FIRM INTERNATIONALIZATION AND CAPITAL STRUCTURE IN DEVELOPING COUNTRIES: THE ROLE OF HOME COUNTRY FINANCIAL DEVELOPMENT

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ABSTRACT

With the ascendance of developing market firms in the world economy, the issue of how international expansion influences their capital structure is becoming increasingly pertinent. This paper investigates the combined effect of home country financial development and firm internationalization on capital structure in developing countries. While the standalone effects of these two factors on financing decisions have been documented at length, the combined effect has to date not been assessed in the literature. This paper first revisits the standalone effects and presents some interesting new insights particularly into the consequences they have for debt maturity amongst developing country firms. Thereafter, the combined effect is investigated and it is found that when it comes to the impact of internationalization on corporate financing decisions, home country financial development matters. It is shown that amongst developing countries, firm internationalization can bring with it a decrease in the agency costs of debt, increasing the reliance on long term debt. The scale of this benefit, however, seems to depend on the level of development of the banking sector in the home market.

Keywords: firm internationalization, financial development, agency costs, capital structure, developing countries

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CONTENTS

1.   INTRODUCTION

As the trend in globalization continues, developing market economies are moving to the forefront of the world market, diminishing the dominance of developed countries. Their rapid expansion is often underpinned by strong domestic firm performance. The resources and funds required to fuel the sustained future growth of these firms as they compete with global powerhouses from developed markets therefore become important factors. In recent decades the process of globalization has made it increasingly common for developing country firms to internationalize and gain access to developed country capital markets. The greater integration of developing countries with world markets has made it easier for these firms to access the world economy, to the extent where according to Fernandes (2011) by 2007 emerging-market firms represented 40% of all cross-listed stocks in the US.

This paper gives further insight into how, separate from the effects of cross-listing, the capital structure of developing country firms is influenced both by their increased internationalization and by the level of financial development in their home markets. Firm internationalization and home country development are central topics of the capital structure literature, yet the research remains focussed on their standalone effects. This paper posits that a combined effect between these factors exists. It is further asserted that the implications of this combined effect for firm capital structure may differ from the theoretical expectations when each factor is considered individually.

From a standalone perspective, improved home market financial development leads to a lower dependence on debt financing among developing country firms as access to cheaper and more efficient equity markets improves, and real growth opportunities are enhanced. The standalone result of an increase in firm internationalization is also a lower optimal leverage ratio. This is due to the increased difficulties for financiers to monitor what is done with their money, which increases firm-level agency costs of debt and leads to a higher overall cost of debt capital. However this paper argues that the combined effect of internationalization and financial development has an alternate influence on firm leverage in developing countries.

It is suggested that increased firm internationalization does not always make firms more difficult to monitor but may in some instances have the opposite outcome. This is based on the notion that the country development context is not negligible when it comes to the agency cost of debt effect, as expansion to more developed and regulated markets may in fact decrease agency costs. Hence, as these firms internationalize there is a greater increase in

sources of cheaper debt capital relative to equity capital, resulting in an increased leverage ratio.

The focus in this paper on developing country firms is based on a number of factors. De Jong, Kabir and Nguyen (2008) present a pioneering investigation into the interaction between country- and firm-level variables and include an analysis of both developed and developing countries. Fernandes (2011) however focuses specifically on developing country firms. He investigates the relative importance of country- and firm-level factors before also investigating the interaction with country development of a single firm-level variable in the form of asset tangibility. According to Fernandes (2011), as countries approach developed country status, there is a sharp reduction in the explanatory power of country-level factors. Firm characteristics become more important in explaining leverage choices and firms can deviate substantially from the country norm. This paper therefore analyses the topic at hand specifically in a developing country sample set, where the impact of country-level determinants is more pronounced, of more relevance and can be better observed.

The concept of combined country/firm-level effects on capital structure is relatively new in the literature and has not yet been thoroughly developed. Not only does this paper present a focused analysis in this direction, but it is also the first to include debt maturity in addition to level of leverage in the investigation. Succinctly put, this paper aims to bridge a gap in the applied understanding of capital structure determinants, both in terms of the level and of the maturity structure of debt. This can help in bringing about a better informed decision-making process for managers faced with internationalization and financing choices, particularly in developing countries.

The findings in this paper support the assertion that the combined effect of home country financial development and firm internationalization has a positive directional influence on debt levels amongst developing country firms. It appears that firms can experience agency cost benefits as they expand their operations internationally, particularly to countries that are more financially developed. Furthermore, the resultant lower costs of debt mean that debt overhang problems are decreased and investment is stimulated, further enhancing the effect of an increase in leverage. The decrease in agency costs is most pronounced for firms from those developing countries that have a relatively well developed banking sector, whereas firms from relatively less advanced financial markets struggle to obtain these cost advantages.

The remainder of this paper is structured as follows. In chapter 2 a literature review is undertaken, which elucidates the main theories of capital structure and identifies key control

variables applicable to this research. The standalone implications for capital structure of both the firm internationalization and country financial development factors are also investigated. The chapter closes with a review of the pioneering capital structure papers that address the notion of combined country- and firm-level factors. In chapter 3, hypotheses are formulated for the standalone effects on capital structure of firm internationalization and home country financial development. Thereafter, the theory applicable to the combined effect of these factors is developed and hypotheses for this combined effect are derived. Chapter 4 elucidates the methodology and elaborates on the data and variables employed in the statistical analysis. Chapter 5 presents the results and interpretations, followed by the conclusion and managerial implications in chapters 6 and 7 respectively.

2. LITERATURE REVIEW

2.1. *Main capital structure theories and variables*

Capital structure decisions are influenced by firm individual characteristics and also by the institutional environment in which firms find themselves. The major determinants of leverage applicable in this paper can thus be deduced from the main theories of capital structure.

The pecking order hypothesis (POH) is a central theory in the capital structure literature, which provides a logical framework for the process by which firms choose between different sources of capital. According to Fernandes (2011), increased information asymmetries lead to a lack of confidence amongst financiers, and therefore an increase in the costs, when companies raise external financing. Hence the POH asserts that investments are financed first with internally generated funds which are the cheapest, then with debt, and finally equity as a last resort (Donaldson, 1961; Myers, 1984; Myers and Majluf, 1984). Therefore, depending on the severity of information asymmetries, the POH provides an indication of how a firm might fund its operations. Variables such as firm profitability, liquidity and growth opportunities would therefore be considered to be influential on corporate leverage. In the context of the POH, all these variables are expected to be negatively correlated with leverage. Both increased profitability and increased liquidity would be an indication that a firm more readily has internal funds available, which it would choose over external capital. Firms with higher growth opportunities should use less debt in

order to avoid potential future underinvestment resulting from debt overhang restrictions (Fernandes, 2011).

Trade-off theory asserts that firms balance the costs and benefits of debt and equity financing in choosing an optimal leverage ratio. The basic theory centers on the equilibrium between the potential costs of bankruptcy and the tax saving benefits of debt (Kraus and Litzenberger, 1973). It asserts that firms determine their capital structure by weighing the monetary advantages of tax deductible interest expenses of debt against the perceived potential costs of financial distress that increase when a firm becomes excessively leveraged. The higher the corporate tax rate, the greater the tax-shield benefits and hence the higher a firm's leverage ratio (Fernandes, 2011). Hence, the prevailing tax rate as a variable would be a primary determinant of firm leverage, while this benefit of increased leverage should be offset against the associated financial distress costs, proxies of which include firm business risk, asset tangibility, and firm size (De Jong et al., 2008). Higher business risk would be inversely related to leverage, due to the implied higher level of financial distress costs, while both asset tangibility and firm size would be positively related to leverage. Higher tangibility would imply lower bankruptcy costs, while greater firm size would suggest a larger ratio of firm assets to direct bankruptcy costs, which are in a large part fixed (Fernandes, 2011).

The concept of agency costs as a determinant in the trade-off choice between equity and debt financing has gained much traction in recent years. Agency theory suggests that asymmetric risk-aversion and pay-off profiles between agents and principals lead to conflicts of interest and misaligned asset allocation decisions, and that this accounts for various observable corporate decision-making processes and trends (Shleifer and Vishny, 1997; Bebchuk and Fried, 2003). The agency cost of debt refers to the fact that managers within a firm have incentives to abscond with or squander company funds, for example through sub-optimal investment decisions or underinvestment. Equally importantly, it also relates to the incentives of equity holders to take advantage of borrowed funds to undertake increasingly risky investments (Heremans, 2009; Laeven and Levine, 2009). The more difficult or expensive it becomes for providers of debt funding to monitor what is being done with their money, the higher the associated cost of capital and consequently the lower the optimal debt ratio (Doukas and Pantzalis, 2003). Proxy variables for agency costs include firm growth opportunities, tangibility and profitability (Doukas and Pantzalis, 2003; De Jong et al., 2008). An increase in either growth opportunities or profitability would be associated with an increase in information asymmetry and an associated increase in monitoring costs, leading to lower leverage. Higher asset tangibility would be associated with greater debt levels because

shareholders are less likely to be motivated by wealth transfer incentives at the expense of bondholders when more of the firm's total assets are fixed (Doukas and Pantzalis, 2003).

While the above theories should not be viewed in isolation, they are also not compatible. They do have similar predictions in the case of some variables, such as tangibility where the consensus is that the larger the tangible fraction of a firms assets, the lower the risk for the lender. However, conflicting predictions arise for the effects on optimal corporate leverage of a number of other variables.

Concerning firm age for instance, the POH suggests that the older a firm, the better able it is to accumulate funds and the less reliant it will be on debt funding. However, age would be classified as a proxy for reputation under agency theory and it would be assumed that the older the firm the lower the levels of information asymmetry, resulting in a positive correlation with the amount of debt employed (Fernandes, 2011). In fact, even within the trade-off theory different expectations can arise for certain variables. For example, firm size can be interpreted in the context of agency costs to be a proxy for information transparency, which decreases with size. Larger firms might therefore be expected to have relatively more equity. However, the bankruptcy perspective presents a contrasting prediction in that larger firms face proportionately lower (fixed) bankruptcy costs and would therefore be more highly leveraged (Fernandes, 2011). Similarly, the traditional capital structure theories often present contrasting expectations for a number of other firm-level variables, including particularly firm internationalization as discussed in the following section.

2.2. Firm internationalization and capital structure

The expected influence of firm internationalization on corporate leverage can be derived from the above theories. However, as stated before, the different theories result in contrasting theoretical expectations for the effect of internationalization on firm capital structure.

From the POH perspective, increased internationalization is generally expected to result in decreased leverage. Because more internationalized firms consist of numerous divisions operating across industries and countries, their operations may allow them to create extensive internal capital markets which could provide them with cheaper financing than external markets (Doukas and Pantzalis, 2003). These firms might therefore rely more on internal than external financing and hence employ less debt. It must however be noted that an alternate expectation is also plausible, because internal capital markets are less prone to asymmetric information and can hence sustain higher levels of debt, hinting at a possible

non-negative relationship between internationalization and debt in terms of the POH framework (Shleifer and Vishny, 1992; Stein, 1997).

Basic trade-off theory on the other hand suggests that as firms internationalize, they may have subsidiaries in countries with different tax rates or interest deduction regulations, thereby allowing the firm to optimize its tax shield benefits geographically (Butler, 1999). Furthermore, the increased geographic diversification is expected to decrease business risk for the firm, decreasing the potential costs of financial distress (Doukas and Pantzalis, 2003; Chen, Cheng and Kim, 1997). Firms therefore theoretically have a greater capacity for debt.

However, agency theory predicts a negative relationship between firm internationalization and leverage. Because operations become increasingly geographically dispersed, difficulties in gathering and processing information make monitoring more difficult and costly for financiers (Doukas and Pantzalis, 2003). The inherent agency problem for debt holders is thus exacerbated and debt holders face a greater risk of managers absconding with or squandering funds, and of shareholder wealth transfer incentives (Chen et al., 1997). As a result providers of debt funding will require higher interest payments, and higher information asymmetry hence leads to a lower optimal level of leverage.

Finally, the extant literature also presents potential alternate effects on leverage, outside of those put forward by these main theories. For example, according to Doukas and Pantzalis (2003) and Chkir and Cosset (2001), the increased leverage resulting under the trade-off theory may be negated if increased access to foreign capital markets results in equity rather than debt financing in those markets. This is of particular relevance to cross-listed firms and necessitates the controlling of cross-listing in the statistical analysis in this paper as discussed later. Furthermore, authors such as Burgman (1996) address the possible influence of foreign exchange risk and country and political risk exposures on the leverage of internationalizing firms. While an increased level of these types of risks would *pari passu* decrease the optimal debt ratio for a firm, Burgman (1996) notes that firms use foreign debt as a hedging instrument against these risks and their effect is therefore mitigated. Doukas and Pantzalis (2003) further state that this type of hedging does not affect overall firm leverage, but is typically found to only influence the ratio of foreign to domestically denominated debt.

Having addressed the theoretical effects of firm internationalization on capital structure, it is prudent to highlight the findings on their prevalence in the literature. While some isolated studies find statistical support for the basic trade-off and POH theories, the overpowering consensus in the literature is that the overall effect of internationalization on capital structure can be attributed to the agency theory (Chen et al., 1997; Burgman, 1996;

Chkir and Cosset, 2001; Doukas and Pantzalis, 2003). Burgman (1996) also finds for example that agency costs increase with an increase in the number of foreign countries in which a firm operates.

Cross-listing might be considered a subtheme or an extension of the internationalization topic. However, while firm internationalization from a purely operational perspective is considered to affect corporate leverage primarily through its influence on the availability and cost of debt financing, cross-listing has a direct consequence for the access to and pricing of foreign equity financing. Fernandes (2011) for example finds that firms from developing countries with a US cross-listing use less debt, suggesting that cross-listed firms raise substantially more equity proceeds than non-cross-listed firms. The influence of cross-listing on capital structure should thus not be disregarded in the context of this investigation and should be controlled for in the analysis. It is not of primary interest to investigate the effect of cross-listing in this paper, because it carries additional implications for corporate leverage that fall outside the scope of the research.

2.3. Home country financial development and capital structure

The capital structure of developing country firms can be affected by significant changes in a country's institutions and financial, legal and macroeconomic environment (Fernandes, 2011; Doukas and Pantzalis, 2003). In fact, Fauver, Houston and Naranjo (2003) find that the financial, legal, and regulatory environments each have an important influence on the optimal organizational structure of firms and that corporate governance approaches may differ substantially for firms in developing countries. They further state that a firm's access to external capital depends on the extent to which capital markets are developed within the country where the firm operates.

In referencing the existing literature on the topic however, a distinction must be made between that stream comparing corporate leverage differences between developed and developing country firms and that which investigates the determinants of capital structure amongst developing countries. Amongst others, papers by Demirgüç-Kunt and Maksimovic (1999) and Booth, Aivazian, Demirgüç-Kunt and Maksimovic (2001) focus on the differences in corporate leverage between developed and developing country firms. These findings typically point to the level of debt financing employed in developed country firms exceeding that in firms from developing countries. However, besides providing technical arguments for the inaccuracy of the approaches followed in these papers, Agarwal and Mohtadi (2004) further state that important differences exist in the determinants of firm

financing choices between developed and developing countries. This statement is attributed in part to the finding by Atkin and Glen (1992) that developing country firms have a proportionately higher reliance on external funding. A higher level of debt financing amongst developed country firms can therefore not simply be interpreted as a positive relationship between country development and corporate leverage. Consequently, the effect of increased country development amongst developing country firms needs to be considered independently.

As stated by Agarwal and Mohtadi (2004), only a few studies have attempted to formally model the effect of financial market development on corporate financing choices amongst developing countries. Their findings suggest that equity market development results in increased equity financing over debt financing, while banking sector development leads to higher debt financing. While Agarwal and Mohtadi (2004) present basic logical arguments which support these findings, an alternate effect of banking sector development might be argued for. For example, an improved banking environment may better facilitate external capital inflows, which they themselves state favours a choice towards equity and away from debt financing. In fact, Agarwal and Mohtadi (2004) concede that despite the increasing importance of external finance in developing countries, market inefficiencies and institutional constraints continue to impede particularly the ease of debt financing. Within the context of increased capital flows and institutional constraints, the development of the banking sector might therefore actually result in an increase in equity financing. This negative relationship with leverage might also be expected if one considers that an increase in the development of the banking sector might itself be indicative of high capital market development. This is illustrated by the high correlation between the two groups of variables employed by Agarwal and Mohtadi (2004), implying that development in the banking sector might be related to higher levels of equity financing.

Boyd and Smith (1998) develop a model where capital accumulation is financed by both debt and equity, and find support for a negative relationship between development and leverage. According to their model, within developing countries investment opportunities require external financing, but are subject to Costly State Verification (CSV). Two investment technologies are available to investors: debt, the return on which is only privately observable, and equity, which has a publicly observable return. The authors find that verification becomes more difficult and CSV will rise as the cost of capital decreases with increased economic growth. As a result, investors employ the observable investment technology relatively more as the level of country development increases. This hence leads to

the expectation that equity financing rises and debt decreases with economic development in developing countries.

The theoretical argument for a negative relationship between leverage and financial development on the whole among developing countries can be further inferred from the literature. For instance, firms from developing countries may face higher real growth opportunities as financial market development increases. Love (2003) shows that firms that face financial constraints have a higher cost of capital and tend to postpone investments to the next period, when the discount factor they are subject to might decrease. Financial development reduces these constraints thereby increasing the ability of firms to obtain (cheap) external financing, better enabling them to exploit growth opportunities in the current period (Love, 2003). But this increase in development may also translate into a greater number of positive net present value (NPV) projects, i.e. more real growth opportunities, due to the lower cost of financing. Higher levels of growth opportunities are in turn seen to correspond with a decrease in leverage because firms are averse to creating debt overhang issues, which restrict their ability to exploit all the potential growth opportunities they face (Fernandes, 2011).

Khurana, Martin and Pereira (2006) further elaborate on the concept developed by Love (2003). They examine the relationship between financial development and a firm's cash flow sensitivity of cash and find that firms facing financial constraints will save cash today to be able to fund their future investment opportunities, while firms with a better access to lower cost external financing can faster start with profitable investment opportunities. The implication is thus that while costly external financing will constrain a firms' investment to its internal cash flows and will result in lower economic growth, increased financial development makes it easier for firms to access lower cost external financing (Khurana et al, 2006). Hence greater growth opportunities may present themselves to firms in developing countries that have a relatively more advanced financial market, due to the greater general market efficiencies. Over and above this, the greater access to cheaper external financing in the developing countries with more advanced financial markets enhances the ability of firms to take advantage of these opportunities. This leads to higher economic growth, in turn generating more real growth opportunities for those firms. This is likely to lead to lower leverage amongst these firms, in line with certain findings in the developed/developing literature that find support for the assertion that firms with high growth opportunities have less debt (Booth et al., 2001).

2.4. Debt maturity: internationalization and financial development

An investigation into the determinants of and effects on capital structure is not complete without an insight into the changes in debt maturity. While changes in the level of total leverage provide an understanding of how firms deal with exogenous changes in their environment, or with internal firm-specific variables, an analysis of the composition of debt may give a more detailed insight. Debt maturity in this paper is measured as the proportion of long term to total debt. Based on the findings in the extant literature, the internationalization and home country financial development factors can be revisited to develop an expectation for their standalone effects on the maturity structure of debt.

The arguments around the effect of firm internationalization are based on a similar premise as those for the level of total leverage, again using the main theories of capital structure. The POH asserts that firms choose different types of funding based on costing priorities (Donaldson, 1961; Myers and Majluf, 1984). Hence, as internal funds become more readily available when they internationalize, firms start to rely relatively less on more expensive external capital. Furthermore, the lower reliance on external debt capital will result in a more rapid decrease in the use of long term relative to less costly short term debt. Internationalizing firms might therefore be expected to employ proportionately fewer long term obligations when borrowing and debt maturity may consequently decrease with increased internationalization. The basic trade-off theory on the other hand assumes that firms decrease the volatility of earnings through increased internationalization (Chen et al., 1997). This decreases the overall costs of debt, but also makes long term debt relatively less expensive, leading to a potential increase in the maturity of firms' debt as they internationalize. Finally, from an agency theory perspective, the increased information asymmetry elucidated on by Chen et al. (1997) not only leads to a greater overall cost of debt capital, but also makes longer term financing more expensive relative to short term financing. Increased internationalization might therefore be expected to result in shorter debt maturity amongst firms.

The extant literature provides support mainly for the agency theory. Many of the papers on the issue refer primarily to the findings by Fatemi (1988) and also Lee and Kwok (1988), who suggest that increased internationalization leads to an increased use of short term financing. Doukas and Pantzalis (2001) more explicitly find that increased internationalization exacerbates agency costs of debt leading to lower (greater) use of long term (short term) debt financing. However, these papers are all based on multinational and domestic company (MNC and DC) comparisons for firms based in the United States of

America (U.S.). Furthermore, they generally attribute the observed decrease in debt maturity to international market imperfections. They essentially imply that this effect results from a process by which firms internationalize from one of the highest developed financial markets (the U.S.) to relatively less developed markets. This is a direct contrast to the process applicable for firms from developing countries and it is hence quite possible that the effect on debt maturity in this paper may deviate from the findings of the above papers. Hence, while a negative relationship between internationalization and debt maturity is expected based on the literature, this paper will seek to provide added insight into the effect specifically for developing country firms.

Controlling for cross-listing is important in the debt maturity investigation, as shown by Fernandes (2011). Using an American Depository Receipt (ADR) variable for cross-listing, he finds that firms that have a cross-listing in the U.S. use less total debt but also that these firms have a higher percentage of long term debt, or greater debt maturity, than multinational firms that are not cross-listed.

The firm-level control variables identified earlier in the discussion of the different capital structure theories are applicable here. Fernandes (2011) finds that profitability, tangibility and firm size are positively related to debt maturity, while age exhibits a negative relationship. Of the variables included in his regression, the least significantly related to capital structure is the proxy for growth opportunities, which is only significant at the 10% level when certain other variables are excluded. Nevertheless, all these firm-specific variables are at some level shown to be related to changes in debt maturity and should therefore be included as control variables for the purpose of this paper.

In terms of the effect of country financial development, Booth et al. (2001) and Demirgüç-Kunt and Maksimovic (1999) find that relative to developed countries, developing countries have lower amounts of long term debt as a proportion of total debt. Amongst developing countries, Fernandes (2011) also finds a significant negative relationship between financial development and debt maturity. He does not however expressly assess to what extent this is a result of the changes in the individual components of debt. According to Boyd and Smith (1998), the overall negative relationship is likely because an increase in home country development leads to a greater reliance on equity financing. It can be expected that an increased reliance on equity is likely to decrease the reliance specifically on long term debt, while short term debt levels may remain unchanged. Hence, while a negative relationship can be expected between country financial development and maturity, this paper

will further seek to establish whether this is attributable only to a decrease in long term debt or also to an increase in short term debt.

Other variables which have empirically been shown as influential on debt maturity at the country-level include business risk, inflation and tax levels. Fernandes (2011) finds business risk to be positively related and tax rates to be negatively related to debt maturity. The findings by Booth et al. (2001) support the controlling for inflation and, while he does not find statistical support for the assertion in his dataset, Fernandes (2011) states that inflation is potentially related to debt maturity because debt contracts are usually nominal contracts and high inflation may therefore deter lenders from extending longer tenure financing.

2.5. Internationalization and financial development combined

In line with the literature reviewed, the concept that firm internationalization and home country development are both directly influential on capital structure is emphatically supported. It is however pertinent to investigate the effect when combining the two factors. This paper explores whether the level of firm internationalization and that of home country development have an interactive outcome on capital structure decisions of firms. Or more simply put, whether a combined internationalization/development effect exists.

As mentioned, investigations into country- and firm-level determinants of capital structure are seldom combined. The concept of an indirect country effect does however occasionally scratch the surface. Burgman (1996) for example, who investigates differences between MNCs and DCs, does allude to the theme by stating that companies in more politically risky markets (i.e. developing countries) might be more highly leveraged, but finds no support for this. A country effect is also achingly implicit in the paper by Doukas and Pantzalis (2003), although they do not explicitly test for it.

One paper that does provide an interesting first step in this direction is that by Gönenç (2005). He finds a notable difference in capital structure between Turkish (emerging economy) and German and UK (developed economy) firms. In line with his research, Turkish MNCs employ a greater level of debt than DCs, whereas the findings for German and UK firms are in line with expectations for the standalone internationalization effect put forward in the existing literature. However, Gönenç (2005) largely attributes this finding to industry and firm-specific effects and particularly to the effect of controlling shareholders. His study therefore does not investigate country-level influences. Nevertheless, the implicit positive

link between internationalization and leverage for firms from Turkey (a relatively financially advanced developing country) may be indicative of a home country development effect.

It is not until the paper by De Jong et al. (2008) that theoretical support for an investigation into the combined effect of country- and firm-level factors was developed. As such, their work presents a primary impetus for this research. The investigation into a combined effect between home country development and firm internationalization fits exactly into their framework and presents an extension of the theoretical ground covered in their paper.

De Jong et al. (2008) analyse the importance of country- and firm-level factors in the leverage choice of a globally representative group of firms. A key finding of their research is that while the authors concur with the established standalone impact of country-level factors, they additionally show that there is an indirect impact on firm capital structure because the roles of firm-level determinants are also influenced by country-level factors. They explicitly state that previous studies have failed to systematically investigate these indirect effects and are inadvertently limited to the examination of the standalone impact of country characteristics on leverage.

The analysis by De Jong et al. (2008) represents an introduction to the concept of the indirect country effect on corporate leverage, and forms a general overview, using four sets of firm-specific determinants. The choice of these determinants is not motivated other than that they are selected from prior studies. While the general overview helps in theory formulation and establishes groundwork for further research, it does not provide an elaborate analysis of or insight into individual firm-level variables and the way they are in turn affected by country-level determinants. A more specific analysis of a single firm-level variable in the context of the indirect country effect is undertaken by Fernandes (2011).

Although Fernandes (2011) is primarily interested in the evolution of financing policies in emerging markets, his investigation progresses to the detailed analysis of a single tangibility variable and includes an indirect country effect. Finding that the level of asset tangibility has become of increasing importance for firms in developing countries, he subsequently investigates how the importance of tangibility varies with the level of home country development. He finds significant results for all the interaction variables he uses between tangibility (firm-level) and different indicators of financial development and creditor rights (country-level). He subsequently asserts that different levels of home country development have an important influence on how a specific firm-level determinant of leverage, in his case tangibility, affects capital structure. This finding is in line with the work

done by De Jong et al (2008), confirming that an indirect country effect on capital structure decisions of firms can be identified, and provides impetus for further investigation of the topic.

By investigating a combined country- and firm-level effect on corporate leverage in emerging markets, the paper by Fernandes (2011) falls partly within the same theoretical scope as this paper and provides further motivation for this research. A similar but more isolated focus is however employed here, as the explicit aim is to investigate the combined relationship between country development and a single firm-level factor. This paper therefore effectively represents the first research dedicated to an in-depth investigation of a single interactive relationship in the context of the groundwork done by De Jong et al. (2008). In this instance, the firm-level variable is firm internationalization and not tangibility. It must further be noted that this is also the first paper to include debt maturity in the investigation into a combined country-/firm-level effect on capital structure.

3. HYPOTHESES

An assessment of the impact of firm internationalization on capital structure should not overlook the influence of home country influences, particularly in the context of developing countries. As summated by De Jong et al. (2008), there are two major types of determinants of firm leverage to take into account: firm-specific and country-specific. These factors can influence leverage independently. The extant literature focuses on these direct influences and as a consequence investigates the effects on a standalone basis. However, De Jong et al. (2008) assert that country-specific factors can also influence corporate leverage indirectly, through their impact on the effect of firm-specific factors.

This chapter firstly includes hypotheses for the standalone effects of firm internationalization and home country financial development on capital structure, based on evidence from the extant literature. Thereafter, new hypotheses are developed for the combined effect of the two factors. These hypotheses rely partly on the existing literature and partly on newly formulated arguments developed for the purpose of this research.

3.1. Standalone effects of internationalization and financial development

Based on the literature reviewed above, it can be stated that both an increase in the level of firm internationalization and home country development are individually expected to

lead to a lower level of long term debt. These effects are captured under hypotheses 1a and 2a below, which serve to ratify the dependability of the data employed in and the theoretical grounding of this paper. The standalone effects on debt maturity are however less straight forward. The expectation that increased internationalization is negatively related to debt maturity (Hypothesis 1b) is based on the extant literature on U.S. based firms and it is unclear whether it is applicable to the developing country dataset. Furthermore, while a negative relationship is expected between the level of home country financial development and debt maturity (Hypothesis 2b), this paper hopes to add further insights into the mechanics of this effect.

Hypothesis 1a: Amongst developing country firms, firm internationalization is significantly negatively related to the level of leverage

This hypothesis is founded on expectations developed in the extant literature, which show that across firms from all countries, increased internationalization on aggregate corresponds with a decrease in the level of leverage. This is attributed to the increase in agency costs resulting from increases in the costs and difficulty of monitoring for providers of debt financing.

Hypothesis 1b: Amongst developing country firms, firm internationalization is significantly negatively related to debt maturity

This hypothesis is based on the suggestion in the literature that a decrease (increase) in the proportionate reliance on long term (short term) is to be expected. However, this expectation results from studies that focus on U.S. based firms and it is therefore possible that the findings in this paper will differ.

Hypothesis 2a: Amongst developing country firms, home country development is significantly negatively related to the level of leverage

The above hypothesis is derived from the arguments developed previously, stating that amongst developing country firms, firms from more financially developed markets have better access to equity capital markets, resulting in a greater proportionate reliance on equity

financing. They furthermore have higher real growth opportunities that lead to greater potential debt overhang problems, again resulting in a lower optimal debt ratio.

Hypothesis 2b: Amongst developing country firms, home country development is significantly negatively related to debt maturity

This hypothesis is based on the assumption that increased home country financial development leads to a greater reliance on equity, following the previous discussion. The increased reliance on equity is likely to have an adverse effect on the reliance of long term debt, while short term debt levels may remain unchanged.

3.2. Combined effect of internationalization and financial development

As mentioned, the indirect impact of home country financial development on capital structure, through its influence on the effect of firm internationalization, has not been investigated in the prior literature. De Jong et al. (2008) statistically prove that an indirect influence of country-level factors on capital structure, through their effect on firm-level factors, exists. This highlights the importance of country-specific factors in capital structure decisions, which is particularly true for developing country firms as clarified by Fernandes (2011). It can hence be deduced that the firm internationalization literature which to date provides insights only at a firm-specific level, should not overlook the importance of country-level influences.

The primary argument in this paper is that capital structure decisions of developing country firms are nuanced within the context of the indirect country effect. Specifically, it is put forward that firms which internationalize within the context of differing levels of home country development face additional considerations when deciding between financing options. To test this assertion, the formulation of new hypotheses and theories is necessitated as the concept has not previously been addressed in the literature.

The investigation of a combined internationalization and financial development effect can be translated practically into the conceptual model shown below. The dependent variable is firm capital structure (leverage or debt maturity). The extant international finance literature elucidates on the direct link between the dependant variable and firm internationalization as an independent variable. This paper however investigates whether home country financial development influences the relationship. The diagram further shows how these two separate

independent determinants are operationalized (variables as elaborated on later are shown in the blocks beneath) while the list of control variables used in this paper are also shown.

Firm Internationalization		Capital Structure (Leverage/Debt Maturity)
Foreign Sales Ratio		

Home country financial development

World Bank indices

Control variables

- Profitability
- Liquidity
- Growth Opportunities
- Tangibility
- Size
- Cross-listing
- Tax rate
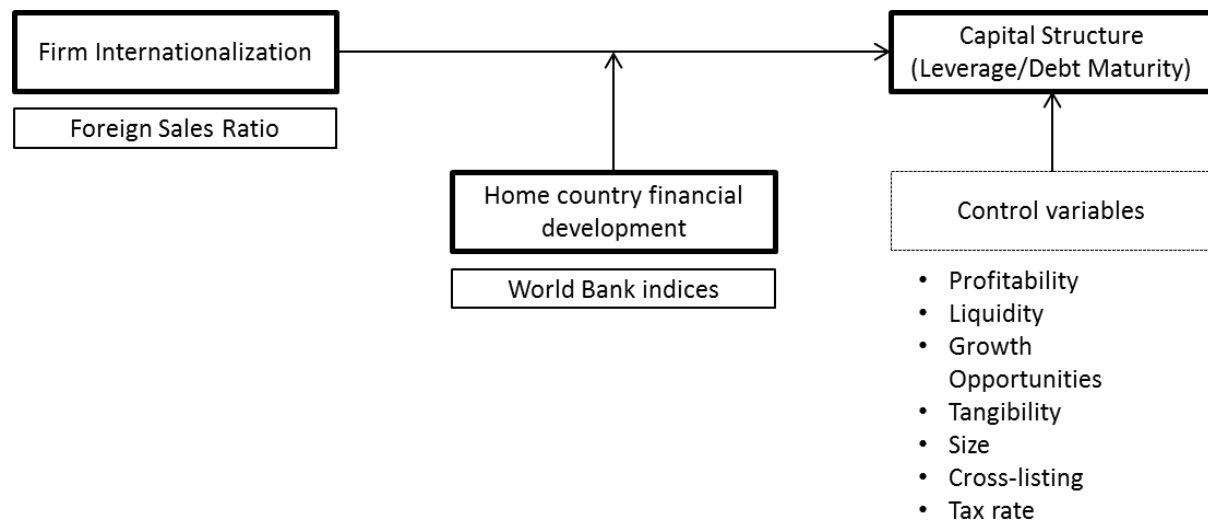
Within this model the standalone effect of an increase in firm internationalization is a decrease in leverage. The empirical literature shows that this causality results from an increase in the agency costs of debt. It is however suggested here that an indirect effect of home country development may interfere in this relationship. In the context of developing countries a thus far untested set of expectations may be deduced from this model, with significant differences to those expectations that result when taking into account only the standalone effects of internationalization and home country development.

Firms from developing countries typically face funding constraints and therefore have a higher total cost of capital. This leads them to postpone investments to the next period when the discount factor may decrease, and they hence lose out on positive Net Present Value (NPV) projects as a result of the high discount factor in the current period (Love, 2003). According to Love (2003), financing constraints have a larger impact in countries with less developed financial markets. Therefore, as firms from developing countries expand they stand to decrease these financing constraints due to access to foreign capital markets and diversification advantages, particularly if they expand their operations to more developed countries. The relative dominance of these internationalization effects on either debt or equity financing can in turn be dependent on the level of home country development. Amongst developing country firms and in the context of different levels of home country development, one can consequently postulate different expectations for the influence of internationalization on the levels of either debt or equity capital. The greater of these effects will ultimately influence the directional change in the leverage ratio.

The implications of this combined internationalization and country development effect on debt and equity financing respectively are elaborated on in the following sections, before an overall expectation for the effect of internationalization on capital structure in the developing country context is formulated.

3.2.1. Effect on debt financing

This paper investigates a hitherto unexplored facet of the capital structure topic. The following new arguments regarding the effect of internationalization on debt levels amongst developing country firms are therefore developed based on hypothesized predictions.

The proposed debt effect can be addressed specifically from the agency cost of debt perspective, which has been shown in the literature to be the primary influence on leverage amongst internationalizing firms (Chen et al., 1997; Burgman, 1996; Chkir and Cosset, 2001; Doukas and Pantzalis, 2003). It might be expected that the agency problem at the firm-level should be the same across all firms. As companies increase in size, monitoring efforts become more difficult which increases uncertainty for investors and translates to a higher cost of debt and lower leverage. However, when including the indirect country-level influence, it might be argued that the relative level of home market development could result in a reduction of agency costs amongst certain developing country firms.

Developing country financial markets are not fully integrated with foreign markets and therefore Doukas and Pantzalis (2003) suggest that developing country firms can raise more capital at more favourable terms through foreign debt financing when they internationalize. As these firms gain exposure to foreign markets, the higher quality and better developed corporate governance codes, institutions and enforcement abilities relative to the home market might in fact alleviate agency problems. This is because monitoring efforts and costs for financiers are reduced. It might thus be assumed that firms from less developed countries may increase leveraging as they increase their level of internationalization.

However, this effect is contingent on the ability of firms to gain the exposure to foreign capital markets necessary to decrease the overall agency costs. The implications for developing country firms from more and less advanced financial markets may therefore differ. For firms from the least advanced financial markets, operational internationalization may not even result in increased exposure to foreign capital markets. These firms may struggle to access foreign funding because they suffer from reputation overhang by virtue of the low level of development in their home country. The perceived lack of transparency in the

home market may deter foreign providers of debt financing altogether, resulting in an inability to decrease agency costs through internationalization. This can be illustrated as follows:

Agency Costs with increased internationalization
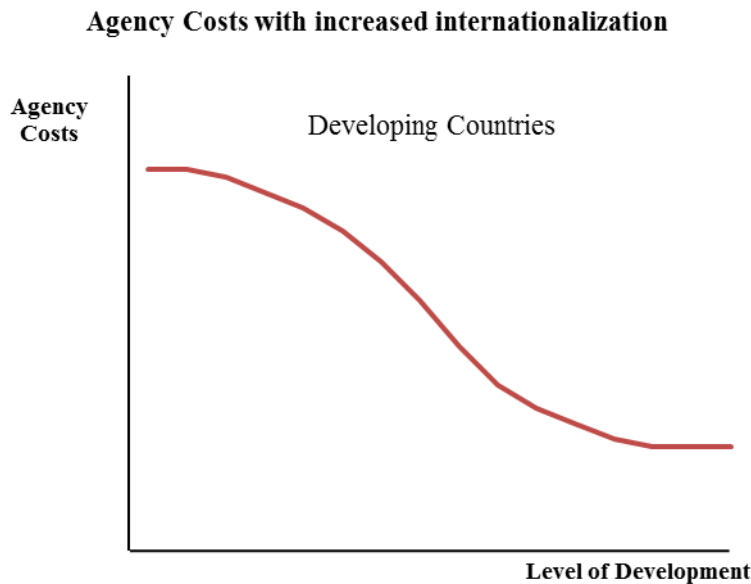
The anticipated effect of internationalization on the cost of debt can be summarized from the perspective of both foreign and domestic debt capital markets. Increased internationalization amongst developing country firms from sufficiently advanced financial markets is likely to lead to a decrease in agency costs, decreasing the cost of debt in both the foreign and domestic markets. This effect is likely to increase with an increase in the level of home country financial development. However, firms from insufficiently advanced financial markets are unlikely to obtain any agency cost advantages. Agency costs might instead be higher because internationalization in their case does not lead to a decrease in the agency problem, but an increase in the difficulty and costs of monitoring. Internationalization will not improve the access to or pricing of foreign debt for these firms, while domestic costs of debt may increase.

3.2.2. *Effect on equity financing*

The effect of an increased level of internationalization amongst developing country firms on the cost and accessibility of equity can be inferred from the well developed existing literature on the topic. The primary result of firm internationalization on equity investments is likely to result from the diversification benefits for investors. According to Coeurdacier and Guibaud (2011), investors tend to direct their foreign holdings towards firms from countries that offer better diversification opportunities.

The literature presents much research into the geographic portfolio diversification benefits for investors resulting from both an increase in returns (Froot, O'Connell and Seasholes, 2001), and from a reduction in portfolio risk (Jorion, 1985; Solnik, 1974). These diversification benefits can be achieved through direct investments in foreign firms, or through investment in domestic firms that are operational in foreign markets. Foreign investors are therefore likely to show interest as firms internationalize to their markets, while domestic investors will likely be drawn to local firms that expand internationally. In addition, the internationalization of a firm can serve as an indicator of managerial ability, boosting investor confidence. Furthermore, investment by foreign investors into developing countries has added advantages (Errunza, 1977). Foreign investors may welcome the opportunity to invest in firms from developing countries with well developed financial markets, due to the exposure they may gain to the firm growth opportunities.

With regard to foreign equity funding, an increase in firm internationalization is hence expected to lead to an increase in the availability and decrease in the price. This is a result of the diversification benefits and the opportunity to gain exposure to high growth opportunities in developing markets for foreign investors. However, these investors will lack interest in shares of developing country firms if the information asymmetries are considered too high, as less developed financial markets make investments more difficult and risky for foreign investors. According to Campa and Fernandes (2006), the importance of the determinant factors of gains from investor diversification is correlated with measures of economic and financial international integration and development. It is therefore likely that the foreign equity effect will be dominant for firms from developing countries with relatively more advanced financial markets. However, without undertaking a foreign listing, these firms are also limited as they have to raise foreign equity through private placements or over-the-counter (OTC) investments.

In terms of domestic equity funding, firm internationalization is likely to decrease the cost of equity for all companies due to diversification benefits for investors. This is likely to be particularly true in less financially advanced markets, where existing diversification opportunities are limited. In addition, cost benefits for firms may be realized due to increased investor confidence in the managerial ability within the firm.

3.2.3. *Expected overall effect on capital structure*

The above arguments can be summarized as follows. Amongst developing country firms increased internationalization can lead to a lower aggregate cost of debt, due to the

decrease in agency costs. This agency cost advantage is however reserved for firms from those markets that are sufficiently advanced for agency cost benefits to be realized. Increased internationalization will likely also result in a decrease in the aggregate cost of equity due to improved investor confidence and the diversification advantages for investors. The effect on foreign equity is largely limited to firms from more financially advanced home markets, but without cross-listing their ability to exploit this is limited. The effect on domestic equity is more pronounced in less financially advanced markets as investors have fewer investment alternatives. With these hypothesized positive relationships between internationalization and both debt and equity financing, the question arises which effect will be stronger.

For firms from the least advanced financial markets the equity effect will likely be overriding. This is because the debt effect in both the foreign and domestic markets is reserved for firms from sufficiently advanced financial markets. The foreign equity effect is also reserved for those firms. Therefore, the domestic equity effect will likely be overruling. Amongst those firms from sufficiently advanced financial markets, however, the debt effect is expected to increase with financial development and override the equity effect.

The expected dominance of the debt effect amongst firms from the more advanced financial markets results from the following factors. Firstly, the debt effect is experienced in both the foreign and domestic markets, enhancing the downward pressure on the overall cost of debt. The equity effect on the other hand is limited largely to the domestic market because without listing, foreign equity would have to be obtained through illiquid private placements or OTC. In addition, the domestic equity effect is likely to decrease with increased financial development. This is because higher home market efficiencies will already provide more diversification opportunities to investors in relatively more financially advanced markets. Additionally, when expanding to foreign markets firms will naturally be inclined to increase the proportion of debt denominated in those markets, even if only as a hedging instrument for economic exchange risks (Burgman, 1996), or to take advantage of the lower cost of capital to undertake positive NPV projects in the current period (Love, 2003). Furthermore as asserted by the POH, firms are more likely to opt for debt financing before equity in ranking of priority due to the relative costs (Myers and Majluf, 1984).

As stated, a negative standalone relationship between internationalization and leverage has been documented in the existing literature. Considering the above discussion this relationship is however likely to become less pronounced and even turn positive as the level of home country financial development increases amongst developing country firms. This expectation can be translated into the following hypothesis:

Hypothesis 3a: Amongst developing country firms, increased home country financial development has a positive directional effect on the relationship between firm internationalization and leverage.

Practically, this would translate into a significant positive coefficient on the interaction term between the firm internationalization and home country financial development variables in the capital structure regression.

The above discussion applies particularly to the long term component of debt, but it is unclear whether it will also have implications for firm reliance on short term debt. It might be expected any increase (decrease) in the reliance on long term debt might be associated with a decrease (increase) in the short term level of debt due to cost implications (Doukas and Pantzalis, 2001). However, this may not be true in all cases. In many instances firms may not consider short term debt to be a substitute for long term debt (for example depending on industry characteristics or requirements). Furthermore, from a top-level perspective the same arguments presented for agency cost effects on overall debt may well apply to the short term component too. These contrasting influences may even cancel one another out. Therefore, it is expected that the combined internationalization/development influence will be greater on the long term component of debt and the following hypothesis for debt maturity can be formulated:

Hypothesis 3b: Amongst developing country firms, increased home country financial development has a positive directional effect on the relationship between firm internationalization and debt maturity.

Again, to test this hypothesis the interaction term between the firm internationalization and home country financial development variables in the regression should be observed. A significant positive coefficient would provide support for the hypothesis. If both the above hypotheses are supported, it would indicate that the level of home country development does in fact have an indirect influence on corporate leverage through the effect of firm internationalization, whilst a lack of support would imply a lack of proof that a combined country development and firm internationalization effect exists.

4. METHODOLOGY

The methodological approach in this paper involves a quantitative empirical analysis. Several multiple regressions are employed with first financial leverage and secondly debt maturity as dependent variables. A number of country- and firm-level independent variables are included in the regression. Of primary interest in the analysis is the directionality and significance of the coefficient estimates for the interaction variables of firm internationalization and various country development indicators. This section elaborates the data employed and the operationalization of the applicable theories and hypotheses into various variables.

4.1. Dataset

The dataset includes in excess of 20,000 firm-year observations from 30 developing countries[1], for the period from 1991 to 2006. The volatility and its effects on corporate leverage of the current financial crisis are thus excluded from the analysis, avoiding adverse outcomes on the data analysis. It must however be noted that the period of the Asian crisis is included. While the Asian crisis may have had an influential effect on firm leverage in developing countries, as posited by Fernandes (2011), it is noted that this is primarily shown to work through the effect of firm tangibility, which is used as a control variable in this paper. Firm-level variables were obtained from the Thomson Reuters Worldscope database, with developing country firms being identified as such by the Worldscope classification. Financial firms (SIC 6000-6999) are excluded. Observations were eliminated from the dataset for entries where foreign sales ratios were not known. Country financial development data was sourced from the World Bank Financial Structure database revised by Beck and Al-Hussainy in 2010.

4.2. Variables

4.2.1. Dependent variables

Three market value variables of leverage are employed: *TotalDebt*, *LTDebt* and *STDebt*. Many papers use only a single variable and focus either on the level of long term

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[1] China is not included in the dataset. This is as a result of a lack of information on the indices necessary to calculate the *FinDev* variable and its components, which provide proxies for financial market development. The regressions presented in the paper were rerun substituting the two components of *FinDev* with the World Bank *Mktcap* and *Domscred* indicators respectively. The regression results at the *FinDev* level are very similar, at the same significance levels.

debt (De Jong et al., 2008; Burgman, 1996) or the level of total debt (Fernandes, 2011; Booth et al., 2001). However, certain papers (Doukas and Pantzalis, 2003; Demirgüç-Kunt and Maksimovic, 1999; Agarwal and Mohtadi, 2004) include two or all of total, long term, and short term debt in their analysis. In this paper, leverage is therefore calculated in three market value measures, based on the approach followed by Doukas and Pantzalis (2003). *TotalDebt* is calculated as *LTDebt* + *STDebt* where *LTDebt* = (Long term Debt)/(Total Debt + Market Value of Equity) and *STDebt* = (Debt in Current Liabilities)/(Total Debt + Market Value of Equity).

This furthermore allows for added insight into the effects on the maturity structure of debt, which is represented by *DebtMaturity* and measured as the proportion of long term debt to total debt (Fernandes, 2011; Demirgüç-Kunt and Maksimovic, 1999; Hall, 2012).

4.2.2. Firm-level independent variables

The main firm-level variable of interest in this paper is firm internationalization (*ForeignSales*). In the literature, firm internationalization is generally operationalized as a binary MNC/DC classification. Common approaches in achieving this classification include those based on the foreign sales ratio (Fatemi, 1988; Doukas and Pantzalis, 2003), or foreign tax ratio (Lee and Kwok, 1988; Chkir and Cosset, 2001), or according to alternative characteristics such as dual listing or the foreign asset ratio. The dual listing approach is however problematic. For example, the UNCTAD top 3 largest MNCs from developing countries are classified as DCs because they only have a domestic listing. The use of a foreign asset ratio is also open to scrutiny. In my practical experience, the ownership of a foreign balance sheet (however small) often allows a firm to freely raise financing in that foreign market, provided the correct parent company guarantees are in place and the home country institutions are considered adequate to pursue financial recourse. Hence the presence of any foreign balance sheet could classify that firm as an MNC.

I therefore make use of the ratio of foreign to total sales. This follows the premise of the classification approach used by authors such as Doukas and Pantzalis (2003). However, I employ this as a continuous variable instead of using a binary classification of MNCs and DCs. At a basic level this corresponds with the Transnationality Index (TNI) employed by the UNCTAD, an index which measures the level of firm internationalization according to an aggregated scale of foreign-to-total sales, assets, and employees. The use of a continuous variable for firm internationalization allows for greater scrutiny and detail resulting from a

scale analysis of the data. The regression results using a binary classification are nevertheless very similar to those presented in this paper.

Cross-listing is controlled for by including the dummy variable *ADRdummy*, with a binary classification of 1 if a company is ADR listed and 0 if it is not. The expectation is that firms that are cross-listed will on average have a lower leverage ratio than those that are not.

As illustrated in the literature review, there are a host of firm-level determinants of leverage aside from firm internationalization. Based on the main theories of capital structure, a number of these firm-level factors are included in the analysis as control variables. These control variables are operationalized as follows. *Profitability* is measured as annual return on assets (Fernandes, 2011). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities and is represented by *GrowthOpp* (Allayannis et al., 2003; Myers, 1977; Rajan and Zingales, 1995). *Tangibility* is defined as the ratio of net property, plant, and equipment to total assets (Rajan and Zingales, 1995; Giannetti, 2003). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Firm age is not included due to a lack of data. Liquidity (net current assets divided by total assets) is ultimately excluded from the regressions due to its high correlation with *Tangibility*.

4.2.3. Country-level independent variables

Three financial development variables are used. Following Love (2003) and Khurana et al. (2006), aggregated indices are employed. These are derived from five standardized indices obtained from the Financial Structure database of the World Bank revised by Beck and Al-Hussainy in 2010. These indices include market capitalization over GDP, total value traded over GDP, total value traded over market capitalization, the ratio of liquid liabilities to GDP, and the credit going to the private sector over GDP. The variable *StockMkt* is the sum of the first three indices and represents a measure of stock market development. *IntermDev* is the sum of the last two indices and reflects the level of financial intermediary (i.e. banking sector) development. *FinDev* is the sum of *StockMkt* and *IntermDev*.

While the interest and inflation rates are identified as potential control variables from the literature, they were found to be highly correlated to the financial development variables discussed above. Business risk was not included due to the resultant loss in observations in the dataset, while it was further also expected to be highly correlated with the proxies for financial development.

4.2.4.   Interaction variables

The interaction between the foreign sales ratio and the three measures of country financial development are of primary importance in the analysis. The following three interaction variables are therefore employed: *ForeignSales*FinDev*, *ForeignSales*StockMkt* and *ForeignSales*IntermDev*.

4.3. Regression models

The following equation represents the four models that are employed in the regressions. *Capital Structure* in this model can be substituted by *TotalDebt, LTDebt, STDebt* and *DebtMaturity* for models 1- 4 respectively. All variables are included.

$$Capital\ Structure_{it} = a_{it} + b_{[1\text{-}4]}ForeignSales_{it} + c_{[1\text{-}4]}FinDev_{it} + d_{[1\text{-}4]}StockMkt_{it} +$$
$$e_{[1\text{-}4]}IntermDev_{it} + f_{[1\text{-}4]}ForeignSales * FinDev_{it} + g_{[1\text{-}4]}ForeignSales * StockMkt_{it} +$$
$$h_{[1\text{-}4]}ForeignSales * IntermDev_{it} + i_{[1\text{-}4]}ADRdummy_{it} + j_{[1\text{-}4]}Profitability_{it} +$$
$$k_{[1\text{-}4]}GrowthOpp_{it} + l_{[1\text{-}4]}Tangibility_{it} + m_{[1\text{-}4]}Size_{it} + n_{[1\text{-}4]}Tax_{it} + \varepsilon_{it}$$

5.   RESULTS AND INTERPRETATIONS

5.1. Descriptive analysis

5.1.1. Mean and median analysis

A per-country oversight of the means of the level of leverage, debt maturity and country financial development is presented in Table 1. The aggregate total debt ratio in the dataset is 33.7%. The lowest observations seem to be observable in Africa and the Middle East, while the highest leveraged firms on average appear loosely grouped in Asia and the Americas. The third column reflects the *FinDev* index per country, these values can be negative because they are standardized to have mean zero and a standard deviation of one. Hong Kong is the most financially developed country, Venezuela the least. In fact, four South American countries are amongst the five least developed in the dataset, although their average leverage ratio (34.75%) is relatively close to the mean value mentioned above. The highest developed countries are generally from Asia or the Middle East.

The summary statistics of the individual variables employed in the regression analysis are presented in Table 2[2]. The mean level of short term debt is higher than that for long term debt, translating to a mean debt maturity ratio of 0.3982. The standard deviations for these variables are however quite high as would be expected based on the arguments in this paper and the differing levels of country development in the dataset.

Notably, while the mean foreign sales ratio (*ForeignSales*) is 0.2318, the median observation is 0. This implies a large number of firm year observations where firm foreign sales ratios are recorded as being negligible, despite the elimination from the dataset of entries where foreign sales were not known.

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[2] Note that the country financial development variables are not included in Table 2 as they have been standardized (they have been rescaled to have a mean of zero and a standard deviation of one).

Table 1 Developing Country Sample Set

	TotalDebt	DebtMaturity	FinDev	No obs
ARGENTINA	0.3572	0.5257	-1.4181	99
BERMUDA	0.3980	0.6866	1.4611	27
BRAZIL	0.3927	0.4823	-1.1610	414
CHILE	0.2490	0.4772	-0.9895	109
COLOMBIA	0.2103	0.4236	-1.5032	34
CZECH REP.	0.3417	0.3800	-1.0513	72
EGYPT	0.1721	0.4284	-0.8651	62
HONG KONG	0.2923	0.3528	1.8307	3087
HUNGARY	0.2985	0.3571	-1.1036	113
INDIA	0.3764	0.5729	-0.5995	2461
INDONESIA	0.4681	0.3978	-1.2295	1132
ISRAEL	0.1903	0.3736	-0.5359	404
JORDAN	0.1313	0.5291	0.0402	27
SOUTH KOREA	0.6022	0.4313	0.2445	1130
MALAYSIA	0.3161	0.3173	0.1277	3755
MEXICO	0.3442	0.6147	-1.3667	281
MOROCCO	0.0787	0.3205	-1.1892	7
PAKISTAN	0.4110	0.3925	-0.5733	574
PERU	0.3158	0.3689	-1.4523	96
PHILIPPINES	0.3229	0.3575	-1.0323	267
POLAND	0.1868	0.4659	-1.3273	355
RUSSIA	0.2270	0.4611	-1.2356	61
SAUDI ARABIA	0.0278	0.2362	1.4816	27
SINGAPORE	0.2747	0.3826	0.3615	2727
SLOVAKIA	0.4512	0.5307	-1.1707	17
SOUTH AFRICA	0.1665	0.4624	-0.2406	1014
SRI LANKA	0.3593	0.3638	-1.4633	100
THAILAND	0.4151	0.3221	-0.2808	1836
TURKEY	0.2012	0.3094	-0.8000	351
VENEZUELA	0.5067	0.5296	-1.6184	39
Total	0.3367	0.3982	0.0195	20678

This table reports the per-country aggregate firm-level variable means in the dataset. TotalDebt is calculated as the sum of LTDebt and STDebt, which are measured respectively as (Long Term Debt) and (Debt in Current Liabilities) both divided by (Total Debt + Market Value of Equity). The maturity structure of debt (DebtMaturity) is measured as (Long term Debt)/(Total Debt). Internationalization (ForeignSales) is proxied by the foreign-to-total sales ratio. FinDev is the sum of StockMkt and IntermDev where: StockMkt is the sum of three World Bank indices representing stock market development and IntermDev is the sum of two indices reflecting financial intermediary development.

Table 2 Descriptive statistics of variables

	Mean	Median	StdDev
TotalDebt	0.3367	0.2750	0.2879
LTDebt	0.1522	0.0748	0.1873
STDebt	0.1829	0.1087	0.2032
DebtMaturity	0.3982	0.3766	0.3341
GrowthOpp	1.3848	1.0645	1.0047
Profitability	0.0250	0.0378	0.1234
Tangibility	0.3939	0.3805	0.2225
Size	4.9484	4.8406	1.5552
Tax	0.1638	0.1647	0.2970
ForeignSales	0.2318	0.0000	0.3273
ADRdummy	0.0664	0.0000	0.2490

This table reports descriptive statistics of variables used in the analyses. *TotalDebt* is calculated as the sum of *LTDebt* and *STDebt*, which are measured respectively as (Long Term Debt) and (Debt in Current Liabilities) both divided by (Total Debt + Market Value of Equity). The maturity structure of debt (*DebtMaturity*) is measured as (Long term Debt)/(Total Debt). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy*, is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not.

Table 3 provides deeper insight into the mean and median statistics of the individual variables. In this case, the observations are grouped into one group of firm year observations where foreign sales ratios are less-than-or-equal-to, and one group where they are greater than, 10%. The 10% level is common in the literature as the differentiating point between MNCs and DCs (Doukas and Pantzalis, 2003) and hence provides some top-level insight of how the aggregate observations differ between those that would fall under a "domestic" or a "multinational" level of foreign operations. It is noteworthy that significantly more observations are made with sales less-than-or-equal-to 10% (12,083 compared to 8,595).

It is evident that leverage levels differ significantly between the two groups, with the "less-than-or-equal-to 10%" group showing greater levels of both long term and short term debt. While less significant, debt maturity amongst firms in this group is also higher, indicative of a greater reliance on long term debt. Growth opportunities, tangibility, profitability and tax rates are also higher for this group, which for certain variables deviates from expectations. As might be expected the "greater than 10%" group exhibits higher mean values for firm size.

Table 3 Comparison of means and medians: Firms <= 10% and firms >10% foreign sales ratio

	Foreign sales <=0.10 (N=12083)		Foreign sales > 0.10 (N=8595)		Comparison			
	Mean	Median	Mean	Median	Mean		Median	
TotalDebt	0.3503	0.2846	0.3176	0.2668	8.07	***	4.18	***
LTDebt	0.1604	0.0765	0.1406	0.0733	7.49	***	1.24	
STDebt	0.1877	0.1063	0.1762	0.1116	3.99	***	-2.33	***
DebtMaturity	0.4018	0.3812	0.3930	0.3702	1.87	*	0.14	
GrowthOpp	1.4096	1.0695	1.3498	1.0591	4.22	***	2.97	***
Profitability	0.0298	0.0392	0.0183	0.0360	6.58	***	4.06	***
Tangibility	0.4221	0.4134	0.3543	0.3363	21.84	***	20.73	***
Size	4.7346	4.6641	5.2491	5.0779	-23.76	***	-21.50	***
Tax	0.1798	0.2018	0.1412	0.1295	9.23	***	16.36	***

This table reports descriptive statistics of variables used in the analyses, grouped according to foreign sales ratios of less-than-or-equal-to, and greater than 10%. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively. *TotalDebt* is calculated as the sum of *LTDebt* and *STDebt*, which are measured respectively as (Long Term Debt) and (Debt in Current Liabilities) both divided by (Total Debt + Market Value of Equity). The maturity structure of debt (*DebtMaturity*) is measured as (Long term Debt)/(Total Debt). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax.

5.1.2. Correlations

The correlation coefficients are presented in Table 4. Correlations between the control and main independent variables are sufficiently low. Loosely in line with the findings by Fernandes (2011), tangibility presents the highest correlation of the control variables with the main independent variables (a maximum correlation of 0.17 is recorded, with *ForeignSales*).

While a 0.45 correlation coefficient between *ForeignSales* and *FinDev* is reflected, this is acceptable considering the assertion in this paper that an interactive effect exists between them. Alternative proxy variables that were considered for these factors yielded correlation coefficients way in excess of those shown in the table.

Table 4 Variable Correlations

	TotalDebt	LTDebt	STDebt	DebtMaturity	GrowthOpp	Profitability	Tangibility	Size	Tax	ForeignSales	ADRdummy	Stockmkt	IntermDev	FinDev
TotalDebt	1													
LTDebt	0.70*	1												
STDebt	0.75*	0.06*	1											
DebtMaturity	0.20*	0.64*	-0.32*	1										
GrowthOpp	-0.37*	-0.26*	-0.28*	-0.04*	1									
Profitability	-0.37*	-0.17*	-0.36*	0.05*	0.11*	1								
Tangibility	0.22*	0.31*	0.025*	0.26*	-0.16*	-0.06*	1							
Size	0.14*	0.26*	-0.05*	0.32*	-0.08*	0.18*	0.10*	1						
Tax	-0.11*	-0.06*	-0.10*	0.01	0.02	0.18*	-0.03*	0.06*	1					
ForeignSales	-0.08*	-0.07*	-0.05*	-0.04*	0.00	-0.04*	-0.17*	0.10*	-0.08*	1				
ADRdummy	-0.01	0.06*	-0.06*	0.12*	0.03*	0.04*	0.017	0.28*	-0.01	0.07*	1			
Stockmkt	-0.08*	-0.08*	-0.04*	-0.06*	0.05*	-0.02*	-0.15*	0.08*	-0.06*	0.39*	0.03*	1		
IntermDev	-0.07*	-0.14*	0.04*	-0.15*	-0.07*	-0.11*	-0.13*	-0.02	-0.10*	0.46*	-0.01	0.70*	1	
FinDev	-0.08*	-0.11*	-0.01	-0.10*	0.01	-0.06*	-0.15*	0.05*	-0.08*	0.45*	0.02	0.95*	0.88*	1

This table reports correlation coefficients between individual variables used in the analyses. The symbol * denotes statistical significance at the 1% level. *TotalDebt* is calculated as the sum of *LTDebt* and *STDebt*, which are measured respectively as (Long Term Debt) and (Debt in Current Liabilities) both divided by (Total Debt + Market Value of Equity). The maturity structure of debt (*DebtMaturity*) is measured as (Long term Debt)/(Total Debt). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy*, is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*.

5.2. Regression analysis

The regression results are presented in Tables 5, 6, 7 and 8. The first three tables reflect the coefficient estimates for the regressions of respectively total debt and its long term and short term components (*TotalDebt*, *LTDebt* and *STDebt*). The last table captures the regression results for *DebtMaturity*.

5.2.1. Standalone effects of internationalization and financial development

From Table 5, it is evident that the standalone relationships of both firm internationalization and country financial development with total leverage are significantly negative. This is visible from the regressions that exclude any interaction effect (columns 1, 3 and 5), which show negative relationships for each of *ForeignSales* and *FinDev* and its components (*StockMkt* and *IntermDev*) with *TotalDebt,* all significant at the 1% level.

The implication is that the standalone aggregate effects of an increase in both firm internationalization and the level of home country financial development are associated with a lower debt to equity ratio amongst firms in developing countries. These findings are consistent with Hypotheses 1a and 2a respectively. Not only does the confirmation of these hypotheses help to verify the quality of the dataset because the findings are consistent with the extensive extant literature, but the high significance noted across the board for the control variable coefficients reaffirms this.

Some additional insight might be gained from the relationships between these variables and the two components of *TotalDebt* in Tables 6 and 7 (again, columns 1, 3 and 5). Interestingly, a strong negative effect of firm internationalization (*ForeignSales*) occurs with *STDebt* (Table 7), where significance levels at 1% are observed in each column, whereas the negative effect on *LTDebt* is varyingly significant. This is somewhat surprising as financiers might be expected to shy away from extending obligations particularly with longer maturities as internationalization increases and agency costs increase. It furthermore contrasts with the expectations from the extant literature that is based on U.S. based firm observations, which puts forward that an increased reliance on short term debt should be witnessed.

In fact, the findings for the standalone internationalization effect on *DebtMaturity* from Table 8 (columns 1, 3 and 5) confound the issue. Two insignificant coefficients and one significant positive coefficient (at 5%) are estimated for *ForeignSales*. This is an opposite result to that expected and Hypothesis 1b must therefore be rejected. It can be inferred that

amongst developing country firms, the impact of internationalization on the long and short term effects of debt do not follow the expectations deduced from developed country investigations. In fact the findings suggest that for developing country firms fewer international market imperfections relative to the home market allow them to better match the maturity of their assets and liabilities as they internationalize. This provides added support for an investigation into the combined firm internationalization and home country development effect on capital structure, specifically amongst developing country firms.

For the home country development effect the difference between long and short term debt is more pronounced. Here, the negative effect on long term debt (Table 6) is significant at 1% for both *FinDev* and *StockMkt*, whereas no significant effect on short term debt (Table 7) is recorded. This unambiguous result is noteworthy, as the reviewed literature suggesting a negative relationship with debt maturity fails to give a clear indication whether this is due to the effect on both or only one of long term and short term debt. Furthermore, the assertion that the negative relationship between leverage and financial development results from better access to equity capital for firms from more financially developed markets is verified. It is supported by the fact that the negative coefficient for *StockMkt* is significant at 1%, whereas that for *IntermDev* is not significant. This implies that as equity markets become more advanced, firms rely relatively more on equity financing. From these findings, the inference is that the level of advancement in developing country financial markets has a direct impact primarily on long term leverage through the shift toward equity financing, while the short term component of debt remains unaffected. Consequently, the standalone effect of home country development on debt maturity is shown in Table 8 (columns 1, 3 and 5) to be significantly negative for the measures of home country financial development. Hypothesis 2b can therefore also be confirmed, as the findings correspond with the arguments presented previously. Hence, not only are Hypothesis 2a and 2b regarding the aggregate standalone effect of home country financial development confirmed, but additional insights are provided into the practical mechanisms by which this relationship works.

5.2.2. Leverage: internationalization and financial development combined

The primary aim of this paper is to provide theoretical backing and statistical support for the notion of a combined effect between firm internationalization and home country financial development on the corporate leverage of developing country firms. Columns 2, 4

and 6 of Tables 5, 6 and 7 present regressions of *TotalDebt*, *LTDebt* and *STDebt* respectively that include interaction variables. The corresponding columns in Table 8 reflect coefficient estimates of the regressions of *DebtMaturity* including the three different interaction variables, which are discussed in the next chapter.

The interaction between internationalization and financial development (*ForeignSales*FinDev*) in column 6 of Table 5 is significantly positively related with *TotalDebt* amongst developing country firms. This finding is consistent with Hypothesis 3a, which captures the underlying assertion of this paper. The positive coefficient implies that amongst developing country firms, the more financially developed the home country, the more emphatically an increasingly positive outcome on the relationship between internationalization and total leverage emerges. This supports the following two assertions regarding the effect of internationalization made earlier. Firstly, amongst developing country firms, firms from relatively more advanced financial markets experience greater agency cost advantages. Secondly, the influences on debt financing for these firms outweigh those on equity financing.

Incidentally it is notable as shown by Table A in the Appendix, that capital expenditure (CAPEX) shows similar regression results to leverage when it is used as a dependent variable of internationalization, financial development, and their interaction term. Long term debt is controlled for as it is typically expected to be negatively related to investments, due to the debt overhang consequences of increased levels of debt (Fernandes, 2011). The coefficient calculated for the interaction term is significantly positive. This implies that as developing country firms from relatively more advanced markets internationalize, they are increasingly able to take advantage of investment opportunities, translating into higher CAPEX. In effect it suggests support firstly for the assertion that increases in internationalization for these firms leads to lower agency costs of debt, allowing them to spend relatively more on expansion projects. Secondly, it supports the notion that these lower agency costs result in a greater total number of feasible projects as the effective discount rate drops.

In column 2 of Table 5, it is interesting to note that the interaction variable of firm internationalization and stock market development (*ForeignSales*StockMkt*) is not significantly related to *TotalDebt*. This implies that the level of development of the equity market in the home country does not influence the leverage ratio of firms as they

internationalize. The relationship between internationalization and leverage is thus primarily dependent on the level of banking sector development. This is shown by the coefficient estimate of *ForeignSales*IntermDev* in column 4 of Table 5. The significance of the banking sector development variable supports the assertion that the debt effect on capital structure of internationalization is dominant. Overall, these findings fall in line with the arguments on which hypothesis 3a is based.

A more in-depth analysis of the indirect country effect on capital structure may involve an investigation into the effects of the interaction variables on the short and long term components of debt respectively. As shown in Table 7 (columns 2, 4 and 6), while the coefficients of the interaction effects on *STDebt* are varyingly positive and negative none of them are significant. This is not unexpected following the discussion in the hypothesis section, and corresponds to the assertion that contrasting influences on short term debt might be expected. The implication is that the significant negative standalone effect of internationalization on short term leverage is not further affected by the level of country financial development. Furthermore, the effect of the interaction term on *TotalDebt* in Table 5 is evidently not influenced by changes in the short term component of debt.

Consequently, the significant negative interaction coefficient reflected in Table 5 is solely the result of the interaction effect on *LTDebt* shown in Table 6 (columns 2, 4 and 6). Accordingly, the overall financial development (*FinDev*) effect in column 6 is also more significant for *LTDebt* (5%) than in the *TotalDebt* regression in Table 5 (10%). Again, *StockMkt* does not have a significant effect on leverage in Table 6.

In order to present an illustration of these findings, the regression coefficients of the independent variables *ForeignSales* and *IntermDev* and the interaction variable *ForeignSales*IntermDev* from Tables 5 and 6, columns 6, are isolated into separate equations with *TotalDebt* and *LTDebt* respectively as the dependent variables. Actual values are substituted from each quintile in the dataset for each of *ForeignSales* and *IntermDev* into both equations to derive Graphs 1 and 2 below. Any point on a single line reflects a firm that is identical to a firm at any other point on that line, except for the level of internationalization. As implied by the positive coefficient of the *ForeignSales*FinDev* term in the regressions, the graphs show that for identical companies, increased levels of internationalization amongst firms from the most advanced financial markets leads to a less

negative and ultimately a positive effect on leverage. This result is particularly pronounced when looking at *LTDebt* (Graph 2).

Graph 1
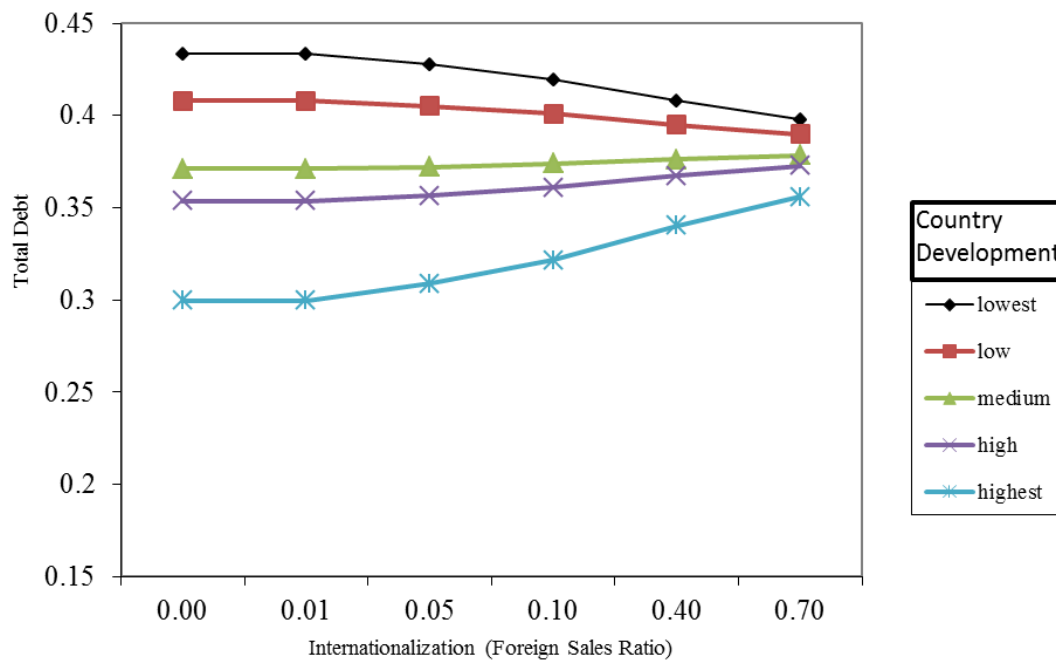
Source: author's own calculations

Graph 2
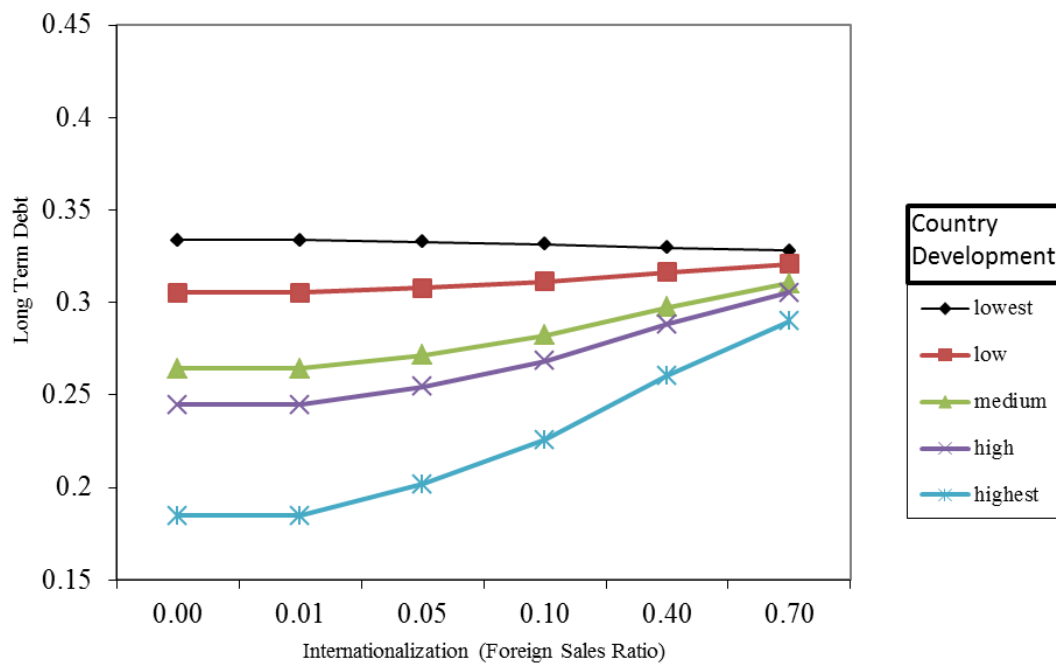
Source: author's own calculations

The findings imply that the earlier inferences made regarding the effect of banking sector development only apply to total debt insofar as they affect the level of long term debt. By extension, the confirmation of Hypothesis 3a can therefore be qualified. Firstly, the interactive effect of firm internationalization and home country financial development is only significantly positively related to long term leverage and therefore by default to total debt. Secondly, the interaction effect is only attributable to the banking sector component of financial development and not the stock market component.

5.2.3. Maturity: internationalization and financial development combined

As described above, there is no significant combined effect of internationalization and financial development on short term leverage. There is however, a significant positive correlation with long term leverage. This implies that within the context of the indirect country effect, firm internationalization leads to higher proportionate reliance on total debt as the level of home country financial development rises, despite short term debt levels remaining unchanged. As a result, debt maturity increases, as captured by the significant positive coefficient for *ForeignSales*FinDev* in Table 8, column 6. This confirms Hypothesis 3b. In line with the previous observations for the level of leverage however, the effect is again attributed only to the banking sector component of financial development (*IntermDev*). Hypothesis 3b can therefore be similarly qualified, firstly because the interaction effect on debt maturity is only as a result of the positive relationship with long term leverage, and secondly because it only relates to financial development in the banking sector.

Table 5 Regression Table: Total Debt

	(1)		(2)		(3)		(4)		(5)		(6)	
Constant	0.445	***	0.442	***	0.447	***	0.44	***	0.442	***	0.433	***
	[0.071]		[0.071]		[0.070]		[0.070]		[0.071]		[0.071]	
GrowthOpp	-0.075	***	-0.074	***	-0.077	***	-0.077	***	-0.075	***	-0.075	***
	[0.003]		[0.003]		[0.003]		[0.003]		[0.003]		[0.003]	
Profitability	-0.804	***	-0.804	***	-0.813	***	-0.814	***	-0.807	***	-0.808	***
	[0.027]		[0.027]		[0.027]		[0.027]		[0.027]		[0.027]	
Tangibility	0.115	***	0.115	***	0.112	***	0.113	***	0.113	***	0.113	***
	[0.018]		[0.018]		[0.018]		[0.018]		[0.018]		[0.018]	
Size	0.037	***	0.037	***	0.036	***	0.036	***	0.037	***	0.037	***
	[0.003]		[0.003]		[0.003]		[0.003]		[0.003]		[0.003]	
Tax	-0.048	***	-0.048	***	-0.051	***	-0.051	***	-0.049	***	-0.049	***
	[0.007]		[0.007]		[0.007]		[0.007]		[0.007]		[0.007]	
ForeignSales	-0.05	***	-0.051	***	-0.03	***	-0.04	***	-0.04	***	-0.046	***
	[0.011]		[0.011]		[0.012]		[0.012]		[0.011]		[0.012]	
ADRdummy	-0.044	***	-0.044	***	-0.047	***	-0.048	***	-0.045	***	-0.046	***
	[0.016]		[0.016]		[0.016]		[0.016]		[0.016]		[0.016]	
StockMkt	-0.015	***	-0.016	***								
	[0.004]		[0.005]									
ForeignSales* StockMkt			0.005									
			[0.010]									
IntermDev					-0.028	***	-0.035	***				
					[0.004]		[0.005]					
ForeignSales* IntermDev							0.024	**				
							[0.010]					
FinDev									-0.02	***	-0.026	***
									[0.004]		[0.005]	
ForeignSales*FinDev											0.018	*
											[0.009]	
Adjusted R^2	0.349		0.349		0.354		0.354		0.351		0.351	
Observations	20678		20678		20678		20678		20678		20678	

This table reports coefficient estimates for the regression of the *TotalDebt* leverage ratio which is calculated as the sum of *LTDebt* and *STDebt*, which are measured respectively as (Long Term Debt) and (Debt in Current Liabilities) both divided by (Total Debt + Market Value of Equity). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy* is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Table 6 Regression Table: Long Term Debt

	(1)		(2)		(3)		(4)		(5)		(6)	
Constant	0.352	***	0.355	***	0.349	***	0.341	***	0.347	***	0.34	***
	[0.061]		[0.061]		[0.060]		[0.060]		[0.061]		[0.061]	
GrowthOpp	-0.03	***	-0.03	***	-0.032	***	-0.032	***	-0.031	***	-0.03	***
	[0.002]		[0.002]		[0.002]		[0.002]		[0.002]		[0.002]	
Profitability	-0.248	***	-0.248	***	-0.258	***	-0.26	***	-0.251	***	-0.252	***
	[0.016]		[0.016]		[0.016]		[0.016]		[0.016]		[0.016]	
Tangibility	0.18	***	0.18	***	0.176	***	0.178	***	0.178	***	0.178	***
	[0.012]		[0.012]		[0.011]		[0.011]		[0.012]		[0.012]	
Size	0.033	***	0.033	***	0.032	***	0.033	***	0.033	***	0.034	***
	[0.002]		[0.002]		[0.002]		[0.002]		[0.002]		[0.002]	
Tax	-0.021	***	-0.021	***	-0.025	***	-0.025	***	-0.022	***	-0.022	***
	[0.005]		[0.005]		[0.005]		[0.005]		[0.005]		[0.005]	
ForeignSales	-0.025	***	-0.024	***	0.001		-0.011		-0.013	*	-0.018	**
	[0.007]		[0.007]		[0.007]		[0.008]		[0.007]		[0.008]	
ADRdummy	-0.01		-0.01		-0.014		-0.015		-0.011		-0.012	
	[0.010]		[0.010]		[0.010]		[0.010]		[0.010]		[0.010]	
StockMkt	-0.011	***	-0.009	***								
	[0.002]		[0.003]									
ForeignSales* StockMkt			-0.006									
			[0.006]									
IntermDev					-0.03		-0.039	***				
					[0.003]		[0.003]					
ForeignSales* IntermDev							0.029	***				
							[0.006]					
FinDev									-0.019	***	-0.023	***
									[0.002]		[0.003]	
ForeignSales*FinDev											0.013	**
											[0.006]	
Adjusted R^2	0.256		0.256		0.273		0.275		0.262		0.262	
Observations	20678		20678		20678		20678		20678		20678	

This table reports coefficient estimates for the regression of the *LTDebt* leverage ratio which is calculated as (Long Term Debt)/(Total Debt + Market Value of Equity). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy*, is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Table 7 Regression Table: Short Term Debt

	(1)		(2)		(3)		(4)		(5)		(6)	
Constant	0.067	***	0.062	***	0.072	***	0.073	***	0.07	***	0.068	***
	[0.015]		[0.015]		[0.015]		[0.015]		[0.015]		[0.015]	
GrowthOpp	-0.045	***	-0.045	***	-0.045	***	-0.045	***	-0.045	***	-0.045	***
	[0.002]		[0.002]		[0.002]		[0.002]		[0.002]		[0.002]	
Profitability	-0.537	***	-0.537	***	-0.535	***	-0.535	***	-0.537	***	-0.537	***
	[0.022]		[0.022]		[0.022]		[0.022]		[0.022]		[0.022]	
Tangibility	-0.066	***	-0.066	***	-0.065	***	-0.065	***	-0.066	***	-0.066	***
	[0.013]		[0.013]		[0.013]		[0.013]		[0.013]		[0.013]	
Size	0.003	*	0.003	**	0.003	*	0.003	*	0.003	*	0.003	*
	[0.002]		[0.002]		[0.002]		[0.002]		[0.002]		[0.002]	
Tax	-0.026	***	-0.026	***	-0.025	***	-0.025	***	-0.026	***	-0.026	***
	[0.005]		[0.005]		[0.005]		[0.005]		[0.005]		[0.005]	
ForeignSales	-0.023	***	-0.025	***	-0.03	***	-0.028	***	-0.025	***	-0.027	***
	[0.008]		[0.008]		[0.009]		[0.009]		[0.008]		[0.009]	
ADRdummy	-0.033	***	-0.034	***	-0.033	***	-0.032	***	-0.033	***	-0.033	***
	[0.010]		[0.010]		[0.010]		[0.010]		[0.010]		[0.010]	
StockMkt	-0.003		-0.006									
	[0.003]		[0.004]									
ForeignSales* StockMkt			0.01									
			[0.007]									
IntermDev					0.003		0.005					
					[0.003]		[0.004]					
ForeignSales* IntermDev							-0.005					
							[0.007]					
FinDev									0		-0.002	
									[0.003]		[0.004]	
ForeignSales*FinDev											0.004	
											[0.007]	
Adjusted R^2	0.235		0.235		0.235		0.235		0.234		0.234	
Observations	20678		20678		20678		20678		20678		20678	

This table reports coefficient estimates for the regression of the *STDebt* leverage ratio which is calculated as (Debt in Current Liabilities)/(Total Debt + Market Value of Equity). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total assets). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy*, is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

Table 8 Regression Table: Debt Maturity

	(1)		(2)		(3)		(4)		(5)		(6)	
Constant	0.321	***	0.324	***	0.321	***	0.31	***	0.315	***	0.304	***
	[0.031]		[0.031]		[0.031]		[0.031]		[0.031]		[0.031]	
GrowthOpp	0.009	**	0.009	**	0.005		0.005		0.008	*	0.008	**
	[0.004]		[0.004]		[0.004]		[0.004]		[0.004]		[0.004]	
Profitability	0.036		0.036		0.019		0.017		0.03		0.029	
	[0.027]		[0.027]		[0.027]		[0.027]		[0.027]		[0.027]	
Tangibility	0.351	***	0.351	***	0.345	***	0.347	***	0.347	***	0.347	***
	[0.020]		[0.020]		[0.019]		[0.019]		[0.020]		[0.020]	
Size	0.064	***	0.064	***	0.062	***	0.063	***	0.064	***	0.064	***
	[0.003]		[0.003]		[0.003]		[0.003]		[0.003]		[0.003]	
Tax	-0.008		-0.008		-0.014	*	-0.013	*	-0.01		-0.01	
	[0.008]		[0.008]		[0.008]		[0.008]		[0.008]		[0.008]	
ForeignSales	-0.008		-0.007		0.033	**	0.016		0.013		0.005	
	[0.013]		[0.014]		[0.014]		[0.015]		[0.014]		[0.014]	
ADRdummy	0.031	**	0.032	**	0.025	*	0.023		0.029	**	0.028	*
	[0.015]		[0.015]		[0.015]		[0.015]		[0.015]		[0.015]	
StockMkt	-0.025	***	-0.023	***								
	[0.005]		[0.006]									
ForeignSales* StockMkt			-0.006									
			[0.011]									
IntermDev					-0.052	***	-0.064	***				
					[0.005]		[0.006]					
ForeignSales* IntermDev							0.04	***				
							[0.011]					
FinDev									-0.036	***	-0.043	***
									[0.004]		[0.006]	
ForeignSales*FinDev											0.021	**
											[0.011]	
Adjusted R^2	0.179		0.179		0.193		0.194		0.184		0.184	
Observations	20678		20678		20678		20678		20678		20678	

This table reports coefficient estimates for the regression of the maturity structure of debt (*DebtMaturity*), which is measured as (Long term Debt)/(Total Debt). Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). *Profitability* is measured as annual return on assets. *Tangibility* is defined as (Property, Plant and Equipment)/(Total). The logarithm of total assets is used as a measure of firm *Size*. *Tax* is the effective tax rate at the firm-level and is calculated as the ratio of corporate income tax to income before tax. Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *ADRdummy*, is a categorical variable with a value of 1 if a company is ADR listed and 0 if it is not. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.

6.   CONCLUSION

The development and application of capital structure theories has to date often been relatively constrained by the focus on single country or variable analyses and a focus on developed country firms. In the recent literature, this scope has expanded and researchers have started to look for different relationships between capital structure determinants and for trends in developing countries and across larger sample sets. The present paper examines a sample of 30 developing countries to examine how two determinant factors of capital structure have a combined effect on firm financing decisions in developing markets.

Firm internationalization and home country financial development have been extensively discussed in the literature for their direct, or standalone, effects on corporate leverage. However, firm-level determinants of capital structure are themselves influenced by indirect country-level factors. This underlines the importance of establishing a greater understanding of the mechanisms by which these independent variables affect firm financing choices. The primary focus of this paper is therefore to address the gap in the literature by formulating a theoretical grounding on which a subsequent investigation into the combined effect between firm internationalization and home country financial development has been founded.

The findings of this paper firstly reaffirm the expectations of the standalone effects of internationalization and financial development on corporate leverage. Additional insights are thereafter given for the standalone influences of these factors on debt maturity and the individual components of debt. In fact, the findings for firm internationalization deviate from expectations derived from the extant literature that centres on U.S. based firms. This deviation is explained by the focus in this paper on a developing country dataset, where the dynamics of internationalization differ to those for U.S. based firms. This gives further support for the investigation of an indirect country development influence. The expected findings of a negative standalone relationship between financial development and capital structure also add to the literature in that further insight is given into the mechanics of this effect. Specifically, it is shown that changes in financial development only influence long term debt levels, and that short term debt levels remain statistically unaffected.

Next, the investigation into the interaction between firm internationalization and home country financial development presents some key results. A positive trend in the level of leverage when firms from increasingly financially advanced markets internationalize is confirmed to exist. The same outcome is recorded for the interaction effect on debt maturity, particularly because short term leverage appears to be unaffected by combined internationalization and development variables. Both findings are qualified for two reasons. Firstly, the interaction effect of internationalization and financial development amongst developing country firms is limited to the changes it brings about in the long term component of debt. Secondly, the findings show the interaction effect to be observable only for changing levels of banking sector development, and not for equity market development in the home country.

The results imply that developing country firms stand to experience cost benefits of long term debt capital from internationalization. However, this benefit is reserved for firms from markets where the home country banking sector is sufficiently developed. The cost benefit appears to arise primarily from a decrease in agency costs of debt. This occurs as firms expand their operations internationally particularly to countries that are more developed and have better institutions and transparency requirements. This assertion is supported by a brief observation of the effects on capital expenditure, which shows that investment is stimulated as developing country firms gain access to foreign markets through internationalization.

It can thus be concluded that home country development is an important consideration in the context of internationalization amongst developing country firms. Particularly the increasing benefit of lower agency costs for firms from relatively more advanced financial markets is noteworthy. In the analysis of the effect of internationalization on capital structure amongst developing country firms, the importance of country-level characteristics can therefore not be ignored.

7. MANAGERIAL IMPLICATIONS AND LIMITATIONS

This research presents a pioneering investigation of the topic at hand. As such the scope of the paper is constrained to an investigative report, with a large part dedicated to hypothesis building and a reflection of the applicable literature. Certain assumptions have consequently been made in formulating the theoretical backing for those relationships tested in this paper. These assumptions might be subjected to more rigorous assessment in further research.

The findings in this paper essentially show that while the aggregate standalone effect of firm internationalization is a decrease in leverage, this negative relationship in fact diminishes as financial markets become more advanced in developing countries. If only firm observations from the most financially developed countries in the dataset were used, the aggregate country effect would actually be positive. From a managerial perspective, the findings are notable. The inference can be made that internationalizing firms from developing countries face differing effects on optimal debt ratios depending on the level of home financial development.

Consequently, both international expansion and financing choices by managers should not overlook the importance of the home country development influence on the cost of long term debt financing. Not only can internationalization benefit firms through increased revenues, opportunities to spread risks, and the enhancement of shareholder value through the exploitation of economies of scope and the creation of efficient internal capital and labour markets (Purkayastha, Manolova, and Edelman, 2012), but it appears that they can also benefit from decreases in the costs of external debt capital. In fact, if the results of this investigation are confirmed in further research, it might support the assertion that certain developing country firms may benefit from relocating their company headquarters to, or at least establishing an administrative presence in, more highly advanced financial markets or financial hubs such as New York, London, Singapore, or Hong-Kong.

However, these findings apply specifically to managers of firms from developing countries that have sufficiently advanced banking sectors. Managers from developing countries with relatively less advanced financial markets should be weary of the fact that the cost advantages may be inaccessible for them. Agency costs may in fact increase as they expand internationally, instead resulting in a decrease in the optimal debt ratio.

Nevertheless, more research will need to be dedicated to this topic before a more comprehensive understanding of the mechanics behind the observed effects and their implications can be attained. Other variables that could impact the observed relationships should be addressed, and the methods should be replicated with different sample groups. Another avenue for further investigation would be to ascertain the separate contributions of the equity and debt components of capital to the changes witnessed in corporate leverage. In addition, this paper does not split the investigation into domestic and foreign denominated debt. A more detailed analysis of the findings could also be attained through separate analysis of the combined internationalization and financial development effect on the access to, and cost of, debt in the foreign and domestic debt markets respectively.

Furthermore, the assumptions made and theories formulated in this research should be exposed to rigorous testing. While this paper presents an introduction to the topic, the literature will need to be expanded before the true importance of the findings can be verified. Finally, the findings for the standalone effects of both internationalization and home country development on debt maturity in this paper suggest that the existing literature has not adequately investigated the implications for the different components of debt amongst developing country firms. Further research seems necessary to provide a more robust understanding of these relationships.

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APPENDIX

Table A Regression Table: Capital Expenditure (CAPEX)

	(1)		(2)		(3)	
Constant	0.125	***	0.124	***	0.122	***
	[0.041]		[0.042]		[0.041]	
GrowthOpp	0.006	***	0.005	***	0.006	***
	[0.001]		[0.001]		[0.001]	
Size	0		0		0	
	[0.000]		[0.000]		[0.000]	
CashFlow	0.093	***	0.089	***	0.091	***
	[0.005]		[0.005]		[0.005]	
LTDebt	-0.026	***	-0.04	***	-0.03	***
	[0.009]		[0.009]		[0.009]	
ForeignSales	0		0.004		0.002	
	[0.002]		[0.003]		[0.002]	
StockMkt	-0.004	***				
	[0.001]					
ForeignSales*StockMkt	0					
	[0.002]					
IntermDev			-0.009	***		
			[0.001]			
ForeignSales*IntermDev			0.005	**		
			[0.002]			
FinDev					-0.006	***
					[0.001]	
ForeignSales*FinDev					0.003	*
					[0.002]	
Adjusted R^2	0.105		0.113		0.108	
Observations	20625		20625		20625	

This table reports coefficient estimates for the regression of capital expenditure (*CAPEX*), which is measured as the ratio of capital expenditure to total property plant and equipment. Tobin's Q (the ratio of market value of assets to book value of assets) is used as a proxy for growth opportunities (*GrowthOpp*). The logarithm of total assets is used as a measure of firm *Size*. Firm cash flow (*CashFlow*) is defined as operating income divided by total assets. *LTDebt* is the long term leverage ratio which is calculated as (Long Term Debt)/(Total Debt + Market Value of Equity). Internationalization (*ForeignSales*) is proxied by the foreign-to-total sales ratio. *StockMkt* is the sum of three World Bank indices representing stock market development and *IntermDev* is the sum of two indices reflecting financial intermediary development. *FinDev* is the sum of *StockMkt* and *IntermDev*. The symbols *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.