THE EFFECT OF FINANCIAL FLEXIBILITY

ON CORPORATE FINANCIAL POLICIES AND PERFORMANCE:

CROSS-COUNTRY EVIDENCE

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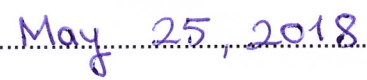Seda Erdoğan

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DECLARATION OF ORIGINALITY

I, Seda Erdoğan, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;

- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;

- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

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Date ....May 25, 2018..........

ABSTRACT

The Effect of Financial Flexibility on Corporate Financial Policies and Performance:

Cross-Country Evidence

The aim of this thesis is to investigate the impact of financial flexibility (FF) on investments and firm value with a comparative analysis between developed and developing countries, giving special emphasis to whether the impact of FF changes between different countries with different levels of development. Moreover, we also have the objective of comprehending the effect of asymmetric information on the association not only between FF and investment, but also between FF and firm value. Using a large database of 4,334 and 1,436 companies from developed and developing countries from Europe, respectively, for the time period between 2000 and 2016; we provide evidence that FF, achieved through conservative leverage policy, enhances the investment level of companies and also positively contributes to firm value. Furthermore, financial flexibility's impact on both investment and firm value is stronger for developing countries as compared to developed countries. Moreover, we also provide evidence that FF is more significant for companies with more information asymmetries, i.e. for smaller and younger companies and for companies in countries with less credit accessibility and poorer investor protection. On the other hand, using the 2008 global economic downturn as a natural experiment, we demonstrate that financial flexibility lets companies to lower the negative impact of economic downturn on investment. All in all, our results support the hypothesis that FF enhances companies' investment capability and surges firm value up and finally the impact of financial flexibility is stronger for companies with higher information asymmetries.

ÖZET

Finansal Esnekliğin Kurumsal Finansal Politikalar ve Performans Üzerinde Etkisi:

Ülkeler Arası Bulgular

Bu tezin amacı, finansal esnekliğin firma yatırımları ve firma değeri üzerindeki etkilerini gelişmiş ve gelişmekte olan ülkeler için karşılaştırmalı olarak incelemek ve finansal esneklik etkilerinin farklı kalkınma düzeyleri olan ülkeler için değişip değişmediğini ortaya koymaktır. Ayrıca, firmalardaki asitmetrik bilgi durumunun, finansal esneklik ile yatırım ve firma değeri arasındaki ilişkiyi nasıl etkilediğini anlamak da bu tezin amaçları arasındadır. Avrupa'da bulunan gelişmiş ülkelerden 4,334; gelişmekte olan ülkelerden ise 1,436 firmanın 2000 ile 2016 yılları arası için dahil edildiği bu ampirik çalışmada şu sonuca varılmıştır: Muhafazakar bir kaldıraç politikası yürüten firmalar, yatırımlarını önemli bir şekilde artırabilmektedir. Ayrıca bu politikaların firma değeri üzerinde de olumlu katkıları olmuştur. Öte yandan, finansal esnekliğin firma yatırımları ve firma değeri üzerindeki etkisi gelişmekte olan ülkelerde gelişmiş olan ülkelere göre çok daha yüksektir. Asitmetrik bilginin daha fazla olmasının beklendiği firmalar için (daha küçük ve daha genç firmalar, kredi erişilebilirliği ve yasal korumanın daha düşük olduğu ülkelerde yer alan firmalar) finansal esneklik çok daha önemli bir rol oynamaktadır. Son olarak, 2008 finansal krizi doğal bir deney olarak kullanılmış ve krizin yatırımlar üzerinde oluşturduğu olumsuz etkinin finansal esneklik sayesinde azaldığı ispat edilmiştir. Özetle, bu çalışma ile finansal esnekliğin, firmaların yatırım yapma kabiliyetini artırdığı ve firma değerine olumlu katkıları olduğu ve finansal esneklik etkilerinin asitmetrik bilginin daha fazla olduğu firmalar için daha önemli olduğu ispat edilmiştir.

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Yavas, C. V., & Erdogan, S. B. (2017). The Effect of Foreign Ownership on Firm Performance: Evidence from Emerging Market. *Australian Academy of Accounting and Finance Review*, 2(4), 363-371.

Nuhoglu, N.I., Parlak, D. & Erdogan, S. (under review). The Impact of Intellectual Capital on Financial Performance in Selected Emerging Markets. *Emerging Markets Finance and Trade (SSCI)*.

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To Sena Nur Erdoğan...

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ABBREVIATIONS

AR	Arellano-Bond
ASDI	Anti-Self-Dealing Index
CAI	Credit Access Index
CAPEX	Capital Expenditures
CAPM	Capital Asset Pricing Model
EBITDA	Earnings before interest, tax, depreciation and amortization
FF	Financial Flexibility
GMM	Generalized Method of Moments
M&M	Modigliani and Miller
MSCI	Morgan Stanley Capital International
NDTS	Non Debt Tax Shield
NPV	Net Present Value
POT	Pecking Order Theory
SDC	Spare Debt Capacity
SIC	Standard Industrial Classification
SME	Small Medium Enterprises
UK	United Kingdom
US	United States

CHAPTER 1

INTRODUCTION

In perfect capital markets, where there are no financing frictions, companies have the option of investing in all profitable projects, amending their financial standing to adjust to unanticipated events and in the meantime being able to capture growth opportunities. In such cases, there is no need for financial flexibility (FF). Nonetheless, when capital markets are imperfect and the associated costs of external financing rises, financial flexibility emerges as a significant concept. On the other hand, there is an ongoing puzzle in the capital structure literature such that companies, on average, issue a lesser amount of debt as compared to what the leading capital structure theories suggest, who ignore companies' need to preserve financial flexibility. This puzzle is attributable to the fact that companies choose to preserve financial flexibility as spare borrowing capacity (Marchica & Mura, 2009; Graham & Harvey, 2001; Gamba & Triantis, 2008; DeAngelo & DeAngelo, 2007; De Jong, Verbeek & Verwijmeren, 2012; Denis & McKeon, 2010). Hence, the concept of FF offers explanations for a number of "puzzles" elevated in the capital structure literature, suggesting that FF can constitute an essential "missing link" in attaching observed behavior of companies with what the existing capital structure theories propose.

Although there are many definitions of financial flexibility in the literature, the most famous one belongs to Gamba and Triantis (2008), who describes financial flexibility as "the ability of a firm to access and restructure its financing with low transaction costs." On the other hand, Graham and Harvey (2001) identify FF as "preserving debt capacity to make future expansions and acquisitions" or "minimizing

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interest obligations, so that they do not need to shrink their business in case of an economic down turn". Therefore, financial flexibility is about the capability of companies to handle unanticipated shocks to their cash flows and being able to undertake investments even when companies are obliged to sacrifice profitable growth opportunities as a result of information asymmetries or contracting issues.

Literature has shown that financial flexibility can be pursued through different ways, including adjustment of capital structure decisions, payout policies or cash management, and producing "an intertemporal dependence" between investment and financial decisions (Denis, 2011; Almedia, Campello & Weisbach, 2011). Despite the fact that financial flexibility could be attained through several ways, the results of surveys conducted at different settings in the world demonstrate that chief financial officers prioritize FF as the chief driver of leverage decisions (Brounen, De Jong & Koedijk, 2004; Bancel & Mittoo, 2004; Graham & Harvey, 2001). In line with this, our thesis takes into consideration financial flexibility achieved through conservative leverage policies. Companies may preserve conservative leverage policies to keep "substantial reserves of untapped borrowing power" (Modigliani & Miller, 1963), which lets them tap the capital markets in case of unanticipated downturns in their cash flows. Therefore, the value of having financial flexibility is about the capability of companies to respond to unpredicted shocks to their cash flows and to commence new investments.

Until recently, within financial decisions of corporations, financial flexibility examinations were not considered as a priority, mainly stemming from the fact that FF is not directly measurable and hard to quantify. Given the importance of the concept of financial flexibility, the main purpose of this thesis is to fill this gap. Our objective is to identify the companies in our sample as flexible or not, following which we aim to

comprehend the impact of FF on the investment level of companies and moreover on firm value. We also aim to understand the impact of asymmetric information on the association between FF and investment and firm value.

All countries that are listed as developed and developing by the Morgan Stanley Capital International (MSCI) country-classification index for Europe is taken into our sample, obtained from MSCI website (http://www.msci.com/market-classification). Consequently, our sample covers 15 developed and 6 developing countries from Europe, coinciding to 4,334, and 1,436 publicly quoted firms in total, who have a minimum of 4 years of observations in the 17-year time period between 2000 and 2016. Thanks to the availability of a large sample, the companies in our sample are heterogeneous and vary significantly in firm and country characteristics, including varying size, age and institutional settings.

Within the scope of this paper, we categorize firms as financially flexible based on the availability of Spare Debt Capacity (SDC). In line with the methodology adopted by Marchica and Mura (2010), we estimate a leverage equation with the inclusion of several factors that may impact leverage; so that estimated level of debt will be calculated, the residuals of which will be measuring the systematic deviation between observed and predicted leverage. According to Ferrando, Marchica and Mura (2017), "the demand for financial flexibility is indirectly captured by the negative deviations from estimated target leverage" and accordingly we categorize a company as FF if conservative leverage policy is sustained for three successive years (two, four and five successive years of SDC is also calculated for robustness purposes). Our findings suggest that while almost 31% of the companies in developed countries in our sample

have financial flexibility (FF3 -following three consecutive years of low leverage); only 16% of the companies in developing countries have flexibility.

Following the classification of the FF companies in our sample, as the next step we study whether financial flexibility has any effect on the companies' capability to invest. With the existence of market frictions, those companies who want to pursue growth opportunities in the future may choose to maintain conservative leverage for a few years, in order to have untapped borrowing power to be able to issue debt from the external capital markets, following which they can make their investments. In order to test this conjecture, an investment equation is estimated, which is augmented with an FF dummy and also an interaction term between the FF dummy and the cash flow of the company. We anticipate the FF dummy to significantly and positively affect the investment level of companies. Consistent with our expectations, while the effect of FF on investment is positive and significant in the range of 3%-5% (depending on which FF measure is used) for developed countries; that in developing countries is in the range of 5%-10%. The results display that the effect of financial flexibility on investments is stronger for firms in developing countries, than in developed countries, which is in line with our expectations, given the fact that capital markets in developing countries is relatively undeveloped, increasing the significance of FF for companies.

Having demonstrated the positive impact of financial flexibility on the investment ability of companies both in developed, as well as in developing countries; we examine whether information asymmetries affect the association between FF and investment. We test the hypothesis that FF is more appreciated by firms with higher information asymmetries and therefore higher external financing costs. Different sub-samples are created based on asymmetric information, proxied with firm and country

characteristics. In order to capture firm characteristics, while firm size and age are used to create sub-samples; for country characteristics, Credit Access Index (CAI) and Anti-Self-Dealing Index (ASDI) are used as proxies for credit accessibility and legal protection, respectively.[1]

For each sub-sample, the same investment model is used to run the regressions and as a consequent to this, the overall impact of financial flexibility on investment is compared between the different sub-samples. We anticipate the impact of FF to be stronger for small and young enterprises, because they face more information asymmetries and therefore try to circumvent external capital markets. Our findings are in line with our expectations. For a small company, while the impact of FF on investment is 7.8%; for a large company the impact is only 4.6% in developed countries. The results are even more striking in developing countries. The impact of FF on investment is 19.7% for small companies as opposed to the impact of 3.2% for large companies, which clearly demonstrate the effect of asymmetric information on the relation between FF and investment.

Moreover, we also expect firms with lower credit accessibility (below median CAI) and weaker legal protection (below median ASDI) to encounter higher information asymmetries and we hypothesize that financial flexibility will have a stronger effect on the investment level of firms in these countries. The results are in line with our expectations. The impact of FF on investment is 7.4% for companies with low credit

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[1] The sample is segregated into three parts based on the size of firms for each year and each country separately and they are classified according to firms' size distribution, as small, medium and large. Firms are also identified as young and mature through classifying them according to the median of the firms' age distribution for each country and each year separately. Finally, the sample is also partitioned into sub-samples based on below-median (above-median) CAI and ASDI.

access as opposed to the impact of 4.3% for companies with high credit access in developed countries. Moreover, the effect of FF on investment is 7.3% for companies with poor legal protection as compared to 4.6% for companies with high legal protection within developed countries. The findings obtained for developing countries are similar, but even more striking: the impact of FF on investment is 13% for companies with low credit access as compared to 2.8% for companies with high credit access. Finally, the effect of FF on investment is 12.2% for companies with poor legal protection, as opposed to 5% for companies with high legal protection.

We also analyze whether financial flexibility allows companies reduce the negative impact of economic downturns. We conjecture that thanks to the availability of spare debt capacity; flexible companies' investment will be less hurt and therefore decrease less as compared to the investments of non-flexible companies. The results demonstrate that during the 2008 economic depression; on average all companies invest less than the preceding four years. However, FF companies reduce their capital expenditures significantly less than non-flexible companies.

In the next step, we examine whether financial flexibility has an impact on firm value. FF companies are inclined to have easier access to external capital markets, as a consequent to which these companies can meet their funding needs born from unexpected shortfalls in their earnings and therefore they are able to avoid cases, which may result in poor performance and suboptimal investment (Arslan-Ayaydın, Florackis & Ozkan, 2014). Based on this evidence, it is argued that FF companies should have a premium firm value. Hence, we hypothesize that FF will have a positive impact on the value of companies.

The results of the firm value model in our analysis demonstrate that FF positively and significantly affects the value of firms in the range of 5-6% in developed countries and in the range of 10-12% in developing countries. Our results show that the impact of financial flexibility on firm value is higher for developing countries, which is in line with our expectations.

The effect of asymmetric information on the relation between financial flexibility and value of companies is also examined. Our findings suggest that the impact of FF on firm value is stronger for small and young companies and moreover for companies based in countries with lower credit accessibility and poorer legal protection, i.e. companies with higher information asymmetries, which are in line with our anticipations.

With this paper, we aim to contribute to the growing literature on FF in several ways. To the best of our knowledge, we are the first to analyze the significance of FF for a very large sample encompassing both developed and developing countries at the same time from Europe. Moreover, this is the first study to make a comparison between the effects of Financial Flexibility on different countries with different levels of development, i.e. developed countries versus developing countries. Moreover, this is the first study, which analyzed the impact of asymmetric information on the relationship between financial flexibility and firm value, with information asymmetries being proxied with firm and country characteristics, taking into consideration firm size and age as firm characteristics and credit accessibility and legal protection as country characteristics. Finally, this is the first study to analyze the impact of FF on investments during the economic crisis, conducting a comparative analysis between developed and developing countries.

The remainder of the thesis is arranged as follows. In Chapter 2, we present the related literature on the topic, touching upon the main theories on capital structure and also providing empirical evidence on the topic. In Chapter 3, we describe the sample and data and moreover present the methodology that will be used throughout the thesis; and also identifying financially flexible firms. The impact of FF on investment level and the effect of asymmetric information on this relationship, followed by an examination of FF in financial crisis periods will be discussed in Chapter 4. Furthermore, the impact of financial flexibility on value of companies and the associated effect of asymmetric information on this relationship will be discussed in Chapter 5, followed by our conclusions in Chapter 6.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a survey of previous literature on Financial Flexibility, starting with how it emerged as a significant concept in the corporate finance literature, followed by the definition and various sources and measurement techniques of Financial Flexibility. In the final section of the literature review empirical studies on the association between Financial Flexibility and investment and firm value will be discussed for the developed as well as developing countries.

2.1 Overview of main theories on capital structure

In this section, main theories on capital structure will be analyzed, touching upon influential theories like the Irrelevance Theory, Trade-off theory and Pecking Order Theory; which will construct the basis for the puzzle in capital structure literature.

2.1.1 Modigliani and Miller's (1958 & 1961) irrelevance theory

The conventional theoretical literature on corporate finance, for which the question of how to optimally finance firms has been a very significant one, begins with Modigliani and Miller (1958), where they set forth the irrelevance theorem, arguing that "in perfect capital markets a firm's capital structure, i.e. debt-to-equity mix choice, has no effect on firm value". In their second paper, Modigliani and Miller (1961) continue to emphasize the perfect capital markets' case, where it is possible for corporations to invest at the first available option. In perfect capital markets, there are no financing frictions, as a result of which firms have ample financial flexibility, such that their financial structure

can be altered to encounter unanticipated needs at no cost and consequently firms are always able to invest in all cash generating projects, no matter what their cash flow levels are. Hence, with the assumption of capital markets being perfect, there is no need for financial flexibility.

Since then, researchers have focused to a great extent on capital market imperfections and its effect on optimal capital structure decisions. It is essential to note that "financial flexibility" emerges as a significant concept only in the existence of financing frictions, which is a capital market imperfection, since companies in imperfect capital markets are inhibited from realizing all projects with positive Net Present Values (NPV). Therefore the significance of financial flexibility is motivated by the frictions present in the market related to raising external capital. (Almedia, Campello & Weisbach, 2011) With the presence of financing frictions, firms may be inhibited from commencing valuable projects. These frictions build a linkage between the capital structure choices firms make today and its ability to address cash flow and investment shocks in the future. Hence, taking into consideration the fact that financial frictions is a reality of life, it is extremely significant for firms to give financial decisions in which some amount of flexibility is reserved with the purpose of responding to unpredicted shocks to their capital funds.

Following the irrelevance theorem proposed by Modigliani and Miller (1961), recent capital structure literature is dominated by two classical theories: Pecking Order and Trade-off theories, which attempt to describe how firms choose and readjust their debt-equity mix. It is essential to note that, "there is no universal theory of debt / equity choice; however, there are several useful conditional theories" (Myers, 2001), which may change in their emphasis on features that may influence the choice between debt or

equity, such as personal and corporate taxes, distress and bankruptcy risk and the agency and asymmetric information problems.

2.1.2   Trade-off theory

With the corporate income tax codes being present in most market economies, debt financing results in a tax advantage over equity financing stemming from the tax deductibility of interest costs of debt.

In their further paper dated 1963, Modigliani and Miller (M&M), who hold all the M&M's (1958) assumptions constant except for corporate income taxation, claim that firms would favor debt over equity as long as tax obligations are reduced due to interest payments suggesting the trade-off theory. According to trade-off theory, through trading off the benefits of debt with associated costs that are born, firms reach an optimal level of debt-equity balance. According to this theory, the higher the amount of outstanding debt, the greater the tax advantage.

Notwithstanding this, increasing the firm's leverage results in the upsurge in its probability of default, yielding higher expected bankruptcy costs. Therefore, while the key advantage of debt is interest deductibility born from taxes (Modigliani & Miller, 1963), the major costs stem from not only financial distress, but also personal tax expense, which is acquired by bondholders when they receive interest income (Miller, 1977).

Despite the proposition set forth by the trade-off theory, empirical analysis demonstrate that companies, who finance their balance sheet with a hundred-percent debt is scarce (Frank and Goyal, 2008; Graham and Leary, 2011). This empirical result can be explained by the findings of Kraus and Litzenberger (1973). It is argued that

optimum leverage stands at a point, where there is trade-off between the tax advantages of borrowing and the surge up in bankruptcy costs, which is an inherent result of increased levels of debt. Miller (1977), on the other hand, states that bankruptcy costs are trivial relative to the tax incentive born, to maintain high leverage ratios. On the other hand, Myers (1984) argues that a target debt ratio is set by firms and they steadily alter their leverage position to reach this target debt ratio. Furthermore, it is empirically demonstrated that the capital structure of a substantial proportion of U.S. publicly quoted companies have considerable amounts of equity. (Graham, 2000) Debt conservatism is a very persistent concept, which is observed across industries and countries (Frank & Goyal, 2008). In order to address the shortcomings of the trade-off theory, it is proposed to focus on dynamics models, wherein financial frictions, i.e. frictions in real investment should be captured.

In contrast to the static version of the trade-off theory, which has the prediction that firms adjust instantaneously and costlessly to their observed optimal leverage ratios, the dynamic trade-off theory predicts that companies alter their financial leverage ratios over time. Fisher, Heinkel and Zechner (1989), Fama and French (2002) and Leary and Roberts (2005), empirically demonstrate that firms engage in a dynamic rebalancing of their capital structures towards their preferred levels of financial leverage.

Notwithstanding the significance of the ideas proposed with the trade-off theory; with the empirical studies conducted on this topic, trade-off theory received a lot of criticism. "Trade-off models of capital structure are being criticized because they do a poor job in explaining observed debt ratios" (Denis & McKeon, 2012). For instance, traditional trade-off models come short in clarifying why companies have the tendency to issue stock following exogenous declines in the level of leverage (Baker & Wurgler,

2002; Welch, 2004; Fama & French, 2005); why the association between debt ratios and profitability is negative (Strebulaev, 2007) and why companies appear to waive possibly large interest tax shields (Graham, 2000).

Furthermore, DeAngelo and DeAngelo (2007) state that empirical studies conducted following the proposal of the trade-off theory demonstrate that this theory cannot explain several phenomena such as:

i.   Following large stock price rises, why firms do not tend to "lever up"

ii.   Why many profit making companies maintain low leverage, hence not benefiting from interest tax shields, which is obtainable with relatively minor bankruptcy risk

iii.   Why it is challenging to reach leverage rebalancing and when it is reached, why it comes with a delay, which cannot be explained by adjustment costs.

In a nutshell, tax/distress cost Trade-off Theory ignores the significance of financial flexibility, which ultimately leads it to empirically underperform.

2.1.3   Pecking order theory

On the contrary, the only capital structure theory to recognize the value of FF is Myers and Majluf's (1984) Pecking Order Theory (POT). POT makes the assumption that companies do not have a target level of leverage, but alternatively obtain external borrowing whenever internal sources are exhausted. This theory assumes that companies want to preserve "financial slack" with the purpose of circumventing the necessity for external borrowing. External financing is less desired according to Pecking Order theory, because informational asymmetries exist between the different parties of a firm including management and investors and based on the degree of asymmetry between

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these parties, external funds are undervalued. (Myers, 1984; Myers & Majluf, 1984)

Consequently, if companies decide to get external borrowings, they initially choose to utilize debt, following which convertible securities and finally equity is preferred as a last resort.

Myers and Majluf (1984) argue that, within the scope of asymmetric information, managers, who make decisions within the interests of the existing shareholders, tend to avoid issuing equity when the share price of the firm is below its fair value. As a consequent to this, provided that there is an issue of equity, the "market rationally discounts the price of the issuing firm's shares, which can lead the firm to underinvest relative to first-best levels" (Daniel, Denis & Naveen, 2010).

Despite the fact that it is one of the dominant capital structure theories, Pecking Order Theory also has serious empirical shortcomings (DeAngelo & DeAngelo, 2007). POT has several restraining assumptions, as a result of which its focus is constrained and hence a significant examination of the effect of FF on financial strategies of companies cannot be accomplished. DeAngelo and DeAngelo (2007) perceives Pecking Order Theory as inadequate, mainly because:

i.   POT concentrates on a "one-shot" decision given for financing, ruling out the inter-temporal trade-offs, which are vital in the debt usage process for firms.

ii. POT makes the assumption that when there is a security issuance, due to asymmetric information, managers are self-interested. However agency costs are born from asymmetric information, as a result of which managers take advantage at the expense of outside stockholders by means of over-reserving the possessions of their firms.

iii.　It also assumes away the significant impact of corporate taxes not only on the firm's optimum cash balances, but also on total borrowings.

iv.　POT disregards the intrinsic connection between capital structure and firms' payout policies that are known to have significant consequences for guiding how corporations compile, maintain and use financial flexibility.

Moreover, Fama and French (2005) also state that Pecking Order theory is "dead" as one of the prominent theories of capital structure, stemming from the fact that it cannot explain why equity issues are a common practice for most firms and are not necessarily the last option for financing. (Graham, 2000; Minton & Wruck, 2001; Mura & Marchica, 2010)

In a nutshell, classical theories of capital structure do not describe certain aspects of firms' financial behavior, including

i.　Why profitable firms keep their borrowing levels low;

ii.　Why is it common for firms to use equity issuance and why it is not the last option for financing (Graham, 2000; Fama & French, 2005) and

iii.　Why do companies choose to use significant shares of their borrowing capacity and become under-levered regarding the classical trade-off theory?

2.1.4　Puzzle in capital structure literature

Companies, on average, issue a lesser amount of debt as compared to what the leading capital structure theories suggest, which constitutes a puzzle in the finance literature. This puzzle is attributable to the fact that companies choose to preserve financial flexibility as spare borrowing capacity (Marchica & Mura, 2009; Graham & Harvey, 2001; DeAngelo & DeAngelo, 2007; De Jong et al., 2012; Denis & McKeon, 2012;

Gamba & Triantis, 2008). Researchers argue that companies keep spare debt capacity on purpose in order to draw funds from low-cost sources of external financing as a result of which they will not be obliged to issue shares at unattractive prices.

Byoun (2011) argues that "the financial flexibility framework provides explanations for several capital structure puzzles raised in the literature, suggesting that financial flexibility can be an important missing link in existing capital structure theories."

Despite the fact that all around the world managers perceive Financial Flexibility as the most significant contributing factor to financial policies (Graham & Harvey, 2001), "the capital structure literature has remained relatively distant to recognize and incorporate financial flexibility" (Byoun, 2007). Researchers have not given enough attention to FF in the academic literature, which might offer an answer for the well-known debt conservatism puzzle (Killi, Rapp & Schmid, 2011).

Traditional capital structure theories are grounded on asymmetric information and advantages and disadvantages of financing through borrowing. Nonetheless, they tend not to account for managers' desire to retain FF. (Brounen et al., 2004; Graham & Harvey, 2001; Bancel & Mittoo, 2004) According to Fama and French (2005), the empirical corporate finance literature has focused on the pecking order and trade-off theories in the last decades; and now there is no empirically sustainable capital structure theory. (DeAngelo & DeAngelo, 2007)

DeAngelo and DeAngelo (2007) fill this gap through developing a theory on capital structure, which focuses on the significance of FF. DeAngelo and DeAngelo (2007) expect that managers construct, keep and reconstruct their debt capacities in "normal" times in order to let themselves obtain debt in "abnormal" times to encounter

unexpected capital requirements. They provide evidence that firms' financial decisions are influenced and made with the need to maintain financial flexibility. They state that the necessity to keep financial flexibility derives firms' financial decisions, concluding that FF is the critical missing link in attaching observed behavior of companies with the capital structure theory.

DeAngelo and DeAngelo (2007) discuss that traditional capital structure theories do not distinguish the inter-temporal requirements in the firm's financial decisions, stemming from the fact that "managers will select ex-ante financial policies that provide the ex-post flexibility to access capital markets" (DeAngelo & DeAngelo, 2007). The authors work on a capital structure model, which is inter-temporal; incorporating factors from not only the trade-off and pecking order theories, but also takes agency costs into consideration related to managers' possible misallocations of cash flows (Jensen, 1986). The model developed by DeAngelo and DeAngelo (2007) demonstrates that companies preserve their long-run borrowing levels low in order to improve their financial flexibility and mature firms prefer to maintain smaller amounts of cash and prefer to distribute regular dividends in order to promote access to external capital markets. DeAngelo and DeAngelo (2007) take into consideration not only leverage, but also cash and equivalents to describe financial flexibility and claim that low debt levels together with modest cash holdings and high dividend disbursements establish an optimum financial flexibility policy.

Through developing the inferences of the inherent inter-temporal trade-offs in the use of FF, DeAngelo and DeAngelo (2007) proposes a theory that integrates an unknown form of "leverage-related costs", which is why it creates predictions that are

both different and empirically more descriptive than the capital structure estimations of not only pecking order theory, but also trade-off theories.

It is claimed by DeAngelo and DeAngelo (2007) that companies should optimally preserve low borrowing rates in most periods to be able to maintain the possibility of borrowing in times where the requirement for capital needs is high. Furthermore, DeAngelo, DeAngelo and Whited (2011), with whom these ideas are more formally structured, argue that there is a necessity for financial flexibility to be able to circumvent underinvestment, which is costly; stating that transitory debt issues are a significant source of FF.

Within the scope of financial flexibility, firms should make the assumption that borrowing capacity is limited, stemming from the fact that there are financial distress costs or outside creditors are incapable of precisely understanding the company's potential to serve its debt obligations, as a result of which a certain portion of borrowing capacity should be maintained for the future. Hence, in addition to Modigliani and Miller's (1963) tax-related benefits of borrowing, liabilities' side should also take into consideration the company's necessity to continue being FF. Therefore, value-maximizing leverage should be in such an equilibrium that would balance the company's tax benefits from borrowing with not only distress costs that would be born from the increased probability of bankruptcy, but also against the opportunity cost of issuing debt now rather than maintaining the choice of debt issuance later (DeAngelo et al., 2011). It is also concluded by DeAngelo and DeAngelo (2007) that it is the aspiration to preserve FF that determines companies' financial policies.

2.2   Financial flexibility

Financial Flexibility (FF) is considered as a general concept; however, to be specific it means the "ability of a firm to access and restructure its' financing at a low cost" (Gamba & Triantis, 2008). Within this scope, there are mainly two ways through which financial flexibility becomes significant for companies. First, FF companies have the capability to evade financial distress in a negative shock situation, avoiding costs associated with financial distress. Second, they can fund investments when profitable opportunities arise, mitigating underinvestment complications, where access to capital is restricted. All in all, FF is appreciated by companies because FF mitigates underinvestment born from absence of financial opportunities and furthermore circumvents financial distress.

Given the significance of the concept, FF has been defined differently by different researchers in literature, the most significant of which are listed here: Heath (1978) describes a firm as financially flexible if it can take remedial action, which will remove an "excess of required cash payments over expected cash receipts quickly and with minor adverse effect on its present and future earnings or on the market value of its stock". Furthermore, "the American Institute of Certified Public Accountants (AICPA, 1993) adopts Heath's view by defining FF as the ability to take action that will eliminate an excess of required and expected cash payments over expected resources" (Byoun, 2007). On the other hand, "the Financial Accounting Standards Board (FASB) defines FF as the ability of an entity to take effective actions to alter amounts and timing of cash flows so it can respond to unexpected needs and opportunities" (Byoun, 2007).

Furthermore, FF is described by Byoun (2007) himself as "the degree of capacity and speed at which the firm can mobilize its financial resources in order to take reactive,

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preventive and exploitive actions to maximize the firm value". In his further paper in 2011, Byoun expresses FF as a "firm's capacity to mobilize its financial resources in response to uncertain future contingencies".

The common point about the various definitions of financial flexibility presented in the literature is that it is about the capability of a company to encounter its anticipated and unanticipated future requirements by various means including not only cash flow, but also unused borrowing capabilities and liquid assets. Based on the generally accepted definition of FF, establishing risk management and following investment prospects are the main driving determinants for FF.

The terms "Spare Debt Capacity" and "Financial Flexibility" (FF) are sometimes used interchangeably, however it is essential to note that SDC is a general concept, also with various definitions. In its broadest meaning, it constitutes a portion of the financial slack, i.e. share of a company's capital, which is uncommitted. Donaldson (1984, p.158) states that "this slack takes many forms, including the purely financial ones, liquid reserves and unused debt capacity". On the other hand, unused debt capacity could rise from not only lines of credit that are committed or uncommitted, but also from bank borrowings, which are significantly below the prudent level of bank debt set by the company's management bankers and external creditors. Notwithstanding the definitions, SDC and unused borrowing capacity will be used interchangeably within this thesis.

In line with the above, literature differentiates FF from financial slack. Financial slack is desired by those companies that face an adverse selection problem to be able to circumvent the necessity for external financing in the future, whereas with the purpose of handling variations and uncertainties both within the internal as well as within external environments FF is expected. (Byoun, 2007)

The main reason for firms to request financial flexibility is to deal with future financial needs. Particularly, managers make current financing and cash holding decisions, which are directed toward addressing their future financing requirements. (Byoun, 2016) Since there is an interplay between the variables, optimal financial decisions from a static viewpoint are no longer optimal. Therefore, from a financial flexibility viewpoint, the costs of leverage and also the benefits of cash holdings should capture the opportunity costs of consequent future inability or ability, respectively; to benefit from investment opportunities and furthermore to cope with future possibilities.

2.2.1   Measurement and sources of financial flexibility

A significant task for researchers is to quantify the company's level of FF because it is not directly observable and it is hard to quantify. Moreover, a company can create FF through various sources. Due to these reasons, different researchers have used different sources and measurement techniques to quantify FF, the most important of which is explained below, with a discussion on the advantages and disadvantages of using that source as a means to measure FF.

FF is defined by some researchers as "untapped borrowing power" and consequently "low leverage" is used as a substitute for FF to analyze its effects on financial decisions concerning capital structure and investment (Marchica & Mura, 2009). Notwithstanding this, taking "low leverage" as a substitute for FF may have some flaws, because corporate finance literature also proposes that companies may improve their flexibility through many sources, such as commercial paper (Kahl et al., 2008), bank lines of credit (Sufi, 2009) and cash holdings (Almeida & Campello, 2007),

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creating conflicting results. Hence it is essential that different sources of FF should be taken into consideration when measuring FF.

In theory, firms have many ways to create FF, which would let the company manage the shortage in cash without making it obligatory to reduce their dividends or investment opportunities. Firms may obtain FF through the "management of corporate liquidity, capital structure policies and payout policies". (Denis, 2011) There are several studies arguing that companies with high variability in cash flow and greater costs of external finance preserve higher levels of cash. (Kim, Mauer & Sherman, 1998; Harford, 1999) If this is the case, a firm that has a cash shortfall would potentially circumvent cutting dividends, as well as investments through temporarily decreasing its cash balances. Nonetheless, DeAngelo and DeAngelo (2007) claim that preserving high levels of cash is a controversial issue since it may lead to increased agency costs.

Sale of assets also constitute another possible source of financial flexibility. In theory, a company, who is having difficulty in meeting its dividend and investment levels, could avoid the cash shortfall through sale of assets; however, if the assets of the company are illiquid, this possibility can become prohibitively costly (Shleifer & Vishny, 1992).

On the other hand, a common method in former literature is to take cash holdings as a means to proxy FF, since cushion is offered by cash for unanticipated cash outflows (Gamba & Triantis, 2008; Faulkender & Wang, 2006). Notwithstanding this, "cash holdings provide rather short term than long term liquidity and are often insufficient for large investment projects" (Hess & Immenkotter, 2014). As cash gets to be piled up, there is also a side effect regarding agency problems, which is born due to the shareholders' restricted monitoring capability towards the usage of funds (Jensen, 1986).

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Hess and Immenkotter (2014) demonstrate that companies utilize unused borrowing capacities to be FF and therefore avoid the potential agency problems that could arise with increasing cash holdings.

Furthermore, the debt capacity of a company is considered as the critical debt ratio by Hess and Immenkotter (2014), which would cause a downgrade in the firm's creditworthiness if the debt level of the company exceeds that critical debt ratio. According to Hess and Immenkotter (2014), debt capacity is a significant concept that is different from the previous definitions, because the critical debt ratio should not be up to the amount where it will terminate the sustainability of the company. Hess and Immenkotter (2014) argue that companies with higher unused borrowing capacities can realize a bigger portion of their investments, issue debt more often and in higher volumes. On the other hand, those companies that no longer have any debt capacity, prefer to do equity issuance to pay back their debt obligations in case of having financial surplus. In a nutshell, maintaining FF means a company issues debt if it has sufficiently large unused borrowing capacity, while on the other hand, a company would prefer to pay down debt with the purpose of restoring unused debt capacities if it has financial surplus, so that it will gain back the financial flexibility for future times (Hess & Immenkotter, 2014). Within this scope, the ultimate purpose of a company is not to finish its debt capability altogether, however instead preserve a "buffer", to make sure that the leverage ratio does not exceed its debt capacity.

In line with the above, Daniel et al. (2010) also argue that for firms, which are faced with cash flow shortfalls, the main source of FF is debt capacity, while other possible flexibility sources are insignificant, supporting the view of Marchica and Mura (2010) in calculating financial flexibility through measuring unused debt capacity.

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Daniel et al. (2010) argue that a company could keep its FF through maintaining unused borrowing capacity. The results of Daniel et al. (2010) show that for those firms, which lack liquidity, only a modest percentage of the deficit in cash is financed by the draw down in cash reserves, while on the other hand the main portion of the fall in cash is funded through borrowing. In a nutshell, Daniel et al. (2010) argue that FF in the form of debt capacity constitutes a substantial cushion in between cash shortfalls and investment cuts. They empirically demonstrate that for a given deficit, "dividend payers with greater financial flexibility have lower investment cutbacks than do firms with less financial flexibility". The results of Daniel et al. (2010) also back up the argument set forth by DeAngelo and DeAngelo (2007) such that firms with ideal financial policies, prefer to preserve borrowing capacity, which can be used to lessen any potential deficits in cash flows. DeAngelo and DeAngelo (2007) state that companies should preserve low borrowing levels in order to maintain the capability to issue debt when there is an unexpected capital requirement. Hence, a company faced with a cash deficit could choose to borrow in order to continue distributing dividends and realizing their investments. On the other hand, Daniel et al. (2010) show that other means like issuing equity, reducing cash levels and selling assets deliver only little flexibility.

Unused debt capacity is perceived as the basis for Financial Flexibility also by Denis and McKeon (2012) and DeAngelo et al. (2011), stemming from the fact that, it is possible for a company to access external capital markets easily only if there is adequate unused debt capacity. On the other hand, DeAngelo et al. (2011) formalize this notion, wherein "debt functions as a transitory finance source when firms face shortfalls due to random shocks to their investment opportunity set". The increases in transitory debt permits the company to commence unanticipated investment prospects, while following

surpluses in cash are used to decrease borrowings. As a consequent to this discussion, Daniel et al. (2010) argue that the chief source of FF is debt capacity.

Based on the discussion above, it is observed that different authors have analyzed different sources of FF and therefore have used different measurement techniques to quantify FF, noting the associated flaws of the different techniques used. Nonetheless, there is a general consensus especially in the recent empirical studies conducted in corporate finance literature that, taking "unused debt capacity" to proxy for FF is the most significant one, which brings together different sources of FF.

2.2.2   Significance of financial flexibility

Chief Financial Officers around the globe perceive Financial Flexibility as the single most significant determinant of financial policies. The first researchers to discuss FF as a factor affecting capital structure decisions are Graham and Harvey (2001), who conducted a survey with CFOs of U.S. firms. According to Graham and Harvey (2001), FF is identified as the key component of companies' capital structure decisions by the corporate managers in US. The respondents of the survey indicate that preserving FF through keeping a substantial amount of borrowing capacity, is the single most vital determinant for the managers while issuing additional bank debt. In line with this, Brounen et al. (2006) and Bancel and Mittoo (2004) also confirm the same result in similar surveys conducted with European managers from 16 countries. The results of these surveys signal that firms are willing to relinquish tax advantages through maintaining low levels of debt than what the classical trade-off theories anticipate with the ultimate purpose of keeping borrowing capacity for obtaining bank debt in the future. On the other hand, according to Denis (2011), FF – the ability to circumvent

financial distress and underinvestment- is a major concern for managers; confirming the findings of the surveys stated above.

Gamba and Triantis (2008) study the impact of FF on the value of companies in a theoretical model capturing "dynamic financing, investment and cash retention / payout policies" with the assumption of no agency costs. They state that there are a number of factors on which the value of FF depends on, including the "cost of external financing, the tax rate for cash-in-hand, the firm's growth potential and maturity, as well as the reversibility of capital". The model presented by Gamba and Triantis (2008) demonstrates that companies with high FF levels should possess a premium value as compared to less flexible firms.

Despite its significance as stated above, there is relatively little empirical evidence on Financial Flexibility, mainly stemming from the fact that the value of FF for companies is not directly observable (Rapp, Schmid & Urban, 2014) and it is difficult to quantify. Nevertheless, the empirical studies conducted on this topic is analyzed in the next section:

2.3   Empirical evidence on financial flexibility

The main findings of empirical studies on Financial Flexibility and how it effects the investment level of firms and firm value are summarized in Appendix A. In the next two sections, the details of the empirical studies for developed and developing countries are presented, respectively.

2.3.1   Empirical evidence on developed countries

Despite the fact that the financial flexibility notion has emerged long ago, flexibility

contemplations have not received utmost importance as a potential determinant of

financial policies until recently (Denis, 2011), which is mainly attributable to the fact

that the value of FF cannot be observed directly. Therefore, empirical analysis on FF of

companies in developed countries is scarce (De Jong et al., 2012; Marchica & Mura,

2010; Rapp et al., 2014). Despite the fact that there are only a few papers conducted on

the topic for the developed countries, the common point about the empirical studies is

that FF plays a significant role in capital structure decisions and moreover it has a

positive impact on the investment levels of companies.

Byoun (2008) is one of the first researchers, who analyzed empirically the effect

of FF on capital structure choices for US firms. Byoun (2008) categorizes firms

according to where they stand in their own financial life cycle (i.e. "development,

growth and maturity stage") and asserts the "financial flexibility hypothesis"; arguing

that firms that are in their development stages need FF the most, therefore these

companies tend to issue equity more, keeping their leverage low. On the other hand,

growth stage firms tend to issue debt, resulting in leverage ratios to be high, and finally

mature companies rely on their own internal equity and maintain moderate leverage

ratios. Based on these findings, Byoun (2008) asserts that "an inverted U-relationship

exists between the financial life cycle of a firm and its leverage ratio".

Under the financial flexibility view proposed by Killi et al. (2011), theoretically

optimal debt level depends on the necessity for future financial flexibility in addition to

tax benefits and bankruptcy costs. Future financial flexibility makes sure that firms can

raise additional debt in the future. Killi et al. (2011) argue that firms balance tax

advantages born from increased debt levels against bankruptcy costs and contemporaneously firms also consider the advantages of FF to find the optimum debt ratio. They state that corporations take into consideration financial flexibility, as a result of which they build long-term target debt ratios. Killi et al. (2011) analyze 17 European countries. The findings of Killi et al. (2011) reveal that the need to maintain FF in the form of borrowing capacity is a significant yet largely ignored capital structure determinant. Killi et al. (2011) find empirical evidence that companies do not only balance tax advantages born from issuing debt against distress costs of bankruptcy, but also against the opportunity to keep debt capacity for the future. They conclude that debt conservatism can be observed as a firm's optimum reply to make sure that the firm is financially flexible rather than as having irrational behavior.

In their model, DeAngelo et al. (2011) demonstrate that unused debt capacity, which shows itself as FF, has a substantial impact in the dynamics for firm capital structure decisions in the US. What differentiates their idea from the rest of the other representations of capital structure is the existence of inter-temporal reliance in financing policies. DeAngelo et al. (2011) argue that if a firm borrows in the present time, there is an opportunity cost attached to it which is related to the possible incapability of issuing debt in the upcoming times. Hence, optimum financial policies given ex-ante let the company to sustain accessibility to the external sources ex-post in cases of unanticipated falls in earnings or potential positive NPV investment prospects.

Furthermore, Denis and McKeon (2012) also agree with the capital structure findings of DeAngelo et al. (2011). Denis and McKeon (2012) provide empirical evidence that FF in the sense of unused borrowing capacity has a significant role in the capital structure dynamics of the US firms. The findings of Denis and McKeon (2011)

also demonstrate that transitory debt is a significant base of FF and for the large borrowing increases within the publicly quoted companies in the US; long term investment is identified as the main purpose. The analysis conducted by Denis and McKeon (2011) show that large leverage increases represent proactive actions that take the company away from target leverage ratios, which are long-run in order to fund investment and operating necessities.

Marchica and Mura (2010) conducted one of the milestone studies of Financial Flexibility, examining companies from United Kingdom and argued that FF companies show better investment capability. Marchica and Mura (2010) state that "a conservative leverage policy directed at maintaining financial flexibility can enhance investment ability". Their findings indicate that, if unused borrowing capacity is maintained by an average company, it will be able to escalate its investment level by 37%, financing the new capital expenditures with debt issuance. Furthermore, Marchica and Mura (2010) also argue that FF companies realize more and better investments than the non-flexible companies. For the first time, Marchica and Mura (2010) provide direct evidence on the value of FF to companies through investigating the effect this strategy has on firms' long-run performance and ability to invest. It is also concluded by Marchica and Mura (2010) that "financial flexibility in the form of untapped borrowing power is a crucial missing link in capital structure theory", demonstrating that the results obtained by Marchica and Mura (2010) are similar to the findings of DeAngelo et al. (2011).

Ferrando et al. (2017) who enhance the findings of Marchica and Mura (2010); also obtain a similar conclusion after analyzing nine European countries. Ferrando et al. (2017) use a company's unused borrowing capacity to measure FF and their results indicate that FF augments the investment capability of the firms in Europe. Ferrando et

al. (2017) also continue their analysis through studying the notion that the value of FF changes based on the level of financing frictions companies are faced with. They provide proof that companies that have become financially flexible following low levels of leverage can augment their investment levels more as compared to non-flexible firms even within financial crisis periods. Furthermore, Ferrando et al. (2017) also argue that "firms in countries with poorer legal protections and less developed capital markets are more likely to benefit from pursuing financial flexibility through a conservative leverage strategy". Ferrando et al. (2017) conclude that not only FF is valued more by smaller, younger and private companies; but also by firms domiciled in countries, where legal protections are poor and in countries, where capital markets are relatively less developed; are more likely to take advantage from preserving low leverage in order to become financially flexible. Ferrando et al. (2017) also argue that those firms that kept spare borrowing capacity for a certain time period through a conservative leverage policy before the economic downturns can issue debt, and therefore they are able to commence positive NPV projects despite a deteriorated macroeconomic outlook.

On the other hand, De Jong et al. (2012) study companies' FF, through focusing on whether companies keep an unused level of borrowing capacity in order to decrease alterations in investment levels in the future for companies in the US. They measure FF through a company's unused borrowing capacity, which is approximated as the minimum leverage, which would result with a drop in a company's credit rating down to a grade that is considered as speculative. FF is measured as the variation between what companies are able to issue debt at interest rates used for investment-grade companies and how much the company has actually borrowed. The approximation of the level of borrowing that can be realized by companies is done through "the marginal debt ratio"

(De Jong et al., 2012), what would result as a drop in investment grade rating for a company. Their findings show that companies with high unused borrowing capacity tend to have higher investment levels in the following years as compared to companies with relatively less unused borrowing capacity. The empirical analysis of De Jong et al. (2012) also demonstrate that companies, which are careful when issuing debt in unrestricted times are capable of issuing debt in restricted times. In line with the conclusions drawn by Marchica and Mura (2010) and Ferrando et al. (2014); De Jong et al. (2012) also conclude that for companies in US, the investment level of companies with spare borrowing capacity is significantly higher than companies with low spare borrowing capacity.

On the other hand, Rapp et al. (2014) proposed an alternative method to quantify the value of FF, capturing a forward looking and market-funded approach, which is not directly affected by financial decisions taken in the past. In their study, analyzing US firms, they argue that those companies, which give more significance to FF, tend to result in dividend distributions, which are lower and moreover these companies favor share repurchases to dividends and result with debt ratios, which are lower, in addition to accumulating more cash, providing evidence that FF should be taken into consideration in giving corporate finance decisions.

2.3.2   Empirical evidence on developing countries

For developing countries, external financing decisions constitute a major challenge for firms, mainly because capital markets are relatively underdeveloped (Yung, Li and Jian, 2015) as compared to the developed countries' capital markets. The primary reason that impacts companies looking for funding from external sources in developing countries is

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the existence of highly volatile capital flows (Agosin & Huaita, 2012; Bekaert & Harvey, 2003; Demir, 2009). It is empirically shown that capital flows which are volatile refrain not only the sources of capital, but also the availability of bank debt in developing markets (Guo & Stepanyan, 2011). There are several studies conducted on this topic, demonstrating that in economic downturns accompanied by cash flows, which are volatile, capital investments of companies are significantly and negatively affected in emerging countries (Demir, 2009). On the other hand, a large stream of literature underlines the catastrophic impact of economic downturn on capital in Mexico in 1995, Asia in 1997 and Russia in 1998. (Claessens, Demirgüc-Kunt & Huizinga, 2001). Exogenous shocks can be damaging for not only companies' sustainability and profitability, but also its' cash flows, usually decreasing investment opportunities' expected return. At the same time, exogenous shocks also tend to create prospects for companies, who have the capability to do investments (Mitton, 2002; Byoun & Xu, 2011). Therefore the search for FF is extremely significant in decisions regarding corporate finance, especially for firms domiciled in developing countries.

Despite its' significance, empirical analysis studying corporate financial flexibility in emerging markets is even less as compared to the studies conducted for developed countries and all of them reveal that FF plays a significant role in the investment level of companies and also firm value, the details of which can be found below.

One of the significant studies is conducted by Arslan-Ayaydın et al. (2014), who study 1,608 firms from five East Asian countries, over the period between 1994-2009, studying the effect of FF on investment of corporations and firm performance. Their results indicate that firms can be financially flexible mainly as a result of conservative

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financial policies including maintaining low leverage and also through keeping high levels of cash and equivalents. In their study, financial flexibility is measured by a company's level of cash and debt ratio and they argue that firms that are FF are more accomplished in terms of the ability to invest and their performance are better than the relatively less flexible companies, especially within the 1997-98 economic crisis in Asia.

Furthermore, Yung et al. (2015), took 33 emerging countries into their sample, analyzing whether FF is vital for companies in developing countries. Where relatively weaker capital markets present in developing economies are associated with a high instability in capital flows; the significance of acquiring FF in fast growing developing countries is emphasized in this study. Their results demonstrate that "corporate financial flexibility enhances investment ability and reduces the sensitivity of investment to cash flow" (Yung et al., 2015). Yung et al. (2015) argue that the FF's positive impact on value of firms in developing markets, especially during the global economic downturn, empirically demonstrates the significance attached to FF. Moreover, Yung et al. (2015) argue that during the economic downturn of 2007-2009, impact of FF on the ability to invest has risen, moreover FF is observed to add to firm value, especially during the financial crisis, in the sense that FF companies suffer less from the negative shocks of the financial crisis.

In a nutshell, in agreement with the conclusions of Arslan-Ayaydin et al. (2014); Yung et al. (2015) also argue that FF improves investment capability of companies and furthermore reduces the company's sensitivity of capital expenditures to internally generated funds.

All in all, the number of empirical studies conducted on this topic is few; majority of which is done for the developed countries, with only two of the studies

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completed for emerging markets. We conduct our empirical study with a comparison

between developed and developing countries, with the ultimate aim of filling this gap in

the literature.

CHAPTER 3

EMPIRICAL DESIGN: IDENTIFICATION OF FINANCIALLY FLEXIBLE FIRMS

The objective of this chapter is to identify financially flexible firms in developed and developing countries. We will also be outlining the table empirical design and the main methodology that will be used throughout the thesis. The methodology adopted by Marchica and Mura (2017) will be used to determine which firms can be categorized as financially flexible, in the meantime emphasizing whether the factors affecting the capital structure of firms change between developed versus developing countries.

This chapter is structured as follows: First, we describe our sample construction procedure. Then we discuss the methodology that will be used throughout this thesis, followed by the presentation of descriptive statistics. Finally, we will explain the estimation procedure followed by the results of the analysis.

3.1 Sample construction

We use the Thomson Reuters Eikon and Datastream databases to gather data for this empirical analysis. To select the countries to be included in the study, we use the MSCI market classification. For the developed markets, we take the countries listed in the MSCI World Index in Europe, whereas for the developing markets, we take the countries listed in the MSCI Emerging Markets Index in Europe. The developed countries analyzed with this study are: UK, Switzerland, Sweden, Germany, Denmark, Finland, Netherlands, France, Ireland, Italy, Norway, Belgium, Portugal, Spain and Austria. The developing countries included in the analysis can be listed as: the Czech Republic, Greece, Hungary, Poland, Russia and Turkey.

In order to choose the companies that would be studied in our empirical analysis, we start with the entire universe of firms listed within the databases. The original data set is composed of accounting year-end data for the 17-years between 2000 and 2016. It is essential to note that a year of observations is lost due to the calculation of some of our variables (for example: sales growth). Since we need to use the market values for the firms we use in our analysis, private companies are excluded from the study, leaving only the public companies. Furthermore, some companies with specific sectors like financial services (SIC codes between 6000 and 6999), insurance and real estate investment trusts are eliminated from the sample; due to their different capital structure and the inherent regulation for these specific sectors.

For the construction of the FF dummy variable, at least four successive years of data is required for each company. Therefore, we eliminate the firms from the sample, which do not contain at least four successive years of observations. Moreover, we exclude from the sample those companies, which are not quoted on the major stock exchanges of the respective countries, following which we exclude the observations, which have inputting faults, such as total assets being negative. We winsorize all variables used in the analysis at the top and bottom 1% of their own distribution.

Following the data filtering process, the unbalanced panel is comprised of 4,334 firms and 73,678 observations for the developed countries and 1,436 firms and 24,412 observations for the developing countries over the 2000-2016 period. Yearly accounting and stock market data is collected for the remaining 4,334 and 1,436 firms from Thomson Reuters Eikon for the years 2000-2016. The number of companies at the beginning of the sample construction procedure and the number of companies that remain following the application of the above-mentioned criteria are listed in Table 1.

Table 1. Sample Selection Procedure

Sample Size (Number of firms)	Developed Countries**	Developing Countries***
List of all active equity firms in Europe* for the years 2000-2016	10,959	2,697
Less firms from specific industries (banking, financial services, insurance and real estate)	-4,500	-516
Less firms with less than 4 years of accounting data	-1,637	-681
Less firms that are not in the major securities	-164	-34
Less firms with inputting mistakes or inconsistent data (negative total assets, negative number of shares, etc.)	-324	-30
Final Sample Size	4,334	1,436

*Countries are determined based on MSCI index.
**Developed countries: UK, Switzerland, Sweden, Spain, Portugal, Norway, Netherlands, Italy, Ireland, Germany, France, Finland, Denmark, Belgium and Austria
***Developing countries: Turkey, Russia, Poland, Hungary, Greece, Czech Republic

For developed countries, Appendix B describes the final sample of firms; taking industries and countries into consideration. It is significant to note that the SIC Codes of firms are matched to Fama-French 12-industry classification, which is used for the distribution of industries within the sample.

Within developed countries, UK has the largest representation with 1,313 firms, corresponding to 30% of the sample, followed by France with 657 firms and Germany with 597 firms, corresponding to 15% and 14% of the sample, respectively. On the other hand, the business equipment sector has the highest representation constituting 19% of the sample, followed by the manufacturing sector (13% of the sample) and the consumer non-durable sector (9% of the sample) within developed countries.

Appendix C describes the final sample of firms, in terms of industries and countries for the developing countries. With 488 firms corresponding to 34% of the sample, Russia has the largest representation within the developing countries, followed by Poland (444 firms and 31% of the sample) and Turkey (273 firms and 19% of the sample). Moreover, 22% of the firms in the developing countries belongs to the manufacturing sector, followed by 12% belonging to consumer non-durables and 11% belonging to the shops sector.

3.2   Estimation and variables

In corporate finance literature, surveys conducted on capital structure choices reveal that the most vital determinant of capital structure decisions given by companies is the necessity to preserve financial flexibility (Brounen et al. 2006; Graham & Harvey, 2001; Bancel & Mittoo, 2004). Furthermore, DeAngelo and DeAngelo (2007) claim that FF "is the critical missing link for an empirically viable theory" in their theoretical model. Notwithstanding the significance of the concept; a clear-cut measure of FF does not exist in the literature, which explains why it stayed as a missing link until recently.

Despite the fact that different measurement techniques have been implemented in the literature, authors have come up with various flaws in these techniques, as has been explained in "Measurement and Sources of Financial Flexibility" section above. Nonetheless, authors in recent empirical studies agree that using "unused debt capacity" to measure FF is the optimal approach (DeAngelo & DeAngelo, 2007; Daniel et al., 2010; Marchica & Mura, 2010; DeAngelo et al., 2011; Denis & McKeon, 2012; Ferrando et al., 2017); and this is why this approach will be used to quantify FF in this empirical study. FF is an "unobservable factor that depends largely on managers'

assessment of future growth options" (Ferrando et al., 2017), which is why residual of

the leverage estimation is expected to contain FF, wherein it is expected to produce

systematic gap in between predicted and observed leverage. The gap between estimated

and the actual level of leverage of firms indirectly contain financial flexibility of firms.

In order to estimate the leverage status of firms, the following regression analysis,

Model 1, will be used:

(1) $Leverage_{it} = \beta_0 \, Leverage_{it-1} + \sum_{k=1}^{K} \beta_k X_{kict} + \eta_i + \eta_t + v_{ict}$

Where $Leverage_{it}$ is the "Leverage" of company i at time t and $"Leverage_{it-1}"$ is the

Leverage of company i at time t-1, which is included as a regressor into the equation as

required by the Generalized Method of Moments (GMM) technique, the details of which

may be found in the next section. We include the following control variables in the

leverage model following Flannery and Rangan (2006), which are commonly used in the

literature and which have been empirically proven to have an impact on leverage: Non

Debt Tax Shield (NDTS), Size, Profitability, Tangibility and Tax; for both the developed

as well as developing countries. Furthermore, in order to capture the effect of growth

opportunities on leverage, while Sales Growth is used as a control variable for the

developed countries following Barton and Gordon (1988), the MTB ratio is used as a

control variable for the developing countries following Frank and Goyal (2008) and

Flannery and Rangan (2006), as MTB ratio takes market value perspective into account,

which is a necessary variable to include within developing countries and also included in

empirical studies conducted for emerging markets (Tongkong, 2012; Yang, Lee, Gu &

Lee, 2010). Cash is also included in the leverage estimation model, in order to capture

the effect of other factors, which may allow the firm to obtain financial flexibility. The

definitions of all variables used in the leverage model may be found in Table 2.

Table 2. Variable Definitions – Leverage Model

Variable	Notation	Variable Type	Definition
Leverage	LEV	Dependent	Total debt (Short term debt + current portion of long term debt + long term debt) / Total Assets
Size	Size	Independent	Log of total assets.
Tangibility	Tang	Independent	Fixed assets / total assets
Profitability	Prof	Independent	Earnings before extraordinary items / total assets
Non-Debt-Tax-Shield	Ndts	Independent	Depreciation to total assets.
Tax	Tax	Independent	Total tax charge to total assets
Cash Ratio	Cash	Independent	Cash and equivalents to total assets
Sales growth	SG	Independent	$(Sales_t - Sales_{t-1})/ Sales_{t-1}$
Market to Book Ratio	MTB	Independent	Market capitalization (stock price x number of shares outstanding) to Net Book Value (Net asset value)

While the expected impact of size, tangibility, sales growth and MTB on leverage is positive; the expected impact of profitability, tax and cash ratio on leverage is negative and moreover literature shows that it is possible for the impact of NDTS on leverage to be either positive or negative.

Table 3 and Table 4 shows the descriptive statistics of the variables used in the leverage model for developed and developing countries, respectively.

Table 3. Summary Statistics of Leverage Model for Developed Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Leverage	56,903	0.21	0.17	0.21	0.00	1.07
Sales Growth	50,951	0.17	0.05	0.78	-1.00	5.78
Size	56,903	5.23	5.18	1.12	2.64	7.92
Tangibility	56,903	0.23	0.15	0.23	0.00	0.89
Profitability	56,903	0.03	0.09	0.27	-1.50	0.46
NDTS	56,903	0.05	0.04	0.04	0.00	0.26
Tax	56,903	0.01	0.01	0.03	-0.10	0.11
Cash Ratio	56,903	0.11	0.05	0.16	0.00	0.81

Table 4. Summary Statistics of Leverage Model for Developing Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Leverage	16,260	0.24	0.20	0.22	0.00	1.05
Sales Growth	15,719	0.17	0.09	0.53	-0.87	3.68
Size	17,323	5.75	5.60	1.14	3.44	8.82
Tangibility	17,227	0.35	0.34	0.23	0.00	0.90
Profitability	15,771	0.10	0.10	0.13	-0.46	0.52
NDTS	16,244	0.04	0.03	0.03	0.00	0.17
Tax	17,082	0.01	0.01	0.02	-0.05	0.11
Cash Ratio	13,136	0.05	0.02	0.08	0.00	0.42
MTB	13,271	0.15	0.10	1.00	-2.30	3.28

On average, financial borrowings of developed companies in Europe constitute 21% of their total assets; while that of developing firms make up 24% of their total assets, showing that the debt ratio of developing countries is greater than that of developed countries. On the other hand, both the developed as well as developing countries have an average sales growth rate of 17%. The average tangibility level of developing firms (0.35) is higher than that of developed firms (0.23), implying that tangible assets constitute a bigger place in total assets in developing firms. Another striking factor concerns the profitability level of firms in Europe. While average profitability of firms in developing countries is 10% that in developed firms is only 3%, demonstrating that on

average firms in developing countries are more profitable than firms in developed countries. Finally, the average cash ratio (cash to total assets) of developed countries is 0.11 as compared to the cash ratio of developing countries of 0.05; implying that firms in developed countries tend to hold more cash on their balance sheets as compared to developing countries.

3.3   Methodology

All the models in this study are estimated using Generalized Method of Moments (GMM), estimating a dynamic partial adjustment leverage model in order to capture the targeting behavior of firms, as a result of which we will identify the leverage status of firms.

We will follow Arellano and Bond's (1991) methodology, in which the first differences of the model is taken and appropriate lagged regressors are used as instruments in the system, with the purpose of controlling the endogeneity of the variables used in the regression and country fixed effects simultaneously, which might have a correlation with the explanatory variables (Lemmon, Roberts & Zender, 2008; Blundell & Bond, 1998). Country fixed effect (η_i) is included in the estimation model to explain probable correlation in between characteristics special to the countries and regressors, while on the other hand, time effect is included in the analysis to account for any potential macro-economic factors, including economic crisis years. Please also note that System GMM will be used in the estimations following Ferrando et al. (2017), mainly because System GMM appears to offer efficiency gain relative to Difference GMM.

With GMM estimations; in order to test for the validity of instruments used in the analysis and also in order to make sure that the model is correctly specified; Arellano-Bond (AR) test for autocorrelation is used, which tests for the autocorrelation of the residuals. While AR (1) tests if the residuals are correlated; AR (2) examines whether the first differences of the residuals are correlated. The null hypothesis of AR (2) is "no second order serial autocorrelation in differenced residuals". In order to make sure that the model is correctly specified, we expect AR (2) to be insignificant, implying the model is properly structured and the instruments implemented in the model are valid.[2]

3.4   Results

Table 5 and Table 6 demonstrate the results of the leverage estimation equations for developed and developing countries, respectively. As can be depicted from Table 5 and Table 6, the results obtained from the leverage estimation are consistent with the previous studies conducted on this topic (Rajan & Zingales, 1995; Wanzenried, 2006; Flannery & Rangan, 2006). Both for the developed, as well as for developing countries, there is a size effect, such that size has a positive and significant impact on leverage, stemming from the fact that as firm size is getting bigger, firms tend to issue debt easily at more advantageous costs.

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[2] Sargan test results are not reported as part of the typical diagnostic checks, because when the sample size contains panels of dimensions similar to our sample size; the instruments used in the analysis tend to be over-rejected with the Sargan test (Bond et al. 2004; Ferrando et al., 2017). Some researchers have shown the potential issue of "overfitting bias" (Bowsher, 2003). This is why only AR (2) results are reported in this analysis.

Table 5. Leverage Model Results for Developed Countries

Dependent Variable: Leverage	
Leverage$_{t-1}$	0.449***
	[0.000]
Size	0.054***
	[0.001]
Tangibility	0.166***
	[0.000]
Profitability	-0.145***
	[0.000]
Non Debt Tax Shield (NDTS)	0.193***
	[0.011]
Tax	-0.185***
	[0.004]
Cash Ratio	-0.087***
	[0.000]
Sales growth	0.027***
	[0.009]
Observations	40,371
No. Of firms	3,631
No. Of instruments	47
Country fixed effects	Yes
Year fixed effects	Yes
AR(1)	0.145
AR(2)	0.195

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Furthermore, larger companies are inclined to carry more debt on their balance sheets, because they tend to be more transparent and have lower asset volatility. Moreover, tangibility also has a significant positive effect on leverage both for the developed and developing countries, which is again in line with the literature; since having fixed assets in their portfolios is a positive sign for the firms in obtaining external financing and moreover it eases the process of obtaining debt for companies.

Table 6. Leverage Model Results for Developing Countries

Dependent Variable: Leverage	
Leverage$_{t-1}$	0.754***
	[0.000]
Size	0.030***
	[0.000]
Tangibility	0.043***
	[0.007]
Profitability	-0.143***
	[0.000]
Non Debt Tax Shield (NDTS)	-0.627***
	[0.013]
Tax	-0.585***
	[0.000]
Cash Ratio	-0.062***
	[0.002]
MTB	0.023***
	[0.000]
Observations	7,581
No. Of firms	1,061
No. Of instruments	411
Country fixed effects	Yes
Year fixed effects	Yes
AR(1)	0.000
AR(2)	0.287

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.*

Profitability, on the other hand, negatively and significantly affects leverage both for developed as well as developing countries, in line with the predictions, providing evidence for POT, suggesting that companies would favor internally generated funds to outside financing and as the profit level of firms rises, the necessity for external finance drops. Similar to the result obtained from the profitability of firms, the cash level of firms also negatively and significantly effects the leverage of firms in both developed as well as developing countries, such that firms use the cash-in-hand for their funding requirements instead of external borrowing. Furthermore, the tax level of firms also

negatively and significantly effects the leverage of firms both in developing as well as in developed countries. On the other hand, non-debt tax shield, which is calculated as depreciation over total assets, also positively and significantly effects the leverage of firms in developed countries, mainly because depreciation of firms increase as a result of the rise in tangible assets, which indirectly have a positive effect on leverage. On the contrary, NDTS negatively affect leverage in developing countries, because for the companies in developing countries, more depreciation expense means less necessity for the interest deductions associated with debt financing, hence leading to an inverse relationship between depreciation and leverage. Finally, growth opportunity proxies, the sales growth ratio for developed and MTB ratio for developing firms, both have a significant positive impact on leverage, stemming from the fact that firms with high growth opportunities need more leverage to finance this growth.

In the leverage estimation models conducted for developed and developing countries, we observe that AR (2) statistics stand at 19.5% and 28.7%, respectively; implying that the instruments used in both models are valid, and both models are correctly specified.

3.5   Identification of financially flexible firms

The fitted values from the estimated leverage equation is obtained following Faulkender, Flannery, Hankins and Smith (2012). Once the prediction of the fitted values are completed, the fitted values are compared with the actual values. While the fitted values of leverage represent the amount of leverage that company can carry in its balance sheet given its' financial standing; the actual values of leverage represent what the company actually carries in its balance sheet. If the difference between the actual and the fitted

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values is negative; we define the company as having Spare Debt Capacity (SDC); implying that the company could have received more debt given its financial standing, however has chosen to borrow less. It is expected that in the leverage estimation, the systematic part of the deviations between fitted and actual values are born from the undetected impact of FF. The deviations need to be greater than 5% in order to diminish the impact of small deviations (Ferrando et al., 2017). Moreover, in order to make sure that the negative deviation is not just a capital structure shock; but in fact, the policy of the firm; a company is classified as FF if the company has SDC for a minimum number of subsequent years, following Marchica and Mura (2010). In the baseline estimations, FF dummy is equal to 1, when the firm has SDC for at least three consecutive periods and 0 otherwise (FF3). It is significant to note that as there is no theoretical rationale for taking three consecutive periods for baseline specifications, in order to comprehend whether the results change based on the time horizon picked up for the specification of FF firms, alternative proxies have been used throughout the analysis in the following sections, ranging from a period of two years to five years.

In Table 7, some statistics over the entire sample are presented regarding the financial flexibility status of firms for developed and developing firms.

Table 7. Financially Flexible Firms – Developed Countries vs. Developing Countries

	FF2	FF3	FF4	FF5
Developed Countries	34.33%	30.97%	27.51%	24.49%
Developing Countries	25.69%	16.34%	9.41%	5.96%

Within developed countries, while 34% of the sample has SDC for at least two years, which is denoted as FF2; within developing countries only 25.7% of the sample can be categorized as FF2. Furthermore, while the share of financial flexibility firms over the entire sample drops to 31%, 27.5% and 24.5% for FF3 (3 consecutive years of SDC), FF4 (4 consecutive years of SDC) and FF5 (5 consecutive years of SDC) specifications, respectively in the developed countries; the share of FF firms drops to 16.3%, 9.4% and 5.96% for FF3, FF4 and FF5 firms, respectively in the developing countries. These results imply that there is a significant difference between the share of flexible firms in total sample in between developed and developing countries, such that the percentage of flexible firms in developed countries is almost double the percentage of flexible firms in developing countries. Please also note that as the number of consecutive years of SDC is increasing (from FF2 to FF5), the percentage of FF firms in total sample gradually decreases both in developed, as well as developing countries, mainly because it is harder for companies to maintain flexibility for longer periods of time.

Once the financially flexible firms within the sample are identified, the effect of FF on investment and firm value can be analyzed, which is the topic of Chapter 4 and Chapter 5, respectively.

CHAPTER 4

IMPACT OF FINANCIAL FLEXIBILITY ON INVESTMENT:

The objective of this chapter is to investigate whether FF has a significant impact on the investment capability of companies, also analyzing whether the impact of FF differs between developed and developing countries. Moreover, we will also be studying the effect of different means of information asymmetries, including firm and country characteristics on the relationship between Financial Flexibility and investment.

4.1   Hypothesis development

Empirical studies conducted in capital structure literature show that there is a puzzle, such that companies carry less leverage in their balance sheets as compared to the predictions of the dominant capital structure theories, which is thought to be due to companies' preference for flexibility in terms of unused debt capacity (DeAngelo & DeAngelo, 2007; Marchica & Mura, 2010; Graham & Harvey, 2001; Gamba & Triantis, 2008). Firms preserve untapped debt capacity in order to be able to raise funding from external capital markets, which is thought to be low-cost; as a result of which share issuance at unattractive prices would be avoided. Moreover, researchers suggest that companies desire to be flexible financially in order to avoid financial distress in case of an economic downturn and also in order to finance investments if there is a positive NPV capital expenditure prospect.

In line with the above, several studies have been conducted in the corporate finance literature, studying FF's impact on investments and they conclude that FF companies display superior investment capability (De Jong et al., 2012; Ferrando et al.,

2014; Marchica & Mura, 2010). With market imperfections, companies that are expecting to grow their business through new investment opportunities may achieve this through preserving Spare Debt Capacity for a certain time period. As stated by Myers (1984), FF companies are able to raise financing from the external sources thanks to reserves of borrowing power and to realize additional capital expenditures following financial policies that are conservative.

To the degree that FF permits companies to sidestep financial distress in case of unexpected events, we claim that FF companies have improved investment capability and in line with this reasoning, we hypothesize that:

Hypothesis 1: Financial Flexibility enhances the investment level of firms.

Despite the fact that the notion of FF is an extremely vital concept for all countries, disregarding their level of development, decisions about external financing is a major task for companies in developing countries due to the existence of underdeveloped capital markets (Yung et al., 2015). The presence of highly volatile capital flows results in limitations in the availability of bank debt in developing markets, which negatively affects those companies that are in need of external funding (Agosin & Huaita, 2012; Bekaert & Harvey, 2003; Demir, 2009). As a result of the limited supply of bank borrowings in developing markets, those firms who do not want to get any interruptions in their investment abilities or who do not want to get negatively affected from the economic downturns, need to give more importance to their level of financial flexibility as compared to those companies in developed countries. Therefore we anticipate the impact of FF on investment to be stronger for those companies that are

based in developing countries as compared to those in developed countries, which directs us to our next hypothesis.

Hypothesis 2: The effect of FF on investments is stronger for firms in developing countries, than in developed countries.

4.2 Estimation and variables

In order to test the above stated hypothesis, while investment is taken as our dependent variable, cash flow at the beginning-of-year and sales growth are taken as our independent variables, following Cleary (1999), Alti (2003) and Brown and Petersen (2009). Furthermore, FF dummy (FF3 in the baseline specification, FF2, FF4 and FF5 as alternative estimations) and an interaction term multiplying cash flow and FF dummy is also added as independent variables into the estimation following Ferrando et al. (2017), Yung et al. (2015) and Marchica and Mura (2010); with the ultimate aim of testing if FF companies have superior investment capability and moreover if the sensitivity of capital expenditures to cash flow gets lower for FF firms.

Accordingly, Model 2 presented below will be estimated for the sample:

(2) $Investment_{i,t} = \gamma_1\ Investment_{i,t-1} + \gamma_2\ Cash\ Flow_{i,t-1} + \gamma_3\ Sales\ Growth_{i,t} +$

$\gamma_4\ FF_{i,t} + \gamma_5\ FF_{i,t} \times Cash\ Flow_{i,t-1} + \eta_c + \eta_t + v_{it}$

Where Investment$_{i,t}$ is the capital expenditure divided by Total Assets i at time t; in order to proxy for growth opportunities Sales Growth is used as a regressor and in order to proxy for internal funds generated by companies Cash Flow is used, which is calculated

as Earnings before interest, tax, depreciation and amortization (EBITDA) divided by
total assets at the beginning-of-year.

Detailed descriptions of the definitions for the variables used in the investment analysis
may be found in Table 8.

Table 8. Variable Definitions – Investment Model

Variable	Notation	Variable Type	Definition
Investment	Inv	Dependent Variable	Capex / Total Assets. Capex is computed as the annual change in (net) fixed assets plus depreciation.
Financial Flexibility	FF2 FF3 FF4 FF5	Independent Variable	FF is a (0, 1) dummy variable that gets a value of 1 if the company is FF and 0 otherwise. FF2: Financial flexibility achieved through 2 consecutive periods of SDC FF3: Financial flexibility achieved through 3 consecutive periods of SDC FF4: Financial flexibility achieved through 4 consecutive periods of SDC FF5: Financial flexibility achieved through 5 consecutive periods of SDC
Cash Flow	CF	Control Variable	EBITDA / Total Assets (TA at the beginning of year)
Sales growth	SG	Control Variable	$(Sales_t - Sales_{t-1})/ Sales_{t-1}$

Table 9 – Panel A and Panel B present the descriptive statistics for the additional
variables used in the investment model for the developed and developing countries,
respectively.

Table 9. Summary Statistics of Investment Model for Developed vs. Developing Countries

Panel A. Developed Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Investment	56,902	0.06	0.04	0.10	-0.24	0.56
Cash Flow	55,067	0.03	0.09	0.27	-1.52	0.46

Panel B. Developing Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Investment	17,323	0.08	0.05	0.14	-0.31	0.72
Cash Flow	15,771	0.10	0.10	0.13	-0.46	0.52

It is essential to note that the average of both the investment ratio (CAPEX over Total Assets) as well as the Cash Flow ratio (Cash Flow over Total Assets) are bigger for companies in developing countries than the companies in developed countries, implying that companies based in developing countries generate more cash flow as compared to their asset size and they realize more investments, when compared to those firms in developed countries.

Country fixed effect (η_c) and time-specific effect (η_t) is also included in the regression analysis with a disturbance term v_{it}, making the assumption that it is serially uncorrelated with a mean equal to zero. Similar to the methodology implemented for the leverage model estimation in the previous chapter, following Roodman (2006), Generalized Method of Moments (GMM) within a dynamic framework is used in order

to control for fixed effects and endogeneity. We anticipate Financial Flexibility to positively and significantly affect the investment level of companies.

4.3 Results

The results of the empirical analysis of investment model conducted separately for the developed and developing countries may be found in the next two sections. It is significant to note that the same baseline regressions are run with four different versions of financial flexibility dummy for robustness purposes.

4.3.1 Results for the developed countries

The results of the investment model for the developed countries may be found in Table 10. Please note that FF dummies range from FF2 to FF5, referring to firms with SDC starting from 2 consecutive years to 5 consecutive years.

As growth prospects are anticipated to have a significant role in the capital expenditure decisions of companies, the effect of sales growth on investment is significantly positive for the entire set of investment regressions. These results are consistent with the studies conducted on this topic (Cleary, Povel & Raith, 2007). Furthermore, cash flow also positively contributes to the Investment level of firms in all specifications (the coefficient of cash flow is significant in all models except for FF2), implying that despite the comfort given to companies with the presence of FF in their investment decisions; firms may still partially rely on internally generated funds in order to implement their investment decisions due to possible capital frictions.

Table 10. Investment Model: Developed Countries.

Dep Var: Investment$_t$	FF2	FF3	FF4	FF5
Investment$_{t-1}$	0.066***	0.067***	0.071***	0.042***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow$_{t-1}$	0.012	0.013*	0.025**	0.013*
	[0.109]	[0.084]	[0.032]	[0.077]
Sales Growth	0.016***	0.015***	0.016***	0.019***
	[0.000]	[0.000]	[0.000]	[0.000]
FF Dummy	0.035**	0.031**	0.041***	0.047***
	[0.030]	[0.048]	[0.000]	[0.000]
Cash Flow$_{t-1}$ x FF Dummy	0.027***	0.027***	0.064*	0.032***
	[0.004]	[0.005]	[0.092]	[0.001]
Observations	43,291	41,434	39,505	37,406
No. Of firms	3,647	3,646	3,644	3,641
No. Of instruments	49	48	244	202
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.142	0.133	0.136	0.386

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Above all, the Financial Flexibility dummies are all positive and significant in all specifications. It is significant to note that while the effect of FF on Investment is 3.5% when firms maintain Spare Debt Capacity for two consecutive years, the impact increases to 4.7% when SDC is preserved for five consecutive years, suggesting that keeping low leverage for additional number of years is beneficial for firms in augmenting their investment capabilities. Additionally, the interaction term between Cash Flow and FF is positive and significant, suggesting that financially flexible firms continue to use their internal funds for financing their investments, despite the fact that they have Spare Debt Capacity.

4.3.2   Results for the developing countries

The results of the estimations conducted for the investment level of developing countries may be found in Table 11.

Table 11. Investment Model: Developing Countries

Dep Var: Investment$_t$	FF2	FF3	FF4	FF5
Investment$_{t-1}$	0.098***	0.116***	0.115***	0.123***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow$_{t-1}$	0.358***	0.342***	0.339***	0.304***
	[0.000]	[0.000]	[0.000]	[0.000]
Sales Growth	0.053***	0.054***	0.054***	0.054***
	[0.000]	[0.000]	[0.000]	[0.000]
FF Dummy	0.053***	0.062***	0.099***	0.098***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow$_{t-1}$ x FF Dummy	-0.391***	-0.481***	-0.785***	-0.799***
	[0.000]	[0.000]	[0.000]	[0.000]
Observations	12,756	12,469	12,147	11,775
No. Of firms	1,227	1,227	1,227	1,227
No. Of instruments	423	419	409	396
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.181	0.108	0.191	0.135

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Similar to the findings we obtained for developed countries, both Sales Growth and Cash Flow positively and significantly effects the Investment level of firms. The fact that sales growth positively effects Investments is consistent with the conjecture that growth opportunities have a significant place when a firm is deciding on its investments. Moreover, cash flow positively effecting the capital expenditure level of firms also

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shows that firms continue to rely on their own funds besides external capital markets when deciding on their investment decisions.

Similar to the results obtained with the developed countries; the coefficients of the FF variable are positive and significant for all four specifications of investment, proposing that if companies have Spare Debt Capacity for a certain period of time, they tend to invest more. It is also essential to note that while the effect of FF on investment is 5.3% following conservative leverage for two years; the effect increases to 9.8% following conservative leverage of five years, suggesting that the impact of FF on Investment dramatically increases as the number of consecutive years with Spare Debt Capacity increases. Finally, the interaction term between Cash Flow and FF is significantly negative in all investment estimations, suggesting that FF companies in developing markets are less exposed to the imperfections in capital markets. It is easier for FF companies to issue debt from external sources in order to finance their investments thanks to the availability of FF; which results for them being less dependent on internally generated funds.

Investment analysis conducted for the developed and developing countries demonstrate that, for both group of countries, sales growth, cash flow and most importantly FF positively and significantly effects investment level of firms, supporting Hypothesis 1. However, when it comes to the interaction term of Cash Flow and FF; the results change between the developed and the developing countries: While the interaction term has a positive effect on investment for developed countries, suggesting that firms in developed countries continue to depend on their internally generated funds in rising their investment; the interaction term between FF and cash flow negatively affects investment in developing countries, suggesting that FF firms do not fully rely on

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internal funds in their investment decisions and their ability to invest is not risked by asymmetry problems.

It is also very significant to note that, while the effect of FF3 on Investment is 3.5% for developed countries, the effect is 5.3% for developing countries. Moreover, the effect of FF5 on investment is 4.7% vs. 9.8% for developed and developing countries, respectively. These results suggest that Financial Flexibility occupies a more crucial place for the developing countries, since the firms in developed markets have the option of finding other ways of obtaining funds for their investments, given the fact that capital markets are more advanced. On the other hand, FF is more valuable for firms in developing countries, since for some of them keeping low leverage may be the only option of realizing their investments, hence more significant, supporting the argument set forth in Hypothesis 2.

It is also essential to note that AR(2) statistics of all baseline estimations conducted both for the developed, as well as for the developing countries are greater than 10%, implying that the instruments used in the dynamic modelling are valid and the models are correctly specified.

4.4 Impact of information asymmetry

Having demonstrated the positive impact of Financial Flexibility on investment in the previous section, we aim to elaborate on the topic through observing the impact of information asymmetry on this relationship. Therefore we use a set of variables reflecting information asymmetries that firms may face to identify them as having more or less information asymmetries and create sub-samples based on these variables. The variables used to identify the firms can be grouped under two headings: 1) Firm Specific

Characteristics 2) Country Specific Characteristics. We expect the sub-samples created based on the firm and country characteristics to be different from each other in terms of information asymmetry: Small and young firms are anticipated to face more information asymmetries, because of their relatively limited access to capital markets. Moreover, we expect those companies based in countries with the lower Credit Access Index (CAI) and lower Anti-Self-Dealing Index (ASDI), to have poorer legal protection for lenders and borrowers, leading to higher information asymmetries and higher contracting problems for firms. Accordingly, in the next two sections, the following Hypotheses will be tested:

Hypothesis 3: For companies with higher expected asymmetric information, the impact of FF on investment is stronger.

Hypothesis 3.1: For companies with smaller size, the impact of FF on investment is stronger.

Hypothesis 3.2: For younger companies, the effect of FF on investment is stronger.

Hypothesis 3.3: For companies located in countries with lower Credit accessibility (Credit Access Index), the effect Financial Flexibility on investment is stronger.

Hypothesis 3.4: For companies located in countries with poorer legal protection (Anti-Self-Dealing Index), the effect Financial Flexibility on investment is stronger.

Detailed analysis on the information asymmetry proxies, i.e. firm and country characteristics, and related hypotheses is provided in the next section.

4.4.1   Firm characteristics

In corporate finance literature, some of the firm characteristics are used to proxy for potential informational asymmetries that firms may face, which can make it difficult for companies to gain access to external sources for funding (Devereuz & Schiantarelli, 1990; Cleary, 2006; Bond & Meghir, 1994). We create different sub-samples from the main sample, based on the firm's size and age. It is argued that small companies (Berger & Udell, 2005) and young companies (Fee, Hadlock & Pierce, 2009; Rauh, 2006) tend to have more difficulty in obtaining external financing as compared to large and more mature firms.

Based on this expectation, sub-samples of firms are defined both for the developed as well as for the developing countries according to firm characteristics. As far as the firm characteristics are concerned, firms are partitioned based on their size and age. Initially, the sample is segregated into three parts based on the size of firms (natural logarithm of total assets) for each year and each country separately and they are classified according to firms' size distribution. Firms are identified as small, medium and large. As can be seen from Table 12, small financially flexible (FF3), medium financially flexible (FF3) and large financially flexible (FF3) firms constitute 8.5%, 9% and 9.7% of the entire sample in developed countries and 2%, 4.5% and 8.4% of the entire sample in developing countries, respectively.

On the other hand, age of a firm is the number of years passed starting from the incorporation of the firm. Based on this information, on a separate list, firms are identified as young and mature through classifying the firms according to the median of the firms' age distribution for each country and each year separately. As can be seen from Table 12, while 9.5% of the developed countries are young and financially flexible,

8.9% are mature and financially flexible (based on FF3 specification). Moreover, while 7% of the developing countries can be denoted as young and financially flexible; 6.8% of the sample is mature and financially flexible (based on FF3 specification).

Table 12. Financially Flexible Firms: Sub-Samples based on Firm Characteristics Developed vs. Developing Countries

Panel A. Developed Countries

		FF2	FF3	FF4	FF5
Size					
	Small	9.21%	8.52%	7.72%	6.84%
	Medium	9.65%	9.08%	8.44%	7.78%
	Large	10.32%	9.73%	9.13%	8.53%
Age					
	Young	10.31%	9.51%	8.56%	7.56%
	Mature	9.35%	8.89%	8.43%	7.91%

Panel B. Developing Countries

		FF2	FF3	FF4	FF5
Size					
	Small	3.88%	1.99%	1.00%	0.46%
	Medium	6.90%	4.46%	2.61%	1.62%
	Large	11.51%	8.39%	5.30%	3.71%
Age					
	Young	12.44%	7.13%	4.08%	2.58%
	Mature	9.89%	6.81%	4.29%	2.84%

Furthermore, the combination of the size and age of the firm is also used as a way to identify firms who face more information asymmetry (Hadlock & Pierce, 2010). We expect that it is easier for "large and mature" firms to find financing from the external capital markets. In line with the fact that it is more difficult for "small and

young" firms to find external financing, FF is anticipated to be more significant for "small and young" companies, since keeping leverage levels low for a few years could be the only way for these firms to surge their investments up. Hence, we anticipate that "small and young" companies will give additional importance to becoming FF, as compared to "large and mature" firms. "Young and small" companies that are considered as FF, are anticipated to realize more capital expenditures as compared to others.

Based on the above information, in order to comprehend the impact of information asymmetry on the association between FF and investment, the following hypotheses will be empirically tested for the developed and developing countries separately:

Hypothesis 3.1: For companies with smaller size, the impact of FF on investment is stronger.

Hypothesis 3.2: For younger companies, the effect of FF on investment is stronger.

Investment estimations are repeated for the different sub-samples created as described above, taking FF3 (3 consecutive periods of SDC) as the Financial Flexibility Dummy. Three different sets of sub-samples are created separately for developed and developing countries based on firm characteristics: 1) Firm Size (Small, Medium, Large) 2) Firm Age (Young, Mature) 3) Combination of Firm Size and Age (Small and Young, Large and Mature)

4.4.1.1   Results for sub-samples of size and age - developed countries

The results for the sub-samples constructed based on size and age for developed

countries may be found in Table 13.

Table 13. Investment Sub-Sample Analysis: Firm Size - Developed Countries

	Small	Medium	Large
Dep Var: Investment$_t$			
Investment$_{t-1}$	0.107***	0.116***	0.096***
	[0.000]	[0.000]	[0.000]
Cash Flow$_{t-1}$	0.0001	0.094***	0.252***
	[0.982]	[0.000]	[0.000]
Sales Growth	0.007***	0.015***	0.035***
	[0.000]	[0.000]	[0.000]
FF Dummy	0.078***	0.076***	0.046***
	[0.000]	[0.000]	[0.000]
Cash Flow$_{(t-1)}$ x FF Dummy	0.020**	-0.151***	-0.198***
	[0.024]	[0.000]	[0.000]
Observations	11,445	12,463	14,756
No. Of firms	1,657	1,755	1,405
No. Of instruments	522	404	404
AR(1)	0.000	0.000	0.000
AR(2)	0.134	0.350	0.194

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

As can be depicted from Table 13 the results for the developed countries

demonstrate that Financially Flexibility positively and significantly affects the

investment level of firms for all three sub-samples, including small, medium and large

firms. It is very essential to note that, as the size of the firm increases, the coefficient of

FF dummy decreases: i.e. Financial Flexibility has a bigger effect on small firms (7.8%)

as compared to its effect on large firms (4.6%).

As shown in Table 14, the same pattern can be observed for the sub-samples created based on Firm Age. The impact of FF on the investment level of young firms is larger (2.9%) as compared to that of mature firms (2.5%).

Table 14. Investment Sub-Sample Analysis: Firm Age - Developed Countries

	Young	Mature
Dep Var: Investment$_t$	FF3	
Investment$_{t-1}$	0.182***	0.147***
	[0.000]	[0.000]
Cash Flow$_{t-1}$	-0.091***	0.190***
	[0.003]	[0.000]
Sales Growth	0.057***	0.124***
	[0.000]	[0.000]
FF Dummy	0.029***	0.025***
	[0.000]	[0.000]
Cash Flow$_{(t-1)}$ x FF Dummy	0.145***	-0.095***
	[0.000]	[0.003]
Observations	13,177	14,102
No. Of firms	1,657	1,250
No. Of instruments	452	137
AR(1)	0.000	0.000
AR(2)	0.178	0.102

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Finally, very similar to the results obtained in the previous two sub-samples; as can be observed from Table 15, the effect of FF on investment is more than twice for "small and young" firms as compared to "large and mature" firms. (5% for "small and young" firms vs. 2.1% for "large and mature" firms). Within the sub-sample investment regression analysis; another important finding is observed regarding the interaction term between FF and cash flow: While the impact of the interaction term on investment is positive for small, young and "small and young" firms; the impact is negative for medium, large, mature and "large and mature" firms. This result implies that while for

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small, young and "small and young" FF firms, i.e. for firms with more information asymmetry, internal funds continue to play an active role for new investments, despite being financially flexible; for medium, large, mature and "large and mature" firms, i.e. for firms with less information asymmetry, there are imperfections in the capital markets and hence these companies are less dependent on internal funds.

Table 15. Investment Sub-Sample Analysis: Firm Age & Size - Developed Countries

	Small & Young	Large & Mature
Dep Var: Investment$_t$	FF3	
Investment$_{t-1}$	0.122***	0.086***
	[0.000]	[0.001]
Cash Flow$_{t-1}$	-0.053***	0.251***
	[0.001]	[0.000]
Sales Growth	0.005***	0.047***
	[0.023]	[0.000]
FF Dummy	0.050***	0.021***
	[0.000]	[0.000]
Cash Flow$_{(t-1)}$ x FF Dummy	0.160***	-0.067*
	[0.003]	[0.070]
Observations	4,470	6,107
No. Of firms	827	570
No. Of instruments	169	297
AR(1)	0.000	0.000
AR(2)	0.177	0.119

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

All in all, within developed countries, FF is more appreciated by young and small companies. The coefficient of the financial flexibility dummy declines as age and size and the combination of size and age increases. Moreover, it is also significant to note the positive impact of preserving leverage level of companies low for a minimum time period within each sub-sample of companies. Companies, who have comparable age and size that sustain a leverage policy which is conservative for at least 3 years, are

able to surge up their investments more than those firms, who do not follow such a low leverage policy.

4.4.1.2   Results for sub-samples of size and age - developing countries

The sub-samples based on size, age and the combination of size and age are also constructed for developing countries. The results, which can be seen in Tables 16, 17 and 18 are similar to the ones obtained with developed countries, but even more striking.

As can be depicted from Table 16, While FF positively effects all three sub-samples of developing countries (based on firm size); the effect of FF on investment is almost 20% for small firms, whereas the effect decreases to 8% for medium firms and further down to 3% for large firms.

Table 16. Investment Sub-Sample Analysis: Firm Size - Developing Countries

	Small	Medium	Large
Dep Var: Investment$_t$			
Investment$_{t-1}$	0.079***	0.261***	0.092***
	[0.001]	[0.001]	[0.000]
Cash Flow$_{t-1}$	0.105***	0.221***	0.363***
	[0.000]	[0.002]	[0.000]
Sales Growth	0.027***	0.017**	0.072***
	[0.000]	[0.028]	[0.000]
FF Dummy	0.197***	0.082**	0.032***
	[0.000]	[0.017]	[0.000]
Cash Flow$_{(t-1)}$ x FF Dummy	-0.171**	-0.320**	-0.185***
	[0.035]	[0.027]	[0.000]
Observations	3,472	3,645	4,251
No. Of firms	583	625	477
No. Of instruments	169	21	389
AR(1)	0.000	0.000	0.000
AR(2)	0.131	0.315	0.194

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

On the other hand, as can be observed from Table 17, while the effect of FF on the investment level of young firms in developing countries is 3.6%, the effect of FF on the investment level of mature firms is 2.2%.

Table 17. Investment Sub-Sample Analysis: Firm Age - Developing Countries

	Young	Mature
Dep Var: Investment$_t$	FF3	
Investment$_{t-1}$	0.118***	0.053*
	[0.001]	[0.094]
Cash Flow$_{t-1}$	0.474***	0.276***
	[0.000]	[0.000]
Sales Growth	0.041***	0.205***
	[0.000]	[0.000]
FF Dummy	0.036***	0.022***
	[0.000]	[0.002]
Cash Flow$_{(t-1)}$ x FF Dummy	-0.312***	-0.168**
	[0.000]	[0.012]
Observations	7,532	3,674
No. Of firms	1,007	413
No. Of instruments	37	40
AR(1)	0.000	0.000
AR(2)	0.292	0.260

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Finally, Table 18 shows that while the impact of FF on the investment level of "small and young" firms is 6.1%, the impact of FF on the investment level of "large and mature" firms decreases to 3.1%.

All in all, the findings indicate that the impact of FF on investment decreases as firm size, firm age and the combination of firm size and age increases, similar to the findings we obtained with developed countries. Moreover, maintaining leverage level of a company low for a minimum of 3 years, results in an upsurge in the investment level of firms within each sub-sample; more than those firms, who do not follow such a low

leverage policy. It is also significant to note that the interaction term between cash flow

and FF dummy is negative for all the regressions estimated within the sub-sample

analysis, indicating that no matter what the size and age of firms in developing countries

are; FF companies are less exposed to imperfections in the capital markets and hence

they are less reliant on internally generated funds in realizing their investment.

Table 18. Investment Sub-Sample Analysis: Firm Size and Age-Developing Countries

	Small & Young	Large & Mature
Dep Var: Investment$_t$	FF3	
Investment$_{t-1}$	0.019	0.030
	[0.446]	[0.413]
Cash Flow$_{t-1}$	0.182***	0.419***
	[0.000]	[0.000]
Sales Growth	0.034***	0.160***
	[0.000]	[0.000]
FF Dummy	0.061**	0.031***
	[0.050]	[0.000]
Cash Flow$_{(t-1)}$ x FF Dummy	-0.137	-0.332***
	[0.735]	[0.008]
Observations	2,365	1,479
No. Of firms	459	202
No. Of instruments	75	40
AR(1)	0.000	0.000
AR(2)	0.232	0.292

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

The above stated results support the arguments set forth in Hypothesis 3.1 and

Hypothesis 3.2. When we compare the sub-sample results obtained from the developed,

as well as developing countries; we get similar findings such that as the size and age of

the firm and the combination of size and age increases, the impact of financial flexibility

on investment decreases. Moreover, within each sub-sample of both developed, as well

as developing countries, those firms who preserve low leverage for 3 consecutive years,

are capable of raising their capital expenditures more as compared to other companies with no low leverage policy. The main difference between the developed and developing countries concerns the magnitude of how FF affects expenditures on capital. For example, coefficient of FF on investment in small developing countries is 19.7% as compared to the coefficient of 7.8% in small developed countries, supporting Hypothesis 2.

4.4.2   Country characteristics

In order to capture another aspect of information asymmetry, we observe country characteristics of the developed and developing countries within our sample, through analyzing their institutional settings. Previous literature on the topic points that legal protection can extensively impact the capability of companies to obtain financing from external sources (La Porta, Lopez-De-Silanes, Shleifer & Vishny, 1997, 1998, 2000 and 2002). Specifically, the "protection provided by legal institutions is a predictor of the costs of external financing" (Almeida et al., 2011). The associated costs of external financing would ultimately affect financial policies and therefore decisions taken on investment issues. (Mclean, Zhang & Zhao, 2012; Wurgler, 2000; Love, 2003)

In order to proxy credit accessibility and investor protection, we use two separate indices following Ferrando et al. (2017): CAI and ASDI. These indices are expected to encompass not only asymmetric information, but also contracting difficulties that companies encounter, while the companies try to contact external capital markets.

As lower legal protection brings higher information asymmetries and higher contracting problems, companies which are based in countries with lower legal protection; are anticipated to appreciate financial flexibility more. We expect FF

companies in low legal protection countries and hence higher information asymmetries to invest more than they do in countries with higher legal protection.

4.4.2.1 Credit access index

The first index that will be used to create sub-samples in order to reflect the country's institutional setting, is the Credit Access Index, which aims to measure the legal rights of not only lenders, but also borrowers regarding secured transactions. Credit Access Index also aims to capture the credit information sharing of both parties, which is provided by the "World Bank-Doing Business Project" and obtained from World Bank-Doing Business website (http://www.doingbusiness.org/data/exploretopics/getting-credit). The main purpose of "World Bank – Doing Business Project" is to measure the "legal rights of borrowers and lenders with respect to secured transactions through one set of indicators and the reporting of credit information through another".

Credit Access Index is composed of four different indices: "i. Strength of legal rights index ii. Depth of credit information index iii. Public credit registry index and iv. Private credit bureau index".

The "strength of legal rights index" takes into consideration how the rights of not only the borrowers but also the lenders are protected by the bankruptcy laws and collateral issues and therefore how lending is facilitated. An index is created, which can get a value between 0 and 12, with 10 points of the index derived from the process of protecting the privileges of lenders and borrowers with the help of collateral laws and 2 points of the index derived from protecting secured creditors' rights with the help of bankruptcy laws. This index tries to capture whether there are certain features in the country, which facilitate lending through the applicable collateral and bankruptcy laws.

World Bank brings together the necessary data to measure the legal rights of not only borrowers but also lenders; through the means of a questionnaire directed to financial lawyers. This questionnaire is also confirmed with the examination of laws and regulations and moreover with the public sources of information on bankruptcy laws and collateral.

The second of the four indices that is used to calculate CAI is the depth of credit information index, which analyzes rules and practices that have an impact on the scope, coverage and approachability of data on credit, which is accessible through different means of credit reportage service such as credit bureaus or credit registries. The index can get a value between 0 and 8, with lower values signaling the accessibility of less credit information, whether the source of information is from a private credit bureau or a public credit registry, which facilitates the decision and therefore process of extending loans to a great extent.

While the "public credit registry index" quantifies what the "public credit registry" covers; the private credit bureau index quantifies what the "private credit bureau" covers separately in each country. Credit registry[3] coverage has the ultimate aim of reporting the number of companies and people recorded in the database of credit registries as of January 1, 2017, collecting data on the borrowers' credit history for the last five years, in addition to the number of companies and people with no history on obtaining debt in the last five years, but for whom a lender demanded a credit report

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[3] http://www.doingbusiness.org/Methodology/getting-credit   A "credit registry" can be described as a databank that is directed by the public sector, usually by the Central Bank, that not only gathers data on the soundness of borrowers (could be companies or people) in the bank lending system, but also enables the interchange of credit information among financial institutions, including banks.

from the registry in the time interval between January 2, 2016, and January 1, 2017. "Public credit registry index" and "private credit bureau index" show the number of companies and people as a percentage of the adult population listed in the largest credit bureau and credit registry, respectively. Both indices can get a value between 1 to 5, with lower values signaling lower number of companies and individuals being in the list of private credit bureau or public credit registry.

We sum up all four indices to attain a final compound index for accessibility to credit, which can get a value between 0 and 30; with higher values signifying the availability of higher credit accessibility. As the protection provided by bankruptcy and collateral laws increases, the privileges of lenders and borrowers increase and there is improved access to credit information, as a result of which lending is promoted.

4.4.2.2 Anti-self-dealing index

A novel measure is developed by Djankov, La-Porta and Lopez-de-Silanes (2008), which demonstrates the legal protection given to minority shareholders against the misuse of the companies' assets by the directors and insiders in the company for personal gain: the Anti-Self-Dealing Index (ASDI). The index has been designed for 72 countries, which is founded on the laws and regulations that have been predominant in each respective country in 2003. According to Djankov et al. (2008), this index concentrates on private enforcement mechanisms, including admission, consent, lawsuit, which manage an explicit self-dealing contract. Anti-Self-Dealing Index is the composite of: "1) extent of disclosure index; 2) the extent of director liability index; and 3) ease of shareholder suits index" (Djankov et al., 2008). ASDI can take values between

0 and 10, with lower values meaning less protection of investors, which increases the information asymmetries and contracting problems present in the country.

We use the indices, which are available from 2006, for the entire sample. We make the assumption that the overall indices remained the same, following Ferrando et al. (2017). We create sub-samples based on the median of both CAI and ASDI. Within developed countries, three countries have credit accessibility that are above-median (Ireland, UK and Germany); while the rest of the countries have below-median credit accessibility. On the other hand, countries that have the above-median Anti-Self-Dealing Index are UK, Ireland, Belgium, Norway, Denmark, Italy, Portugal and Finland, with the rest of the countries having below-median Anti-Self-Dealing Index. Within the developing countries, while three countries have above-median credit accessibility (Czeck, Hungary and Poland); Greece, Russia and Turkey have below-median credit accessibility. Finally, within the developing countries, Russia is the only country with above-median ASDI, while the rest of the countries being below-median. The list of countries with their respective CAI and ASDI are reported in Appendix D.

As can be depicted from Table 19, sub-samples of firms are defined both for the developed as well as for the developing countries based on their institutional settings, in which the firms are based. The majority of FF firms, both in developed as well as in developing countries, are based in Low CAI and low ASDI countries, suggesting most of the firms that are flexible financially are based in countries, where access to credit is limited, protection of investors is poorer and financial markets are less developed. While almost 21% of the entire sample which is FF (FF3) exist in the Low CAI countries, only 10% of the entire sample which is FF exist in the High CAI countries within developed countries. Similar to these findings; while 20.6% of the sample, which is FF exist in the

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Low ASDI countries, only 10.4% of the entire sample which is FF3 exist in the High

ASDI countries in the developed countries. We observe similar findings for the

developing countries. While only 5.9% of the sample which is FF belong to the High

CAI countries, 10.5% of the sample which is FF belong to the Low CAI countries.

Moreover, while only 2.5% of the sample which is FF belong to the High ASDI

countries, 13.9% of the sample which is FF belong to the Low ASDI countries.

Table 19. Financially Flexible Firms: Sub-Samples – Country Characteristics -

Panel A. Developed Countries

	FF2	FF3	FF4	FF5
Credit Accessibility				
High Credit Access Index	11.08%	10.02%	9.03%	8.19%
Low Credit Access Index	23.26%	20.95%	18.49%	16.30%
Legal Protection				
High Anti-Self-Dealing Index	11.44%	10.38%	9.16%	8.15%
Low Anti-Self-Dealing index	22.90%	20.59%	18.36%	16.34%

Panel B. Developing Countries

	FF2	FF3	FF4	FF5
Credit Accessibility				
High Credit Access Index	8.72%	5.90%	3.04%	1.92%
Low Credit Access Index	16.98%	10.45%	6.37%	4.05%
Legal Protection				
High Anti-Self-Dealing Index	4.59%	2.46%	1.32%	0.85%
Low Anti-Self-Dealing index	21.10%	13.89%	8.09%	5.11%

We approximate the same capital expenditure model on sub-samples separately

that we have created based on the above criteria, with the ultimate aim of comparing the

effect of FF on investment for the different sub-samples. Based on the above stated hypotheses, we conjecture that for those firms, which are domiciled in low-CAI and low-ASDI countries; access to capital markets are harder and therefore more information asymmetries are expected in these countries and consequently we anticipate that the value of FF will be greater for the firms in low CAI and low ASDI countries, as compared to those firms located in high CAI and high ASDI countries. Accordingly, the following hypotheses will be tested in the next section.

Hypothesis 3.3: For companies located in countries with lower Credit accessibility (Credit Access Index), the effect Financial Flexibility on investment is stronger.

Hypothesis 3.4: For companies located in countries with poorer legal protection (Anti-Self-Dealing Index), the effect Financial Flexibility on investment is stronger.

4.4.2.3   Results for sub-samples of CAI and ASDI - developed countries

Results for the sub-samples obtained for Developed countries are reported in Table 20. While the first two columns of Table 20 report the results obtained from the below-median Credit Access Index and the above-median Credit Access Index; the last two columns report the results obtained from the below-median ASDI and the above-median ASDI.

One of the important results observed concerns the cash flow. We detect the larger impact of cash flow on investment for companies in low CAI and low ASDI countries, as compared to high CAI and high ASDI firms, indicating that in countries

where legal protection and credit accessibility is relatively lower; higher internally generated funds have a greater contribution to the investment level of firms.

Table 20. Investment Sub-Sample Analysis: Country Characteristics - Developed Countries

	Credit Access Index		Anti-Self-Dealing Index	
	Low	High	Low	High
Dep Var: Investment$_t$	FF3		FF3	
Investment$_{t-1}$	0.085***	0.090***	0.110***	0.071***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow$_{t-1}$	0.076***	0.024***	0.048***	0.017**
	[0.000]	[0.000]	[0.000]	[0.041]
Sales Growth	0.056***	0.019***	0.031***	0.014***
	[0.000]	[0.000]	[0.000]	[0.000]
FF Dummy	0.074***	0.043***	0.073***	0.046***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow (t-1) x FF Dummy	-0.054***	0.019**	-0.038***	0.027**
	[0.000]	[0.051]	[0.001]	[0.046]
Observations	24,150	17,265	21,740	19,688
No. Of firms	2,101	1,547	1,884	1,762
No. Of instruments	142	80	142	64
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.136	0.134	0.114	0.194

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Moreover, we observe that FF companies are capable of investing more than other companies and this effect is considerably higher for firms in lower CAI and lower ASDI countries, i.e. countries in which credit accessibility and legal protections are lower (7.4% in low CAI firms vs. 4.3% in high CAI firms and 7.3% in low ASDI firms vs. 4.6% in high ASDI firms). This result confirms that for those firms, where capital market frictions are more and legal protection is less; the value of financial flexibility is

significantly higher as compared to other firms, where it is easier to access capital

markets and legal protection is higher.

4.4.2.4   Results for sub-samples of CAI and ASDI - developing countries

The results of the regression analysis estimated for the sub-samples of developing

countries created on CAI and ASDI indexes are reported in Table 21.

Table 21. Investment Sub-Sample Analysis: Country Characteristics - Developing
Countries

	Credit Access Index		Anti-Self-Dealing Index	
	Low	High	Low	High
Dep Var: Investment$_t$	FF3		FF3	
Investment$_{t-1}$	0.095***	0.129***	0.082***	0.000
	[0.000]	[0.000]	[0.000]	[0.998]
Cash Flow$_{t-1}$	0.258***	0.326***	0.230***	0.115***
	[0.000]	[0.000]	[0.000]	[0.001]
Sales Growth	0.048***	0.047***	0.037***	0.041***
	[0.000]	[0.000]	[0.000]	[0.000]
FF Dummy	0.130***	0.028***	0.122***	0.050***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow (t-1) x FF Dummy	-0.442***	-0.228***	-0.385***	-0.106
	[0.000]	[0.000]	[0.000]	[0.116]
Observations	8,282	4,187	9,391	3,078
No. Of firms	786	441	863	364
No. Of instruments	143	94	143	232
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.188	0.237	0.137	0.311

*,** and *** indicate statistical significance levels of 10%, 5% and 1%,
respectively.

As can be depicted from Table 21, for all four sub-samples, financial flexibility

significantly and positively impacts investment in developing countries. While the

impact of FF dummy on investment is 13% for low CAI firms, the effect falls

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dramatically down to 2.8% for high CAI firms. Similarly, the impact of FF dummy is 12% for low ASDI firms, while the effect falls to 5% for high ASDI firms. These results imply that for those firms, where credit accessibility and legal protection is poorer, information asymmetries increase, wherein the value of financial flexibility is higher for firms when there is an investment opportunity, given the fact that it is harder for firms to access capital markets. It is also noteworthy to note that the interaction term between FF dummy and cash flow is negative for all the regressions estimated within the sub-sample analysis, demonstrating that companies in developing countries are less exposed to imperfections in the capital markets and hence they are less dependent on internal funds, no matter what level their credit accessibility and legal protection is at.

To summarize, the findings of the analysis undertaken in this chapter demonstrate that FF improves investment capability of companies and the impact of FF on investment is almost twice for developing countries as compared to developed countries (the impact of FF on investment is 3-4% for developed countries as compared to 5-10% impact for developing countries). The reason for this huge difference in impact is attributable to the fact that capital markets are undeveloped in developing countries as compared to developed countries, resulting in companies to rely more on their own flexibility to realize their planned investments. Moreover, higher anticipated asymmetric information, which may stem from firm characteristics (companies being smaller in size and being younger) and country characteristics (companies based in countries with lower credit accessibility or poorer legal protection) results in a stronger impact of FF on investment.

It is also significant to note that AR (2) statistics in all Investment Model Sub-Sample analysis are insignificant, implying that the instruments chosen are valid and the model is correctly specified.

4.5 Effect of global financial crisis

Ever since the Great Depression back in 1930s, the global economic crisis in 2008 is perceived as the most severe crisis until today. Starting with this crisis, risk management has started to get greater interest that resulted in Basel III requirements and at the same time lowered the willingness of banks to put on more risk on their balance sheets. The economic downturns made it harder for firms to obtain funds from external capital markets and in the meantime companies had to decline investment opportunities that are profitable.

Despite its global presence, the effect of the crisis was diverse across different countries and even across different companies within a single country. Although most companies were severely damaged by the economic downturn and therefore resisted to survive, some of the companies, on the other hand, performed better than the rest throughout the crisis and furthermore strengthened their competitive position. The differences in the performances of firms throughout the life of the crisis; provides an exclusive opportunity to study whether companies with high financial flexibility were less affected from the economic downturn.

In their empirical study, Campello, Graham and Harvey (2010) finds that if companies can raise capital from the external capital markets, they can realize their positive NPV investment opportunities; especially in the recent financial crisis. During the economic downturns, the source of external financing opportunities declined, leading

to the performance of the company to be poorer and growth rates of profitability to be lower. Furthermore, Duchin, Ozbas and Sensoy (2010) demonstrates that this impacts the most, corporations with high levels of net debt and low levels of cash holdings.

On the other hand, the main finding of Bancel and Mittoo (2011) is that companies, which have ample financial flexibility tend to be less affected from the economic downturns. They argue that "firms with greater internal financing are likely to have lower leverage, higher cash ratios and suffer a lower impact from the crisis on their business operations" (Bancel & Mittoo, 2011). Researchers also claim that one of the purposes of obtaining FF is to aid companies respond better to the distress born in case of an economic downturn (Gamba & Triantis, 2008; Marchica & Mura, 2010; Arslan-Ayaydın et al., 2014)

Based on the above results, we argue that those firms who preserve low leverage for a minimum of two years, are able to augment their investments relatively more than other firms who do not keep low leverage both in developed as well as in developing countries. In crisis situations, where there is a liquidity shock and it is even harder for firms to access external capital markets, financial flexibility may become even more significant for firms. Based on this expectation, we hypothesize that FF firms will be less affected from the financial crisis, which is expected to be demonstrated with a relatively lower reduction in investment levels. Based on this argument, our next hypothesis is as follows:

Hypothesis 4: During economic downturns, the decrease in investment level of FF companies' is less than that of non-flexible companies.

In order to test this hypothesis, the global economic downturn that took place in 2007-2008, which is recognized by many economists as the worst economic downturn that took place since the Great Depression of the 1930s (Eigner & Umlauft, 2015), will be used as a natural experiment. We will take into examination eight years of our sample, 2003-2010, following Ferrando et al. (2017). Similar to the methodology implemented in the previous sections, we categorize a firm as financially flexible if the company has preserved SDC for at least three consecutive years.

In order to comprehend whether there is a difference in the investment level of flexible and non-flexible companies, we will observe the trends and compare the means of the investment level of flexible companies with that of non-flexible firms for the two separate time periods: before the crisis and during the crisis. We will take four years into consideration for two separate periods, resulting in years between 2003-2006 as the "before-crisis" period and 2007-2010 as the "during crisis" period. We compute the mean of the investment for firms before and during the crisis period. We, then compare the investment level of FF companies before and during the economic downturn, following which we compare these levels with non-flexible firms. The results of our findings are summarized in Table 22.

As can be depicted from Table 22 Panel A and Panel B, when we compare the results of before crisis and during crisis, we observe that the investment level of all firms have dropped during the crisis both for the developed as well as developing countries. In developed countries, the average investment level has dropped from 0.0708 to 0.0618, while on the other hand, in developing countries, the average investment level has dropped from 0.1498 to 0.0795. Moreover, in line with expectations, financially flexible firms are less affected from the crisis as compared to non-flexible firms.

Table 22. Financial Flexibility and Global Financial Crisis

Panel A
Investment Means "Before" and "During" the 2008 Economic
Downturn for Developed Countries

	No of Firms	Before-crisis	During crisis	Δ Mean (During crisis - Before crisis)	% of change	p-val of difference (During crisis - Before crisis)
All Sample	4334	0.0708	0.0618	-0.0090	-12.7%	0.000
FF firms	1521	0.0707	0.0620	-0.0087	-12.3%	0.000
Non flexible firms	2813	0.0708	0.0616	-0.0092	-13.0%	0.000

Panel B
Investment Means "Before" and "During" the 2008 Economic Downturn for Developing
Countries

	No of Firms	Before-crisis	During crisis	Δ Mean (During crisis - Before crisis)	% of change	p-val of difference (During crisis - Before crisis)
All Sample	1436	0.1498	0.0795	-0.0703	-46.9%	0.000
FF firms	266	0.1253	0.0732	-0.0521	-41.6%	0.000
Non flexible firms	1170	0.1586	0.0811	-0.0776	-48.9%	0.000

As can be observed from Table 22 Panel A, while the average investment of FF firms have dropped by 0.0087, coinciding to 12.3% change, when before and during crisis numbers are compared; average investment of non-flexible firms have dropped by 0.0092, coinciding to 13% change during the same time period. Furthermore, as can be depicted from Table 22, Panel B, while the average investment level of FF firms has dropped by 0.0521 (41.6%); average investment of non-flexible firms has dropped by

0.0776 (48.9%). It is also significant to note that the difference between the changes in investment levels both for FF firms, as well as for non-flexible firms is significant (p-value: 0.000). More strikingly, when we compare developed countries with developing countries, we observe that while the average investment level decreases in the 12-13% range for developed countries, the average investment level decreases in the 40-50% range for developing countries; demonstrating that the results of the financial crisis is much stronger for developing countries, which may stem from the fact that; external capital markets, which are already limited in the developing countries, shrink even more in financial crisis time periods; resulting in firms to cut their capital expenditures severely, since necessary funding for investments cannot be found.

The results obtained from this analysis reveal that firms with more SDC are less affected from the financial crisis both in developed and developing countries, and the impact of the crisis is stronger for developing countries, as compared to developed countries.

CHAPTER 5

IMPACT OF FINANCIAL FLEXIBILITY ON FIRM VALUE

The main motivation of this chapter is to comprehend the effect of Financial Flexibility on firm value, studying whether the impact of FF differs between developed vs. developing countries. Furthermore, we will also be examining the impact of different means of information asymmetries, including firm and country characteristics on the association between Financial Flexibility and value of companies.

5.1   Hypothesis development

Gamba and Triantis (2008) study FF's impact on the value of companies in a theoretical model, arguing financial flexibility is significant for companies because companies with high FF should be evaluated with a premium, since these companies are able to sidestep the cost of financial distress in case of negative consequences of unexpected events. Moreover, Gamba and Triantis (2008) claim that FF companies are able to boost value of their companies through undertaking investment prospects that unexpectedly arise. Marchica and Mura (2010) take UK firms into their sample and through using both the Fama and French (1993) three-factor model and capital asset pricing model (CAPM); they conduct a long-run performance examination to investigate Jensen's (1986) alpha for financially flexible companies. Their results indicate that companies categorized as financially flexible have the tendency to beat the market and moreover their operating performance improves in the following years, concluding that FF is appreciated. In line with Marchica and Mura (2010), De Jong et al. (2012) also argue that FF is

advantageous for firms because it lessens the inherent distortions in investments. Financial Flexibility is perceived as the ability of a firm to take advantage of unanticipated events or to deal with unpredicted opportunities at a low cost. Financial flexible companies usually have easier access to external capital markets, as a result of which these firms are able to meet their funding needs born from unexpected shortfalls in their earnings and therefore they are able to avoid cases, which may result in suboptimal investment and poor performance (Arslan-Ayaydın et al., 2014). Based on this evidence, it is argued that firms with financial flexibility should be valued at a premium. Hence we hypothesize that FF will have a positive impact on the value of companies.

Based on the above, the following hypothesis is the first hypothesis that will be tested in this chapter:

Hypothesis 5: Financial Flexibility enhances firm value.

Furthermore, as capital flows in emerging countries, which are volatile resulted in reductions in economic growth and also weakening in firm performance (Joyce & Nabar, 2009; Demir, 2009); it is hypothesized that FF in developing countries augments the value of companies more than it does in developed countries. This is attributable to the fact that FF companies can avoid the consequences of negative shocks in a better way, such as circumventing the higher cost of capital and accepting positive NPV investment prospects when they arise. Accordingly, the second hypothesis to be tested in this chapter can be formulized as follows:

Hypothesis 6: The effect of FF on firm value is stronger for companies in developing countries, than in developed countries.

On the other hand, firm and country characteristics that are used to separate companies in terms of information asymmetries will also be used to analyze whether they have an impact on firm value. Based on the notion that small-sized (Berger & Udell, 2003) and young firms (Rauh, 2006; Fee et al., 2009) tend to face more severe problems in obtaining external financing as compared to large and more mature firms; we hypothesize that the impact of financial flexibility on value of companies would be more significant for firms with greater information asymmetries, i.e. small and young firms and firms located in countries with poorer credit accessibility and weaker legal protection. Based on the above, the following hypothesis will be tested for the developed and developing samples.

Hypothesis 7: For companies with higher expected asymmetric information, the impact of FF on firm value is stronger.

Hypothesis 7.1: For companies with smaller size, the impact of FF on firm value is stronger.

Hypothesis 7.2: For younger companies, the effect of FF on firm value is stronger.

Hypothesis 7.3: For companies located in countries with lower Credit accessibility (Credit Access Index), the effect FF on value of companies is stronger.

Hypothesis 7.4: For companies located in countries with poorer legal protection (Anti-Self-Dealing Index), the effect Financial Flexibility on firm value is stronger.

5.2 Estimation and variables

In order to test the above stated hypothesis, following Yung et al. (2015); we regress Financial Flexibility dummy on firm value. On the other hand, we use several control variables in the firm value estimation following Yung et al. (2015) including firm size, dividend, cash flow, capex, cash ratio and firm age. Moreover, following Lemmon and Lins (2003), we also add leverage as a control variable in the firm value estimation of developing countries.

Consequently, the following firm value model is estimated for the sample covering developed countries:

(3) $Firm\ Value_{i,t} = \gamma_1\ Firm\ Value_{i,t-1} + \gamma_2\ Size_{i,t} + \gamma_3\ DD_{i,t} +$

$\gamma_4\ Cash\ Flow_{i,t} + \gamma_5\ CAPEX_{i,t} + \gamma_6\ Cash\ Ratio_{i,t} + \gamma_7\ Age_{i,t} + \gamma_8\ FF_{i,t} + \eta_c + \eta_t + v_{it}$

On the other hand, for developing countries, the following firm value model will be used:

(4) $Firm\ Value_{i,t} = \gamma_1\ Firm\ Value_{i,t-1} + \gamma_2\ Size_{i,t} + \gamma_3\ DD_{i,t} + \gamma_4\ Cash\ Flow_{i,t}$

$\gamma_5\ CAPEX_{i,t} + \gamma_6\ Cash\ Ratio_{i,t} + \gamma_7\ Age_{i,t} + \gamma_8\ LEV_{i,t} + \gamma_9\ FF_{i,t} + \eta_c + \eta_t + v_{it}$

The main difference between Model 3 and Model 4 stated above is the inclusion of Leverage as a control variable for the developing countries. The mean target leverage for developing countries is 0.233 as compared to the mean target leverage of 1.186 for the developed countries. These results imply that target leverage and therefore the amount of external funds firms can borrow in developing countries is relatively lower as compared to developed countries. Since the availability of capital markets is also scarce in developing countries and there are no other major channels from which firms can get funding, the limited leverage capacity becomes extremely significant for firms and therefore for firm value, which is why it is included as a control variable for the developing countries.

The dependent variable of Model 3 and Model 4 is Firm Value, which is measured with Tobin's q, following the approximation proposed by Chung and Pruitt (1994): Market value of common equity plus preferred stock plus the book value of total liabilities divided by the book value of total assets. While firm size is quantified with log of total assets; dividend dummy is constructed such that the dummy gets a value of 1 if the company distributes dividends and 0 otherwise. Capex is computed as annual change in (net) fixed assets plus depreciation over total assets and Cash Flow is the ratio of EBITDA divided by total assets at the beginning-of-year. Finally, cash ratio is measured with cash and equivalents to total assets and age is calculated as the number of years that have passed since the firm has been incorporated.

The details of the variables used in the firm value model may be found in Table 23.

Table 23. Variable Definitions – Firm Value Model

Variable	Notation	Variable Type	Definition
Firm Value	FV	Dependent Variable	Tobin's Q (Market value of common equity + preferred stock + book value of total liabilities) / (Book value of total assets)
Financial Flexibility	FF2 FF3 FF4 FF5	Independent Variable	FF is a (0, 1) dummy variable that gets a value of 1 if the company is FF and 0 otherwise. FF2: Financial flexibility achieved through 2 consecutive periods of SDC FF3: Financial flexibility achieved through 3 consecutive periods of SDC FF4: Financial flexibility achieved through 4 consecutive periods of SDC FF5: Financial flexibility achieved through 5 consecutive periods of SDC
Firm Size	Size	Control Variable	Log of Total Assets
Investment	Inv	Control Variable	Capex / Total Assets. Capex is computed as the annual change in (net) fixed assets plus depreciation.
Dividend Dummy	DD	Control Variable	Dividend Dummy is a (0, 1) dummy variable that gets a value of 1 if the company distributes dividends and 0 otherwise.
Cash Flow	CF	Control Variable	EBITDA / Total Assets (TA at the beginning of year)
Firm Age	Age	Control Variable	Ln (1+firm age)
Cash Ratio	Cash	Control Variable	Cash and equivalents / Total Assets
Leverage*	LEV	Control Variable	Total debt (Short term debt + current portion of long term debt + long term debt) / total assets

*Used only for developing countries following Lemmon and Lins (2003)

Descriptive statistics for the variables used in the firm value model for the developed and developing countries may be found in Table 24 - Panel A and Panel B, respectively.

Table 24. Summary Statistics of Firm Value Model for Developed vs. Developing Countries

Panel A. Developed Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Firm Value	56,903	0.54	0.54	0.30	0.02	1.93
Age	39,798	1.17	1.20	0.52	0.00	2.26

Panel B. Developing Countries

	Observations	Mean	Median	Standard Deviation	Min	Max
Firm Value	17,323	0.53	0.51	0.29	0.04	1.82
Age	17,684	0.99	1.04	0.46	0.00	2.03

In the descriptive statistics, we observe that average firm value of both the developed as well as developing countries is very close to each other, with the mean firm value of developing countries being slightly lower as compared to that of developed countries. On the other hand, the average company in developing countries is younger as compared to average company in developed countries, implying that on average publicly quoted firms in developed countries have been incorporated before those in developing countries.

Similar to the Leverage and Investment models estimated in the previous chapters, GMM is used as the estimation technique, through taking the first differences of the model and using the suitable lagged levels of the regressors as instruments in the system. Moreover, country fixed effect (η_c) and time-specific effect (η_t) is also included into the regression analysis with disturbance term v_{it}, which is assumed to be serially uncorrelated with mean zero.

5.3   Results

The results of the empirical analysis of firm value model conducted separately for the developed and developing countries may be found in the next two sections. It is significant to note that the same baseline regressions are run with four different versions of financial flexibility dummy for robustness purposes.

5.3.1   Results for the developed countries

The results of the firm value model for the developed countries may be found in Table 25. As can be depicted from Table 25, FF dummies range from FF2 to FF5, referring to firms with SDC starting from 2 consecutive years to 5 consecutive years.

The most striking finding is that FF has a significant positive impact on value of companies in all regressions and the impact of financial flexibility changes in the 5%-6% band for all estimations. Moreover, dividend, cash flow generated by firms, investments undertaken and finally age of the firm positively and significantly contributes to value creation process for companies. In developed countries, dividend is anticipated to increase value of companies, because there is a clientele for dividend

distributing stocks, stemming from the fact that investors tend to buy shares of a

company to keep a stable source of cash flow.

Table 25. Firm Value Model: Developed Countries

Dep Var: Firm Value$_t$	FF2	FF3	FF4	FF5
Firm Value$_{(t-1)}$	0.505***	0.525***	0.520***	0.493***
	[0.000]	[0.000]	[0.000]	[0.000]
Size	-0.218***	-0.198***	-0.190***	0.020**
	[0.000]	[0.000]	[0.000]	[0.050]
Dividend Dummy	0.126***	0.114***	0.106***	0.010***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Flow	0.003***	0.003***	0.003***	0.001
	[0.000]	[0.000]	[0.004]	[0.673]
Investment	0.059***	0.052***	0.064**	0.186***
	[0.000]	[0.000]	[0.026]	[0.000]
Cash Ratio	-0.480***	-0.462***	-0.448***	-0.086***
	[0.000]	[0.000]	[0.000]	[0.000]
Age	0.119***	0.113***	0.131***	0.075***
	[0.000]	[0.000]	[0.000]	[0.002]
FF Dummy	0.061***	0.054***	0.050***	0.052***
	[0.000]	[0.000]	[0.000]	[0.000]
Observations	29,249	28,006	26,702	23,602
No. Of firms	2475	2,474	2,473	2,421
No. Of instruments	39	38	37	54
AR(1)	0.000	0.000	0.000	0.062
AR(2)	0.323	0.182	0.119	0.198

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Age, on the other hand, is also expected to positively contribute to firm value; which is attributable to the fact that investors, in developed countries give special emphasis to the sustainability of a firm, for which age is one of the factors. Cash flow of companies in developed countries is also expected to significantly and positively affect firm value; mainly stemming from the fact that companies can utilize their internally generated funds to finance investments, which would prevent the underinvestment problem for firms and moreover companies could prevent some unexpected events happening; thus resulting in improved firm value. On the other hand, capital expenditures of a firm is also expected to positively contribute to the value of firms, stemming from the fact that capital expenditures proxy for the growth opportunities of a firm and a company with more growth opportunities tend to be more valued by investors.

On the other hand, while firm size negatively and significantly effects firm value when FF2, FF3 and FF4 is taken into the regressions; the effect of firm size turns to positive when FF5 is included in the estimation; implying that for firms with two, three and four periods of Spare Debt Capacity; as firm size increases, the value of the firm decreases; however for firms with five periods of Spare Debt Capacity, firm size positively contributes to firm value. This result demonstrates that increasing firm size is not valued by the shareholders in developed countries; evident with a corresponding decline in firm value.

Moreover, the cash ratio negatively and significantly affects firm value, which can be attributable to the fact that holding excess cash may be observed as carrying an opportunity cost, hence driving the value of firms in a downward direction. The company may have to give up positive NPV projects in order to preserve high cash

holdings. Moreover, excess reserves of cash may also result in agency problems between shareholders and managers. Due to large cash holdings, managers may choose to invest higher amounts of cash in inefficient investments with the purpose of getting non-pecuniary benefits; while in the meantime shareholders' wealth will be decreased (Jensen & Meckling, 1976).

All in all, the results demonstrate that FF, dividend, cash flow, investment and age positively affects the value of companies, while size and cash ratio negatively affects it.

5.3.2   Results for the developing countries

The findings of the firm value model for the developing countries may be found in Table 26. For the firm value estimations conducted for the developing countries; the most important finding is that financial flexibility effects firm value positively and significantly in all specifications and the impact changes in the 11%-12% band. On the other hand, firm size and cash flow negatively effects value of firms for all specifications for the developing countries. As the size of a company increases, firm value in developing countries drops, signaling that larger companies are not appreciated in developing countries. Moreover as companies' cash flow rises, firm value also declines, which could be attributable to the fact that investors may perceive high levels of cash flow as an opportunity cost, i.e. company is not undertaking profitable projects in order to maintain high levels of cash flow, constituting an opportunity cost.

Moreover, dividends distributed by firms, leverage and the cash ratio of firms positively affects firm value. In developing countries, dividend is expected to augment

the value of firms, similar to the result obtained for developed countries; because there is a natural clientele for dividend paying stocks, stemming from the fact that investors want to buy stocks of a company in order to receive regular dividends, which would constitute a regular cash flow for them.

Table 26. Firm Value Model: Developing Countries

Dep Var: Firm Value$_t$	FF2	FF3	FF4	FF5
Firm Value$_{(t-1)}$	0.362***	0.363***	0.359***	0.355***
	[0.000]	[0.000]	[0.000]	[0.000]
Size	-0.053***	-0.052***	-0.037***	-0.037***
	[0.000]	[0.000]	[0.000]	[0.001]
Dividend Dummy	0.013***	0.011***	0.011***	0.012***
	[0.001]	[0.005]	[0.007]	[0.004]
Cash Flow	-0.253***	-0.257***	-0.277***	-0.272***
	[0.000]	[0.000]	[0.000]	[0.000]
Investment	0.008	0.014	0.009	0.019
	[0.610]	[0.397]	[0.567]	[0.274]
Leverage	0.707***	0.705***	0.686***	0.703***
	[0.000]	[0.000]	[0.000]	[0.000]
Cash Ratio	0.074***	0.057**	0.067***	0.072***
	[0.011]	[0.044]	[0.013]	[0.011]
Age	0.012	0.004	0.010	0.017
	[0.444]	[0.805]	[0.583]	[0.349]
FF Dummy	0.112***	0.122***	0.105***	0.114***
	[0.001]	[0.000]	[0.003]	[0.000]
Observations	9,633	9,423	9,188	8,916
No. Of firms	1,172	1,172	1,172	1,172
No. Of instruments	609	597	581	561
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.298	0.298	0.297	0.253

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

On the other hand, capital expenditures realized by firms are not found to be a significant indicator of firm value in developing countries, which may be attributable to the fact that investors in developing countries do not give importance to the growth opportunities of a company while they are valuing it. Similar to the capital expenditures undertaken by a company, age of a company also does not have a significant impact on firm value, which signals that increasing age is not a value creator determinant for the investors in developing countries. Moreover, leverage is estimated to positively affect value of companies, stemming from the fact that tax advantages are born as a result of debt financing, which is predicted to improve the cash flow of companies and consequently firm value. Finally, the cash ratio is expected to positively contribute to the value of companies in developing countries that may stem from several factors. A company, who has enough cash holdings would have the flexibility to prevent some unpredicted events, which would protect the company, as a result of which costs of liquidity constraints and the uncertainty of cash flow could be removed. Moreover, companies could avoid underinvestment costs by using their own cash, leading to enhanced firm value.

When we compare the results obtained from developed and developing firms, we observe that financial flexibility effects firm value in both groups, nevertheless, the impact of FF on firm value is almost double for developing countries as compared to that of developed countries (5%-6% for developed countries vs. 11%-12% for developing countries), providing support for Hypothesis 6. It is significant to note that except for financial flexibility dummy, dividend and size; the results obtained for the other control variables for developed and developing firms do not go hand in hand.

While the impact of age and capex on firm value is positive in developed countries, its effect is insignificant in developing countries. Moreover, while cash flow positively contributes to value of companies in developed countries, it has a negative impact on the firm value of developing countries; demonstrating that while the rise in cash flow is perceived as a factor that would prevent unexpected events and avoid underinvestment and therefore increase the firm value in developed countries, it is perceived as a factor of creating opportunity cost and therefore decrease the firm value in developing countries. On the other hand, while cash ratio positively impacts the value creation process of firms in developing countries, it negatively impacts the process in developed countries. This conflict can be explained by the fact that holding high levels of cash is perceived as a preventive action that would avoid unanticipated events and underinvestment in developing countries as compared to developed countries, where holding high levels of cash is perceived as an opportunity cost. It is significant to note that, the only determinants positively affecting firm value, which are common for developed and developing countries is financial flexibility and dividends.

In the baseline estimations conducted for the developed as well as developing countries, we observe that AR (2) statistic is insignificant in all of the GMM regressions, as a result of which we can conclude that the instruments that are chosen are valid and the model is correctly specified.

5.4   Impact of information asymmetry

The impact of information asymmetry on the relationship between financial flexibility and firm value will be analyzed in the next section, with taking into consideration firm

size and age as firm characteristics and Credit Access Index and Anti-Self-Dealing

Index as country characteristics.

5.4.1 Firm characteristics

Similar to the sub-sample analysis conducted for the investment estimations in the

previous chapter, firm value analysis will also be repeated for the sub-samples

constructed based on the characteristics of firms, including firm size, firm age and the

combination of firm size and age, the results of which may be found in the following

two section.

5.4.1.1 Results for sub-samples of size and age - developed countries

The sample of developed countries is segregated based on firm size, into three main

groups (Small, medium and large) and moreover based on firm age into two main groups

(young and mature) and finally based on the combination of firm size and age (small and

young versus large and mature). The same regressions are repeated taking firm value as

the dependent variable. The results of the sub-sample analysis conducted for the

developed countries may be found in Table 27.

The most important result observed from the estimations conducted for the firm

value sub-sample analysis is that, financial flexibility positively contributes to value of

companies in all of the sub-samples including size, age and the combination of size and

age (the effect of FF on firm value is significant for all sub-samples except for the "large

and mature" sub-sample).

It is also very significant to note that the impact of financial flexibility decreases as the firm size increases. For example, while the impact of FF on firm value is 12.4% for small firms, the effect dramatically drops to 3.5% for medium firms and further down to 0.01% for large firms.

Table 27. Firm Value Sub-Sample Analysis: Firm Size - Developed Countries

	Small	Medium	Large
Dep Var: Firm Value$_t$			
Firm Value$_{(t-1)}$	0.387***	0.765***	0.805***
	[0.000]	[0.000]	[0.000]
Size	-0.461***	-0.053*	-0.019*
	[0.000]	[0.059]	[0.083]
Dividend Dummy	0.067***	0.000	-0.004
	[0.001]	[0.930]	[0.491]
Cash Flow	0.001	0.001*	-0.002
	[0.395]	[0.092]	[0.250]
Investment	0.125**	0.039	0.082***
	[0.013]	[0.293]	[0.002]
Cash Ratio	-0.385***	-0.179***	-0.134
	[0.000]	[0.000]	[0.331]
Age	0.172***	0.002	0.059***
	[0.000]	[0.704]	[0.000]
FF Dummy	0.124***	0.035***	0.009*
	[0.000]	[0.001]	[0.099]
Observations	7,648	8,320	10,176
No. Of firms	1,114	1,176	948
No. Of instruments	303	303	287
AR(1)	0.000	0.000	0.000
AR(2)	0.395	0.173	0.104

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

As can be depicted from Table 28, the same pattern is observed for young and mature firms such that the impact of FF on company value drops when firm age increases: the

impact of FF on firm value of young firms is 4.4%, while that of mature firms is only

2%.

Table 28. Firm Value Sub-Sample Analysis: Firm Age - Developed Countries

	Young	Mature
Dep Var: Firm Value$_t$	FF3	
Firm Value$_{(t-1)}$	0.513***	0.706***
	[0.000]	[0.000]
Size	-0.073***	-0.054***
	[0.006]	[0.000]
Dividend Dummy	0.100***	0.023**
	[0.000]	[0.015]
EBITDA/Sales	-0.002**	-0.001
	[0.045]	[0.484]
CAPEX/TA	0.200***	0.067*
	[0.000]	[0.089]
Cash Ratio	-0.400***	-0.325***
	[0.000]	[0.000]
Ln(1+firm age)	0.220***	0.024**
	[0.000]	[0.051]
FF Dummy	0.044***	0.020***
	[0.000]	[0.009]
Observations	13,352	14,069
No. Of firms	1,670	1,245
No. Of instruments	583	405
AR(1)	0.000	0.000
AR(2)	0.103	0.379

Finally, as shown in Table 29 when the sample is separated as "small and young"

and "large and mature" firms, we observe that while the impact of FF on company value

is 10.3% for "small and young" firms, the impact of FF on company value for "large and

mature" firms is not significant.

Table 29. Firm Value Sub-Sample Analysis: Firm Age and Size - Developed Countries

	Small & Young	Large & Mature
Dep Var: Firm Value$_t$	FF3	
Firm Value$_{(t-1)}$	0.367***	0.736***
	[0.000]	[0.000]
Size	-0.419***	0.026***
	[0.000]	[0.012]
Dividend Dummy	0.095***	-0.007
	[0.000]	[0.296]
EBITDA/Sales	-0.002	-0.004
	[0.107]	[0.416]
CAPEX/TA	0.361***	0.365***
	[0.000]	[0.000]
Cash Ratio	-0.364***	-0.586***
	[0.000]	[0.000]
Ln(1+firm age)	0.382***	-0.052*
	[0.000]	[0.055]
FF Dummy	0.103***	0.414
	[0.000]	[0.210]
Observations	4,673	6,106
No. Of firms	854	570
No. Of instruments	583	379
AR(1)	0.000	0.000
AR(2)	0.348	0.358

*, ** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

All in all, we have shown that firms with similar size and age that preserve conservative leverage for a minimum number of years, are able to improve their firm value more than those firms, who do not keep low leverage. These results also demonstrate that as information asymmetry embedded in firms decrease, evident with the increases in firm size and firm age; the impact of FF on company value decreases, since for these firms FF no longer becomes significant, as they can access external capital markets easily and therefore they can get funding from outside sources.

5.4.1.2 Results for sub-samples of size and age - developing countries

The sub-sample analysis of size, age and the combination of size and age is also

conducted for the developing countries. The results are presented in Table 30, 31 and 32.

Table 30. Firm Value Sub-Sample Analysis: Firm Size - Developing Countries

	Small	Medium	Large
Dep Var: Firm Value$_t$		FF3	
Firm Value$_{(t-1)}$	0.415***	0.558***	0.676***
	[0.000]	[0.000]	[0.000]
Size	-0.034***	0.016***	0.007***
	[0.000]	[0.001]	[0.000]
Dividend Dummy	0.043	0.014	0.012***
	[0.279]	[0.017]	[0.002]
EBITDA/Sales	-0.078***	-0.086***	-0.137***
	[0.000]	[0.000]	[0.000]
CAPEX/TA	0.248***	0.012	0.044*
	[0.000]	[0.693]	[0.098]
Cash Ratio	-0.439***	-0.052	0.046
	[0.000]	[0.381]	[0.313]
Ln(1+firm age)	-0.079***	-0.019	0.004
	[0.002]	[0.306]	[0.470]
Leverage	0.969***	0.641***	0.445***
	[0.000]	[0.000]	[0.000]
FF Dummy	0.070***	0.031**	0.025***
	[0.007]	[0.018]	[0.003]
Observations	1,952	2,655	3,975
No. Of firms	470	572	461
No. Of instruments	182	173	219
AR(1)	0.000	0.000	0.000
AR(2)	0.330	0.120	0.151

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

As far as firm size is concerned, three main groups (Small, medium and large)

are constructed and the same regressions are repeated taking firm value as the dependent

variable. As can be depicted from Table 30, FF dummy positively and significantly

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effects firm value, however the impact drops as firm size rises: the impact of FF dummy

on firm value is 7% for small firms, while it drops to 3% for medium firms and further

down to 2.5% for large firms.

Table 31. Firm Value Sub-Sample Analysis: Firm Age - Developing Countries

	Young	Mature
Dep Var: Firm Value$_t$	FF3	
Firm Value$_{(t-1)}$	0.472***	0.652
	[0.000]	[0.000]
Size	-0.035***	0.012***
	[0.000]	[0.001]
Dividend Dummy	0.124***	0.000
	[0.000]	[0.978]
EBITDA/Sales	-0.098***	-0.074***
	[0.000]	[0.000]
CAPEX/TA	0.283***	-0.031
	[0.000]	[0.365]
Cash Ratio	-0.533***	0.076
	[0.000]	[0.262]
Ln(1+firm age)	-0.053***	-0.014*
	[0.000]	[0.081]
Leverage	0.939***	0.524***
	[0.000]	[0.000]
FF Dummy	0.059***	0.017*
	[0.000]	[0.000]
Observations	5,457	2,986
No. Of firms	864	406
No. Of instruments	182	404
AR(1)	0.000	0.000
AR(2)	0.340	0.356

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

Similarly, as shown in Table 31, as firm age increases, the impact of FF dummy also decreases: while young firms' financial flexibility effects their firm value by 5.9%; that of mature firms effects their firm value by only 1.7%.

Table 32. Firm Value Sub-Sample Analysis: Firm Size and Age - Developing Countries

	Small & Young	Large & Mature
Dep Var: Firm Value$_t$		
Firm Value$_{(t-1)}$	0.604***	0.665***
	[0.000]	[0.000]
Size	0.012	0.006
	[0.257]	[0.281]
Dividend Dummy	0.034**	0.077**
	[0.023]	[0.014]
Cash Flow	-0.104***	-0.125***
	[0.000]	[0.000]
Investment	0.363***	0.004
	[0.000]	[0.909]
Cash Ratio	-0.692***	0.089
	[0.000]	[0.334]
Age	-0.020	-0.052**
	[0.453]	[0.016]
Leverage	0.642***	0.610***
	[0.000]	[0.000]
FF Dummy	0.068**	0.028
	[0.021]	[0.146]
Observations	1,288	1,393
No. Of firms	336	195
No. Of instruments	235	34
AR(1)	0.000	0.000
AR(2)	0.231	0.280

Moreover, as can be depicted from Table 32, the impact of financial flexibility on "small and young" firms is 6.8%, while that on "large and mature" firms is insignificant. These results imply that for firms in developing countries, as information

asymmetries increase, shown with the proxies of information asymmetries, the impact of financial flexibility also increases.

It is very significant to note that no matter where the companies are based, i.e. developed vs. developing, for those companies with more information asymmetries, (smaller sized and younger companies), the impact of FF on value of companies is higher as compared to those firms with less information asymmetries. Finally, financial flexibility does not have a significant impact on firm value of "large and mature" companies neither in developed nor in developing countries.

5.4.2   Country characteristics

Similar to the sub-sample analysis conducted for the investment estimations in the previous chapter, firm value analysis will also be repeated for the sub-samples constructed based on the country characteristics, including Credit Access Index and Anti-Self-Dealing Index, the results of which may be found in the following two section.

5.4.2.1   Results for sub-samples of CAI and ASDI - developed countries

The sub-samples based on country characteristics are constructed according to the median level of both indexes, with firms in low CAI sample (low ASDI sample), being based in below-median CAI index countries (below-median ASDI index countries) and firms in high CAI sample (high ASDI sample), being in above-median CAI index countries (above-median ASDI index countries).

The results for the sub-samples based on Credit Access Index and Anti-Self-Dealing Index for the Developed countries are reported in Table 33.

Table 33. Firm Value Sub-Sample Analysis: Country Characteristics: Developed Countries

	Credit Access Index		Anti-Self-Dealing Index	
	Low	High	Low	High
Dep Var: Firm Value$_t$	FF3		FF3	
Firm Value$_{(t-1)}$	0.696***	0.519***	0.678***	0.525***
	[0.000]	[0.000]	[0.000]	[0.000]
Size	0.080***	-0.115***	0.110***	-0.117***
	[0.000]	[0.000]	[0.000]	[0.000]
Dividend Dummy	-0.034***	0.064***	-0.067***	0.060***
	[0.000]	[0.003]	[0.000]	[0.000]
EBITDA/Sales	-0.006***	-0.001	-0.009***	0.001**
	[0.002]	[0.574]	[0.001]	[0.027]
CAPEX/TA	0.171***	-0.250*	0.287***	-0.161***
	[0.000]	[0.060]	[0.000]	[0.000]
Cash Ratio	-0.051	-0.774***	0.034	-0.476***
	[0.190]	[0.000]	[0.542]	[0.000]
Ln(1+firm age)	0.086*	0.007	0.115***	0.020**
	[0.000]	[0.653]	[0.000]	[0.037]
FF Dummy	0.084***	0.059**	0.138***	0.081***
	[0.000]	[0.033]	[0.000]	[0.000]
Observations	16,400	11,591	10,773	17,231
No. Of firms	1,386	1,090	915	1,559
No. Of instruments	152	540	154	731
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.417	0.202	0.392	0.167

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

FF dummy positively and significantly effects firm value in all sub-samples, no matter what level their credit accessibility or legal protection is. However, for firms in low CAI countries, the impact of financial flexibility on firm value is 8.4% as compared to those firms in high CAI countries, where the impact is 5.9%. Similarly, while the

impact of FF on firms in low ASDI countries is 13.8%, the effect drops down to 8.1% on firms in high ASDI countries. These results clearly indicate that for firms with more information asymmetries, which is proxied with lower credit accessibility and poorer legal protection, the impact of financial flexibility on firm value is higher as compared to companies in countries with higher credit accessibility and stronger legal protection.

5.4.2.2   Results for Sub-Samples of CAI and ASDI: Developing Countries

The sub-sample analysis based on country characteristics are also conducted for the firm value model of developing countries, the results of which are presented in Table 34.

As can be depicted from Table 34, financial flexibility positively and significantly effects firm value in all sub-sample estimations. The impact of the FF dummy is 10.1% for firms based in low CAI countries as compared to the impact of 6.6% for firms based in high CAI countries. Similarly, the effect of the FF dummy is 5.6% for firms based in low ASDI countries as compared to the effect of 3.7% for firms based in high ASDI countries. These results demonstrate that as credit accessibility gets lower and legal protection gets poorer, firms' information asymmetries rise, as a result of which the impact of financial flexibility on firm value also rises in developing countries.

Table 34. Firm Value Sub-Sample Analysis: Country Characteristics: Developing Countries

	Credit Access Index		Anti-Self-Dealing Index	
	Low	High	Low	High
Dep Var: Firm Value$_t$	FF3		FF3	
Firm Value$_{(t-1)}$	0.782***	0.379***	0.461***	0.530***
	[0.000]	[0.000]	[0.000]	[0.000]
Size	-0.034***	-0.041**	-0.070***	-0.040***
	[0.007]	[0.034]	[0.004]	[0.009]
Dividend Dummy	0.026***	0.017*	0.020***	0.021***
	[0.001]	[0.067]	[0.003]	[0.325]
EBITDA/Sales	-0.279***	-0.014**	-0.050***	-0.169***
	[0.000]	[0.043]	[0.000]	[0.000]
CAPEX/TA	0.079	0.057	0.012	0.020
	[0.219]	[0.471]	[0.569]	[0.526]
Cash Ratio	0.068	-0.286	-0.022	0.188***
	[0.263]	[0.163]	[0.622]	[0.003]
Ln(1+firm age)	-0.046*	0.051	-0.038***	0.036
	[0.074]	[0.260]	[0.006]	[0.460]
Leverage	0.476***	0.851***	0.778***	0.665***
	[0.000]	[0.000]	[0.000]	[0.000]
FF Dummy	0.101***	0.066***	0.056***	0.037**
	[0.009]	[0.001]	[0.000]	[0.056]
Observations	6,621	2,773	6,911	2,483
No. Of firms	763	409	828	344
No. Of instruments	610	285	189	349
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.270	0.107	0.222	0.219

*,** and *** indicate statistical significance levels of 10%, 5% and 1%, respectively.

The results obtained from both the developed as well as the developing countries imply that for those firms, where credit accessibility and legal protection is poorer, information asymmetries for firms rise, wherein it is more difficult for firms to access capital markets and hence may result in missing investment opportunities, as well as increased funding costs, hence resulting in higher impact of financial flexibility on firm

value. Please note that for the entire sub-sample firm value models conducted for the developed as well as the developing countries, AR (2) statistic is insignificant, suggesting that the instruments are valid and the model is correctly specified.

CHAPTER 6

CONCLUSION

Financial flexibility is perceived as the critical missing link in attaching observed behavior of companies with what the capital structure theories suggest, providing explanations for several capital structure puzzles raised in the literature (DeAngelo & DeAngelo, 2007, Marchica & Mura, 2010, Byoun, 2011). Until recently, financial flexibility considerations were not taken as a priority within financial policies of companies, mainly stemming from the fact that financial flexibility is not directly measurable and hard to quantify. Given the significance of the concept, the main purpose of this thesis is to fill this gap.

In this thesis, we aim to investigate not only the relationship between financial flexibility and companies' capability to invest, but also the association between financial flexibility and firm value. Moreover we also scrutinize how asymmetric information proxied with several firm and country characteristics affects the relation between financial flexibility and investment and finally firm value. Moreover, we also compare how flexible versus non-flexible companies' investment ability gets affected from the financial crisis.

Initially, using a broad sample from 15 developed and 6 developing countries between 2000 and 2016; we categorize companies as flexible or not based on the condition that low leverage status is maintained for a number of successive years, ranging from two to five years. Second, we examine if financial flexibility has any influence on companies' investment capabilities and furthermore on firm value. We

provide empirical evidence that financial flexibility improves the capability of companies to surge their investment levels up, which is in line with the results of Marchica and Mura (2010), De Jong et al. (2012), Yung et al. (2015) and Ferrando et al. (2017).

Moreover, we demonstrate that financial flexibility enhances value of companies, supporting the views of Yung et al. (2015) and Gamba and Triantis (2008). We also provide new evidence that the impact of financial flexibility is stronger for developing countries as compared to developed countries, both for the investment, as well as for the firm value models.

Third, our thesis also brings out new evidence on how the impact of financial flexibility on investment level of companies and firm value varies across companies that face different degrees of information asymmetries both in developed and developing countries. We demonstrate that the impact of FF is stronger for smaller and younger companies both in developed and developing countries, supporting the empirical findings of Ferrando et al. (2017). Furthermore, our results also supplement the literature through demonstrating that country characteristics proxied with the quality of institutional settings involving credit accessibility and legal protection matters for flexible companies. Companies in countries with lower credit accessibility, and poorer legal protections tend to take advantage of financial flexibility attained through a low leverage strategy, supporting the results of Ferrando et al. (2017).

Finally, using the recent financial crisis as an experiment, we demonstrate that companies with spare debt capacity reduce their investment level less than non-flexible

companies during economic downturns. Hence, financially flexible companies suffer less from economic downturns both in developed as well as in developing countries.

With this thesis, we contribute to the financial flexibility literature in several ways. To the best of our knowledge, this is the first empirical analysis of financial flexibility conducted on a comparative basis between developed and developing countries in Europe, emphasizing the availability of stronger information asymmetries embedded in developing countries. Moreover this study analyzes the impact of asymmetric information on the relation between financial flexibility and investment for the developing countries for the first time in FF literature. Furthermore, we are the first to investigate how asymmetric information affects the relation between financial flexibility and firm value. Finally, to the best of our knowledge, this is the first study to analyze the impact of flexibility on investments during the economic crisis with a comparative analysis between developed and developing countries.

All in all, financial flexibility not only plays an important role in investment decisions of firms, but also it has a significant impact on firm value; which is why there are important managerial implications. Managers all around the world should give uttermost significance to the maintenance of financial flexibility, no matter where their company is located. Furthermore, for the companies in developing countries, the value of FF on investment and firm value is stronger; hence managers of companies located in developing countries should provide even more care to become flexible, if they want to improve their firm value and also enhance their investment levels. On the other hand, small and young companies and companies based in countries with lower credit accessibility and weaker legal protection, are faced with more asymmetric information

when trying to tap the external capital markets and therefore managers of these companies should also give extra attention to gaining financial flexibility. Moreover, the fact that flexible companies are less affected from the economic downturns also provides a motivation for managers to preserve ample flexibility in their companies in today's world.

To sum up, our findings present strong empirical evidence that financial flexibility achieved through preserving spare borrowing capacity, is an extremely important missing link in capital structure theory. FF is appreciated by companies mainly because FF mitigates underinvestment born from absence of financial opportunities and furthermore circumvents financial distress.

The main limitation of this study is related to the listing status of companies included in the study (privately held companies versus publicly traded companies). Due to the unavailability of financial and accounting data for privately held firms, we have included only the publicly listed companies in our study both in developed and developing countries. As privately held companies tend to face more severe problems in obtaining external financing than do publicly quoted companies (Ferrando et al., 2017), we would expect private firms to value financial flexibility more than do public firms, which we currently cannot assess due to the unavailability of data. Moreover, as the publicly listed companies tend to be bigger in size in their respective countries, we believe that our sample lacks Small-Medium Enterprises (SMEs), in which an essential asymmetric information issue is embedded. In case of obtaining data for private firms and especially for SMEs, this research could be extended in future studies, to capture both the publicly quoted companies and privately held firms, which would allow us to

obtain a more complete and thorough picture of how asymmetric information impacts the association between financial flexibility and not only investment, but also firm value in our sample.

APPENDIX A

SUMMARY OF EMPIRICAL STUDIES

Author(s)	Country	Developed / Developing	Period	Methodology	Result
Byoun (2008)	USA	Developed	1971-2006	Firms' request for FF is categorized based on several firm characteristics: size of the company, dividend distribution ratio and long-term credit rating, operating-cash flow-to value ratio, earned-to-total capital ratio and cash holdings.	Companies, in their development phases need FF the most. Firms in growth phases prefer to borrow and therefore have high debt ratios, and finally mature companies rely on their own internal equity and maintain moderate debt ratios. An "inverted U-relationship" exists between leverage and the financial life cycle of a company.
Marchica and Mura (2010)	UK	Developed	1965-2008	By concentrating on companies with SDC, FF firms are categorized. The impact of FF on long run performance and investment is empirically tested with the GMM technique.	Firms, who maintain conservative leverage policy for a certain time period, are deemed as FF, and it is empirically shown that this improves the investment ability of companies. Long-run performance tests conducted with FF companies show that in addition to investing more, FF firms also invest better.
Daniel, Denis and Naveen (2010)	USA	Developed	1992-2006	Cases analyzed in this study encompass companies where operating cash flows is not adequate to meet its forecasted dividend and investment levels.	While borrowing capacity is the chief source of FF for companies who are faced with a shortage in cash flows; other possible sources of flexibility are empirically insignificant. FF in the form of borrowing capacity constitutes a vital buffer between investment cuts and cash shortages.
Killi, Rapp and Schmid (2011)	Europe	Developed	1995-2009	Marginal value of cash and equivalents conditional on the company's requirement to continue being FF is used as a FF proxy and its impact on the decision to realize debt/equity financing is evaluated.	Companies with a high marginal value attached to FF tend to use less borrowing in their capital structure. Companies preserve lower leverage ratios if FF is particularly valuable for them. The desire to preserve FF is an important capital structure decision, nonetheless it is ignored to a great extent.
DeAngelo, DeAngelo and Whited (2011)	USA	Developed	1988-2001	The main source of FF is taken as unused borrowing capacity.	FF proxied with unused borrowing capacity has a substantial and vital place in the capital structure dynamics for firms in the US.

Author(s)	Country	Developed / Developing	Period	Methodology	Result
Denis and McKeon (2011)	USA	Developed	1971-1999	Proactive increases in leverage is examined. Authors use an experimental design, in which cases are isolated, where companies use considerable new debt issuance to deliberately raise their leverage well beyond predicted long-run targets.	FF, in the form of unused borrowing capacity, plays a significant role in capital structure decisions.
De Jong, Verbeek and Verwijmeren (2012)	USA	Developed	1985-2007	FF is measured as the difference between what the companies are able to receive debt at investment-grade interest rates and what the company has borrowed in fact. What companies are able to borrow is predicted as the "marginal debt ratio", which would result in a company losing its investment-grade rating, with a certain probability.	Companies with a high level of unused borrowing capacity tend to invest more in the future years, as compared to companies with a low level of unused borrowing capacity. Companies, which are reluctant to issue debt in unconstrained times; tend to borrow at times, where there are more restrictions to access external capital markets.
Arslan-Ayaydın Florackis and Ozkan (2014)	East Asia	Developing & Developed	1994-2009	Simple indicators of FF is constructed. FF companies are categorized based on their cash levels and leverage policies.	Companies obtain FF primarily through financial policies regarding conservative leverage policy, and also through holding high levels of cash balances, which is less commonly used. It is empirically demonstrated that FF is a significant determinant of investment and performance, especially during the 1997-98 crisis.
Yung, Li and Jian (2015)	33 countries	Developing	1991-2010	Companies that maintain unused borrowing capacity for three years are considered as FF.	FF in companies improves the company's investment ability and moreover decreases investment's sensitivity to cash flow. FF lessens the company's equity payouts and also augments cash and equivalents.
Ferrando, Marchica and Mura (2017)	Europe	Developed	1990-2010	FF companies are categorized by focusing on companies who keep low-leverage. A company is classified as FF if it has low leverage for several consecutive years.	FF accomplished through a conservative leverage policy is more vital for smaller and younger companies, for private firms, and for companies based in countries with poorer credit access, and weaker investor protection. FF permits companies to lessen the negative impact of liquidity crunch on investment.

APPENDIX B

DISTRIBUTION OF FIRMS - DEVELOPED COUNTRIES

Country	Consumer Non-Durables	Consumer Durables	Manufacturing	Energy	Chemicals and Allied Products	Business Equipment	Telecom	Utilities	Shops	Healthcare	Other	Total
Austria	5	6	19	1	2	3	1	4	3	1	6	51
Belgium	15	0	17	0	4	11	3	2	12	9	25	98
Denmark	12	5	16	2	6	15	1	2	7	8	32	106
Finland	16	0	30	1	2	27	2	1	11	6	29	125
France	70	26	78	11	18	152	15	14	60	51	162	657
Germany	46	28	105	7	21	151	14	17	50	33	125	597
Ireland	9	0	1	7	0	2	2	0	1	1	17	40
Italy	36	16	37	5	5	28	9	23	15	9	42	225
Netherlands	11	3	10	3	7	18	4	1	10	4	31	102
Norway	20	3	14	53	2	24	2	2	6	13	59	198
Portugal	4	1	9	1	0	7	5	2	5	2	11	47
Spain	19	3	25	2	3	8	11	8	10	9	42	140
Sweden	33	14	66	14	7	100	13	7	35	56	120	465
Switzerland	13	6	44	2	7	30	2	7	11	18	30	170
UK	89	22	110	124	32	235	27	25	124	71	454	1,313
Total	398	133	581	233	116	811	111	115	360	291	1,185	4,334

APPENDIX C

DISTRIBUTION OF FIRMS - DEVELOPING COUNTRIES

Country	Consumer Non-Durables	Consumer Durables	Manufacturing	Energy	Chemicals and Allied Products	Business Equipment	Telecom	Utilities	Shops	Healthcare	Other	Total
Czech Republic	4	0	0	1	0	0	3	3	0	0	2	13
Greece	35	1	35	3	7	20	7	5	33	9	38	193
Hungary	1	1	4	1	0	4	4	3	3	3	1	25
Poland	50	17	71	9	18	44	17	17	61	16	124	444
Russia	21	20	127	42	19	19	9	98	28	8	97	488
Turkey	63	22	79	5	13	11	2	9	28	4	37	273
Total	174	61	316	61	57	98	42	135	153	40	299	1,436

APPENDIX D

CAI AND ASDI - EUROPEAN COUNTRIES

DEVELOPED COUNTRIES	Credit Access Index	Anti-Self-Dealing Index	DEVELOPING COUNTRIES	Credit Access Index	Anti-Self-Dealing Index
Austria	14.80	2.13	Czech Republic	18.3	3.33
Belgium	13.77	5.44	Greece	13.98	2.17
Denmark	14.37	4.63	Hungary	19.49	1.81
Finland	14.04	4.57	Poland	19.625	2.88
France	12.34	3.79	Russia	16.86	4.40
Germany	19.10	2.82	Turkey	13.83	4.29
Ireland	19.00	7.89			
Italy	15.45	4.21			
Netherlands	13.79	2.03			
Norway	16.00	4.21			
Portugal	14.39	4.44			
Spain	15.38	3.74			
Sweden	16.00	3.33			
Switzerland	13.29	2.67			
United Kingdom	20.00	9.50			

*Credit Access Index ranges from 0 to 30, with higher values indicating higher credit access.
** Anti-Self-Dealing-Index ranges from 0 to 10, with higher values indicating more investor protection.

REFERENCES

Agosin, M. R., & Huaita, F. (2012). Overreaction in capital flows to emerging markets: Booms and sudden stops. *Journal of International Money and Finance*, *31*(5), 1140–1155. https://doi.org/10.1016/j.jimonfin.2011.12.015

Almeida, H., & Campello, M. (2007). Financial Constraints, Asset Tangibility, and Corporate Investment. *Review of Financial Studies*, *20*(5), 1429–1460. https://doi.org/10.1093/rfs/hhm019

Almeida, H., Campello, M., & Weisbach, M. S. (2011). Corporate financial and investment policies when future financing is not frictionless. *Journal of Corporate Finance*, *17*(3), 675–693. https://doi.org/10.1016/j.jcorpfin.2009.04.001

Alti, A. (2003). How Sensitive Is Investment to Cash Flow When Financing Is Frictionless? *The Journal of Finance*, *58*(2), 707–722. https://doi.org/10.1111/1540-6261.00542

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, *58*(2), 277. https://doi.org/10.2307/2297968

Arslan-Ayaydin, Ö., Florackis, C., & Ozkan, A. (2014). Financial flexibility, corporate investment and performance: evidence from financial crises. *Review of Quantitative Finance and Accounting*, *42*(2), 211–250. https://doi.org/10.1007/s11156-012-0340-x

Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *The Journal of Finance*, *57*(1), 1–32. https://doi.org/10.1111/1540-6261.00414

Bancel, F., & Mittoo, U. R. (2011). Financial flexibility and the impact of the global financial crisis: Evidence from France. *International Journal of Managerial Finance*, *7*(2), 179–216. https://doi.org/10.1108/17439131111122157

Bancel, F., & Mittoo, U.R. (2004). Cross-country determinants of capital structure choice: a survey of European firms. *Financial Management,* 103–132.

Barton, S. L., & Gordon, P. J. (1988). Corporate strategy and capital structure. *Strategic Management Journal*, *9*(6), 623–632. https://doi.org/10.1002/smj.4250090608

Bekaert, G., & Harvey, C. R. (2003). Emerging markets finance. *Journal of Empirical Finance*, *10*(1–2), 3–55. https://doi.org/10.1016/S0927-5398(02)00054-3

Berger, A. N., & Udell, G. F. (2005). Small Business and Debt Finance. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research* (Vol. 1, pp. 299–328). New York: Springer-Verlag. https://doi.org/10.1007/0-387-24519-7_13

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Bond, S., & Meghir, C. (1994). Dynamic Investment Models and the Firm's Financial Policy. *The Review of Economic Studies*, *61*(2), 197–222. https://doi.org/10.2307/2297978

Bond, S. R., Klemm, A., Newton-Smith, R., Syed, M., & Vlieghe, G. W. (2004). The Roles of Expected Profitability, Tobin's Q and Cash Flow in Econometric Models of Company Investment. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.641241

Bowsher, C. G. (2002). On testing overidentifying restrictions in dynamic panel data models. *Economics Letters*, *77*(2), 211–220. https://doi.org/10.1016/S0165-1765(02)00130-1

Brounen, D., de Jong, A., & Koedijk, K. (2006). Capital structure policies in Europe: Survey evidence. *Journal of Banking & Finance*, *30*(5), 1409–1442. https://doi.org/10.1016/j.jbankfin.2005.02.010

Brounen, D., de Jong, A., & Koedijk, K. C. G. (2004). Corporate Finance in Europe Confronting Theory with Practice. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.559415

Brown, J. R., & Petersen, B. C. (2009). Why has the investment-cash flow sensitivity declined so sharply? Rising R&D and equity market developments. *Journal of Banking & Finance*, *33*(5), 971–984. https://doi.org/10.1016/j.jbankfin.2008.10.009

Byoun, S. (2007). Financial Flexibility, Leverage, and Firm Size. *Hankamer School of Business: Baylor University*.

Byoun, S. (2008). How and When Do Firms Adjust Their Capital Structures toward Targets? *The Journal of Finance*, *63*(6), 3069–3096. https://doi.org/10.1111/j.1540-6261.2008.01421.x

Byoun, S. (2011). Financial Flexibility and Capital Structure Decision. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1108850

Byoun, S. (2016). The Effects of Financial Flexibility Demand on Corporate Financial Decisions. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2817972

Byoun, S., & Xu, Z. (2011). Capital Allocation and Product Market Competition During a Financial Crisis. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1786498

Campello, M., Graham, J. R., & Harvey, C. R. (2010). The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics*, *97*(3), 470–487. https://doi.org/10.1016/j.jfineco.2010.02.009

Chung, K. H., & Pruitt, S. W. (1994). A Simple Approximation of Tobin's q. *Financial Management*, *23*(3), 70. https://doi.org/10.2307/3665623

Claessens, S., Demirgüç-Kunt, A., & Huizinga, H. (2001). How does foreign entry affect domestic banking markets? *Journal of Banking & Finance*, *25*(5), 891–911. https://doi.org/10.1016/S0378-4266(00)00102-3

Cleary, S. (1999). The Relationship between Firm Investment and Financial Status. *The Journal of Finance*, *54*(2), 673–692. https://doi.org/10.1111/0022-1082.00121

Cleary, S. (2006). International corporate investment and the relationships between financial constraint measures. *Journal of Banking & Finance*, *30*(5), 1559–1580. https://doi.org/10.1016/j.jbankfin.2005.03.023

Cleary, S., Povel, P., & Raith, M. (2007). The U-Shaped Investment Curve: Theory and Evidence. *Journal of Financial and Quantitative Analysis*, *42*(01), 1. https://doi.org/10.1017/S0022109000002179

Daniel, N.D., Denis, D.J., & Naveen, L. (2010). Sources of financial flexibility: Evidence from cash flow shortfalls. *Unpublished Working Paper, Drexel University, Purdue University and Temple University.*

De Jong, A., Verbeek, M., & Verwijmeren, P. (2012). Des Financial Flexibility Reduce Investment Distortions? *Journal of Financial Research*, *35*(2), 243–259. https://doi.org/10.1111/j.1475-6803.2012.01316.x

DeAngelo, H., & DeAngelo, L. (2007). Capital Structure, Payout Policy, and Financial Flexibility. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.916093

DeAngelo, H., DeAngelo, L., & Whited, T. M. (2011). Capital structure dynamics and transitory debt. *Journal of Financial Economics*, *99*(2), 235–261. https://doi.org/10.1016/j.jfineco.2010.09.005

Demir, F. (2009). Volatility of Short-term Capital Flows and Private Investment in Emerging Markets. *The Journal of Development Studies*, *45*(5), 672–692. https://doi.org/10.1080/00220380802582379

Denis, D. J. (2011). Financial flexibility and corporate liquidity. *Journal of Corporate Finance*, *17*(3), 667–674. https://doi.org/10.1016/j.jcorpfin.2011.03.006

Denis, D. J., & McKeon, S. B. (2012). Debt Financing and Financial Flexibility Evidence from Proactive Leverage Increases. *Review of Financial Studies*, *25*(6), 1897–1929. https://doi.org/10.1093/rfs/hhs005

Devereux, M, & Schiantarelli, F. (1990). Investment, financial factors, and cash flow: Evidence from UK panel data. In *In Asymmetric information, corporate finance, and investment.* (pp. 279–306). University of Chicago Press.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, *88*(3), 430–465. https://doi.org/10.1016/j.jfineco.2007.02.007

Donaldson, Gordon. (1984). *Managing Corporate Wealth*. New York: Praegar.

Duchin, R., Ozbas, O., & Sensoy, B. A. (2010). Costly external finance, corporate investment, and the subprime mortgage credit crisis. *Journal of Financial Economics*, *97*(3), 418–435. https://doi.org/10.1016/j.jfineco.2009.12.008

Eigner, P., & Umlauft, T. S. (2015). The Great Depression(s) of 1929-1933 and 2007-2009? Parallels, Differences and Policy Lessons. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2612243

Fama, E.F. & French, K.R. (2002). Testing Trade-Off and Pecking Order Predictions about Dividends and Debt. *The Review of Financial Studies*, *15*(1), 1–33.

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, *33*(1), 3–56. https://doi.org/10.1016/0304-405X(93)90023-5

Fama, E. F., & French, K. R. (2005). Financing decisions: who issues stock? *Journal of Financial Economics*, *76*(3), 549–582. https://doi.org/10.1016/j.jfineco.2004.10.003

Faulkender, M., Flannery, M. J., Hankins, K. W., & Smith, J. M. (2012). Cash flows and leverage adjustments. *Journal of Financial Economics*, *103*(3), 632–646. https://doi.org/10.1016/j.jfineco.2011.10.013

Faulkender, M., & Wang, R. (2006). Corporate Financial Policy and the Value of Cash. *The Journal of Finance*, *61*(4), 1957–1990. https://doi.org/10.1111/j.1540-6261.2006.00894.x

Fee, C. E., Hadlock, C. J., & Pierce, J. R. (2009). Investment, Financing Constraints, and Internal Capital Markets: Evidence from the Advertising Expenditures of Multinational Firms. *Review of Financial Studies*, *22*(6), 2361–2392. https://doi.org/10.1093/rfs/hhn059

Ferrando, A., Marchica, M.-T., & Mura, R. (2017). Financial Flexibility and Investment Ability Across the Euro Area and the UK: Financial Flexibility and Investment Ability. *European Financial Management*, *23*(1), 87–126. https://doi.org/10.1111/eufm.12091

Fischer, E. O., Heinkel, R., & Zechner, J. (1989). Dynamic Capital Structure Choice: Theory and Tests. *The Journal of Finance*, *44*(1), 19–40. https://doi.org/10.1111/j.1540-6261.1989.tb02402.x

Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, *79*(3), 469–506. https://doi.org/10.1016/j.jfineco.2005.03.004

Frank, M. Z., & Goyal, V. K. (2008). Profits and Capital Structure. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1104886

Frank, M. Z., & Goyal, V. K. (2009). Capital Structure Decisions: Which Factors Are Reliably Important? *Financial Management*, *38*(1), 1–37. https://doi.org/10.1111/j.1755-053X.2009.01026.x

Gamba, A., & Triantis, A. (2008). The Value of Financial Flexibility. *The Journal of Finance*, *63*(5), 2263–2296. https://doi.org/10.1111/j.1540-6261.2008.01397.x

Graham, J. R. (2000). How Big Are the Tax Benefits of Debt? *The Journal of Finance*, *55*(5), 1901–1941. https://doi.org/10.1111/0022-1082.00277

Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: evidence from the field. *Journal of Financial Economics*, *60*(2–3), 187–243. https://doi.org/10.1016/S0304-405X(01)00044-7

Graham, J. R., & Leary, M. T. (2011). A Review of Empirical Capital Structure Research and Directions for the Future. *Annual Review of Financial Economics*, *3*(1), 309–345. https://doi.org/10.1146/annurev-financial-102710-144821

Guo, K., & Stepanyan, V. (2011). Determinants of bank credit in emerging market economies. *International Monetary Fund Woking Paper*, (11/51).

Hadlock, C. J., & Pierce, J. R. (2010). New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index. *Review of Financial Studies*, *23*(5), 1909–1940. https://doi.org/10.1093/rfs/hhq009

Harford, J. (1999). Corporate Cash Reserves and Acquisitions. *The Journal of Finance*, *54*(6), 1969–1997. https://doi.org/10.1111/0022-1082.00179

Hess, D., & Immenkötter, Philipp. (2014). How Much is Too Much? Debt Capacity and Financial Flexibility. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1990259

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, (76(2)), 323–329.

Joyce, J. P., & Nabar, M. (2009). Sudden stops, banking crises and investment collapses in emerging markets. *Journal of Development Economics*, *90*(2), 314–322. https://doi.org/10.1016/j.jdeveco.2008.04.004

Kahl, M., Shivdasani, A., & Wang, Y. (2008). Do firms use commercial paper to enhance financial flexibility. *Available at SSRN 1120068*.

Killi, A., Rapp, M. S., & Schmid, T. (2011). Can Financial Flexibility Explain the Debt Conservatism Puzzle? Cross-Country Evidence from Listed Firms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1814182

Kim, C.-S., Mauer, D. C., & Sherman, A. E. (1998). The Determinants of Corporate Liquidity: Theory and Evidence. *The Journal of Financial and Quantitative Analysis*, *33*(3), 335. https://doi.org/10.2307/2331099

Kraus, A., & Litzenberger, R. H. (1973). A State -Preference Model of Optimal Financial Leverage. *The Journal of Finance*, *28*(4), 911–922. https://doi.org/10.1111/j.1540-6261.1973.tb01415.x

La Porta, R., Lopez-De-Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor Protection and Corporate Valuation. *The Journal of Finance*, *57*(3), 1147–1170. https://doi.org/10.1111/1540-6261.00457

La Porta, R., Lopez-De-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal Determinants of External Finance. *The Journal of Finance*, *52*(3), 1131–1150. https://doi.org/10.1111/j.1540-6261.1997.tb02727.x

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and Finance. *Journal of Political Economy*, *106*(6), 1113–1155. https://doi.org/10.1086/250042

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Agency Problems and Dividend Policies around the World. *The Journal of Finance*, *55*(1), 1–33. https://doi.org/10.1111/0022-1082.00199

Leary, M. T., & Roberts, M. R. (2005). Do Firms Rebalance Their Capital Structures? *The Journal of Finance*, *60*(6), 2575–2619. https://doi.org/10.1111/j.1540-6261.2005.00811.x

Lemmon, M. L., & Lins, K. V. (2003). Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis. *The Journal of Finance*, *58*(4), 1445–1468. https://doi.org/10.1111/1540-6261.00573

Lemmon, M. L., Roberts, M. R., & Zender, J. F. (2008). Back to the Beginning: Persistence and the Cross-Section of Corporate Capital Structure. *The Journal of Finance*, *63*(4), 1575–1608. https://doi.org/10.1111/j.1540-6261.2008.01369.x

Love, I. (2003). Financial Development and Financing Constraints: International Evidence from the Structural Investment Model. *Review of Financial Studies*, *16*(3), 765–791. https://doi.org/10.1093/rfs/hhg013

Marchica, M.-T., & Mura, R. (2010). Financial Flexibility, Investment Ability, and Firm Value: Evidence from Firms with Spare Debt Capacity. *Financial Management*, *39*(4), 1339–1365. https://doi.org/10.1111/j.1755-053X.2010.01115.x

Mclean, R. D., Zhang, T., & Zhao, M. (2012). Why Does the Law Matter? Investor Protection and Its Effects on Investment, Finance, and Growth. *The Journal of Finance*, *67*(1), 313–350. https://doi.org/10.1111/j.1540-6261.2011.01713.x

Michael C. Jensen. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review*, *76*(2), 323–329.

Michael Devereux, & Fabio Schiantarelli. (1990). Investment, financial factors, and cash flow: Evidence from UK panel data. *University of Chicago Press*, 279–306.

Miller, M. H. (1977). Debt and Taxes*. *The Journal of Finance*, *32*(2), 261–275. https://doi.org/10.1111/j.1540-6261.1977.tb03267.x

Minton, B. A., & Wruck, K. H. (2001). Financial Conservatism: Evidence on Capital Structure from Low Leverage Firms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.269608

Mitton, T. (2002). A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics*, *64*(2), 215–241. https://doi.org/10.1016/S0304-405X(02)00076-4

Modigliani, F., & Miller, M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review, 48*(3), 261–297.

Modigliani, F., & Miller, M. (1961). Dividend Policy, Growth, and the Valuation of Shares. *The Journal of Business*, *34*(4), 411–433.

Modigliani, F., & Miller, M. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, *53*(3), 433–443.

Myers, S. C. (1984). The Capital Structure Puzzle. *The Journal of Finance*, *39*(3), 574–592. https://doi.org/10.1111/j.1540-6261.1984.tb03646.x

Myers, S. C. (2001). Capital Structure. *Journal of Economic Perspectives*, *15*(2), 81–102. https://doi.org/10.1257/jep.15.2.81

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, *13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

Rajan, R. G., & Zingales, L. (1995). What Do We Know about Capital Structure? Some Evidence from International Data. *The Journal of Finance*, *50*(5), 1421–1460. https://doi.org/10.1111/j.1540-6261.1995.tb05184.x

Rapp, M. S., Schmid, T., & Urban, D. (2014). The value of financial flexibility and corporate financial policy. *Journal of Corporate Finance*, *29*, 288–302. https://doi.org/10.1016/j.jcorpfin.2014.08.004

Rauh, J. D. (2006). Investment and Financing Constraints: Evidence from the Funding of Corporate Pension Plans. *The Journal of Finance*, *61*(1), 33–71. https://doi.org/10.1111/j.1540-6261.2006.00829.x

Roodman, D. (2006). How to do Xtabond2: An Introduction to Difference and System GMM in Stata. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.982943

Shleifer, A., & Vishny, R. W. (1992). Liquidation Values and Debt Capacity: A Market Equilibrium Approach. *The Journal of Finance*, *47*(4), 1343–1366. https://doi.org/10.1111/j.1540-6261.1992.tb04661.x

Strebulaev, I. A. (2007). Do Tests of Capital Structure Theory Mean What They Say? *The Journal of Finance*, *62*(4), 1747–1787. https://doi.org/10.1111/j.1540-6261.2007.01256.x

Sufi, A. (2009). Bank lines of credit in corporate finance: an empirical analysis. *Review of Financial Studies*, (22), 1057–1088.

Tongkong, S. (2012). Key factors influencing capital structure decision and its speed of adjustment of Thai listed real estate companies. *Procedia - Social and Behavioral Sciences*, *40*, 716–720. https://doi.org/10.1016/j.sbspro.2012.03.254

Wanzenried, G. (2006). Capital Structure Dynamics in the UK and Continental Europe. *The European Journal of Finance*, *12*(8), 693–716. https://doi.org/10.1080/13518470500460178

Welch, I. (2004). Capital Structure and Stock Returns. *Journal of Political Economy*, *112*(1), 106–132. https://doi.org/10.1086/379933

Wurgler, J. (2000). Financial markets and the allocation of capital. *Journal of Financial Economics*, *58*(1–2), 187–214. https://doi.org/10.1016/S0304-405X(00)00070-2

Yang, C.-C., Lee, C., Gu, Y.-X., & Lee, Y.-W. (2010). Co-determination of capital structure and stock returns—A LISREL approach. *The Quarterly Review of Economics and Finance*, *50*(2), 222–233. https://doi.org/10.1016/j.qref.2009.12.001

Yung, K., Li, D. D., & Jian, Y. (2015). The value of corporate financial flexibility in emerging countries. *Journal of Multinational Financial Management*, *32–33*, 25–41. https://doi.org/10.1016/j.mulfin.2015.07.001