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National Cultures and Capital Structure: Evidence from the Emerging Markets

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Effect of the Combinations of Cultural Aspects and Firm-Specific Factors on the Capital Structure of Companies in Emerging Markets [1]

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Abstract
This paper identifies the combinations between Hofstede's six cultural aspects and four selected firm-specific factors, which have a significant impact on the choice of capital structure, in 15,821 listed companies from 34 countries in the emerging market, for the period 2012 – 2014. Thirty seven independent variables and one dependent variable have been tested using regression analysis. It has been concluded that the combinations that have a significant impact on the choice of capital structure (leverage) in the emerging markets were [Cultural – Firm-specific]:

1. Power distance – cash flows, cost of debt
2. Individualism – cash flows, cost of debt
3. Masculinity – interest coverage ratio, cost of debt
4. Uncertainty avoidance – cash flows, cost of debt
5. Long-term orientation – intangibility, cash flows, cost of debt
6. Indulgence – intangibility, cash flows, interest coverage ratio

1. Introduction

1.1 Debt as a Financing Tool

Debt has become a very preferable way for managers to finance firm's operations and new investments. Controlling shareholders prefer debt rather than equity as it doesn't weaken their ownership and voting power in the firm. Managers also prefer debt as it's a cheaper way to finance firm's activities. Debt also offers the firm tax savings since the taxable income is reduced by the amount of interest payments. These tax savings increase the value of the levered firm to the unlevered state. However, too much debt isn't preferable to the firm as the further tax savings are offset by the added cost of financial distress (e.g.

bankruptcy). At very high debt levels, the cost of debt increases as some of the risk is transferred from shareholders to bondholders.

1.2 Factors Affecting Choice of Capital Structure

There are many approaches to calculate the optimal debt level in a capital structure of the company (optimal capital structure). However, there are many examples that show the deviation of firms from their optimal capital structure. In this research we will try to uncover some factors that affect the capital structure of a firm.

The factors that affects the choice of capital structure could be divided into two categories:

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1. <u>Firm-specific factors</u>, which are purely financial terms and ratios: such as a firm's size (could be represented by its total assets), growth rate, earnings, free cash flows, interest coverage ratio, cost of debt … etc.
2. <u>Cultural aspects</u>, which are defined by Geert Hofstede in his model, and found to affect managers' behaviors and decisions.
   These factors are: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence.

2. Literature Review

In order for us to determine whether there is an effect of each of the variables that we will be studying, we did our literature review, and found what follows:

(Harris and Raviv, 1991) suggested that companies with high assets tangibility have more debt. (Koralun, 2013) argued that the relationship between tangibility of assets and the leverage is negative. However, she argued that the sign of the relationship is both country-specific and industry-specific.

(Jensen, 1986) suggests that debt decreases the agency costs of the free cash flow by reducing the free cash available at the discretion of managers, hence there's a positive relationship between free cash flow and leverage. However, (Chaplinsky and Niehaus, 1990) empirical research didn't support this finding due to the limitation to maximize tax benefits.

(Harris and Raviv, 1990) propose that leverage is negatively correlated with the interest coverage ratio. They argue that an increase in debt results in a higher default probability. Assuming that interest coverage ratio is a measurement of default probability, this implies that a higher interest coverage ratio indicates a lower debt ratio. (Eriotis, Vasiliou and Neokosmidi, 2007) confirmed that Interest coverage ratio has a negative relationship with leverage as companies with low ICR didn't and don't prefer using much debt as a source of financing.

(Kim and Sorensen, 1986) suggested that companies with low outer cost of debt has higher leverage than those with high cost of debt. So there's a negative relationship between cost of debt and leverage.

(Daphne and Omar, 2014) suggest that firms from countries with low individualism employ less debt financing which was consistent with the findings of (Chui et al, 2002) that suggested that conservative societies perceive higher bankruptcy costs and so they deploy less debt.

(Daphne and Omar, 2014) suggest that firms from countries with high Power Distance employ less debt financing. (Zheng et al, 2012), mention that high Power Distance is associated with low levels of trust and more opportunistic behavior; hence, the prevalence of higher transaction costs discourages firms from engaging in long-term financing.

(Daphne and Omar, 2014) suggest that firms located in countries with high Masculinity appear to be less leveraged, consistent with (Zheng et al, 2012) that suggested that masculine societies use short-term rather than long-term debt.

(Daphne and Omar, 2014) suggest that more indulgent countries favor higher debt

(Daphne and Omar, 2014) suggest that long-term orientation is found to have a negative relationship with leverage as it favors equity financing to debt financing.

(Daphne and Omar, 2014) suggest that Uncertainty Avoidance discourages leverage increases and promotes equity financing, as firms place a high priority on certainty. This is consistent with (Chui et al, 2002) that suggested that conservative societies perceive higher bankruptcy costs and so they deploy less debt. (Zheng et al, 2012) also suggested that high uncertainty avoidance countries prefer short-term debt rather than long-term.

3. Research Methodology

3.1 Objectives

Our objective is to investigate the effect of the combinations of cultural aspects and firm-specific factors on the capital structure of companies in emerging markets. The results of this study would help future researchers and decision makers to identify and understand the firm-specific and cultural combinations that have significant effects on the choice of capital structure in companies in emerging markets.

The variables that we chose for our study are illustrated in the section 3.4 Explanatory Variables, and the testing equation is as shown in *Figure 3.1*. And for our hypotheses, they are illustrated in the table under section 3.5 Null Hypotheses.

3.2 Data Sources

Firm-specific factors were collected from Thomson Reuter's DataStream™. As for the cultural factors, they were obtained from Geert Hofstede model.

Data collected was tabulated, analyzed, and interpreted using Stata™ software.

$$
\begin{aligned}
\text{LEV} =\ & \alpha \\
& + \beta_1(\text{SIZ}) + \beta_2(\text{GRO}) + \beta_3(\text{EPS}) && \textit{control variables} \\
& + \beta_4(\text{INT}) + \beta_5(\text{FCF}) + \beta_6(\text{ICR}) + \beta_7(\text{COD}) && \textit{firm-specific variables} \\
& + \beta_8(\text{PWD}) + \beta_9(\text{IND}) + \beta_{10}(\text{MAS}) + \beta_{11}(\text{AVO}) + \beta_{12}(\text{LTO}) + \beta_{13}(\text{NDL}) && \textit{cultural variables} \\
& + \beta_{14}(\text{IP}) + \beta_{15}(\text{II}) + \beta_{16}(\text{IM}) + \beta_{17}(\text{IU}) + \beta_{18}(\text{IL}) + \beta_{19}(\text{ID}) && \textit{combinations of INT with cultural variables} \\
& + \beta_{20}(\text{FP}) + \beta_{21}(\text{FI}) + \beta_{22}(\text{FM}) + \beta_{23}(\text{FU}) + \beta_{24}(\text{FL}) + \beta_{25}(\text{FD}) && \textit{combinations of FCF with cultural variables} \\
& + \beta_{26}(\text{CP}) + \beta_{27}(\text{CI}) + \beta_{28}(\text{CM}) + \beta_{29}(\text{CU}) + \beta_{30}(\text{CL}) + \beta_{31}(\text{CD}) && \textit{combinations of ICR with cultural variables} \\
& + \beta_{32}(\text{DP}) + \beta_{33}(\text{DI}) + \beta_{34}(\text{DM}) + \beta_{35}(\text{DU}) + \beta_{36}(\text{DL}) + \beta_{37}(\text{DD}) && \textit{combinations of COD with cultural variables} \\
& + \varepsilon
\end{aligned}
$$

Figure 3.1: Testing Equation

We used data from 15,821 companies in 34 different countries that represent the emerging markets, in years 2012, 2013, and 2014.

All data are available in the attached Microsoft Excel™ Workbook:
- "FINC5351_Spring15_CS-Culture_Data.xlsx"

3.3 Research Methodology

To test our hypotheses, we used multiple linear regression using Stata™ software.

3.3.1 How to expect the significance of a combination

As an example of our work; we regressed the intangibility as a firm-specific factor, power distance as a cultural factor, and their combination, against the leverage, in order to know whether there is a significant relationship between them and the leverage or not. We expect that if the two variables have significant impact on the leverage, their combined effect would also have a significant impact on the leverage.

3.4 Explanatory Variables

3.4.1 Dependent variable
Leverage [LEV]

We chose leverage as an indicator for the capital structure of a firm. The leverage is the ratio between a firm's total debt to its total equity. We obtained this ratio directly from Thomson Reuter's DataStream™.

3.4.2 Independent variables
I. Control variables
i. Size of firm [SIZ]

Size of the firm could be calculated by various methods. In this study, we used the logarithm of total assets as a proxy for firm size. Large firms are often more diversified and have more stable cash flows than small firms. Also, the probability of default for large companies is lower if compared to smaller ones. Therefore, we can consider that the financial distress risk is also lower when the firm is large.

The values of total assets were obtained from Thomson Reuter's DataStream™, and the logarithm was calculated inside Stata™.

ii. Growth [GRO]

The firms which have high growth options have relatively a larger capacity for expansion projects, acquisitions of other firms, and new product lines. Most of those firms have high cash flow volatility and consequently they are more incentivized to decrease the debt in their capital structure as much as possible over a period of time. We used here the growth in assets to portray the growth of the firm.

We used the percentage of change of total assets as a measure of growth. The values were obtained from Thomson Reuter's DataStream™.

iii. Earnings per share [EPS]

We used earnings per share (EPS) as an indication of a company's profitability, as it is one of the most important variables in determining the value of the stock. EPS represent the part of the company's profit that is allocated to each outstanding share of common stock. The higher the firm's value, the more likely it is to have debt in its capital structure as it will be easier for it to access resources from financial initiations such as banks.

Values of EPS were obtained from Thomson Reuter's DataStream™.

II. Firm-specific variables
i. Intangibility [INT]

Asset tangibility refers to all types of tangible assets (e.g. land, building, machines and equipment) that possess some degree of debt capacity. Tangible assets, many of which can

be easily collateralized, support debt. Accordingly, the amount of tangible assets is well-established as a principal driver of leverage. Consequently, the higher the intangibility, the lower the debt.

To measure the value of intangible assets of the firm, we used the ratio of total intangible assets to total assets. Both were obtained from Thomson Reuter's DataStream™.

ii. Cash flows [FCF]

The cash flows of a firm is a strong measure of its financial performance as it represents the cash that is left after the change in net working capital and the capital expenditure.

We used Free Cash Flow per Share (FCF) as an indication for the firm's ability to pack back its debt, pay dividends, and buy-back stock. The higher the FCF, the higher is the ability to increase the leverage.

Values of FCF were obtained from Thomson Reuter's DataStream™.

iii. Interest coverage ratio [ICR]

The interest coverage ratio (ICR) of a firm reveals its capability of meeting its interest obligation. A high interest coverage ratio means that the firm is able to cover the interest expense it has. Therefore, the higher the ratio, the greater is the likelihood of a firm having a higher debt component in its financial structure.

Also, the capacity of a firm to honor the debt obligations indicates its creditworthiness to the lenders in the market. Consequently, having a high interest coverage ratio is likely to induce firms to opt for a higher level of debt since they are capable of repaying it, assuming that they have also have an overall healthy financial position.

Values of ICR were obtained from Thomson Reuter's DataStream™.

iv. Cost of debt [COD]

The cost of debt (COD) is the effective rate that a company pays on its current debt.

We expect that with a higher cost of debt, the firm will be less likely to pressure itself into a high level of leverage. Hence, firms with a higher cost of debt will have a lower level of debt in their capital structure than firms with a low cost of debt.

Our proxy in measuring COD was the ratio between interest expense on debt over the total debt. Both were obtained from Thomson Reuter's DataStream™.

III. Cultural variables

The values of the cultural aspects that will be illustrated in this section, were obtained from Geert Hofstede model (http://geert-hofstede.com).

i. Power distance [PWD]

Power distance is an indication of the dependence relationships in a country. It reveals the extent to which the less powerful accept the unequal distribution of power. In countries with a high level of power distance, the subordinates or institutions with low levels of power are not likely to negotiate with the ones in power. For example, SMEs are not likely to negotiate loan terms with Banks in countries which have a high power distance. That is why in such countries the debt levels are expected to be lower. Our expectation is that the level of increase in leverage from a high FCF per share (or any other capital determinant structure which increases debt) will be higher in countries with low power distance, and vice versa.

ii. Individualism [IND]

An individualistic culture is one in which social ties are not as strong as in collectivist cultures. Personal freedom is regarded as more important than social cohesion. Unlike collectivist cultures, the individualistic culture is one in which everyone relies mostly on himself/herself. The societal expectation is that people look after themselves and their immediate family. Thus, the integrated cohesive groups are not common. With personal freedom as a priority, managers in highly individualistic cultures are expected to pursue low levels of debt. This is because debt is considered a disciplinary choice for the managers who will most likely tend to look after enhancing their reputation in an individualistic society (Hirshleifer and Thakor, 1992). Furthermore, since autonomy is highly regarded, firms are expected to have more equity financing. Individualism and debt have an inverse relationship and therefore we expect that there will be a lower significance level in individualistic cultures. Debt will have a higher increase with a determinant such as FCF per share in collectivist cultures. Individualism is inversely related to debt.

iii. Masculinity [MAS]

When a society is labeled as masculine, it means that the gender roles are clearly defined. For example, men in a masculine society should be assertive, tough, and focused on material success. On the other hand, women should be more modest, tender, and concerned with the quality of life (Hofstede and Hofstede, 2005). The degree of masculinity in a society could be measured by the extent of emphasis and rewards to the characteristics associated with males such as assertiveness, competition, and success rather than the female characteristics which were aforementioned.

Masculinity is also measured depending on the expectations to manifest and perform the given roles. Also, according to De Jong and Semenov (2002), "the degree of masculinity is synonymous with support for competitive processes and outcomes and associated with greater stock market depth" (Kearney, Bhaird, and Lucey). We expect that masculinity will be positively related to debt. Firms with a highly masculine culture are therefore expected to acquire higher levels of debt with the increase of the cultural determinants which increase debt such as (interest coverage ratio, FCF per share … etc.) if compared to firms with low masculine culture.

iv. Uncertainty avoidance [AVO]

Uncertainty avoidance refers to the level at which members of a culture feel anxious or threatened by uncertain or ambiguous situations. Since higher levels of debt increase the risks of bankruptcy (Gleason et al., 2000), cultures with a high level of uncertainty avoidance tend to have lower levels of debt. Uncertainty avoidance is negatively related to debt. Hence, debt will not increase in highly uncertain cultures when the capital structure determinants, which are positively related to debt, increase.

v. Long-term orientation [LTO]

Long-term orientation exists when the focus is on the future rather than the present. Short-term rewards could be delayed in light of a greater future reward. Societies which score high on this dimension are more pragmatic in their approach; they welcome ideas that will help prepare and develop their future. On the other hand, societies who score low, prefer the regular norms and traditions. Moreover, they regard social change with suspicion. Immediate gratification is more important than a long term fulfillment. Consequently, societies with a long term orientation are more likely to use debt than societies with a short term orientation. This is because societies with a long term orientation will be more oriented to forego current rewards for future benefits. Long-term orientation is therefore a cultural factor which is positively related to debt and it will have greater significance. "The preference for bank finance increases with the degree of long-term orientation of a society" (Antonczyk, Breuer, and Salzmann, 2011). Long-term orientation could be used as a factor to explain why firms use debt from banks while others borrow from arm's length investors.

vi. Indulgence [NDL]

"Indulgence stands for a society that allows relatively free gratification of basic and natural human desires related to enjoying life. Restraint stands for a society that controls gratification of needs and regulates it by means of strict social norms." (Dimensionalizing Cultures: The Hofstede Model in Context, Geert Hofstede, 2011). The way in which societies restrain themselves from certain actions because of social norms is what differentiates indulgence from restraint. It is the extent to which a society controls its impulses and desires. Societies that score low on this dimension tend to be pessimistic and cynical. Unlike indulgent societies, restrained societies do not put a high emphasis on leisure time, for example, as they control the gratification of their desires. In context of capital structure, we are expecting high levels of indulgence to be associated with low levels of debt as a result of the disciplinary nature of debt. For a firm to have a high level of debt in its capital structure, certain financial conditions need to be found which could restrain managers from taking the decisions they want. Indulgence is negatively related to debt. Accordingly, it is expected that an increase in capital structure determinants that are positively related to debt will not increase on firms in indulgent societies.

3.5 Null Hypotheses

In section 3.3.1, we illustrated that we expect that if two variables have significant impact on the leverage, their combined effect would also have a significant impact on the leverage.

Based on that, we have put the null hypotheses as shown below.

3.5.1 Hypotheses on firm-specific variables

H_{o01} = There is no significant impact of a firm's intangibility ratio (INT) on its choice of capital structure (LEV)

H_{o02} = There is no significant impact of a firm's free cash flows per share (FCF) on its choice of capital structure (LEV)

H_{o03} = There is no significant impact of a firm's interest coverage ratio (ICR) on its choice of capital structure (LEV)

H_{o04} = There is no significant impact of a firm's cost of debt (COD) on its choice of capital structure (LEV)

3.5.2 Hypotheses on cultural variables

H_{o05} = There is no significant impact of a firm's culture of power distance (PWD) on its choice of capital structure (LEV)

H_{o06} = There is no significant impact of a firm's culture of individualism (IND) on its choice of capital structure (LEV)

H_{o07} = There is no significant impact of a firm's culture of masculinity (MAS) on its choice of capital structure (LEV)

H_{o08} = There is no significant impact of a firm's culture of uncertainty avoidance (AVO) on its choice of capital structure (LEV)

H$_{o09}$ = There is no significant impact of a firm's culture of long-term orientation (LTO) on its choice of capital structure (LEV)

H$_{o10}$ = There is no significant impact of a firm's culture of indulgence (NDL) on its choice of capital structure (LEV)

3.5.3 Hypotheses on the combinations of firm-specific and cultural variables

I. Combinations of intangibility ratio, and the six cultural factors

H$_{o11}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of power distance (IP) on its choice of capital structure (LEV)

H$_{o12}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of individualism (II) on its choice of capital structure (LEV)

H$_{o13}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of masculinity (IM) on its choice of capital structure (LEV)

H$_{o14}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of uncertainty avoidance (IU) on its choice of capital structure (LEV)

H$_{o15}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of long-term orientation (IL) on its choice of capital structure (LEV)

H$_{o16}$ = There is no significant impact of the combination of firm's intangibility ratio and its culture of indulgence (ID) on its choice of capital structure (LEV)

II. Combinations of free cash flows per share, and the six cultural factors

H$_{o17}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of power distance (FP) on its choice of capital structure (LEV)

H$_{o18}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of individualism (FI) on its choice of capital structure (LEV)

H$_{o19}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of masculinity (FM) on its choice of capital structure (LEV)

H$_{o20}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of uncertainty avoidance (FU) on its choice of capital structure (LEV)

H$_{o21}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of long-term orientation (FL) on its choice of capital structure (LEV)

H$_{o22}$ = There is no significant impact of the combination of firm's free cash flows per share and its culture of indulgence (FD) on its choice of capital structure (LEV)

III. Combinations of interest coverage ratio, and the six cultural factors

H$_{o23}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of power distance (CP) on its choice of capital structure (LEV)

H$_{o24}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of individualism (CI) on its choice of capital structure (LEV)

H$_{o25}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of masculinity (CM) on its choice of capital structure (LEV)

H$_{o26}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of uncertainty avoidance (CU) on its choice of capital structure (LEV)

H$_{o27}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of long-term orientation (CL) on its choice of capital structure (LEV)

H$_{o28}$ = There is no significant impact of the combination of firm's interest coverage ratio and its culture of indulgence (CD) on its choice of capital structure (LEV)

IV. Combinations of cost of debt, and the six cultural factors

H$_{o29}$ = There is no significant impact of the combination of firm's cost of debt and its culture of power distance (DP) on its choice of capital structure (LEV)

H$_{o30}$ = There is no significant impact of the combination of firm's cost of debt and its culture of individualism (DI) on its choice of capital structure (LEV)

H$_{o31}$ = There is no significant impact of the combination of firm's cost of debt and its culture of masculinity (DM) on its choice of capital structure (LEV)

H$_{o32}$ = There is no significant impact of the combination of firm's cost of debt and its culture of uncertainty avoidance (DU) on its choice of capital structure (LEV)

H$_{o33}$ = There is no significant impact of the combination of firm's cost of debt and its culture of long-term orientation (DL) on its choice of capital structure (LEV)

H$_{o34}$ = There is no significant impact of the combination of firm's cost of debt and its culture of indulgence (DD) on its choice of capital structure (LEV)

4. Results

4.1 Summary of Regression Results

Summary of results is shown in *Table 4.1*.

All regression data are available in the attached Stata™ files:
- "FINC5351_Spring15_CS-Culture_Data.dta"
- "FINC5351_Spring15_CS-Culture_RegResults_Single.smcl"
- "FINC5351_Spring15_CS-Culture_RegResults_Combined.smcl"

Table 4.1: Regression Results

H$_o$	Independent Variable	β	ε	P	H$_o$ Result
01	**INT**	- 0.072	0.013	0.000 ***	Rejected
02	**FCF**	1.83 x10^{-8}	8.47 x10^{-9}	0.031 **	Rejected
03	**ICR**	- 1.99 x10^{-8}	3.43 x10^{-9}	0.000 ***	Rejected
04	**COD**	- 0.393	0.016	0.000 ***	Rejected
05	**PWD**	0.002	0.001	0.019 **	Rejected
06	**IND**	0.009	0.004	0.019 **	Rejected
07	**MAS**	0.004	0.002	0.019 **	Rejected
08	**AVO**	0.000	0.000	0.019 **	Rejected
09	**LTO**	- 0.004	0.000	0.000 ***	Rejected
10	**NDL**	0.006	0.000	0.000 ***	Rejected
11	**IP**	0.000	0.001	0.375	Not Rejected
12	**II**	- 0.000	0.000	0.585	Not Rejected
13	**IM**	- 0.001	0.001	0.145	Not Rejected
14	**IU**	0.000	0.000	0.541	Not Rejected
15	**IL**	- 0.003	0.000	0.000 ***	Rejected
16	**ID**	0.002	0.000	0.000 ***	Rejected
17	**FP**	2.17 x10^{-7}	6.06 x10^{-8}	0.000 ***	Rejected
18	**FI**	1.84 x10^{-7}	7.61 x10^{-8}	0.016 **	Rejected
19	**FM**	2.24 x10^{-7}	1.37 x10^{-8}	0.102	Not Rejected
20	**FU**	- 3.49 x10^{-7}	6.64 x10^{-8}	0.000 ***	Rejected
21	**FL**	1.31 x10^{-7}	3.73 x10^{-8}	0.000 ***	Rejected
22	**FD**	- 1.58 x10^{-7}	4.96 x10^{-8}	0.002 ***	Rejected
23	**CP**	- 6.64 x10^{-11}	5.02 x10^{-10}	0.895	Not Rejected
24	**CI**	7.11 x10^{-11}	2.40 x10^{-10}	0.767	Not Rejected
25	**CM**	1.97 x10^{-9}	1.14 x10^{-9}	0.085	Rejected
26	**CU**	- 2.07 x10^{-9}	1.41 x10^{-9}	0.140	Not Rejected
27	**CL**	2.64 x10^{-10}	2.27 x10^{-10}	0.245	Not Rejected
28	**CD**	- 1.12 x10^{-9}	3.98 x10^{-10}	0.005 ***	Rejected
29	**DP**	0.004	0.001	0.002 ***	Rejected
30	**DI**	0.003	0.001	0.000 ***	Rejected
31	**DM**	0.004	0.001	0.001 ***	Rejected
32	**DU**	- 0.002	0.000	0.001 ***	Rejected
33	**DL**	0.001	0.000	0.047 **	Rejected
34	**DD**	- 0.001	0.000	0.231	Not Rejected

Abbreviations are illustrated in section 3.4 *Explanatory Variables*

*** = at 99% confidence level, ** = at 95% confidence level, * = at 90% confidence level

4.2 Significance of Firm-specific Variables

Null Hypothesis 01 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's intangibility ratio had a significant impact on its choice of capital structure.

Null Hypothesis 02 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's free cash flows per share had a significant impact on its choice of capital structure.

Null Hypothesis 03 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's interest coverage ratio had a significant impact on its choice of capital structure.

Null Hypothesis 04 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's cost of debt had a significant impact on its choice of capital structure.

4.3 Significance of Cultural Variables

Null Hypothesis 05 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of power distance had a significant impact on its choice of capital structure.

Null Hypothesis 06 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of individualism had a significant impact on its choice of capital structure.

Null Hypothesis 07 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of masculinity had a significant impact on its choice of capital structure.

Null Hypothesis 08 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of uncertainty avoidance had a significant impact on its choice of capital structure.

Null Hypothesis 09 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of long-term orientation had a significant impact on its choice of capital structure.

Null Hypothesis 10 was rejected based on the values showed in Table 4.1, hence we can conclude that a firm's culture of indulgence had a significant impact on its choice of capital structure.

4.4 Significance of the Combinations of Firm-specific and Cultural Variables

4.4.1 Combinations of intangibility ratio, and the six cultural factors

Null Hypothesis 11 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of power distance did not have a significant impact on its choice of capital structure.

Null Hypothesis 12 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of individualism did not have a significant impact on its choice of capital structure.

Null Hypothesis 13 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of masculinity did not have a significant impact on its choice of capital structure.

Null Hypothesis 14 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of uncertainty avoidance did not have a significant impact on its choice of capital structure.

Null Hypothesis 15 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of long-term orientation had a significant impact on its choice of capital structure.

Null Hypothesis 16 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's intangibility ratio and its culture of indulgence had a significant impact on its choice of capital structure.

4.4.2 Combinations of free cash flows per share, and the six cultural factors

Null Hypothesis 17 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's free cash flows per share and its culture of power distance had a significant impact on its choice of capital structure.

Null Hypothesis 18 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's free cash flows per share and its culture of individualism had a significant impact on its choice of capital structure.

Null Hypothesis 19 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact

of the combination of firm's free cash flows per share and its culture of masculinity did not have a significant impact on its choice of capital structure.

Null Hypothesis 20 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's free cash flows per share and its culture of uncertainty avoidance had a significant impact on its choice of capital structure.

Null Hypothesis 21 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's free cash flows per share and its culture of long-term orientation had a significant impact on its choice of capital structure.

Null Hypothesis 22 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's free cash flows per share and its culture of indulgence had a significant impact on its choice of capital structure.

4.4.3 Combinations of interest coverage ratio, and the six cultural factors

Null Hypothesis 23 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its culture of power distance did not have a significant impact on its choice of capital structure.

Null Hypothesis 24 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its culture of individualism did not have a significant impact on its choice of capital structure.

Null Hypothesis 25 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its culture of masculinity had a significant impact on its choice of capital structure.

Null Hypothesis 26 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its culture of uncertainty avoidance did not have a significant impact on its choice of capital structure.

Null Hypothesis 27 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its culture of long-term orientation did not have a significant impact on its choice of capital structure.

Null Hypothesis 28 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's interest coverage ratio and its

culture of indulgence had a significant impact on its choice of capital structure.

4.4.4 Combinations of cost of debt, and the six cultural factors

Null Hypothesis 29 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of power distance had a significant impact on its choice of capital structure.

Null Hypothesis 30 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of individualism had a significant impact on its choice of capital structure.

Null Hypothesis 31 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of masculinity had a significant impact on its choice of capital structure.

Null Hypothesis 32 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of uncertainty avoidance had a significant impact on its choice of capital structure.

Null Hypothesis 33 was rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of long-term orientation had a significant impact on its choice of capital structure.

Null Hypothesis 34 was not rejected based on the values showed in Table 4.1, hence we can conclude that the impact of the combination of firm's cost of debt and its culture of indulgence did not have a significant impact on its choice of capital structure.

5. Conclusion

Our findings contribute towards a better understanding of choice of capital structure in companies operating in the emerging market, for the period 2012 – 2014.

The hypotheses were based on comparing the relationships between the leverage, as the dependent variable that represents the choice of capital structure, against 34 explanatory variables: 4 of them represent the firm-specific financial factors, 6 of them represent the cultural aspects measured by Hofstede, and 24 variables that measure the combination effect of the 6 cultural aspects and the 4 firm-specific factors. These hypotheses were developed to test which independent variable has a

significant impact on the choice of capital structure, in companies operating in the emerging market.

Firstly, we found that the 4 firm-specific factors (individually) have a significant impact on the choice of capital structure, in companies operating in the emerging market. These factors were: intangibility, cash flows, interest coverage ratio, and cost of debt.

Then we found that the 6 cultural aspects (individually) have a significant impact on the choice of capital structure, in companies operating in the emerging market. These factors were: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence.

We concluded that the combinations that have a significant impact on the choice of capital structure (leverage) in the emerging markets were [Cultural – Firm-specific]:

1. Power distance – cash flows, cost of debt
2. Individualism – cash flows, cost of debt
3. Masculinity – interest coverage ratio, cost of debt
4. Uncertainty avoidance – cash flows, cost of debt
5. Long-term orientation – intangibility, cash flows, cost of debt
6. Indulgence – intangibility, cash flows, interest coverage ratio

Hence, we can understand the choices made by managers of different companies in different cultures.

When looking into the pure financial perspective, we noticed that cash flows and cost of debt have a recurring presence in the combination with all of the cultural aspects, except indulgence, which we believe is natural, as both factors (individually) have strong significance on leverage.

Thus, we can say that according to our findings and to our literature review, a manager (in any culture) would increase the firm's leverage in the presence of increased cash flows, and/or low cost of debt.

As for the main purpose of this research, when we look into the effect of the combination of cultural aspects and firm-specific factors, we can say that a firm's stakeholders (current or future managers, shareholders, analysts, competitors … etc.) should examine the culture where the firm operates, in order to understand the firm's current leverage choices, and expect its future actions on leverage.

According to our results and literature review, **we reached a conclusion that** managers in cultures with low power distance, individualism, or uncertainty avoidance, or with high long-term orientation would be inclined to use increased cash flows, or low cost of debt, in order to increase their firms' leverage.

Also, managers in cultures with high long-term orientation would utilize their firms' asset tangibility, in order to increase the leverage.

Moreover, managers in cultures with high masculinity would tend to seize the presence of high interest coverage ratio, or low cost of debt, in order to increase their firms' leverage.

Finally, managers in cultures with low indulgence, would utilize their firms' asset tangibility, or seize the presence of increased cash flows, or high interest coverage ratio, in order to increase their firms' leverage.

As we are presenting this study, we believe that it would be a contribution to the capital structure, and corporate finance literature. Our paper is distinguished from previous researches as it is the first to study the relationship between leverage and the combination between cultural aspects and firm-specific factors, in firms operating in emerging markets. This has not been the case with previous studies, as they either focused on the effect of cultural aspects individually (such as Bhaird 2013), or on the effect of firm-specific factors (which was widely covered).

Our research is also important for international investors, and to people in academic or professional fields that are concerned with international business. It would help them to understand which combinations that are relevant for them, in order to make informed decisions regarding financing and capital structure.

We suggest for future research to study the effect of the presence of multiple cultural and firm-specific factors simultaneously, in order to have a more realistic understanding on the choices of capital structure in companies working in emerging markets.

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