sample (see Fig. A.1).

Table 6. Changes in probabilities^a.

| Variables | Pooled data over three periods | | Period 2002 | | Period 2005 | | Period 2009 | |
|--|-----------------------------------|--------------------------------|---------------|--------------------------------|---------------|--------------------------------|---------------|--------------------------------|
| | Model 2 | Model 3 (unlisted firms) | Model 4 | Model 5 (unlisted firms) | Model 6 | Model 7 (unlisted firms) | Model 8 | Model 9 (unlisted firms) |
| | Efficiency of stock market | 3.48 | 1.78 | - 4.15 | - 6.77 | 2.40 | - 0.39 | 1.62 |
| Information disclosure requirements and costs | -25.87 | -25.10 | -33.36 | -17.88 | -24.42 | -21.38 | -13.33 | -15.46 |
| Banking system | 17.27 | 19.71 | 18.18 | 36.73 | 13.26 | 22.50 | 9.57 | 12.76 |
| Ownership and control rights | -33.96 | -34.26 | -46.34 | -25.86 | -23.79 | -26.61 | -21.92 | -25.55 |
| Knowledge of stock market dynamics | 27.01 | 28.89 | 29.91 | 67.92 | 17.14 | 31.82 | 11.37 | 20.10 |
| Firm age | 0.27 | - 0.23 | 1.30 | -0.32 | 0.09 | - 0.44 | - 0.05 | - 0.03 |
| Firm size (Log number of employees) | 27.64 | 16.13 | 25.45 | 30.79 | 14.39 | 12.52 | 1.34 | 0.43 |
| Ownership structure (domestic vs. JV) | 16.40 | 4.37 | 16.66 | 5.01 | 16.84 | 21.91 | 0.17 | - 0.38 |
| Market competition | 12.78 | 15.52 | 18.29 | 23.46 | 9.11 | 16.53 | 1.66 | 4.04 |
| Business sector (manufacturing vs. service) | - 6.33 | 0.67 | - 15.52 | 9.53 | - 19.57 | - 14.37 | 0.93 | 0.60 |

^a The rate of change in probability of listing on the stock market resulting from a unit change in an independent variable. This is evaluated at the mean values of the independent variables. Significant values are shown in bold font.

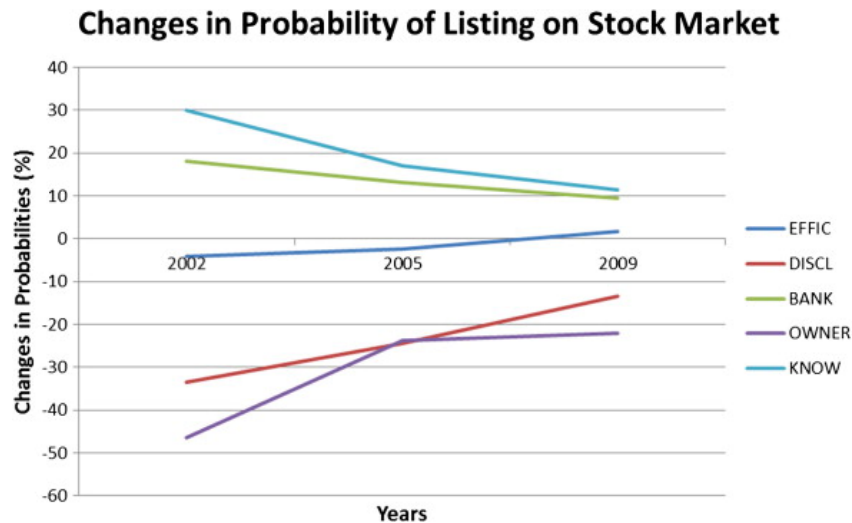


Fig. A.1. Changes in probability of listing on stock market over time.

5. Discussion

The findings provide evidence that different factors have different effects on the likelihood of a top manager/owner enlisting his/her firm on the stock market in Ghana. Knowledge about how the stock market works and the relationship a manager/owner has with the firm's financial institution increases the likelihood of enlisting the firm on the stock market. On the other hand, the fear of losing ownership and control rights, and the cost involved and the extensive nature of information required by the stock market decrease the likelihood of enlisting on the stock market. Surprisingly, top managers/owners perception of the efficiency of the stock market in terms of the ability of the market to provide greater access to capital inflow did not have any impact on managers/owners likelihood of taking their firms public in the pooled data and earlier years. However, with time efficiency is becoming an important factor in corporate listing decisions.

The efficiency of the stock market which has been the focus of past research did not have any significant influence on managers/owners decision to take their companies public in Ghana. This result, however, does not contradict the findings of previous studies since those studies were conducted from the investor's perspective. In fact, investors are concerned not only with whether their investment will yield acceptable returns, but also with whether their investment would be protected by the market they are investing in. Thus, if the necessary legal structures and supporting institutions are put in place to protect private property rights, ensure market transparency, ban the manipulation of trading prices, etc., it would encourage investors to participate in the stock market without having any significant effect on top managers/owners willingness to take their companies public (Black, 2000, Hearn and Piesse, 2013, Yartey and Adjasi, 2007). These factors are becoming salient in corporate listing decisions in recent years.

The results further show that the extensive nature of information required by the stock market before firms can enlist on it is seen as costly for most top managers/owners in Ghana. They, therefore, shy away from taking their companies public as they perceive that the information being required of them to enlist their firms on the stock market is too much. However, previous studies have shown that extensive disclosure of information enables security prices on the stock

market to reflect the true value and activities of firms, which in turn leads to a vibrant stock market (Claessens et al., 2002, La Porta et al., 2002, Rajan and Zingales, 2003). The results from this study and those from past studies imply that while top managers/owners see the extensive information disclosure as a difficult requirement to satisfy because of the costs involved, investors want to deal with stock markets that provide extensive information about firms and their activities in the market. This is a catch 22 issue which needs to be addressed in order to effectively develop the stock market in Ghana and probably those in other developing economies in Sub-Saharan Africa. There is the need to educate the top managers and owners of companies about the benefits of enlisting in the stock market. This could be done through seminars and presentations sponsored by the GSE and the government. Probably this will change the perception that enlisting requirements is too costly.

The findings also indicate that the culture of a society, which defines how knowledge, values, attitudes and other factors that influence behavior is transmitted from one generation to another, has an important effect on top managers/owners decision to take their companies public in Ghana. Because property ownership accords an individual prestige, power, and influence in the Ghanaian society, managers/owners of businesses are reluctant to offer part ownership of their companies to the public for fear that they will lose ownership and control rights. And more importantly, they probably believe that the prestige, power, and influence that come with individual/family ownership would be lost. This may be the motivating reason why managers/owners who perceive that they will lose ownership and control rights were less likely to go public with their companies.

The relationship that top managers/owners have with their financial institutions has a significant impact on their decision to enlist their company on the stock market. The finding provides compelling evidence that those managers/owners in Ghana who have been encouraged by their financial institutions to consider the stock market, and also believe that the development of the stock market will have a beneficial effect on the activities of the banking system are more likely to take their companies public. Thus, these managers/owners believe that the stock market and the banking system play complementary roles in providing financing for firms. This finding is consistent with those obtained by Demircuc-Kunt and Levine (1996), and Demircuc-Kunt and Maksimovic, 1996a, Demircuc-Kunt and Maksimovic, 2002. Clearly, with a well-developed stock market, managers/owners could rely on it for equity financing while utilizing the banking system for debt financing. Hitherto, firms in Ghana and other Sub-Saharan emerging economies without a developed stock market have relied on the banking system for debt to finance their corporate investment activities.

Knowledge about the role and dynamics of the stock market in corporate and economic growth was found to be an important predictor for managers/owners in Ghana in taking their companies public. This shows that if managers/owners know what they can receive by enlisting their companies in the stock market and are also aware of how the stock market mobilizes savings for investments, allocates resources, manages risk, facilitates the exchange of goods and services and exerts corporate control; they will be willing to enlist their companies on the stock market. This is an important finding since it offers an avenue for improving the patronage of the stock market by domestic firms in Ghana.

5.1. Implications and future research

The combination of the findings of this study provides implications for the government authorities and private sector organizations responsible for the development of the stock market, in addition to the top management of the GSE and stock markets in other Sub-Saharan African emerging economies. In summary, this study indicates that managers/owners who are (1) knowledgeable about the role of the stock market in corporate growth and economic development, and (2) encouraged by their banking institutions, will be willing to enlist their companies on the stock market. On the other hand, the costs and disclosure requirements involved in listing on the stock market and the fear of losing and ownership and control rights discourage managers/owners in taking their company public.

A clear prescription from this study is that emphasis should be focused on educating managers and/or owners about the virtues of the stock market for their companies. The education program should clearly indicate that there are different forms of ownership and that managers/owners could still take their companies public without losing ownership and control rights. For example, they could have different classes of shares whereby the majority of the voting rights reside with the shares owned by the owners and their family. Furthermore, the education should also inculcate in managers/owners that the significant costs and extensive information required by the stock market is to increase the credibility of the market and enhance the inflow of capital from other parts of the world. In the long run, the benefits that will accrue to their businesses would outweigh the costs and extensive disclosure of information. Clearly, managers and owners knowledge about the benefits of a well-functioning stock market to their own companies and to the growth of the domestic economy are a very important factor in this study. Future research should examine the role that business education in Sub-Saharan African countries has in the acquisition of this knowledge. After all, many of these business students presumably end up becoming the managers of firms.

Unlike previous studies which used archival data from cross-section of countries, we focused on one country – Ghana – and used perceptual data from top managers/owners. This allowed me to examine in detail why top managers/owners have not been patronizing the stock market which was established to offer domestic companies more financing choices in the form of both debt and equity. It should be noted that I did not assess the views of investors of the stock market in Ghana and the general populace to ascertain their perceptions about the stock market. Future research should examine the perceptions of both investors and top managers/owners in the same study to clearly identify the commonality in views between the two groups that could be used to increase patronage of the stock market by both groups.

6. Conclusion

Previous work on stock market development in emerging economies has focused on the development of institutions, and enactment and enforcement of policies to attract and protect the investment value of investors from being expropriated by managers and controlling shareholders. This line of inquiry clearly focuses on how the stock market can attract adequate financial resources for corporate investment activities and economic development — the *supply of financial resources* to the stock market. The present study extends the line of inquiry that has

motivated previous studies by examining the reasons behind the low patronage of stock markets by domestic firms in Sub-Saharan Africa emerging economies using Ghana as a case study. By investigating the factors that determine why a manager or owner would patronize the stock market by enlisting his/her company, I introduce issues affecting the demand side of stock market development — the *demand for financial resources* from the stock market.

The findings clearly show that knowledge is very powerful in inducing managers/owners in taking their companies public. Managers/owners who are knowledgeable not only of how the stock market works, but also the potential benefits of the stock market to organizations and the economy, and those encouraged by their banks were more likely to take their companies public. However, managers or owners who are afraid of losing ownership and control rights, and perceive that costs and disclosure requirements are extensive are less likely to take their companies public. These findings complement those of past studies, and indicate that both the lack of legal and economic institutions that attract and protect investors, and the unwillingness of domestic companies to take their companies public explain the underdevelopment of stock markets in emerging economies. This provides us with a more balanced and comprehensive picture of the factors affecting stock market development in emerging economies.

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