

GROWTH AND LONG-TERM DEBT OF INDIAN CORPORATE SECTOR: A STUDY WITH REFERENCE TO BOMBAY STOCK EXCHANGE 500 INDEX COMPANIES

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Abstract

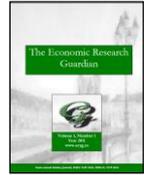
The study is examining the growth of a company and its dependence on long-term debt in the Indian corporate sector in sector wise. The analysis based on the data collected from capital line data base. The sample companies are selected from Bombay Stock Exchange 500 index during the period 2002-2011. A total of 257 companies was selected under 11 sectors. Dynamic panel estimation, GMM (1998) is used for examining the relation between growth and long term debt. The study found that previous year long-term debt is directly influenced by current year long-term debt. The other variables are showing mixed results among different sectors.

Keywords: Long-term debt, Panel Data, GMM, Indian Companies, Bombay Stock Exchange

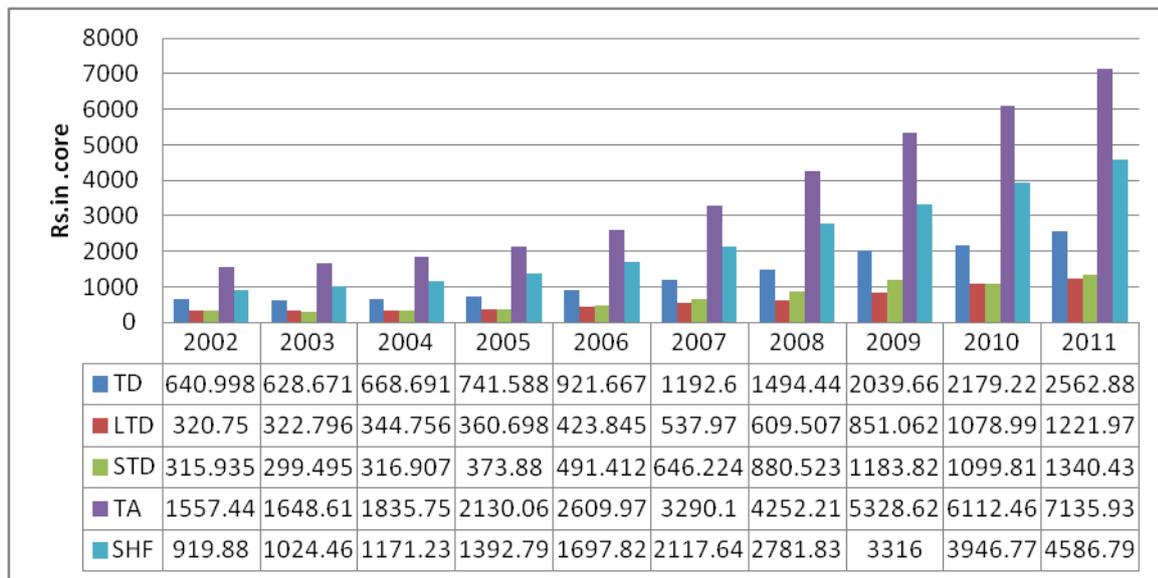
JEL classification: H63, C23, G32.

1. Introduction

Determining the value of the firm is the major factors in financial decision-making. The values of firm grow only if there is an element of growth is present. Growth is the inevitable element in any investment. Capital structure theories are developed based on growth aspects of the company. During our study period (2002-2011) in India almost all sectors show an extraordinary growth. According to the underinvestment theory, if growth opportunities are high, a firm should go for more short-term debt. As per the overinvestment, theory long-term debt can help to control the overinvestment behaviour of management. Most of the past literature are studied the growth opportunity rather the absolute percentage growth. In this regard, we have defined the growth as the total percentage growth in total assets. So, the main purpose of the study is to examine growth of a company and its dependence on long-term debt.



After the introduction of new economic policy in Indian economy the countries industrial sector started showing growth. Since the equity market in India is much popular than the debt market because of the dominance of government securities in the debt market. The Indian government is used to borrow money at a pre-announce coupon rate basically from commercial banks. Moreover, most of the Indian banks are under direct control of government. As a result, most of the corporate uses internal cash flow as the major sources finances for their capital investment purpose. But after 2000 the country witness rapid growth. The firms gradually started introducing debt into their capital structure. (Figure 1) To know whether growth in total asset is financed by debt capital or equity capital (equity plus reserve) we have checked the absolute value of total assets in comparison to equity and debt capital. The Figure 1 illustrates the growth in total assets and major debt capitals for the sample companies taken as a whole. During the study period, the total assets are grown-up by 4.58 times. At the same time, the total debt capital increases by 3.99 times and the shareholder's equity rises by 4.98 times. Out of total debt, long-term debt is increases by 3.80 times and short-term debt by 4.24 times.

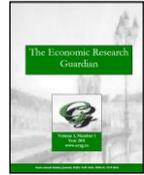


Note: the figure is a yearly average of the total value. Where TD indicates: total debt, LTD is long-term debt, STD Short-term debt, TA is total assets and SHF is shareholders' equity.

Figure 1- Status of debt capitals in comparison to total assets and shareholders' equity

The Bombay Stock exchange is the oldest, Asia largest stock exchange and world's third biggest stock exchange in terms of volume of transactions. As India is the second biggest emerging economy after China and having a steady economic growth during the study period. However, the Indian debt market still is not yet established as well as not getting much attention from the corporate sector. Banks are the major sources of debt capital for Indian companies. Moreover, India is a mixed economy having number of government owned or controlling companies and private sector companies. Consequently, it is exciting to see the dependence of growth on long-term debt at this present scenario.

The result of the study shows that a strong evidence of previous year long-term debt is directly influenced by the current year long-term debt irrespective of sectors. The overall sample result shows that firm's quality and economic growth are the other two major factors affecting the level of long-term debt. Therefore, we can conclude that economic growth in India during the study



period is the major reason for the growth of long-term debt. The factors among sectors are showing varying.

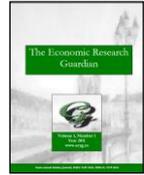
The remaining part of the paper is organized as follows. In Section 2 represent literature review. Section 3 describes research methodology, under the methodology explaining data source, variables used, model, etc. In section 4 specified the empirical results and interpretations from different sectors. Section 5 concludes the paper.

2. Literature review

As per the trade-off theory firms with more growth opportunities have low level of leverage because they have stronger motivation to avoid under investment and asset replacement that can arise from stockholder-bondholder agency problems (Drobotz and Fix 2005). So, the trade-off theory expects an inverse relationship between leverage and growth opportunities. Free cash flow theory suggests that companies with huge investment opportunities have fewer requirements for the disciplining effect of debt payments to control the free cash flows (Jensen 1986).

However, the pecking order theory states a direct relationship. As per pecking order theory, debt capital generally increases when investment surpass retained earnings and falls when the investment is less than retained earnings. The empirical facts about the association between leverage and growth opportunities are also varied, suggesting the operation of both theories. For example, Titman and Wessles (1988), Barclay and Smith (1996) and Chen et al., (1997) find an inverse association between growth opportunities and the level of long-term or total debt. Likewise, Rajan and Zingales (1995) also stated an inverse relationship between leverage and growth opportunities. They propose that this could be due to firms issuing equity when prices of shares are high. As mentioned by Hovakimian et al., (2001), big companies share price increases are usually associated with enhanced growth opportunities, leading to a lower debt ratio. However, Bevan and Danbolt (2001) find a negative relationship between growth and long-term debt, but find total leverage to be directly related to the level of growth opportunities. Growths of a firm place a greater demand on retained earnings and push the firm into go for debt (Hall et al., 2004). As per Marsh (1982), firms which are having a high growth opportunity will go for relatively higher debt. But for small firms with more concentrated ownership, it is expected that high growth oriented firms will require more debt capital and should display higher leverage (Heshmati, 2002). Aryeetey et al., (1994) state that probably small and medium enterprises likely to use more debt if there is a growth – but it is difficult to determine what determines growth whether external finance or internal finance or both encourage growth. As enterprises grow through different stages, i.e., micro, small, medium and large scale, they are also expected to shift financing sources.

They are first expected to move from internal sources to external sources (Aryeetey, 1998). Another issue is regarding the growth opportunity and its relation to the level of debt of a firm. Goyal, Lehn and Racic (2002) has studied whether growth opportunity has any influence on the level and structure of corporate debt in U.S defence industry. This study supports from the evidence that defence industry face an abrupt change in growth opportunities.



3. Research methodology

3.1. Data source

We have used the Bombay Stock Exchange 500 index companies for the study purpose. The banking and finance companies are not considered. A period of ten years ranging from March 2002 to March 2011 is considered for the study.

A total of 257 companies has been selected comprises of 11 major sectors for the final analysis. Capital line database is used for collecting the financial data for the prescribed period. And Handbook of Indian economy (Reserve Bank of India) is used for collecting the macroeconomic variables (GDP). Table 1 shows the sector wise list of companies selected for the study.

Table 1- The sector wise list of sample companies conceded for the study

No.	Sector	Number of companies
1	Agriculture	18
2	Capital Goods	39
3	Diversified	8
4	FMCG	22
5	Healthcare	29
6	Housing Related	36
7	Information Technology	24
8	Metal, Metal Products & Mining	26
9	Miscellaneous	12
10	Oil & Gas	20
11	Transport Equipments	23
12	Total sample	257

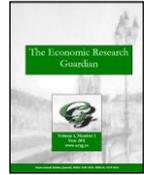
3.2. Variables used

Depended variable: the dependent variable is represented by the absolute value of long-term debt (LTD). We considered long-term debt as debt with a maturity of more than one year.

Independent variables: for examining the growth and its dependence of log term debt. We have taken the major internal and external factors affecting growth of a firm in financial point of view.

Internal factors:

Firm Size (GTA): larger firm tends to a higher debt ratio (Rajan and Zingles, 1995). Since, it has more tangible assets to give as collateral. Titman and Wessles (1988) indicates that capital structure theories argue that the nature of assets owned by a firm may affects its capital structure choice. The firms that are large and diversified in various sectors are less affected by variation in earnings, and the capability to hold high debt ratios (Castanias, 1983; Wald, 1999). Smaller firms, on the other hand, are affected my variations in sales and earnings may find it comparatively



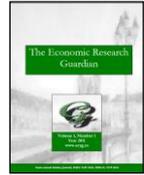
more risky to decide information asymmetries with lenders, thus, may present lower debt ratios (Castanias, 1983). A lot of research work shows a direct relationship between firm size and leverage (see Barclay and Smith, 1996; Friend and Lang, 1988; Barton et al., 1989; MacKie-Mason, 1990; Kim et al., 1998; Al-Sakran, 2001, Hovakimian et al., 2004). Their results suggest that smaller firms are less likely to use debt finance; however, larger firms are more likely to issue debt rather than stock. We measure the firm size as growth in total assets (current year total assets subtracted by last year total assets divided by the last year total assets). The study predicts a positive relationship between GTA and the issue of long-term debt.

Non-debt tax shields (GNDTX): According to Modigliani and Miller (1958), if interest payments on debt are tax-deductible, firms with more taxable income have reason to issue more debt. MacKie-Mason (1990) examines the tax effect on corporate financing decisions and finds tax has a major role in making the preference between equity and debt. He concluded that variations in the marginal tax rate for any firm will influence the financial decisions. Titman and Wessles (1988) says that firms with large non-debt tax shields relative to their expected cash flow have less debt in their capital structures. We measure the non-debt tax shield as growth in depreciation to total assets (current year depreciation to total assets subtracted by last year depreciation to total assets divided by the last year depreciation to total assets). And we are expecting a negative relationship between GNDTX and the issue of long term debt.

Profitability (GROE): Pecking order theory suggests firms will use retained earnings first as investment funds and then move to bonds and new equity only if necessary. Chang (1999) says profitable firms tend to use less debt. The relationship between firm capital structure and profitability can be described by the pecking order theory. The asymmetric information between management and less well informed market participant's decides the order of choice of capital from the one that is less risky to the one that is most risky (Myers, 1984). Murinde et al. (2004) examine that retained earnings are the major source of capital. Titman and Wessels (1988) and Barton et al. (1989) agree that profitable firms would maintain relatively lesser debt since they are able to generate internal funds for their investment purpose. We measure the profitability as growth in return on equity (current year return on equity subtracted from last year return on equity divided by the last year return on equity). In addition, we are expecting a negative relationship between GROE and the issue of long-term debt.

Firm's quality (GRE): the credit quality of the firm is having a direct relationship between the debt capitals. We are unable to get the credit rating of the sample companies so instead of credit rating we have measured firm's quality by growth in the general reserve (current year reserve subtracted by last year reserve divided by the last year reserve) of the company. We are predicting a negative relationship between firm's quality and issue of long term debt.

External factors: under external factors we are considering the economic growth of the country during the study period. The study measure the economic growth of the country using the growth in the Gross Domestic Product (GDP) at constant price (current year GDP subtracted by last year GDP divided by the last year GDP). We are predicting a positive relationship between GGDP and the issue of long-term debt.



3.3. Model

This study uses the balanced panel data for the analysis. A data set contains observations on different objects studied over a period of time is called panel data. It is the combination of cross-sectional data and time series data. In balanced panel data same time period is available for all cross-sections. Panel data allow us to control certain variables that we cannot examine like managerial efficiency, marketing strategy, the difference in location of companies; or variables that vary over time, but not across entities (i.e., government policies, market regulations, international agreements, etc.). This is, it accounts for individual heterogeneity. With panel data, we can include variables at different stages of assessment (i.e. firms, industries, and sectors) suitable for multilevel or hierarchical modelling. With the panel least square with fixed and random effect models we cannot analyze the possible vigour existing in companies decision at the time of choosing the amount long-term debt they require. This allows us to rely upon the dynamic panel estimators. Further, dynamic panel models encompass to control endogeneity and allow us to understand the level of adjustment of actual long-term debt towards the optimal level of long-term debt. We can describe that adjustment process as follows:

$$LTD_{i,t} - LTD_{i,t-1} = \alpha(LTD_{i,t}^* - LTD_{i,t-1}) \quad (1)$$

where $LTD_{i,t}$ is the actual long-term debt of the company i in period t , $LTD_{i,t-1}$ is the actual long-term debt of the company i in period $t-1$ and, $LTD_{i,t}^*$ is the optimal long-term debt of the company i in period t . Regrouping the terms and solving to the order of $LTD_{i,t}$, we have:

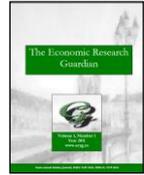
$$LTD_{i,t} = \alpha LTD_{i,t}^* + (1-\alpha)LTD_{i,t-1} \quad (2)$$

If $\alpha=1$ we have $LTD_{i,t} = \alpha LTD_{i,t}^*$, the actual level of long-term debt being equal to the optimal level of long-term debt, forcing firms to manage an optimal long-term debt. Unlike, if, $\alpha=0$ we have $LTD_{i,t} = LTD_{i,t-1}$ i.e., there is no adjustment of the level of actual long-term debt towards the optimal level of long-term debt. Therefore, a high values of α , means a close proximity of the level of actual long-term debt to optimal level of long-term debt, whereas a low values of α , means less proximity between the actual level of long-term debt and optimal level of long-term debt.

It is important to mention that the optimal level of long-term debt depends on the firms' specific characteristics that are on the determinants considered relevant in explaining long-term debt. Therefore, the optimal level of long-term debt is given by:

$$LTD_{i,t}^* = \lambda_0 + \lambda_1 (GTA_{it}) + \lambda_2 (GROE_{it}) + \lambda_3 (GRE_{it}) + \lambda_4 (GNDTX) + \lambda_5 (GGDP_{it}) + u_{it}, \quad (3)$$

Substituting (3) in (2), and solving to the order of $LTD_{i,t}$, we have:



$$LTD_{it}^* = \beta_0 + \delta(LTD_{i,t-1}) + \beta_1(GTA_{it}) + \beta_2(GROE_{it}) + \beta_3(GRE_{it}) + \beta_4(GNDTX) + \beta_5(GGDP_{it}) + \eta_i + e_{it}, \quad (4)$$

where, $\delta = (1 - \alpha)$, $\beta_0 = \alpha\lambda_0$, $\beta_1 = \alpha\lambda_1$, $\beta_2 = \alpha\lambda_2$, $\beta_3 = \alpha\lambda_3$, $\beta_4 = \alpha\lambda_4$, $\beta_5 = \alpha\lambda_5$, $\eta_i = \alpha\mu_i$ and $e_{it} = \alpha\varepsilon_{it}$.

The study used GMM(1998) proposed by Blundell and Bond (1998). As suggested by Tiwari and Krishnankutty (2010), GMM system (1998) dynamic estimators can only be considered robust on confirmation of two conditions: 1) if the restrictions created, a consequence of using the instruments, are valid; and 2) there is no second order autocorrelation. Therefore, to test the validity of the restrictions we use the Sargan test in the case of the estimator and the GMM system (1998) estimator. The null hypothesis in the Sargan test indicates the restrictions imposed by the use of the instruments are valid against the alternative hypothesis that the restrictions are not valid. Rejection of the null hypothesis leads us to conclude that the estimators are not robust.

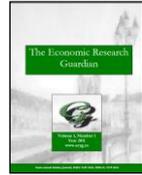
Furthermore, we also test for the existence of first and second order autocorrelation through Arellano and Bond (1991) test. The null hypothesis is that there is no autocorrelation against the alternative hypothesis being the existence of autocorrelation. Rejection of the null hypothesis of the existence of second order autocorrelation leads us to conclude that the estimators are not robust.

4. Results and interpretations

Tables 2a and 2b show the results of dynamic panel estimations. The result of the previous year long-term debt state that the sectors such as agriculture, capital goods, diversified, FMCG, healthcare, housing related, information technology, metal, metal products & mining, miscellaneous, oil & gas and transport equipment is positively determining the current year long-term debt. The overall sample showing previous year long-term debt is positively determined the current year long-term debt. Hence, we conclude that irrespective of the sectors the firms decide the level of long-term debt based on the level of existing long-term debt capital they have.

From the result of the analysis, we are concluding that firm size (GTA) is positively determining the long-term debt for capital goods, diversified, healthcare, housing related, information technology, metal, metal products & mining, oil & gas and transport equipment sectors. However the FMCG sector, it is negatively determined the long-term debt. The overall sample, agriculture and miscellaneous sectors are not showing significance. It is evident from the past studies that the firms, which are having huge amount of fixed assets, will go for more long-term debt. Generally FMCG sector will have sufficient internal cash flow, therefore FMCG sector depend more or internal fund for capital investment purpose. That may be the reason for negative significance.

At the same time, the variable profitability (GROE) is positively determining the long-term debt in sectors such as healthcare, information technology, oil & gas and transport equipment. These are the very sensitive sectors in Indian scenario. Still, there is potential for huge growth.



Therefore, growth in return on equity will directly influence these sectors to go for more long-term debt. Because the internal cash flow may not be sufficient to cover the growth. However, the capital goods, FMCG and housing related sectors it negatively determines the long-term debt. Because these sectors depend more on internal cash flow. The overall sample is not showing significance.

Table 2a - Result of dynamic panel estimation - GMM (1998)

Variables/sector	Total sample	Agriculture sector	Capital goods sector	Diversified sector	FMCG Sector	Healthcare sector	Housing related sector
L1.LTD	1.05781*** (0.0156148)	0.4946915*** (0.0110688)	0.8081541*** (0.0001599)	1.095699*** (0.2743853)	0.6934109*** (0.0029274)	0.8077911*** (0.0024898)	1.198844*** (0.0016982)
GTA	0.000325 (0.0012031)	1.30527 (42.88865)	1.722091*** (0.1861744)	887.8629** (401.1049)	-0.0589839*** (0.016838)	68.58002*** (4.127713)	0.5929669*** (0.0083023)
GROE	-0.5957764 (0.9511134)	0.7105722 (3.867517)	-10.09599*** (0.0373839)	-32.996 (93.07626)	-12.91407*** (1.845431)	19.76769*** (0.9597099)	-1.497803*** (0.0385177)
GRE	0.0531425*** (0.0042503)	-54.64555*** (18.27897)	-0.130879*** (0.0472176)	-224.772*** (68.5618)	-3.424377*** (0.9137405)	-97.99736*** (4.404066)	0.0665068*** (0.0002547)
GNDTX	1.154626 (0.4167621)	-62.41611 (92.67862)	-0.0233751 (0.0192058)	125.1853 (190.8455)	-92.96684*** (3.364355)	-89.82479*** (2.527447)	2.743819*** (0.3462234)
GGDP	990.6439*** (352.9884)	-930.6174*** (201.5266)	35.67802*** (12.43094)	3938.088 (8292.531)	-1798.979*** (24.9784)	1222.901*** (60.23182)	1515.982*** (132.5507)
Constant	-51.81779* (30.00211)	233.0958*** (35.17051)	38.99338*** (3.707579)	-388.814 (871.6741)	234.6862*** (4.756289)	-20.02831** (8.153902)	-85.65086*** (15.19447)
Wald Chi	4957.19***	34336.88***	1.18e+09***	7254.89***	5.16e+06***	1.19e+07***	7.36e+07***
Sargan test	36.26817	9.623704	32.26484	1.761829	20.76522	20.59359	26.80341
AB Test Order 1	-3.2685 ***	-1.7664 *	-1.7334*	-2.3982*	-1.435*	-2.299**	-1.9864*
AB Test Order 2	-87271	1.4664	-84303	1.1629	0.03741	1.5946	-1.1389
N. observations	1799	126	273	56	154	203	252

Notes:

1. In the GMM(1991) estimator the instruments used are $(LTD_{i,t-2}, \sum_{K=1}^n Z_{k,i,t-2})$, in which $Z_{k,i,t-2}$ are the debt maturity determinants lagged two periods.

2. In the GMM system (1998) estimators the instruments used are $(LTD_{i,t-2}, \sum_{K=1}^n Z_{k,i,t-2})$, in the first difference equations, and

$(\Delta LTD_{i,t-2}, \sum_{K=1}^n \Delta Z_{k,i,t-2})$, in the level equations.

3. The Wald test has χ^2 distribution and tests the null hypothesis of overall non-significance of the parameters of the explanatory variables, against the alternative hypothesis of overall significance of the parameters of the explanatory variables.

4. The Sargan test has χ^2 distribution and tests the null hypothesis of significance of the validity of the instruments used, against the alternative hypothesis of non-validity of the instruments used.

5. The AB Test Order 1 test has normal distribution $N(0,1)$ and tests the null hypothesis of absence of first order autocorrelation, against the alternative hypothesis of existence of first order autocorrelation.

6. The AB Test Order 2 test has normal distribution $N(0,1)$ and tests the null hypothesis of absence of second order autocorrelation against the alternative hypothesis of existence of second order autocorrelation.

7. Standard deviations in brackets.

8. *** significant at 1% significance; ** significant at 5% significance; * significant at 10% significance.

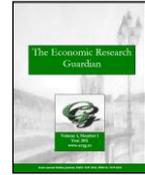


Table 2b - Result of dynamic panel estimation - GMM (1998)

Variables/sector	Information technology sector	Metal, Metal products and mining sector	Miscellaneous sector	Oil & Gas	Transport equipment
L1.LTD	0.640129*** (0.0008283)	1.159162*** (0.0047341)	0.2823462*** (0.021169)	0.5967024*** (0.0020398)	0.8150695*** (0.0127924)
GTA	62.38458*** (0.6039906)	114.7203*** (11.58863)	245.6482 (205.9252)	595.495*** (31.36334)	373.3251*** (23.11286)
GROE	0.7451312*** (0.0461478)	3.115624 (5.44412)	125.7999 (161.3808)	143.8588*** (0.6023133)	7.198619*** (0.8165186)
GRE	1.229636*** (0.0776866)	64.98439*** (2.342201)	-216.0502 (166.9614)	-103.5056*** (10.99268)	-253.8758*** (22.09828)
GNDTX	-4.605008 (0.4441437)	-4.274189 (4.182276)	-81.19038 (100.0426)	-4.805522*** (0.0808764)	-6.852332 (7.617253)
GGDP	-338.0133*** (8.220112)	6651.633*** (268.3797)	1062.295 (1597.185)	-4701.773*** (154.5053)	-460.7188*** (129.4133)
Constant	34.34608*** (1.844303)	-591.0691*** (26.78939)	70.7478 (92.25527)	762.7515*** (56.08099)	113.9532*** (16.69286)
Wald Chi	1.70e+08***	3.20e+07***	9067.80***	5.25e+07***	7.59e+06***
Sargan test	20.73522	19.89998	5.457861	14.88595	16.32122
AB Test Order 1	-1.8197*	-1.9352 *	-0.91425 *	-1.6591*	-1.3338 *
AB Test Order 2	1.1933	0.33846	-0.36672	-7.9702	-1.0032
N. observations	168	182	84	140	160

Notes:

1. In the GMM(1991) estimator the instruments used are $(LTD_{i,t-2}, \sum_{K=1}^n Z_{k,i,t-2})$, in which $Z_{k,i,t-2}$ are the debt maturity determinants lagged two periods.

2. In the GMM system (1998) estimators the instruments used are $(LTD_{i,t-2}, \sum_{K=1}^n Z_{k,i,t-2})$, in the first difference equations, and $(\Delta LTD_{i,t-2}, \sum_{K=1}^n \Delta Z_{k,i,t-2})$, in the level equations.

3. The Wald test has χ^2 distribution and tests the null hypothesis of overall non-significance of the parameters of the explanatory variables, against the alternative hypothesis of overall significance of the parameters of the explanatory variables.

4. The Sargan test has χ^2 distribution and tests the null hypothesis of significance of the validity of the instruments used, against the alternative hypothesis of non-validity of the instruments used.

5. The AB Test Order 1 test has normal distribution $N(0,1)$ and tests the null hypothesis of absence of first order autocorrelation, against the alternative hypothesis of existence of first order autocorrelation.

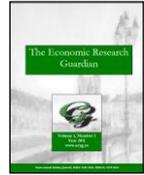
6. The AB Test Order 2 test has normal distribution $N(0,1)$ and tests the null hypothesis of absence of second order autocorrelation against the alternative hypothesis of existence of second order autocorrelation.

7. Standard deviations in brackets.

8. *** significant at 1% significance; ** significant at 5% significance; * significant at 10% significance.

However, the result of the firm's quality (GRE) denotes that the sectors like housing related, information technology and metal, metal products & mining firm's quality is positively determining the long-term debt. The firms in these sectors have enormous internal reserve so they can easily avail long-term debt. On the other hand, agriculture, capital goods, diversified, FMCG, healthcare, oil & gas and transport equipment sectors it negatively determines the long-term debt. The negative significance of these sectors is because of the massive growth potential in these sectors in the country makes these firms to avail long-term debt without much credibility. The overall sample is not showing significance.

The result of non- debt tax shield (GDEPTA) indicates that the housing related sector is positively determining the long-term debt. This is the sectors usually a charge high percentage of depreciation. Therefore, this depreciation contributes the credibility of the firms and makes them to attract more long- term debt. Moreover, this sector usually has more tangible fixed assets help them to attract more long-term debt. However, FMCG, healthcare, information technology oil &



gas and transport equipment sectors it negatively determines the long-term debt. As a result, these sectors are using the internal cash flow for their capital requirements. The overall sample is not showing significance.

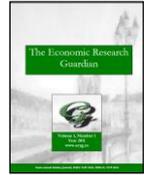
The outcome of the external factors economic growth (GGDP) specifies that agriculture, capital goods, healthcare, housing related, metal, metal products & mining and transport equipment are positively determining the long-term debt. The overall sample is also showing positive significance. Economic growth contributes to all the sectors and makes the firms in the particular sectors able get external finance. Moreover, countries, economic growth induces the growth of the financial sector too.

5. Conclusions

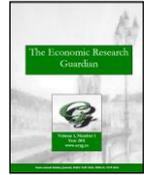
This study is intended to identify the growth and its dependence on long-term debt for the Indian companies sector wise. For the analysis, we have taken 257 companies under 11 sectors from Bombay Stock Exchange 500 index, during the period 2002-2011. The study is based on panel framework using dynamic panel estimation (GMM1998). The result shows that a strong evidence of previous year long-term debt is directly influenced by the current year long-term debt irrespective of sectors. The overall sample result shows that firm's quality and economic growth are the other two major factors affecting the level of long-term debt. Therefore, we can conclude that economic growth in India during the study period is the major reason for the growth of long-term debt. Other variables are showing varying results among different sectors.

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