

Effects of Internal and Environmental Factors on Firm's Financial Behavior: A Comparative Study of Developed, Emerging and Developing Economies

*Ahmad Raza Bilal, Suresh Ramakrishnan, Muhammad Naveed,
Noraini Bt. Abu Talib, Melati Ahmad Anuar and Mohd Noor Azli Ali Khan*

Department of Accounting and Finance,
Universiti Teknologi Malaysia, Skudai, Johar Bahru Malaysia

Abstract: In the presence of economic frictions, firms regulate their financial decisions infrequently; resultantly, most of the firms' leverage is likely to differ from the optimum-level at the time of its readjustment. In such economic disturbance, internal and environmental factors are playing significant role for the readjustment of financial leverage. Keeping the influential role of leverage determinants, this study compares the dynamical economic effects of internal and environmental factors of capital structure in Spain, Malaysia and Pakistan to explore the empirical implications and hierarchical importance of firm, sector and country-level factors. Using cross-sectional regression of the panel data for the period 2001-2011, this study analyze the relative importance of each level of capital structure determinants and explanatory power of capital structure theories. The analysis findings documented several important indirect influences of variables at firm, sector and country-levels on firm determinants of leverage, as well as several structural differences in the financial behavior across developed, emerging and developing economies. From theoretical perspectives, findings of this study add important strands to capital structure literature and device lending mechanisms for firms on the basis of relative importance of environmental factors which also have the power to influence the firm's leverage.

Key words: Capital structure, Environmental factors, Capital structure theories, Firm-level determinants, Sector-level determinants, Country-level determinants.

INTRODUCTION

Capital structure decisions are of paramount importance for any type of business as they create the value of the firm [1]. Over the years, a large strand of research on capital structure remained restricted to firm-level factors which determine the capital structure decisions despite a vast theoretical and empirical literature [2-5]. The predominance of capital structure studies mainly tapes the analysis of various determinants of leverage and their relationship with certain firm-level factors like size, liquidity, tangibility, profitability and so on. Since path-breaking study of [6], the issue of capital structure in the field of corporate finance is one of the fertile discussions. Although, the propositions of Modigliani and Miller were based on irrelevance of capital structure decisions and argued on the independent role of capital structure which is determined by the underlying

assets, associated risks and capacity of its earnings; however, owing to pre-established assumptions of ideal situation, MM theory was criticized by succeeding researchers. Despite the logical loopholes of MM theory, its findings were provided the preliminary grounds for further research which is followed by different capital structure theories. For instance, one tress of researchers argued that capital structure does not affect the firm's market value; while the other researchers argued that managers attempt to balance out the tax shields of high leverage against the cost of financial distress.

Based on past literature, majority of the studies on capital structure mainly focused on firm's financial behavior in the western economic settings [7-11]. For instance, Auerbach [10] investigated the firm-level characteristics which influence the tendency of U.S firms to borrow. Analyzing the determinants of capital structure in G-7 countries, [2] found institutional differences which

affect the capital structure choice of firms across the countries. Similarly, greater variations in the financing behavior of firms in developed countries were observed by [12]. Furthermore, in a study of ten developing countries [13] found differences in capital structure in terms of institutional differences.

The empirical research on capital structure is usually restricted to firm-level determinants by arguing that firms have greater degree of impact on their financial structure. Nevertheless, the external environmental factors are equally important when looking into the firm's capital structure decisions. Keeping in view the importance of external environmental factors, little attention has so far been paid to sectors and country-level factors. Recent developments in the literature of capital structure have highlighted the importance the affects of industry and country-level factor. In this regard, [14] argued that sectors have distinctive nature and need to be intensively explored. They stressed the need to examine the industry's behavioral effect on firm's capital structure. More recently, [15] highlighted the external factors which have the importance to influence the firm's capital structure. They analyzed the various sector-level affects on the firm's financial behavior. According to [16], few studies used industry dummies to capture the effect of sector-level factors on firm's financial behavior, because the researchers have faced various industry level and sectoral data limitation to move forward.

A substantial amount of work on capital structure concentrated on individual country studies within developed, emerging and developing economies [14, 17, 18]. These investigations found different financial functionalities in the developed, emerged and developing economies. Keeping the findings of previous literature, a large part of studies has shown concern with firm-level determinants of leverage. Consequently, no unequivocal evidence is available on capital structure which dealt with the explanatory power of external factors and institutional differences across developed and other countries. According to Financial Times Stock Exchange FTSE-2012 [19], the external environmental factors provide different levels of financial base for companies and economic growth across countries. Looking into the relative importance of country and sector level factors, this study is used more distinctive and a comparative approach to investigate the meticulous dimensions of capital structure. The study warrants the need to conduct a comparative analysis to examine the affect of firm-level and external factors on the firm's capital structure across developed, emerging and developing countries.

Keeping in view the firm's choice for capital structure under different institutional differences, this study compares the capital structure analysis in the developed, emerging and developing economies by sequential representation of Spain, Malaysia and Pakistan. All the different dimensional respondent counties have different levels of economic development and also have different business environment.

In terms of nominal GDP, Spain has the 13th largest economy and 23rd most developed country of the world and 5th largest in the European Union (World Bank Development Indicators, 2012). The Spanish banking system has been credited as one of the most solid system in coping with ongoing worldwide liquidity crises. The corporate system of Spain is very much common with the European corporate governance model which exhibit extensive control specialization and ownership. The Spanish companies having more concentrated ownership behavior; while banks play an active role in the capitalization and economic growth [20]. More specifically, the corporate system of Spanish companies could be defined by three features. High percentage of shares is owned by main shareholders, the block-holders are MNCs; while the outstanding fraction of shares owned by corporate board directors. Spain is known to follow bank-based tradition with large numbers of listed companies with relatively small size; while the takeover market behavior is highly active. Due to arm's length relationship with lenders, the Spanish firms are faced more information asymmetry problems.

In accordance with FTSE-2012, the economy of Malaysia falls in the category of advanced emerging markets. Malaysian capital market is more developed as compared to bond market. According to Security Commission of Malaysia-2011, the size of capital market has grown from US \$ 239 billion to 667 \$ billion in the period of last ten years. As a result of this rapid development, an annual growth of 11.1% has been witnessed in the stock market capitalization. Bond market is also evident with a remarkable growth of 10.8%, which has made it third largest market in Asia and largest in ASEAN. Before recent past Asian financial crises, Malaysian firms were largely reliant on bank financing and Malaysian economy was known to have bank-oriented economy; however, soon after this financial crisis, the government introduced Capital Market Master Plan (CMMP) and has taken remarkable initiatives to develop the Malaysian capital market. Major structural enhancement is witnessed in the capital market intermediaries with the introduction of investment banking in 2006.

In nominal terms, Pakistan economy is 47th largest economy of the world and 27th largest in terms of purchasing power parity (Economy Watch, 2012). During Fiscal Year 2002-2003, Pakistan capital market accounted for 60% of the shares traded. In order to liberalize the investment procedures and to encourage the capital formation, various measures have been taken recently by Pakistan government [21]. Highlighting the leverage behavior of Pakistani firms [13] indicated that Pakistani firms are employed short-term leverage as compared to other developed economies. Explicating this scenario, [14] argued that main source of short-term leverage in Pakistan is commercial banks which do not encourage long-term investment. Due to less development of capital market, firms in Pakistan heavily rely on bank financing [22], which termed Pakistan economy as bank-oriented economy.

Keeping the intensive need to find the different dimensions of CS determinants, this study investigated the multi-economic analysis to uncover the influence of firm, sector and country-level factors of financial leverage evidenced in developed, emerging and developing economies. In order to test the simultaneous analysis of different study levels, we employed multi-level frequency pattern with maximum likelihood estimation of multi-level factors. Looking into this hierarchical nature of modeling, it can be assumed that characteristics of higher level variables may influence the characteristics of lower levels. In this regard, the objectives of the study were twofold; firstly, it assessed the relative importance of each level of firm's leverage variance; secondly, it analyzed the direct and indirect affect of firm, sector and country-level factors on leverage of the firm across developed, emerging and developing economies.

Determinants of Capital Structure: Three approaches are highly important when considering the determinants of leverage at firm level: the agency cost theory, pecking order hypothesis and trade-off theory. In contrast to Modigliani and Miller's Irrelevance of Capital Structure Theory, these approaches suggest that there are certain factors either internal or external which may determine the firm's leverage. Based on previous literature, the study employs three most commonly used firm-level determinants of leverage: size, profitability and tangibility.

The pecking order hypothesis, which is mainly based on the work of [11], states that firms in their choice for financing follow a preference order. According to this hypothesis, retained earnings would be the first resort; debt would come in second and due to high level of asymmetric information, external equity would be the

last resort. In this context [24] confirmed profitability as an important determinant of capital structure. Since pecking order theory reflects the amount of profitability which firm may possible to retain, hence; it predicts negative relationship between profitability and leverage. While trade-off theory predicts positive relation of firm's size and tangibility with leverage. Consistent with this strand, [5] suggested that debt will grow if investment need is higher than retained profit. Their study also pointed out that leverage is negatively correlated with profitability by holding the investment level fixed. On the other hand, the static trade-off theory depicts that profitable firms likely to have high tax burden and low cost of bankruptcy that is why they employ more debt. These facts are also evident from the profitable firms as they have more capability to tolerate debt; therefore, such firms are more conveniently in a position to easily service their debt on time. Previous studies provided empirical evidence that seems to be consistent with pecking order hypothesis (POH) because large number of past studies has defined a negative relationship between leverage and firm's profitability [24-27]. Contrary to POH, the static trade-off theory supports the positive relationship between profitability and financial leverage, as more the profitable firms, lowers the expected costs of financial distress. This controversial discussion leads us to test whether the relationship between leverage and profitability is negative or positive. In this regard, a positive relationship would confirm the trade-off theory and a negative relationship would confirm the pecking order. Likewise, tangibility also has greater impact on firm's choice for capital structure. This strand was also explicated by [2] who stated that it is easy to collateralize the tangible assets and they help the firms to reduce the debt related agency cost. The rationale that triggers this factor is, 'firms with greater level of fixed assets enjoy the interest rate incentive as they can borrow the debt on lower interest rate spread' [28]. Furthermore, fixed assets extend the reach of the firms to provide collateral for large amount of debt. In this way, this study is tested the hypothesis of a positive relationship between leverage and tangibility. Elucidated this theoretical conception, [29] illustrated that tangibility is particularly important when the firm has reduced capital opportunities due to various characteristics and capacity limitations for external finance.

Finally, the firm size plays important role in the CS management [23], as firms may be more diversified, thereby making them less prone to risk of bankruptcy [24]. It is also the case that cost of issuing equity is related to the size of the firm. Small firms relatively pay more than

large firms when issue new equity and even also pay more when issue long-term debt [30]. However, in accordance with [2], this relationship could also be negative. They suggested that asymmetric information problems are likely to be smaller in larger companies; therefore, it would be possible for larger companies to issue new shares expediently.

In corporate finance, one of the theoretical streams highlights the importance of external factors which play important role in firm's financial strategy. The multidimensional effects of environmental factors on all the firms of a given sector/industry were also indicated by [31]. Keeping in view the importance of external environmental factors, it would be more reasonable to suppose certain industry-level factors which could influence the capital structure of the firm. The first concept which we can derive from the industry-level factors is munificence. Explaining this conception [32] revealed the capacity of the sector's environment to sustained firm's growth. Given this type of environment, the industries with high munificence have abundant resources, high profitability and low level of competition. Consistent with pecking order hypothesis and trade off theory, it would not be easily possible to generalize the prediction regarding the relationship between munificence and leverage. It is because, trade off theory recognizes positive relation with profitability and pecking order hypothesis defends a negative one. The positive sign indicates that munificence increases the effects of profitability and growth opportunity in determining high level of leverage.

It can derived from the results of [31] that firms working under predictable environments have greater level of debt as compared to firms operating under dynamic or less predictable environment. From the point of view of systemic and un-systemic risk, the concept of industry dynamism is related to the concept of firm's business risk [33]. The business risk can be defined as the variation in the firm's earning [34]. It can be generalized that firms with great level of business risk employ smaller amount of leverage. In accordance with [35], firms at given sector or industry tend to show similar patterns of business risk. In this connection, it can be inferred that firms operating under higher industry dynamism have lower level of leverage. At industry level factors, thirdly, the study analyzes the level of industry concentration. Based on previous studies, the industries with low level of concentration have high intra-industry dispersion and low level of debt [36]. High concentrated industries have higher profitability and size and also risk level is higher. This is mainly because of different patterns and

characteristics of different types of industries [36]. Based on industry concentration, the industries can be divided as high and low concentrated industries. The level of industry concentration affects the firm leverage differently. Therefore, from this point of view to capture the industry concentration effect on leverage, the Herfindahl-Hirschman Index (HH Index) is used to measure the firm size in relation to industry. Firms operating in highly concentrated industries use higher level of leverage as compared to firms operating in low concentrated industries [36, 37]. In this regard, this study is tests the hypothesis of positive relationship between industry concentration and leverage.

In global perspectives, the studies so far on capital structure have different streams. According to one stream, the domestic companies have greater leverage as compared to multinational companies [38, 39]. This is explained by factors like un-systemic and domestic risks, exchange rate differentiation and agency problems. The other stream explains opposite phenomenon that follows by international companies which employ greater level of debt as compared to domestic companies. In this regard, several studies analyzed the country level factors as determinants of leverage. For instance, [40] evident that level of country's capital market development affect the leverage differently. According to them, the more developed bond market of the country, the greater the amount of leverage of companies. Looking into the importance of these direct and indirect influences by macroeconomic factors which are explained by previous studies, this study analyzed three country level factors, namely, GDP per capita, stock market development and bond market development. The GDP is included to control for the effect of economic conditions of the countries. In accordance with [41], gross domestic product of any country provides best economic snapshot of any country at given period of time. Extending this conception [13] reminds us a positive relationship between GDP and long term debt. Their study pointed out that during high economic growth, the firms tend to employ greater level of long term debt. Consistent with [13], this study tested a positive relationship between GDP growth and financial leverage.

In terms of capital allocation to industries, the stock markets play a vital role for economic growth [44-46]. The relationship between stock market development and economic growth could be explained by capital structure, because any change in stock market development brings ultimate change in firm's financial structure. According to market timing theory, in presence of higher stock market performance, firms prefer to attain equity financing.

Explicating this theorem [47] indicated that firm’s financing decisions are directly connected with level of capital market development. In this purview, the study holds negative relationship between stock market development and firm’s leverage. Finally, the third country level variable is bond market development. The issuance and trading of financial securities becomes easier when bond market is highly developed. In this situation, firms tend to be highly leveraged [40]; and prefer to use debt financial securities instead of bank financing.

MATERIALS AND METHODS

The study analyses are relied on secondary data of Spain, Malaysia and Pakistan. Firm-level data were mainly obtained from Compustat Global Vantage; while the sector and macroeconomic level factors were obtained from the World Bank Development Indicators (WBDI), Amadeus database and from the central banks’ official websites of respondent countries. The sample includes all the non-financial firms of the study countries while the data covered the period dating from 2001 to 2011. The initial group of respondents was comprised of 997 companies. To check the robustness of results, we employed the balanced dataset and all the firms which were in the process of merger and acquisitions or de-listed by relevant stock exchanges were excluded from the dataset. Therefore, the final sample was comprised of 861 companies.

Table 1 presents the summary of descriptive statistics of our dependent variables’ book value of long term debt. When compared to mean values, the Spain was found with largest mean value of leverage that was 13.52%, in Pakistan was 12.67% whereas, in Malaysia, leverage was reported with lowest mean value. Looking into table 1, different level of leverage was found among developed, emerging and developing countries. Following [15], it was difficult to observe the direct relationship between leverage and country development; therefore, this study was further analyzed this issue through hierarchical level of capital structure determinants in order to find the relevant importance of each analysis level. Consistent with [24], the dependent variable was defined as the ratio of long term debt to total assets. Table 2 shows the formulation of dependent and independent variables.

Based on past literature, a few studies examined the influence of firm, sector and country level factors on leverage but in an isolated manner. Following Kayo and Kimura (2011), this study takes into consideration the combined effect of different levels of variables.

However, owing to multi-level analysis, it could create multicollinearity problem. According to [48], such analysis may lead to violate the OLS regressions assumptions. In this regard, the study employed hierarchical model to account for the relevant level of analysis at each level. First level was firm, the second was sector; and the third level was country.

The equation (a) shows the overall model with complete set of firm, industry and country-level variables, where leverage LG_{mnot} of time t, firm m, industry/sector n and country o is the function of mean leverage, representing the variance across time. The error term is ϵ_{mnot} . In order to examine the pertinence of capital structure theories among countries with different development levels, this model was applied with three sub-samples: developed, emerging and developing countries.

$$LG_{mnot} = \beta_0 + \beta_1(SIZE)_{mt} + \beta_2(ROA)_{mt} + \beta_3(TANG)_{mt} + \beta_4(MUNIF)_{nt} + \beta_5(DYNM)_{nt} + \beta_6(HHI)_{nt} + \beta_7(GDP)_{ot} + \beta_8(SMD)_{ot} + \beta_9(BMD)_{ot} + \epsilon_{mnot} \tag{a}$$

Table 3 presents the variances decomposition of leverage estimates for firm, sector and country level. It mainly shows the relative importance of developed, emerging and developing country-levels on leverage variance. The dependent variable is book value of long term debt, which is defined as ratio of long term debt to total assets. The formulation of dependent and independent variables is described in Table 2.

Analysis: Table 3 presents the variances analysis of leverage in respondent countries. The relative importance of each level of leverage variances can be observed from the given table. The larger percentage of variances at firm-level suggesting that firm-level factors play more significant role in firm’s financing decision making as compared to industry and country-level determinants. Several past studies suggested that high variances at firm-level are mainly the result of firm’s intrinsic factors.

Table 1: Descriptive Statistics of Leverage

Country	Spain	Malaysia	Pakistan
Mean	13.52	9.81	12.67
S.D	11.12	12.72	14.56
Observations	3340	3072	1998

Table presents mean, standard deviation (S.D) and number of observations of Spain, Malaysia and Pakistan. The table is sorted by mean value of leverage, where leverage is the ratio of long term debt to total assets.

Table 2: Formulation of Dependent and Independent Variable

Variables	Formulation	Empirical Evidence	Spain		Malaysia		Pakistan	
			Mean	S.D	Mean	S.D	Mean	S.D
<i>Dependent Variable</i>	Long-term debt divided by total assets	Titman and Wessels (1988), Booth <i>et al.</i> (2001),	13.52	11.12	9.81	12.72	12.67	14.56
Firm-Level Variables:								
Size	Natural logarithm of sales	Frank and Goyal (2004), Shah and Hijazi (2004)	6.91	2.05	5.52	3.21	6.71	1.24
Profitability	Profit before interest and Tax/Total Assets	Titman and Wessels (1988), Song (2005)	2.71	13.2	7.21	8.54	3.06	14.07
Tangibility	Ratio of Fixed Assets to Total Assets	Booth <i>et al.</i> (2001), Song (2005)	1.9	2.77	8.92	2.11	2.87	0.31
Sector-Level Variables:								
Munificence	1. Regressing time against sales of an industry over the period of study and 2. Taking the ratio of the regression slope coefficient to the mean value of sales over the same period.	Boyd (1995), Kayo and Kimura (2011)	0.21	0.15	0.81	0.92	0.81	0.92
Dynamism	Standard error of the munificence regression slope co-efficient divided by the mean value of sales over the study period	Kayo and Kimura (2011), Ramakrishnan (2012)	2.821	1.281	1.72	1.611	1.216	1.696
HHI	The HHI is calculated by the summing of squares of each firm's market share within the industry	Mackay and Phillips (2003), Kayo and Kimura (2011)	0.26	0.32	0.71	0.44	0.46	0.34
Country-Level Variables:								
GDP	GDP per capita	Deesomask <i>et al.</i> (2004), Bas <i>et al.</i> (2009)	3.95	0.071	4.15	0.10	2.845	0.041
Bond Market Development	Bond market capitalization to GDP	Kayo and Kimura (2011), Haron (2009)	19.191	9.01	13.12	6.61	27.564	12.270
Stock Market Development	Stock market capitalization to GDP	De Jong <i>et al.</i> (2008), Kayo and Kimura (2011)	7.121	3.871	8.121	2.42	6.733	1.409

This table presents the formulation of dependent and independent variables. The table also shows the empirical evidences and brief descriptive summary for all variables of three countries.

Table 3: Leverage Variances

Variances Breakdown	Developed Country (Spain)	Emerging Country (Malaysia)	Developing Country (Pakistan)
Firm-Level	65.121 (0.712)	71.330 (0.981)	78.662 (0.883)
Sector-Level	9.002 (2.661)	11.678 (.723)	14.501 (4.871)
Country-Level	7.651 (1.712)	5.678 (1.523)	9.653 (1.989)
Variances percentage			
Firm variances	51.62%	47.41%	65.95%
Sector variances	8.33%	7.19%	13.81%
Country variances	4.67%	4.44%	7.32%

Table 3 presents the variances decomposition of leverage estimates for firm, sector and country level. It mainly shows the relative importance of developed, emerging and developing country-levels on leverage variance. The dependent variable is book value of long term debt, which is defined as ratio of long term debt to total assets. The formulation of dependent and independent variables is described in Table 2.

Table 4: Results of Overall Sample

Time structure of the consolidated panel	
Intercept	11.963
<i>Firm-Level Variables</i>	
Size	0.006 (0.531)
Profitability	-0.020 (-0.782)
Tangibility	0.001 (0.567)
<i>Sector-Level Variables</i>	
Munificence	-0.062 (-2.942)
Dynamism	-0.002 (-1.562)
HHI	-0.073 (-2.662)
<i>Country-Level Variables</i>	
GDP	0.092 (0.877)
Stock Market Development	-0.003 (-2.558)
Bond Market Development	0.082 (3.568)
Observation	8410

The table 4 presents the overall results of regression modeling-p-values, t-values and intercepts. The sample comprised of 8410 firm year observations- from 2001 to 2011. The estimated effects of covariates regarding firm, sector and country level estimations are shown. The dependent variable is book value of long term debt, which is defined as ratio of book value of debt to total assets. Refer table 2 for formulation of independent and dependent variables. The t-value and p-values shown in parentheses are computed using gretl correlation model robust to heteroskedasticity and significant levels are given below.

*** Significant at the 1% level

* Significant at the 5% level

* Significant at the 10% level

Therefore, it can be infer that, while defining firm’s corporate policies, the management tends to focus mainly on intrinsic factors. The effect of sector-level remained at second place. The analysis suggests that in explaining the firm’s capital structure, the sector-level determinants are also important. Significant differences in leverage between sectors in developed and developing countries were observed. Looking into these differences, it could be suggested that firms in developing countries may be more prone to their financing policies-arising from sector-level instabilities. Indicating the differences in industry leverage, [36] pointed out several factors which may be responsible for this. They found significant differences within as well as between industry leverage. The influence of country-level is relatively low as compared to firm and sector-level. It might be surprising to see such isolated influence of country-level. For instance, [13] highlighted institutional differences across developed and developing countries, however leverage was found same among countries.

Given the above, it can be inferred that firm-levels are mainly responsible for leverage variances across developed, emerging and developing countries. Though the sector and country levels are also subject to change in period; however, such change may likely to occur over longer period of times as compared to firm level. Notably, the leverage variances at all levels are reported highest in the developing country as witnessed in Pakistan. This higher variance may be owing to the dynamic and volatile corporate environment in Pakistan. Consistent with these results, however, it cannot be suggested that sector and country levels are less important which may be found due to their less volatility in variances as compared to firms’ variances. These differences are important issues that need to be investigated in future studies.

Table 4 demonstrates the results of overall sample where Size and tangibility are positively related to leverage at 1 % significance level which confirms the pertinence of static-trade off theory. A significantly negative relationship is found between profitability and leverage. Our results are contradiction with trade off theory; while in accordance with pecking order hypothesis which emphasizes that profitable firms use less debt and mainly rely on their internally generated equity. Consistent with negative relationship between leverage and profitability, our analysis findings are also in accordance with [13, 42, 43]. The results of table 5 indicate that the analysis of Spanish and Malaysian firms at firm-level determinants maintained similar relationship with leverage; however, in case of developing country (Pakistan), a negative relationship is reported between profitability and leverage. Based on findings, it can be inferred that from lending perspectives, more profitable firms can obtain adequate borrowing due to their profitability attractiveness for financial institutions [49]. In relation to static trade-off theory which supports positive relationship between leverage and profitability, as more the profitable firms, lower the expected costs of financial distress. Looking into pertinence of capital structure theories in reference to profitability, both developed and emerging economies are found consistent with pecking order hypothesis, while the developing economy is substantiated to follow static trade-off theory.

Based on consolidated analysis as depicted in table 4, the determination of leverage is highly dependent on dynamism. It shows that firms tend to reduce the utilization of long-term debt as the sectoral environment becomes more dynamic. These findings are consistent across all the respondent countries; however, more

Table 5: Results of Sub-samples of Developed, Emerging and Developing Countries

	Developed Country (Spain)	Emerging Country (Malaysia)	Developing Country (Pakistan)
Intercept	8.568	15.924	19.798
Firm-Level Variables			
Size	0.001 (0.871)***	0.004 (0.955)***	0.015 (0.132)**
Profitability	-0.001 (-0.232)***	-0.000 (-0.382)***	0.095 (0.579)*
Tangibility	0.002 (0.369)***	0.003 (0.2042)***	0.000 (0.336)***
Sector-Level Variables			
Munificence	-0.465 (-2.942)	0.084 (1.649)*	0.044 (3.748)**
Dynamism	-0.084 (-3.272)*	-0.051 (-3.124)**	-0.007 (-3.281)***
HHI	-0.002 (-1.432)***	-0.082 (-1.462)*	0.076 (-1.245)*
Country-Level Variables			
GDP	0.074 (1.621)*	0.086 (0.123)*	0.053 (0.282)**
Stock Market Development	-0.062 (-0.678)*	-0.034 (-5.462)**	-0.087 (-3.353)*
Bond Market Development	-0.057 (-0.972)*	0.017 (6.182)**	0.182 (6.281)
Observation	3340	3072	1998

The table 5 presents the country-wise (sub-sample) results of regression modeling-p-values, t-values and intercepts. The sub-samples comprised of 3340 Spanish firm year observations, 3072 Malaysian firm year observations and 1998 Pakistani firm year observations—from 2001 to 2010. The estimated effects of covariates regarding firm, sector and country level estimations are shown. The dependent variable is book value of long term debt, which is defined as ratio of book value of debt to total assets. Refer table 2 for formulation of independent and dependent variables. The t-value and p-values shown in parentheses are computed using gretl correlation model robust to heteroskedasticity and significant levels are given below.

*** Significant at the 1% level

* Significant at the 5% level

* Significant at the 10% level

significant in case of developing country as illustrated in table 5. These results further substantiate the application of the agency cost theory. Furthermore, consolidated analysis of respondent countries indicates the substance of munificence and industry concentration (HHI) which is also found negatively associated with financial leverage. This result is contradictory to the sub-sample outcomes, where munificence is negatively related to leverage in developed country and positively related in emerging and developing countries. On the basis of overall and sub-sample analysis, dynamism and HHI tends to be most important variables that maintained negative relationship with leverage at all levels. Consistent with the finding of [15], firms decrease long-term debt as their concentration level increases.

As shown by table 4 and 5, GDP maintained a positive relation with leverage at all levels, which confirms our hypothesis that during economic growth, firms tend to expand their business operations; hence, employ more debt. These findings are consistent with [13, 50, 51]; hence, confirms predictability of trade off theory. On the other hand, firms in developed, emerging and developing economies reduce the utilization of leverage as the stock market develops. Our analysis findings support the market timing theory which was also followed by the studies of

[3, 15, 51]. Finally, the level of bond market development maintained negative relationship with debt in developed country of Spain; while a positive relationship is found in emerging country of Malaysia and in developing country of Pakistan. These results are consistent with [52], who indicated that firms having more access to bond/debt market tend to employ greater level of debt [53]. Following the consolidated results from respondent countries, it can be assumed that a well developed stock and bond market is able to provide growth opportunities to the firms of the respective countries.

CONCLUSION

In order to take into account the relative importance of firm, sector and country-level factors, this study assessed the effect of hierarchical factors on firm's leverage in developed, emerging and developing economies. The study found that in explaining the firm's leverage, the firm level factors are more relevant in comparison to sector and country level factors. It could be the reason that firms mainly rely on intrinsic factors when deciding the capital structure. The significance of sector level factors falls in second purview in relation to leverage variances. However, it is more surprisingly to

examine the relatively low importance of country-level factors in determination of firm's leverage. Keeping in view of such less significance of country level factors, one could view these findings as argument for not considering these macroeconomic factors of being worthy for future investigation in relation to firm's capital structure.

Since large part of literature remained focused on firm and country level factors, however, other relevant strands were tested which concern the dynamism, munificence and industry concentration as important determinants of capital structure. Moreover, the study highlighted the mechanism between firm's leverage and determinants from countries with three different economic development levels. From theoretical point of view, the findings add important standpoint to capital structure literature which extends help to financial managers in the policy directions. Nevertheless, the study devices borrowing mechanism for firms on the basis of external environmental factors which have the capacity to influence the firms' leverage.

REFERENCE

1. Voulgaris, F., D. Asteriou and G. Agriomirgianakis, 2004. Size and Determinants of Capital Structure in the Greek Manufacturing Sector. *International Review of Applied Economics*, 18(2): 247-262.
2. Rajan, R. and L. Zingales, 1995. What Do Know about Capital Structure? Some Evidence from International Data. *The Journal of Finance*, 50(5): 1421-1460.
3. Frank, M.Z. and K.V. Goyal, 2003. Testing the Pecking Order Theory of Capital Structure. *Journal of Financial Economics*, 67(2): 217-248.
4. Song, H., 2005. Capital Structure Determinants. An Empirical Study of Swedish Companies. CESIS Electronic Working Paper Series.
5. Fama, E. and R. French, 1992. The Cross-Section of Expected Stock Returns. *The Journal of Finance*, 47(2): 427-65.
6. Modigliani, F. and M.H. Miller, 1958. The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3): 261-297.
7. Myers, S.C., 1977. Determinants of Corporate Borrowing. *Journal of Financial Economics*, 5(2): 147-175.
8. DeAngelo, H. and R.W. Masulis, 1980. Optimal Capital Structure under Corporate and Personal Taxation. *Journal of Financial Economics*, 8(-): 3-29.
9. Bradley, M., G. Jarrell and E. Kim, 1984. On the Existence of an Optimal Capital Structure: Theory and Evidence. *Journal of Finance*, 39(3): 857-878.
10. Auerbach, J.A., 1985. Real Determinants of Corporate Leverage. National Bureau of Economic Research. Paper no. 1151, University of Chicago Press.
11. Myers, S.C. and N. Majluf, 1984. Corporate financing and investment decisions when firms have information investors do not have. *Journal of Financial Economics*, 13(2): 187-221.
12. Demirguc-Kunt, A., 1992. Developing Country Capital Structure and Emerging Stock Markets. World Bank Working Paper, pp: 933.
13. Booth, L.V., D.A. Aivazian, Kunt and V. Maksimovic, 2001. Capital structures in developing countries. *Journal of Finance*, 56(1): 87-130.
14. Shah, A. and T. Hijazi, 2004. The determinants of capital structure of stock exchange-listed non-financial firms in Pakistan. *Pakistan Development Review*, 43(4): 605-618.
15. Kayo, E. and H. Kimura, 2011. Hierarchical determinants of capital structure. *Journal of Banking and Finance*, 35(2): 358-371.
16. Ramakrishnan, S., 2012. Sectoral Analysis on Capital Structure Determinants among the Malaysian Listed Firms. Ph.D. Thesis, Deakin University, Australia.
17. Baral, K., 2004. Determinants of Capital Structure: A Case Study of Listed Companies of Nepal. *The Journal of Nepalese Business Studies*, 1(1): 1-13.
18. Mazur, K., 2007. The Determinants of Capital Structure: Evidence from Polish Companies. *International Advances in Economic Research*, 13(4): 495-514.
19. Financial Time Stock Exchange, 2012. Retrieved January 15, 2013, from http://www.ftse.com/Indices/FTSE_Emerging_Markets/index.jsp
20. Borio, C., N. Kennedy and S. Prowse, 1994. Exploring Aggregate Asset Price Fluctuations Across Countries: Measurement, Determinants and Monetary Policy Implications. Bank for International Settlements, economic papers, pp: 40.
21. Arif, M., 2007. Bond Market Development in Pakistan. State Bank of Pakistan. Available at:<http://www.pdfdownload.org/pdf2html/pdf2html.php?url=http%3A%2F%2Fwww.sbp.org.pk%2Ffscd%2F2007%2FPresentations%2FBond-Market.pdf&images=yes>
22. Bilal, A.R., B.A.T. Noraini, I.U. Haq and M.N.A.A. Khan, 2013. Remodeling of risk management in banking: evidence from the sub-continent and gulf. *The Journal of Risk Finance*, 14(5): 468-489.

23. Hassan, M., S. Hassan, A. Iqbal and M.F.A. Khan, 2014. Impact of Corporate Governance on Audit Fee: Empirical Evidence from Pakistan, *World Applied Science Journal*, 30(5): 645-651.
24. Titman, S. and R. Wessels, 1988. The determinants of capital structure choice. *Journal of Finance*, 43(1): 1-19.
25. Friend, I. and P. Lang, 1988. An empirical test of the impact of managerial self-interest on corporate capital structure. *Journal of Finance*, 43(2): 271-81.
26. Harris, M. and A. Raviv, 1991. Capital Structure and the Informational Role of Debt. *Journal of Finance*, 45(2): 321-349.
27. Naveed, M., A.R. Bilal, U.R. Ahmad, B.A.T. Noraini, A.A. Melati, 2013. Evidence of capital structure discipline in financial markets: A study of leasing and insurance companies of Pakistan. *Research Journal of Management Sciences*, 2(1): 7-12.
28. Kozyr, Y.V., 2013. The Interest Rate Algebra, *World Applied Science Journal*, 28: 222-231.
29. Almeida, H. and M. Campello, 2007. Financial Constraints, Asset Tangibility and Corporate Investment. *Review of Financial Studies*, 20(5): 1429-1460.
30. Smith, 1977. Alternative Methods for Raising Capital: Rights versus Underwritten Offerings. *Journal of Financial Economics*, 5(3): 273-307.
31. Simerly, L. and M. Li, 2000. Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal*, 21(1): 31-49.
32. Dess, G. and W. Beard, 1984. Dimensions of Organizational Task Environments. *Administrative Science Quarterly*, 29(1): 52-73.
33. Tsvirko, S., 2014. Debt Problem in the European Union and Russia: Common Features and Differences, *World Applied Science Journal*, 30(5): 645-651.
34. Abor, J., 2008. Determinants of the Capital Structure of Ghanaian Firms. [Online at African Economic Research Consortium, Nairobi]. Available: <http://www.aercafrica.org/documents/RP176.pdf> (July, 20, 2010)
35. Ferri, M.G. and W.H. Jones, 1979. Determinants of financial structure: A new methodological approach. *Journal of Finance*, 34(3): 631-44.
36. MacKay, P. and M.G. Phillips, 2005. How Does Industry Affect Firm Financial Structure. *The Review of Financial Studies*, 18(4): 1434-1466.
37. Brander, J. and T. Lewis, 1986. Oligopoly and financial structure: The limited liability effect. *American Economic Review*, 76(5): 956-70.
38. Lee, K.C. and C.C.Y. Kwok, 1988. Multinational corporations vs. domestic corporations: International environmental factors and determinants of capital structure. *Journal of International Business Studies*, 19(2): 195-217.
39. Chen, C.J.P., C.S.A. Cheng, J. He and J. Kim, 1997. An investigation of the relationship between international activities and capital structure. *Journal of International Business Studies*, 28(3): 563-577.
40. De Jong, A., R. Kabir, T.T. Nguyen, 2008. Capital structure around the world: The roles of firm-and country-specific determinants. *Journal of Banking and Finance*, 32: 1954-1969.
41. Haggart, B., 2000. The Gross Domestic Product and Alternative Economic and Social Indicators. Economics Division. Ottawa: Depository Services Program. (PRB 00-22E).
42. Chen, J. J., 2003. Determinants of capital structure of Chinese-listed companies. *Journal of Business Research*, 57(3): 341-1351.
43. Shah, A. and S. Khan, 2007. Determinants of Capital Structure: Evidence from Pakistani Panel Data. *International Review of Business Research Papers*, 3(4): 265-282.
44. Bilal, A.R., M. Naveed, B.A.T. Noraini and M.N.A.A. Khan, 2013. Inevitability of cross-section stock return: evidence from equity markets of Pakistan. *Middle-East Journal of Scientific Research*, 13(2): 241-247.
45. Bilal, A.R., B.A.T. Noraini, I.U. Haq, M.N.A.A. Khan and M. Naveed, 2013. How gold prices correspond to stock index: A comparative analysis of Karachi stock exchange an Bombay stock exchange. *World Applied Sciences Journal*, 21(4): 485-491.
46. Bilal, A.R., B.A.T. Noraini, I.U. Haq, M.N.A.A. Khan and I. Islam, 2012. How terrorism and macroeconomic factors impact on returns: A case of Karachi Stock exchange. *World Applied Sciences Journal*, 19(11): 485-491.
47. Baker, M. and J. Wurgler, 2002. Market Timing and Capital Structure. *The Journal of Finance*, 57(1): 1-32.
48. Luke, D.A., 2004. *Multilevel Modeling*. Sage Publications, Thousand Oaks.
49. Ooi, J., 1999. The determinant of capital structure: Evidence on UK property companies. *Journal of Property Investment and Finance*, 17(5): 464-80.

50. Mahmud, M., 2003. The Relationship Between Economic Growth and Capital Structure of Listed Companies: Evidence of Japan, Malaysia and Pakistan. *The Pakistan Development Review*, 42(4): 727-750.
51. Deesomsak, R., K. Paudyal and G. Pescetto, 2004. The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14(4-5): 387-405.
52. Faulkender, M. and M.A. Petersen, 2006. Does the Source of Capital Affect Capital Structure. *Review of Financial Studies*, 19(1): 45-79.
53. Baert, L. and R.V. Vennet, 2007. Bank Market Structure and Firm Capital Structure in Europe. (*February, 13 2009*) <http://ssrn.com/abstract=1342395>.
54. Economy Watch, 2012. Retrieved August 06, 2013 from http://www.economywatch.com/world_economy/pakistan.
55. Security Commission Malaysia, 2011. Available at: http://www.sc.com.my/eng/html/publications/Capital_Market_Brocure_11/Capital%20Market_Market_Segments.pdf