A Study of the Roles of Firm and Country on Specific Determinates in Capital Structure: Iranian Evidence

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[Abstract] Our main objective is to analyze firm-specific determinates and the role of various country-specific factors in determining corporate capital structure. On the other hand, we show that country-specific factors can also influence corporate leverage indirectly through their impact on the effect of firm-specific factors. We analyze a sample of 59 companies during the years of 2004-2011. We analyze the firm-specific determinants of leverage, like firm size, asset tangibility, profitability, and growth opportunities. Additionally, we incorporate a number of country-specific variables in our analysis, including market size, gross domestic product growth, and inflation rate**.** We find that the impact of several firm-specific factors on capital structure is significant and considerable explanatory power of country-specific variables beyond firm-specific factors. Prior research in Iran often investigated a firm's capital structure as influenced by firm-specific factors. In this study, we show that country-specific factors can also influence corporate leverage indirectly through their impact on the effect of firm-specific factors. Overall, the evidence provided here highlights the importance of country-specific factors in corporate capital structure decisions.

[Keywords] capital structure; macroeconomic factors; gross domestic product; profitability; growth opportunities

Introduction

In the past 50 years, after presentation of capital structure irrelevance theory by Modigliani-Miller (MM) (1985), researchers did well to examine structure theory. Researchers considered subjects such as agency signaling costs (Heinkel, 1982; Poitevin, 1989), bankruptcy (Ross,1997), tax (Leland & Tpft, 1996), features of organizational and historical national financial systems (Laporta et al., 2006; Rajanand Zingales, 2003) in order to discover determinant factors of corporate capital structure. But up until, identification of national and international determinant factors of corporate capital structure, they have been   constrained and ambiguous (Aggarwal & Jamdee, 2003). Researchers studied the roles of firm-specific determinants on capital structure, but specific-country determinants or macroeconomic factors have still not been investigated in Iran. In this research, the roles of two determinant factors of capital structure in Iran will be investigated, such as studied by De Jong, et al., (2008).

This study encompasses 59 companies during the period 2004-2011 in Iran. We analyze the standard firm-specific determinants of leverage, like profitability, growth opportunities and firm size, and incorporate a large number of country-specific variables in our analysis, including market size, gross domestic product growth, and inflation rate. We find firm-specific determinants explain almost 1/2 percent of the changes in capital structure. Between the variables of firm-specific respectively profitability, growth opportunities and firm size had the greatest influence on capital structure. In the analysis of the impact of country-specific factors, we observe that certain factors like GDP growth rate, market size, and inflation rate have a positive relationship with capital structure. Adding these variables to the model increased its explanatory power to 54 percent.

Literature Review

Deesomsake et al. (2004) and Booth et al. (2001) investigated determinant factors of capital structure in the Indian Ocean area. According to the studies of Deesomsak et al. (2004), decisions related to capital structure are influenced by specific factors of company and environment in which companies have activity. The fiscal crisis in 1997 had huge and reverse impressions on decisions of tangibility of assets, capability of profitability, firm size, growth opportunities, not having debt tax shelter, liquidity, profit variances, and performance of stock price. Moreover, they studied seven country-specific variables, such as the scale of stock market activities, interest ratio level, legal protection of equity interest, centralization of ownership, and three specific-country figurative variables.

Booth et al., (2001) studied the decisions of capital structure in ten developing countries (India, Pakistan, Malaysia, Turkey, Zimbavay, Mexico, Brazil, Jordan and Korea). They considered market ratio value to gross domestic product, current debt ratio to gross domestic product, real growth rate, and inflation rate as macro economic variables, as well as tax rate, business risk, tangibility of assets, firm size, assets yield, and market-to-book ratio as specific-firm variables. They found that although there are many differences in organizational factors among developing countries, variables elaborating capital structure in European and American companies are the same as those of developing countries.

Mayer (1990) and Rajan and Zingales (1995) discovered that difference in bank development against financial markets is a probable determinant factor in capital structures. Banking or the market development index may lead to differentiation in accessing extra-organizational financing by companies. It implies that more developed capital markets reduced usage of debt is a fundamental factor in financing of companies. Thus, it is more likely that debt ratios in the private sector of countries with a big banking segment to be much higher. Prior studies showed a negative relationship between stock market and leverage levels (Demirguc-Kunt and Maksimovic, 1998, 1999; Booth et al., 2001; Giannetti, 2003).

Studying determinant factors of capital structure and the role of culture capital structure with the use of data from 22 countries and 5591 companies in four industries, Chui et al., (2002) found Japanese, German, and other European countries, in contrast to American companies, have more debt ratio. Moreover, among developing countries, Thailand has more debt ratio. They also found that companies in countries with high degree of conservatism have less debt ratio in capital structure and companies in countries with a high degree of sovereignty have less debt ratio in capital structure. During their studies, they encountered hurdles, such as different accountancy rules in various countries. Not having had sufficient data, they ignored tax variables, complexity of tax systems in various countries, and age of companies.

De Jong et al. (2008) found that impression of specific-firm determinant factors (firm size, tangibility of assets, capability of profitability, firm risk and growth opportunities) on company leverage (debt to assets ratio) among various countries are different, while in empirical prior studies, the effects of these determinant factors were assumed equal. Accepting the direct, specific, usual effect of country on capital structure, they showed that effect of country-specific determinant factors influence the role of specific-firm determinant factors, too.

Gurcharan (2010) investigated the determinant factors of optimal capital structure in 155 listed companies of securities exchanges in four Asian countries (Malaysia, Indonesia, Philippine, Thailand) from 2003 to 2007; they found that capability of profitability and growth opportunities in four investigated countries have a significant negative relationship with company leverage (debt to asset ratio) as agency of capital structure tax shelter without debt for deduction of taxable income has significant negative relation with capital structure, especially in the listed companies of Malaysia's stock exchange. In Indonesia and the Philippines, firm size has significant positive relation with capital structure. In case of effective factors at the country level (macroeconomic factors), stock market capitalization variables and gross domestic product (GDP) have significant relation with capital structure, while bank size and inflation don't have such a relation. These effective determinant factors on capital structure are the same in developing countries and are predictable by capital structure theories.

Specific-Firm Determinant Factors

Profitability
Firm performance has been identified as a potential determinant factor in capital structure. Regarding the pecking order theory, in case of asymmetrical information, a company prefers domestic financial resources to other funds resources. A company will provide funds via a debt issue if domestic financial resources are not available. For a company, the most attractive solution is a new equity issue. Profitable companies may have more retained earnings. Thus, a negative relation between leverage and profitability is expected (Donaldson, 1961; Myers, 1984; Titman & Wessels, 1988; Gurcharan, 2010). Tax trade-off models predict that profitable companies use more debt because it is more probable for these companies to have a high tax expense and less bankruptcy risk. In other words, Myers' pecking order theory (1984) claims that there is a negative relation between debt scale and firm profitability because successful companies are not dependent on extra-organization financing. In this research, yield of equity interest is considered as an index of profitability.

Growth
There are two separate discussions on the roles of growth opportunities on company leverage. Since growth opportunities could enhance future debenture ability of companies, so they could augment the growth opportunities of company´s assets, and, consequently, company leverage, too. Gupta (1969) states that a company with rapid growth is eager to extend financing via debt making. However, Myers (1977) claims that companies usually use capital structure. Titman and Wessels (1998) state that companies with usually attempt to invest in less optimal projects in order to transfer wealth from bond possessors. Since there are agency problems in companies with more rapid growth, these companies use less debt so that they may avoid agency costs.

The more growth opportunities, the more is motivation for capitalization under optimal investment of high-risk projects, which excludes wealth from debtors (Deesmosak et al., 2004). This issue enhances borrowing cost as a result; grown companies are inclined to utilize inter-organizational resources or capital stock instead of debt making. Moreover, companies with high growth and whose values are derived from growth opportunities of intangible assets are reluctant to commit themselves to use debt in a way that their income wouldn't be available if needed; on the other hand, there might be more serious problems for growing companies because these companies are more flexible in selection of their next capitalization. Thus, reversed relation between growth opportunities and leverage is predictable (Gurcharan, 2010). In this research, market-to-book ratio (MB) is used as an index of growth opportunities.

Size
There is considerable evidence indicating that there is a major role of firm size on decisions associated with capital structure. Large companies are eager to differentiation when they are in exposure of bankruptcy. According to trade-off theories, since larger companies have lesser bankruptcy risk and relate less to bankruptcy costs, there is a positive relation between firm size and debt. Larger companies have more convenient access to capital markets, and they could take loans with more appropriate interest ratios. Perhaps the reason underlying this issue is multiple capitalizations of larger companies and their not paying less debt risk compared to smaller companies (Smith & Watts, 1992). Thus, a positive relation between firm size and leverage is expected (Titman & Wessels, 1988; Rajan & Zingales, 1995; Gurcharan, 2010).

Country-Specific Determinant Factors (Macroeconomics Parameters)

Capital Market Size
Prior works showed a negative relation between stock market and leverage level (Demirguc-Kut & Maksimovic, 1998, 1999; Booth et al., 2001; Giannetti, 2003). Gurcharan (2010), in his former

investigation, found that there is a signification relation between capital markets and financial leverage. In this research, capital market size is defined as the market value of stock market capitalization being equal to the multiplication of stock number by the current price of stock market capitalization in stock, which is available in the confidential economic time bank of the central bank.

Gross Domestic Product Growth Ratio

Among macroeconomic indicators, gross domestic product is very important. Not only is it the most important economic performance index in analyzing, inspecting, and evaluating data, but also many other macroeconomic items are by-products of its estimation and computation. Total dollar value of ultimate manufactured products by economic segments located in a country during a specific period (seasonal or annual) is called gross domestic product. Production method (total added value) is a fundamental method for accounting gross domestic product in Iran. According to production method, gross domestic product at base price is equal to gross added value made by all resident producers in the domestic realm of economics at base price. Gross added value at base price is equal to output value at base price minus intermediate consumption at buyers' price.

   The gross domestic product growth ratio, like the banking development segment and capital market, is an important macroeconomic factor. If capitalization opportunities in an economy are correlated, there will be a relation between the growth ratio of each company and the economy growth ratio. Thus, retained growth ratio may be used as control parameter in companies with financing options among various companies. Since growth opportunities at the economic level (gross domestic product growth ratio) a have high correlation with firm growth opportunities, companies with high growth opportunities are inclined to utilize less debt in optimizing capital structure via Myer's assumption (1997). Guracharan (2010) discovered that there is a significant relation between gross domestic product and financial leverage.

Annual Inflation Ratio

Another country-specific important factor (important macroeconomic factor) which may affect financial decisions of companies is the inflation effect because debt contracts are mainly formal. Moreover, high inflation may discourage lenders from lending long term loans (Fan et al., 2006). It is expected that inflation rate may result in different consequences on capital structure Homaifa et al. (1994) accomplished the positive relation between inflation rate and company leverage. They state that inflation reduces real debt costs via debt repayment. Nevertheless, Booth et al. (2001), Fan et al. (2006), and Guacharan (2010) didn't find any significant relation between inflation and company leverage. But they achieved positive relation between company leverage and economic development. Annual inflation rate, commodity price index, and consumption service (CPI) are among those important price indicators which represent the inflation rate scale and the ability of purchasing domestic money in each country. This index is for design of welfare work programs, salary, and wage alteration and arrangement of reciprocal contracts. CPI provision has a long tradition in Iran.

Data

The statistical society of this research includes the total listed companies in Tehran Stock Exchange during 2004-2011(seven year period). In this research, like all conducted research in Iran, target improbable sampling is selected as the method of sampling. In the improbable sampling method, some members are selected out of a statistical society which adapts best with specific criterion of the researcher. In this research, a sample begins with the total statistical society, and then it is selected with regard to following conditions:

1.   Companies must be listed in the Tehran Stock Exchange since 2003, and their fiscal year must end at the mentioned time.
2.   Companies must not change their fiscal year during the intended period.
3.   Equity interest book value must not be negative in any year.
4.   The intended company must be active continuously, and its stock must be dead during the

research period.
5. Needed financial information for conducting this research during the time period 2004 to 2011 must be totally available.
6. They must not be part of capitalizing and profitable companies.

Research Hypothesis

As mentioned before, there are two main determinant factors whose effects on company leverage selection in analysis are being studied. These determinant factors include firm-specific and country-specific determinants. In this research, three firm-specific determinants (profitability, growth opportunities, and firm size) and three country-specific or macroeconomic parameters (stock market size, gross domestic product, growth ratio, and inflation rate) affecting capital structure have been investigated. Regarding to theoretical principals and conducted research, two main hypotheses and minor hypotheses are presented as follows:

First main hypothesis: firm-specific determinants have the effect on capital structure.
Second main hypothesis: macroeconomic parameters have an effect on capital structure.

Regarding the first main hypothesis, the following sub-hypotheses are postulated: a) Profitability of companies has an effect on capital structure; b) Growth opportunities of companies have an effect on capital structure; c) Firm size has an effect on capital structure. Regarding the second main hypothesis, the following sub-hypotheses are postulated: a) Stock market size has an effect on capital structure; b) The gross domestic product growth ratio has an effect on capital structure; c) The inflation rate has an effect on capital structure.

Methods and Discussion

The current study investigates the relation between country-specific and firm-specific determinants with capital structure via integrated regression analysis (Al-Najjar & Taylor, 2008). At first, with the use of first model, the relation between capital structure and company-specific variables is inspected:

$$(\text{Model 1}) \; Y_{it} = \alpha + \beta_1 \Pr ofit_{it} + \beta_2 Growth_{it} + \beta_3 Size_{it} + \varepsilon_{it}$$

In which, Yit =leverage standard of total debt ratio to total assets (capital structure) in company I in year t. profit = profitability index, which is defined as equity interest yield (ROE), net profit on owner equity. Growth = growth opportunity index, which is defined as market-to-book ratio (MB), market value per stock to book value per stock. Size= firm size index is defined as the normal logarithm of total assets.

$$(\text{Model 2}) \; \begin{aligned} Y_{it} &= \alpha + \beta_1 \Pr ofit_{it} + \beta_2 Growth_{it} + \beta_3 Size_{it} + \\ &\quad \beta_4 STKMKT_{t} + \beta_5 GDPRATE_{t} + \beta_6 INF_{t} + \varepsilon_{it} \end{aligned}$$

In which, STKMKT = stock market size index is defined as market capitalization ratio in Tehran securities exchange to gross domestic product multiplied by 100. Stock market capitalization is equal to multiplication in accepted companies of securities exchange, which is available in the confidential economic time bank of the central bank. GDPRATE = the index of gross domestic product growth ratio. INF= annual inflation rate index. Annual statistics of gross domestic product is available in the confidential economic time bank of the central bank.

Descriptive Statistics
Descriptive statistics of capital structure and determinant factors of capital structure are presented in Table 1.

Table 1
Descriptive Statistics for Research Variables

	LEV	**ROE**	**MB**	**SIZE**	**STKMKT**	**GDP**	**INF**
Mean	0.736977	0.633011	5.056554	12.80861	24.66950	27.85933	15.23333
Median	0.697000	0.512500	3.112500	12.52500	21.83750	27.63600	15.40000
Maximum	1.434000	4.215000	55.06100	17.85100	34.47700	37.49700	22.20000
Minimum	0.225000	-2.582000	0.439000	10.08900	15.53300	21.88000	10.40000
Std. Dev.	0.209214	0.574186	6.705341	1.393599	7.071303	5.091288	3.744574
Skewness	0.559483	1.479817	4.383528	1.168841	0.396998	0.724722	0.602085
Kurtosis	2.891490	12.44018	26.58598	4.614520	1.603786	2.611293	2.579142
Jarque-Bera	18.64195	1443.678	9339.105	119.0536	38.05270	33.21674	24.00040
Probability	0.000090	0.000000	0.000000	0.000000	0.000000	0.000000	0.000006
Sum	260.8900	224.0860	1790.020	4534.247	8733.003	9862.204	5392.600
Sum Sq. Dev.	15.45101	116.3804	15871.45	685.5677	17651.18	9150.190	4949.707
Observations	354	354	354	354	354	354	354

Results show that a research dependent parameter (fiscal leverage) has approximately normal distribution because it has a rather equal average and median. Comparing the variation coefficient (standard deviation divided by average), we find that firm size parameter has the least variation coefficients, while growth opportunities parameter have the most variation coefficients (diffusion). This issue arises from using assets' normal logarithm in firm size computation. Thus, a low scale of diffusion does not imply more constancy of this variable. Results show that all parameters (excluding inflation parameter) have right-crook distribution because it is higher than median. This crook is more in growth opportunity parameters rather than other parameters.

Among independent parameters, the growth opportunity parameter has the most diffusion and, consequently, the least constancy and firmness during the seven-year period of research. The inflation rate average is equal to 15.23 during the intended period of research. Minimum and maximum inflation rates are 10.40 and 22.20, respectively. The gross domestic product growth ratio average is 27.85 percent, and the market size average adapted with gross domestic product is 24.66 percent.

Investigation of Correlation among Research Variables
Correlation coefficient represents type (direct or reverse) and intensity of relation, and it is the second root of determination coefficient. Thus, the correlation coefficient can be positive and negative, and it is always between 1 and -1.

Table 2 shows the correlation between research variables. Results associated with correlation show that the most correlation is between the growth dependent parameter (GDP) and the fiscal leverage dependent parameter (0.64). This correlation is positive. However, the least correlation between the GDP and the fiscal leverage in investigated companies (0.004) implies low growth (market-to-book ratio) of companies with more debt. Stockholders can consider the results of this research and with regard to this issue make the best decisions. Among firm-specific variables, profitability and growth opportunities have, respectively, maximum and minimum correlation with capital structure, i.e. fiscal leverage. Among country-specific parameters, the GDP growth and the inflation rate have, respectively, maximum and minimum correlation with capital structure, i.e. fiscal leverage.

Table 2
Spearman/Pearson Correlation Matrix of Model Variables

	LEV	ROE	MB	SIZE	STKMKT	GDP	INF
LEV	1.000000	0.079960	0.003505	0.012089	0.460979	0.637861	0.037487
ROE	0.079960	1.000000	0.718161	0.068834	0.200652	0.152800	-0.189685
MB	0.003505	0.718161	1.000000	-0.068534	0.128272	0.031166	-0.209543
SIZE	0.012089	0.068834	-0.068534	1.000000	-0.234801	-0.135032	0.133031
STKMKT	0.460979	0.200652	0.128272	-0.234801	1.000000	0.298388	-0.264734
GDP	0.637861	0.152800	0.031166	-0.135032	0.298388	1.000000	-0.069392
INF	0.037487	-0.189685	-0.209543	0.133031	-0.264734	-0.069392	1.000000

Investigation of Reliability of Research Variable
Reliability results of the research variable are presented in Table 3.

Table 3
Impact of Firm-Specific Variables on Capital Structure

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.730570	0.104255	7.007555	0.0000***
C(2)	-0.058873	0.028224	2.085906	0.0377**
C(3)	-0.003526	0.002417	-1.458796	0.0455**
C(4)	0.001017	0.008111	-0.125435	0.0490
R-squared	0.012442	Mean dependent var		0.736977
Adjusted R-squared	0.003977	S.D. dependent var		0.209214
S.E. of regression	0.208798	Akaike info criterion		-0.283667
Sum squared resid	15.25877	Schwarz criterion		-0.239946
Log likelihood	54.20898	F-statistic		21.46982
Durbin-Watson stat	1.944393	Prob(F-statistic)		0.002483

Table 3 shows the firm specific and different variables on the capital structure in Iranian listed companies. According to the above-mentioned table, almost all specific variables are significantly affected to the capital structure. The results of the table show that variables 2 and 3 have negative effect on the capital structure. However, variables 1 and 4 have positive effect on the capital structure. In nutshell, all variables of the study has effected on capital structure.

Study of First Main Hypothesis
There is significant relation between capital structure and fir-specific determinants. For studying of the first main hypothesis and three related minor hypothesis, following regression model using panel data estimated for firm-specific determinants during research period. Having estimated models, we analyzed them using the following formula:

LEV=C (1) +C (2)*ROE+C (3)*MB+C (4)*SIZE

Results of regression are not reliable unless fitted regression to be very significant. For signification of regression, we use variance analysis (F test). According to data, considering that the level signification (0.002) is lower than 0.05, it could be stated that index of goodness of fit i.e. F statistic and consequently regression is significant. Statistical signification means that computed correlation, with a certain degree of reliability, differs from zero. If computed correlation does not differ significantly from zero, it must be assumed that there is no correlation between studied variables, or selected sample size is not big enough

to show this large correlation. In general, it has shown that regression equation is evaluable. Durbin-Watson test is utilized for data independency test. In general, Durbin-Watson tests serial correlation between regression residuals. In this model, statistic measure is 1.94 showing that there is no correlation between successive residuals.

Determination coefficient representing variation scale of dependent variable could be explained by means of regression. In fact, determination coefficient is a criterion for power fullness of linear relation. Its measure equals with justified variation ratio by model to total variation. If its measure is closer to 1, there will be more powerful relation between dependent and independent variables. Determination coefficient shows that nearly 1.2 percent of dependent variables variation (fiscal leverage) could be described by means of independent variables (profitability, growth opportunities and firm size). Moreover, independent variables i.e. firm-specific determinants can predict solely 1.2 percent of fiscal leverage variations (capital structure).

It must be born in mind that when we say that computed correlation coefficient is statistically significant, we mean that it can be assured logically of the real correlation between variables. For example, if correlation is at significant level 1%, we will interpret as follows: one percent is probable that computed correlation arises from errors such as sampling.

Regarding to figures, numbers under significant column (p-value) show that it is probable each coefficient c to be equal with zero. For significant of coefficient, it is enough to compare the measure of this contingency with intended significant level (here, 0.05). If this contingency is lower than significant level 0.05, we will result that the coefficient is significant. So, there is a significant and negative relation between capital structure and profitability. It must be mentioned that with regard to regression coefficient (-0.058), the relation is rather good. This issue shows that because of paying more interest and consequently lower net profit, more levered companies earn less profitability. There is a significant and negative relation between capital structure and firm growth. It is noteworthy that with regard to regression coefficient (-0.03), the relation is rather weak. It shows that more levered companies have market value.

There is significant and positive relation between capital structure and firm size. It is noteworthy that with regard to regression coefficient (0.001), the relation is weak. It shows that more levered companies are larger. Among firm-specific variables, profitability, growth opportunities and firm size have respectively the most effect on capital structure. Thus, first main hypothesis is confirmed i.e. there is a significant relation between capital structure and firm-specific determinants (profitability, growth opportunity and firm size).

Study of Second Main Hypothesis
There is a significant relation between company capital structure and macroeconomic parameters. For studying the second main hypothesis and three related minor hypothesis, the following regression model using a panel were estimated models; we analyzed them using the following formula:

LEV=C (1) +C (2)*ROE+C (3)*MB+C (4)*SIZE+C (5)*STKMKT+C (6)*GDP+C (7)*INF

The regression model of effective firm-specific and country-specific determinants (macroeconomic factors) on capital structure is presented in Table 4.

Table 4

Impact of Firm-Specific and Country-Specific Variables on Capital Structure

	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
C(1)	-0.636776	0.101256	-6.288786	0.0000
C(2)	-0.040086	0.020049	-1.999364	0.0463
C(3)	-0.001811	0.001681	1.076850	0.0483
C(4)	0.025740	0.005807	4.432752	0.0000
C(5)	0.011371	0.001201	9.464599	0.0000
C(6)	0.023487	0.001593	14.74008	0.0000
C(7)	0.008234	0.002151	3.827642	0.0002
R-squared	0.540751	Mean dependent var		0.736977
Adjusted R-squared	0.532810	S.D. dependent var		0.209214
S.E. of regression	0.143001	Akaike info criterion		-1.032360
Sum squared resid	7.095866	Schwarz criterion		-0.955848
Log likelihood	189.7276	F-statistic		68.09680
Durbin-Watson stat	1.803917	Prob(F-statistic)		0.000000

Results of regression are not reliable unless they are fitted regression to be totally significant. For the significant of regression, we use variance analysis (F test). According to Table 4, considering that the level of significant (0.000) is lower than 0.05, it could be stated that index of goodness of fit; i.e., the F statistic and, consequently, the regression is significant. Durbin-Watson is utilized for data independency testing. Generally, Durbin-Watson tests serial correlation between regression residuals.

In this model, the statistic measure is 1.80, implying that there is no correlation between successive residuals. Determination the coefficient representing the variation scale of the dependent parameter could be explained by means of regression. In fact, the determination coefficient is a criterion for powerfulness of linear relation. Its measure equals the justified variation ratio by model to total variation. If its measurement is closer to 1, there will be more powerful relation between dependent and independent parameters.

On the basis of Table 4, the determination coefficient was computed as equivalent to 0.54 percent of the dependent parameter variation (fiscal leverage) and could be described by means of independent parameters (profitability, growth opportunity, firm size, market size, gross domestic product growth, and inflation rate) and independent parameters; i.e., firm-specific and country determinants could predict 54 percent o f fiscal leverage variations (capital structure). As has been shown, after adding country-specific parameters (macroeconomic factors) to first model, the power of model elaboration was enhanced considerably (from 1.2 to 54 percent).

Regarding the figure shown in the table, numbers under the significant column (p-value) show that it is contingent upon each coefficient c to be equal with zero. For the significant of coefficient, it is enough to compare the measure of this contingency with the intended significant level (here, 0.05). If this contingency is lower than the significant level 0.05, we will assume that the coefficient is significant. Therefore, there is a significant and negative relation between capital structure with profitability and firm growth. Moreover, there is a significant and positive relation between capital structure and firm size. There is a significant and positive relation between capital structure and market size. It worth noting that with regard to the regression coefficient (-0.011), the relation is rather good. It shows that if market is larger, companies, because of more debt using for financing, will be more leveraged. There is a significant and positive relation between capital structure and gross domestic product growth. It must be mentioned that with regard to the regression coefficient (-0.023), the relation is rather good. It shows that whatever gross domestic product growth is more, companies are more leveraged.

There is a significant and positive relation between the capital structure and the inflation ratio. It must be noted whatever the inflation rate is higher, companies are more leveraged. In general, these determinants are capable of explaining and elaborating of 54 percent of the capital structure variations in the studied companies. Nevertheless, countless determinants are prone to affecting the capital structure of the accepted companies in the Tehran securities exchange.

Among macroeconomic parameters, gross domestic product growth, market size, and inflation rate have, respectively, the most effect on capital structure. Thus, the second main hypothesis and the three related minor hypotheses are confirmed; i.e., there is a significant relation between capital structure and country-specific determinants or macroeconomic factors (market size, gross domestic product ratio and inflation rate).

Conclusion

The main objective of the current study was to study the capital structure determinants of companies listed on Tehran Stock exchange. In this research, data collected from 59 companies during 2004-2011. Then, by using integrated data in integrated regression models with stable effects, the effects of firm-specific determinants (profitability, growth opportunities, and firm size) and macroeconomic factors (market size, gross domestic product growth, and inflation rate) were investigated. The results show that there is a significant and negative relation between profitability and firm growth with capital structure. Moreover, there is a significant positive relation between firm size, market size, gross domestic product growth, and market size, and inflation rate with capital structure.

The results show that among firm-specific parameters, profitability, growth opportunities and firm size have the most effect on capital structure, respectively. Among the studied macroeconomic parameters, gross domestic product growth, firm size, market size, and inflation rate have the most effect on capital structure, respectively. The results also show that after adding macroeconomic factors to the first model, which included solely firm-specific determinants, elaborating power of the model enhanced considerably (from 1.2 percent to 54 percent). It implies that the elaborating power is mostly associated with macroeconomic factors.

Suggestions

While deciding about investment, administrators and investors must take into consideration the effective firm-specific and macroeconomic factors. It is suggested that the security exchange organization take into consideration the effective determinants of capital structure in ranking of companies. Investors, especially those who have invested a great deal of their wealth in the Tehran securities exchange, must take into consideration macroeconomic factors in their analyses.

Macroeconomic policy makers are expected to consider the effects of these policies on corporate capital structure, as well as its effect on stock market while exerting macro politics of country, such as attempting to augment the private sector incorporation and especially focusing on domestic products, which can result in enhancing gross domestic product. They must mix this factors culture and provide a condition in which investors enter capital markets safely. The effect of this issue could be represented in optimal resource allocation.

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