

Corporate Financing in India: Some Stylized Facts of an Emerging Economy

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Abstract-*This paper investigates the corporate financing trends in an emerging economy; India. The study reveals some stylized facts prevalent in the Indian financial markets and how Indian firms are accessing their capital requirements. In-depth analysis has been performed on the balance sheet data of Indian nonfinancial firms during time period 1992-2012. Study focused on the capital financing received as debt, equity and related forms. Trends showed that debt ratios in India remain low and falling over years, while equity ratios remain rising. As a share of total debt, bank financing rose during this period; while non-bank debt declined, which suggests the underdeveloped Indian corporate debt market. At the same time equity market infrastructure has enabled many firms to look for high equity finance; study shows the increased use of internal financing for most of the firms' asset creation. Overall, the paper suggests that, firms in India seems to be deprived of the availability of credit through poor debt market infrastructure and highlights the contemporary corporate financing issues.*

Keywords-*emerging economy; corporate financing; debt ratios; financial development*

1. INTRODUCTION

The world's economics is changing faster than ever, business cycles are becoming shorter. Indian markets were impacted by developments in the global macroeconomic space during 2011-12. The unfolding of Eurozone sovereign debt crisis, unprecedented event like US downgrade, the impasse over fiscal and debt problems in the USA, high oil and commodity prices, earthquake in Japan and Middle-east crisis derailed global growth prospects and undermined business and consumer confidence. Indian equity markets are sluggish and bearish trend prevailed for major part of the year. Intensifying concerns over the fragile global economy and its possible transmissions to the domestic front, elevated levels of inflation and currency depreciation dominated the domestic scene.

India's investment cycle was on an upturn since 2003-04 but now it's moderated to a soft patch. Anti-inflationary monetary stance by the central bank through monetary tightening measures, resultant interest rates and growth moderating effects of a persistently high inflation impacted business sentiments. In past FY 2012-13, India has witnessed GDP growth rate of 5.30 %, the lowest in past decade.

The phenomenal growth of emerging markets in the past two decades is attributed to the ever increasing growth of their companies. During 2012 even in the deep global financial distress, emerging and developing economies grew by 5.1% while advanced economies grew by 1.3 %¹. The rapid movement of Indian juggernaut is also due to the increase in the number of Indian companies and their

growing profitability. From 1992 to 2012, number of non-financial firms has witnessed a growth rate of 706%. Countries grow because of their companies' growth. Rapid and sustainable growth of any company is backed by the required amount of finances at the right point of time. So ultimately corporate financing is the most perennial link in the growth story of any country.

Table 1- Profits of Indian corporates as a % of GDP

INDIA (Source CMIE Prowess)	2011-12 (Rs.Million)	2011-12 (Rs. Million)	GDP 2011-12 (Rs. Million)	GDP-2011-12 (Rs. Million)
			5,20,25,100.00 (At constant price)	5,20,25,100.00 (At constant price)
	Profit after Tax	Profit before Tax	PAT as % of GDP	PBT as % of GDP
All ind.	3993955.64	5703108.05	7.7%	11%

Figure 1 - PBT of corporate India as % GDP

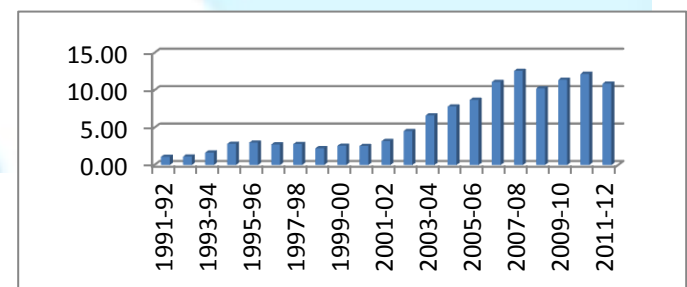


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Figure 1 - PBT of corporate India as % GDP are bringing

the fact that 11% of GDP in FY 11-12 was contributed by profit before tax of Indian corporates. Whereas in 1991-92 this contribution was close to 1%, from then it is moving the growth curve and reached its highest close to 12.6% in 2007-08 (the year when BSE Sensex made its highest ever 21000 plus points and GDP growth rate of 9.00%)

The local context

Emerging economies are following a different path to finance the burgeoning aspirations of growing enterprises. Their corporate houses are behind more debt financing than equity route. May be the reasons lie in their deep business ideology and social architecture. It is a difference among American capitalism, East Asian socialism, Chinese Communism and Indian democracy. Deep ideological discussion is not in purview of this paper. Depending on the nature of industry and growth trajectory emerging enterprises are choosing a different financing path. This paper is an exploration of the contemporary corporate financing scenario.

This paper is an investigation report drilled deep into the corporate financing system of Indian non-financial companies, its growing organs & its roots beyond the theory. This paper brings out the stylized facts about the changing Indian corporate financing scenario with time.

2. OBJECTIVE OF RESEARCH

This research is a first of its kind, a modest effort to bring out the stylized facts prevalent in the Indian non-financial sectors. This paper is oriented towards answering few questions such as:

- What is the infrastructural support for the huge financing demand of companies in India (Financial markets and institutions)
- How non-financial companies in India are funding their assets (Financing of total assets)
- What are the instruments that non-financial companies in India are exploiting (Leverage ratios)
- How much funding is coming from primary markets (Primary market activities)
- Is this financing pace is also growing with the companies' growth (Sources and use of funds)
- Which industry is looking for which financial instrument (Sector wise analysis)

3. THEORETICAL INSIGHTS

Contemporary corporate financing has been shaped by economist Modigliani and Miller (1958)[25]. The basic theorem states that, under certain conditions, in the absence of taxes, bankruptcy costs, agency costs, and asymmetrical information and in an efficient market, the value of a firm is unaffected by how that firm is financed. Capital structure is irrelevant and value of firm doesn't get affected by issuing equity or debt or dividend. This theory has ignited further research inquisitive those relaxed the conditions and practically examine the effects of capital structure on firm's value. Firms can attribute their choice of capital structure to several factors. A prime

reason for firms to choose different claims for their investors is to reduce agency costs (Myers and Majluf (1984)[27]).

Extensive research has been conducted on the various determinants of capital structure, few factors like corporate taxes, non-debt tax shields, size of the firm, nature of assets, profitability, availability of debt, growth opportunities and degree of investor's protection or enforcement of financial contracts remains important (see Harris and Raviv (1991)[15]; Rajan and Zingales(1995)[32]; Frank and Goyal(2003)[10]).

Debt as a financing instrument enjoyed several benefits over equity. First, debt provides a financial leverage to firms, which helps firms to leverage during recessionary period and deleverage during growth periods. Second, debt provides an interest tax-shield, in most of the countries, interest payments on debt claims are tax deductible. However, excessive debt can result into financial distress cost and bankruptcy; there exists a tradeoff between extra tax savings or bankruptcy cost (see Scott (1972)[31]; Kraus and Litzenberg (1973)[18]; Graham (2003)[12]; Desai et al, (2004)[7]).

Firms also enjoy non-debt tax shield, which is due to presence of depreciation or amortization. Firms carefully choose between these two tax-shields (interest tax shield and non-debt tax shield) (DeAngelo and Masulis (1980)[4] and Modigliani and Miller (1958)[25]). Thus a negative relationship between the presence of non-debt tax shields and debt ratios can be expected (Bowen, Daley, and Huber (1982)[2]; Kim and Sorensen (1986)). Some of the studies show insignificant or even positive relationship between these two factors (see Harris and Raviv (1991)[15], Bradley *et al.* (1984)[3], MacKie-Mason (1990)[21] and De Miguel and Pindado (2001)[5]).

As per the pecking order hypothesis (Myers and Majluf (1984)[27]), owing to informational asymmetries firms will turn to debt financing when internal equity is insufficient. Thus, following this argument, profitability seems to be negatively associated with debt ratios. On the other hand, static trade-off theory of debt would suggest a reverse pattern for debt ratios. According to the trade-off argument, firms with greater profitability would carry more debt. In addition, a positive association between debt ratios and profitability can be expected following the literature which describes debt as a disciplining device for managers of the firms having higher free cash flows. In fact, Jensen (1986)[16] and Stulz (1990)[33] show such relationship. While, the association between debt ratios and profitability remains ambiguous, a negative relationship is highlighted in number of studies including Titman and Wessels (1988)[34], Rajan and Zingales (1995)[30], Fama and French (2002)[9], and Frank and Goyal (2003)[10].

Debt comes with several covenants which can deter firm to take on the required level of risk, as debt holders do not reap any upside gains by excessive risk taking while share proportionate losses in case of default. Myers (1977) [26] suggests that excessive leverage may force firms to

pass up profitable investment opportunities (Stulz, (1990)[33]). It is also possible however, that financially constrained firms with higher growth opportunities will issue debt prior to issuing equity due to informational asymmetries. While a positive relationship between growth opportunities and debt ratio is highlighted in Kremp *et al.* (1999)[19], negative association is documented in Rajan and Zingales (1995)[30], Fama and French (2002)[9], and Frank and Goyal (2003)[10].

Apart from these endogenous firm-level factors, debt ratios might be influenced by exogenous factors also. Importantly, availability of credit through alternate means including debt markets is a significant factor determining debt ratios for a firm. Credit market development in a country is expected to be positively associated with debt ratios, while a negative relationship is associated between debt ratios and stock market development (Booth *et al.*, (2001)[1]). Demirguc-Kunt and Maksimovic (1996)[6] found that stock market development is associated with lower debt ratios in developed markets but not emerging markets. Further, Edison *et al.* (2002)[8] show that the ease of availing credit through foreign borrowings might have significant impact on debt ratios.

Another important consideration in choosing debt ratios is the enforcement of financial contracts. It is often noticed that bankruptcy laws, even in developed countries, may be time consuming and lax in implementation. In some cases, they could lead to reshuffling of claims, as they might be biased towards senior or junior claim holders.

Theoretical insights are not very clear on the solid determinants of corporate financing, particularly in emerging economies. Green *et al.* (2003)[13] has used sources-uses approach to analyse financial structures of Indian companies and Love and Peria (2005)[20] has done an Indian industry specific financing pattern analysis.

This paper is suggesting overall corporate financing trends of Indian non-financial firms.

4. INDIAN FINANCIAL MARKETS AND INSTITUTIONAL ARRANGEMENTS

4.1 Equity Market and Institutions

India is a pioneer in terms of equity market development. SEBI (Securities and Exchange Board of India) was established in 1992 to protect the interests of investors in securities and to promote the development of, and to regulate the securities market. India has two state-of-the-art exchanges BSE (Bombay Stock Exchange, established in 1875 and Sensex started in 1979) and NSE (National Stock exchange, established in 1992).

4.2 Primary market

Primary market is a major and prominent source of fund raising for corporates and governments. A healthy and efficient primary market is crucial to the development of Indian capital markets. The primary market activities were subdued during 2011-12. Weak macro- economic and investment environment slackened expansion plans of corporates. It was exacerbated by the negative returns from

the previously listed IPOs and declining trend in equity markets and it adversely affected investor and promoter sentiments. However, over so many years equity markets have gained experience and expertise.

Resource mobilisation by companies through IPOs and FPOs was substantially lower in 2011-12 compared to the previous years. A total of 15504 crore of equity capital has been raised during 2012-13 through 86 issues, compared with 27879 crore raised through 97 issues in 2011-12. (Table 2 Companies/ Securities on BSE (Source BSE))

Table 2 Companies/ Securities on BSE (Source BSE)

Year	New Listings	Delisted	Total	FPOs	Scripts
2012-2013	86	22	5197	2104	10677
2011-2012	97	31	5133	3076	9232
2010-2011	128	36	5067	2506	7910
2009-2010	77	32	4975	1806	8072
2008-2009	73	31	4929	1860	7729
2007-2008	119	53	4887	1974	7681
2006-2007	117	77	4821	1709	7561
2005-2006	99	49	4781	1367	7311
2004-2005	54	851	4731	1489	6897
2003-2004	36	159	5528	593	7264
2002-2003	25	157	5650	412	-
2001-2002	20	56	5782	503	-
2000-2001	98	32	5955	489	-
1999-2000	42	1	5889	365	-

4.3 Secondary Market

Secondary markets are often referred to as the barometer to a nation's health. The stock prices in any year fluctuate owing to its integration with global financial markets which have been equally volatile. The market capitalisation to GDP ratio (suggests about overall market is undervalued or overvalued) is an important parameter for evaluation of stock markets.

The liquidity of the market can be measured by the traded value to GDP i.e., ratio of value of the shares traded to GDP at current market prices. The all-India cash turnover to GDP ratio declined to 39.1 percent in 2011-12 from 61.1 percent in 2010-11. In the derivative segment also, there was a marginal decline in the turnover-GDP ratio from 381.1 percent in 2010-11 to 358.7 percent in 2011-12. The market capitalisation to GDP ratio has declined for the second consecutive year in 2011-12. The BSE market capitalisation to GDP ratio has declined from 89.1 percent in 2010-11 to 70.2 percent in 2011-12. Similarly, at NSE also the ratio has declined from 87.3 percent to 68.8 percent over the same period.

Figure 2

Select Ratios Relating to Stock Market (Percent)

Year	BSE Market Capitalisation to GDP Ratio	NSE Market Capitalisation to GDP Ratio	Total Turnover to GDP Ratio	
			Cash Segment (All-India)	Derivatives Segment (BSE+NSE)
1	2	3	4	5
2003-04	43.4	40.5	38.7	77.6
2004-05	54.3	50.7	53.4	82.1
2005-06	84.4	78.6	66.8	134.7
2006-07	85.5	81.2	70.0	178.9
2007-08	109.5	103.5	109.3	284.1
2008-09	55.3	51.9	69.0	197.4
2009-10	95.5	93.1	85.4	273.5
2010-11	89.1	87.3	61.1	381.1
2011-12	70.2	68.8	39.3	358.7

Source: CSO and Various Stock Exchange

4.4 Corporate Bond Market

Debt Markets are a vital component of the financial markets particularly for a developing economy like India. Indian debt markets are dominated by the government securities markets. The scope for corporate bond market in India is tremendous as they can act as effective buffers vis-a-vis banks financing in infrastructure and power projects. Banks in India remained the sole vehicle for long-term credit, the grim state-of-the-affairs in corporate borrowings from non-banks can be attributed to several factors which somehow indicated towards the underdevelopment of debt markets in India.

India has a strong and buoyant equity market; however, the bond market is not yet developed as an alternate source of capital. As per the World Federation of Exchanges, the equity markets in India stands in top 5 countries in terms of number of trades per day; in top 20 in terms of traded volumes and in top 10 in terms of market capitalization. On the other hand bond markets in India seem to be struggling with basic issues concerned with key market microstructure. Unlike, most other nations, market capitalization of secondary equity market in India is higher as compared to debt markets. Interestingly, two-third of market capitalization in debt market is accounted-for by central government securities only. Further, low level of market activities are reflected in debt markets by their total turnover which is only about 20% of the total turnover of equity and bond markets combined together. Average turnover per day for debt markets remains at Rs. 16 billion as compared to average turnover per day of Rs. 68 billion for equity markets in August 2012.

Even large corporate houses in India seem to rely on funding from banks when they are capable of raising debt on their own. This might primarily be due to the trade-off between cost of capital raised and cost of issuance of securities. This has serious consequence of squeezing credit for small and mid-cap firms; those have no other alternate source of financing apart from banks.

One major act as an improvement towards creditor protection was the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest

(SARFAESI) Act of 2002, where secured creditors are given the right to take possession of assets and sell them in case of default by the firms. However, SARFAESI provides these rights to secured creditors only and there is not much to offer for unsecured creditors.

Government of India has constituted a committee in 2003 under the chairmanship of Mr. R H Patil to study the shortcomings of corporate debt markets and to recommend ways and means to establish a buoyant market in India. The committee has submitted the report in year 2005, where most of the recommendations were approved by the government in 2006.

According to the Economic Survey for the year 2012-13, in the public issue of corporate debt category only Rs. 4,974 crore was mobilised up till December 31, 2012, while Rs. 35,611 crore was raised in fiscal year 2011-12. "Though the development of the corporate bond market has been an important area and has received greater policy attention in recent times, it is yet to take off in a significant manner," the survey said.

5. INDUSTRY WISE TREND ANALYSIS OF CORPORATE FINANCING IN INDIA

5.1 Industry classification

For the purpose of understanding the prevalent corporate financing trends in non-financial firms in India, all these firms have been broadly categorised as manufacturing, diversified (a subset of manufacturing), mining, electricity, services (other than financial services), transport services and construction & real estates.

Database used for collecting secondary data for this study is CMIE Prowess and CMIE economic outlook. Both these database provides an extensive coverage of financial information of all Indian companies. Annual financial information of more than 20000 non-financial firms, over a time period of 1992-2012 were analysed and industry specific trends of financing is determined.

Huge and reliable information is available related to Indian corporate houses, which asks for its usage & analysis. Worldwide many researchers are still behind diagnosing the capital structure puzzle. The observed facts in every market have its own history and practices. India being an emerging market follows a different progress path, its corporate follow a different financing model for funding their growth. Each sector has its own peculiar features, few are apparent and others are hard to decipher. This paper is a modest attempt to figure out the stylised facts specific to different nonfinancial sectors in an emerging economy-in reference to declining debt to equity ratios of Indian companies.

5.2 Variable classification

This paper is an attempt to bring out specific facts that are pertinent to the non-financial firms in India. These constitutes some 20,000 firms and generates rupees 3,73,227 crores corporate tax that is 35% of gross revenue receipts of Indian government. For an in-depth analysis of

all viable fact, major financing determinants have been considered. For a cross comparison among sectors, a better way is to go with a ratio-analysis based comparison approach.

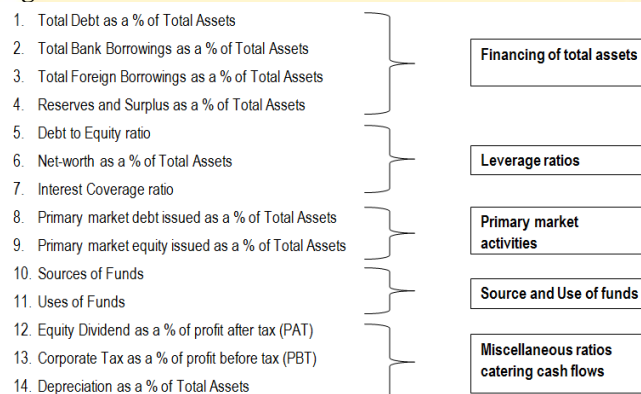
So five broad category of variables have been defined as

- 1) Financing of Total Assets
- 2) Leverage Ratios
- 3) Primary Market activities
- 4) Sources and Uses of funds
- 5) Miscellaneous Ratios

The first category is again broken into 4 ratios, which accounts for various financing avenues of firm. Borrowings from bank, borrowings from overseas, total debt and reserves and surplus all considered as a % of total assets separately. This category gives a clear idea from where the assets are being funded and what is the pecking order of non-financial firms in India.

Second category of leverage ratios is divided as debt to equity ratio, net-worth to total assets and interest coverage ratio. The debt to equity ratio speaks about the levels of debt and equity in a firm, for this paper aggregate data has been considered and this ratio reveals the debt to equity for entire sector under consideration. For this paper aggregate net-worth as a % of total assets gives the financial strength of a sector. Interest coverage ratio states the repayment capacity of a sector, higher the interest coverage ratio, better the repayment capacity of the firm.

Figure 3- Classification of variables



Third category of ratios explains the financing part generating through primary markets, again as a % of total assets. This includes primary market debt issued and primary market equity issued as a % of total assets.

Fourth category of variables explains the source and use of fund approach to understand the financing pattern of firms. Major sources of funds are considered as funds from operations, issue of fresh equity capital and borrowings. Major uses of funds are considered as gross fixed assets, increase in working capital, dividends and loans and advances.

Fifth category of miscellaneous ratios which explains the minor issues related to tax-shield (depreciation as a % of total assets), fulfilling investors' expectations (equity dividend as a % PAT) and fulfilling obligations towards government (corporate tax as a % of PBT). These ratios

when compared pan sectors give a clearer picture of insights of financing in the sector.

5.3 Bird's eye view over all nonfinancial firms

For total non-financial firms [Figure 4](#) -Total Debt as % of Total Assets shows a clear trend of decreasing total debt to total assets from 45% to 33% from 1992 to 2011 respectively. This suggests these firms have reduced their debt component as a percentage of their total assets. For understanding debt composition in break up; bank borrowing & foreign borrowing has been considered. An interesting feature at figure-5 suggests that over the considered period firms have increased their bank borrowing as a % of total assets from 10% to 16%, foreign borrowings are more or less constant hovering around 4.5 to 4.00% of total assets whereas internal financing or reserves and surplus as a % of total debt has consistently and considerably increased from 12% to 30% over 1992 to 2011.

This suggests that firms are inclined towards internal financing for funding their asset growth. This leads the curiosity to understand the position of equity and debt financing in the Indian firm's Pecking order.

Leverage ratios like debt to equity and net-worth to total assets tells the story, [Figure 9](#) - Debt to Equity ratio D/E ratio has showed a steady decline over the period from 1.8 to 0.88 and net-worth to total assets support the trend with a steady increase from 25% to 37%, which reinforce the fact that these firms are behind less debt, with a strengthen position. Point to be noted that research finding all around emerging markets suggests a clear increase in D/E ratios (Milton (2007)).

Figure 4 -Total Debt as % of Total Assets

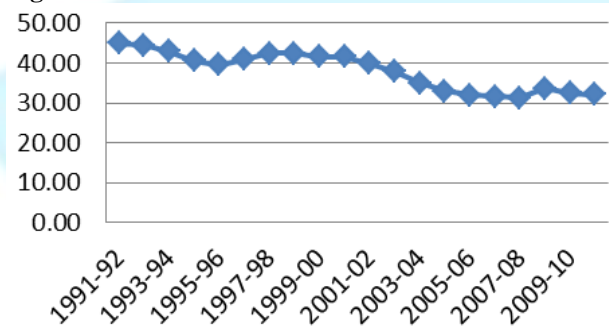


Figure 5 - Bank Borrowings as % of Total Assets

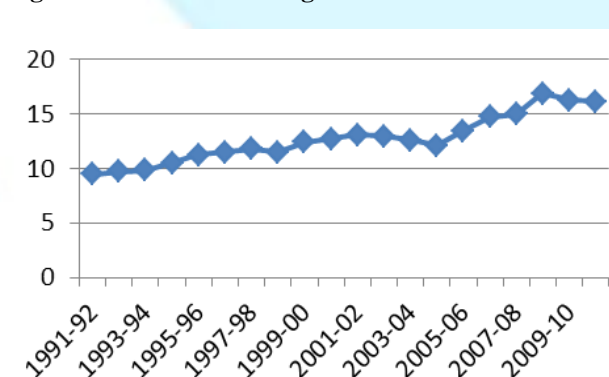


Figure 6 - Foreign Borrowings as % of Total Assets

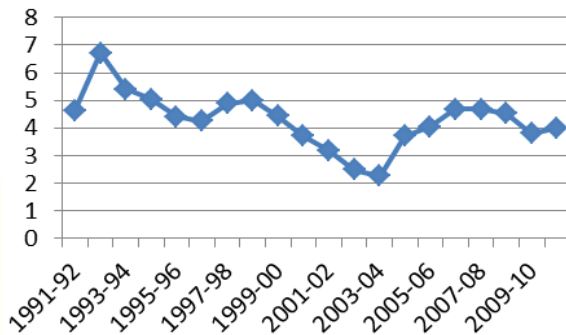


Figure 7- Reserves and Surplus as % of Total Assets

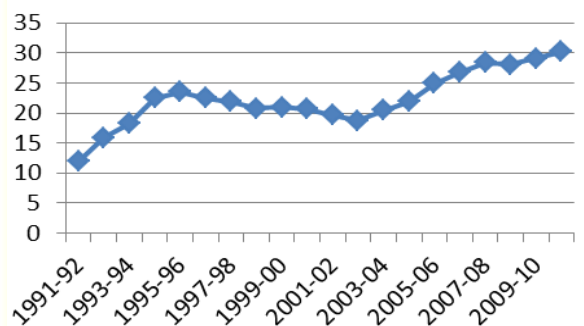


Figure 8 - Networth as % of Total Assets

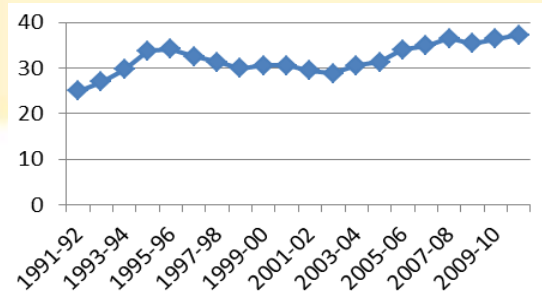
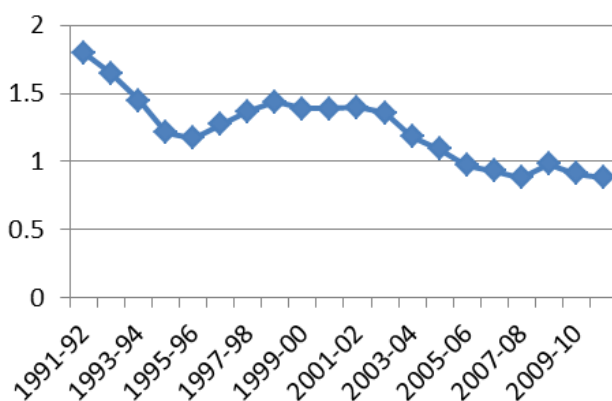


Figure 9 - Debt to Equity ratio



Next the third categories of variables, primary market activities of non-financial firms are analysed. Primary debt and equity issued per year as a % of total assets ([Figure 10](#) - Primary debt % of total assets and [Figure 11](#) - Primary

equity % of total assets) keep on fluctuating and particularly follow theory of Market Timing. Firms have issued market debt or equity very consciously as per the business cycles of global economy. The considered time period for study 1992-2012 has witnessed two major economic mishaps 1997-98 Asian economic crisis and 2008 onwards a global recession. Percentage of issued market debt to total assets remains the highest in 1997-98 and the lowest in 2007-08. While issued primary equity is the highest is 2007-08. This follows the fact that Asian economies were in deep crisis during 1997-98 and were on great surge during 2007-08. The same picture is repeated by next fig. the market timings are effectively followed, for issuing of fresh capital in the market.

Figure 10 - Primary debt % of total assets

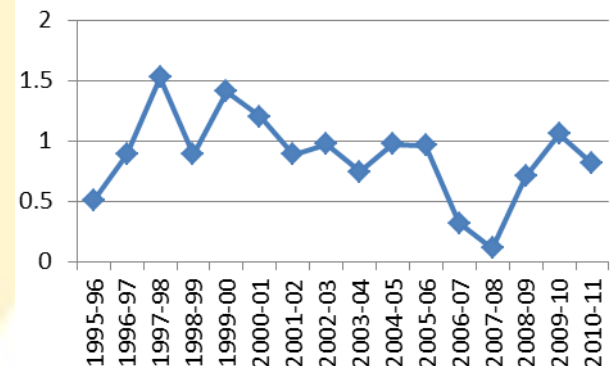
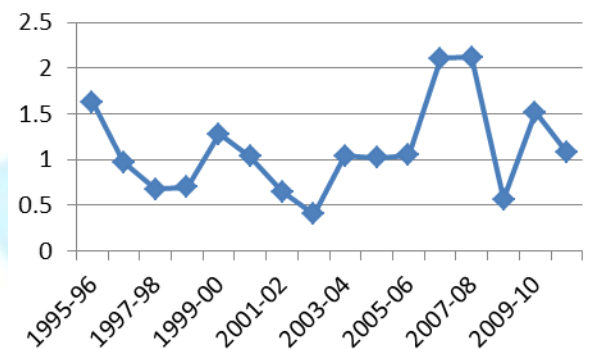


Figure 11 - Primary equity % of total assets



For a deeper insight of real happening with capital movements in a sector, sources and uses of funds approach is considered. Major sources of funds considered are borrowings, issue of fresh capital and funds from operation. For nonfinancial companies major usage of funds goes into gross fixed assets, working capital, dividend and interestingly loans and advances.

Overall nonfinancial firms' major source of fund ([Figure 13](#) - Sources of funds % break-up) is the funds generated from operations, second is borrowings and third is fresh capital. That exactly follows the Pecking order theory. But question of declining D/E ratio is still unanswered. That leads to further search for those particular sectors where this order is breaking or looking for those sectors which prefer equity over debt.

Figure 12 - Funds Raised from Primary Market

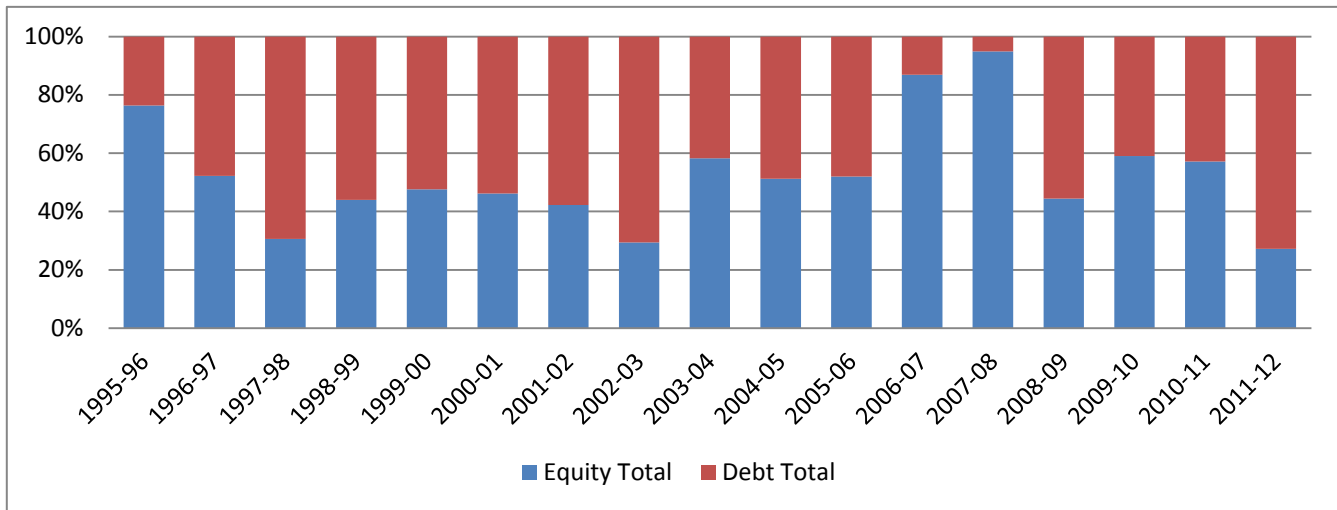


Figure 13 - Sources of funds % break-up

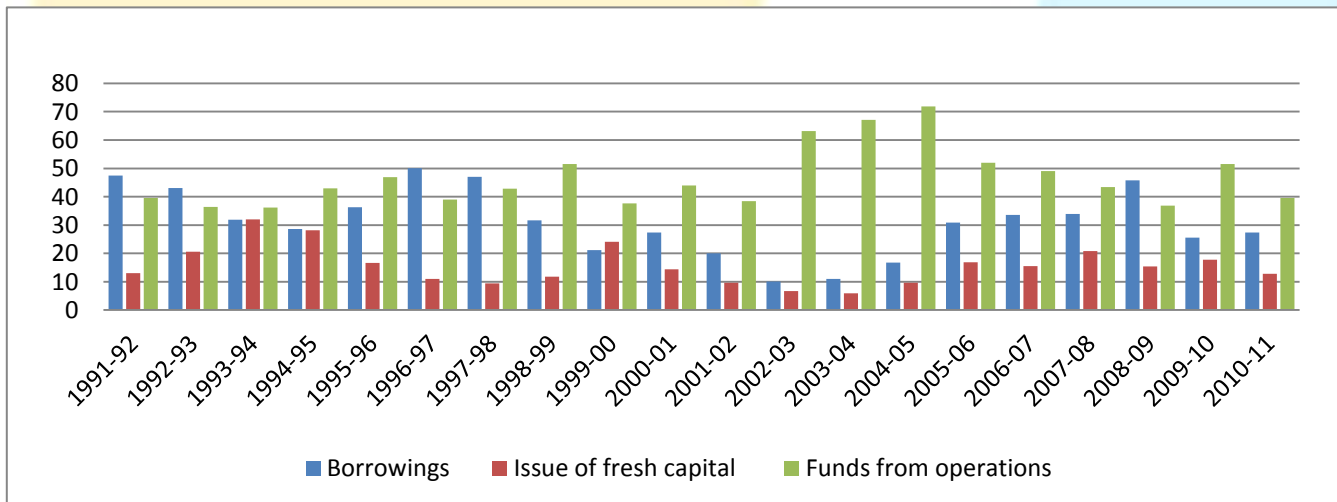
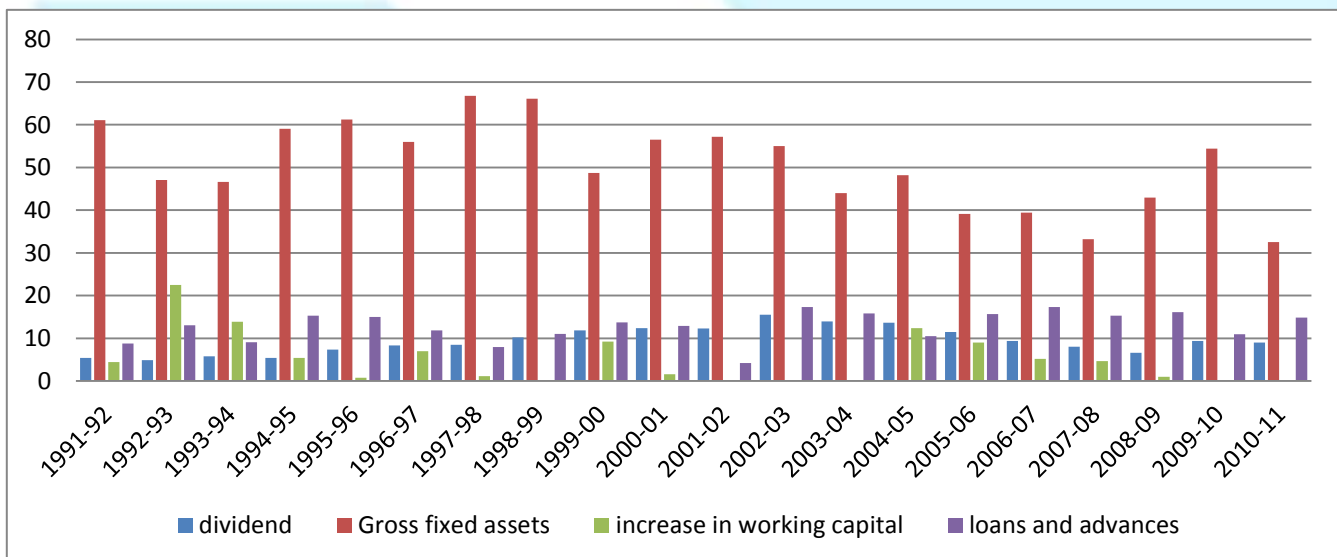


Figure 14 - Uses of funds % break-up



Major usage of fund ([Figure 14 - Uses of funds % break-up](#)) is involved in gross fixed assets. Interestingly second usage comes out to be loans and advances (which is not their primary business) third usage varies per year between working capital and dividend.

Markets run on future expectations and dividends are a response to foster that expectation. This fact is examined by considering equity dividend as a % of profit after tax (PAT) ([Figure 15 - Equity Dividend as % of PAT](#)). That shows an interesting pattern, after touching a high of 59% in 2000-01 it falls near to 29% in 2010-11. Over the years from 1991 to 2011, stickiness of dividends has kept dividends as a % of PAT near to 30%.

Corporate tax receipts the major source of government revenues again vary by sector to sector. Corporate tax as a % of profit before tax (PBT) ([Figure 16 - Corporate Tax / PBT](#)) over the two decades stays around 24-25% with a minor fluctuation up and down. As research says that greater the tax rates higher the debt levels.

Depreciation effect, the widely used tax-shield is measured as depreciation as % of total assets ([Figure 17 - Depreciation to total assets](#); also remain constant near 3%, over the time period of consideration. Which doesn't clearly speak about the corresponding low D/E ratios, as research says that presence of non-debt tax shield actually reduces the debt level of firms. Interest coverage ratio ([Figure 18 - Interest coverage ratio](#), explains the ability of firms to repay their current debt and prospects for future debt repayment capacity. This study reveals comfortable level (above 1 or 100%) and in some years quite high interest coverage ratio (earnings before interest and tax/interest expense). During the past two decades, all nonfinancial firms have showed a high debt repayment capacity but still are at lower debt compared to emerging markets peers.

5.4 Stylized facts –Sector specific

The purpose of this study is to reveal the contemporary scenario of the corporate financing stylized facts, which requires an in-depth sector wise analysis of annual financial statements. This section broadly reveals the most interesting facts which the respective sectors are observing over the past two decades.

Figure 15 - Equity Dividend as % of PAT

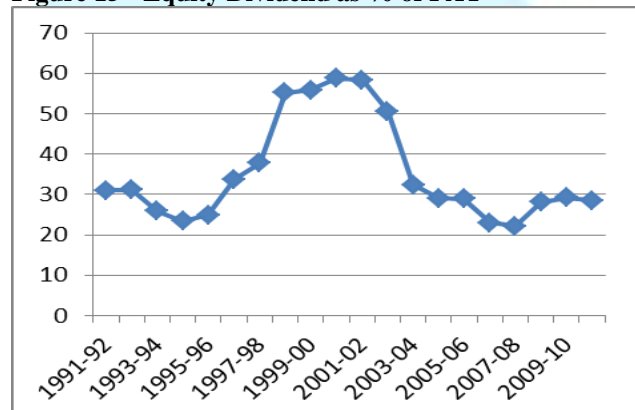


Figure 16 - Corporate Tax / PBT

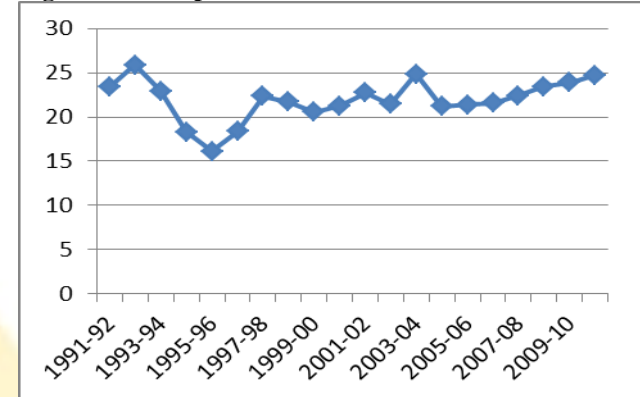


Figure 17 - Depreciation to total assets

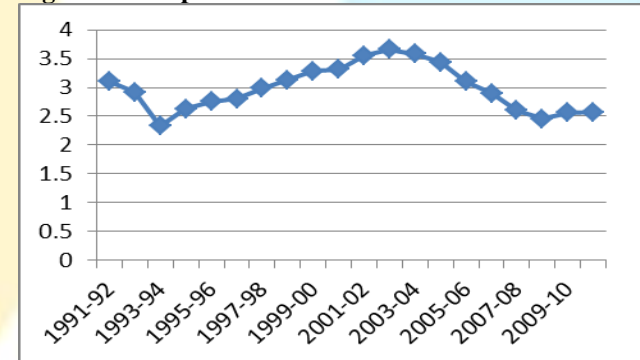
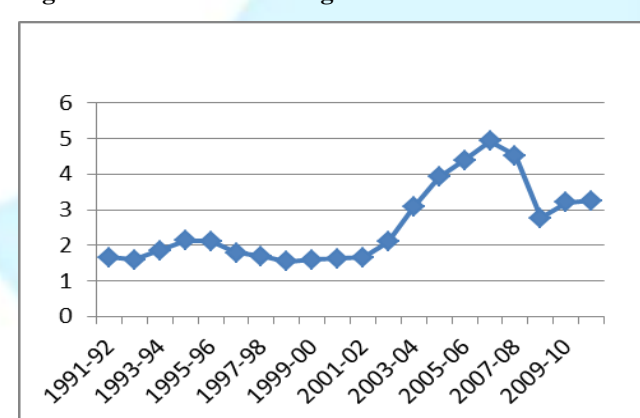


Figure 18 - Interest coverage ratio



5.4.1 Manufacturing sector

Manufacturing sector constitutes the major portion of total non-financial firms, and it clearly depicts the same trends for its asset financing. Indian manufacturing firms ([Figure 19 - Manufacturing Sector – Important graphs](#)) shows the decreasing trend of total debt to total assets from 44% to 32% from 1992 to 2011 respectively. An interesting feature of borrowings suggests that over the considered period firms have increased their bank borrowing as a % of total assets from 11% to 17%, assets whereas internal financing or reserves and surplus as a % of total debt has consistently and considerably increased from 14% to 33% over 1992 to 2011. ([Exhibit 1- Manufacturing sector](#)) Leverage ratios like debt to equity and net-worth to total assets repeats the story of aggregate leverage ratios for

entire non-financial sector, where D/E ratio has showed a steady decline over the period from 2.00 to 0.87

A particular instance in fund raising by manufacturing companies appears with 25% fund raised by equity in 2001-02 and another instance in 2007-08 where 98% fund raised in primary market is through equity.

Majority of funds are being generated from operations, second is borrowings and third is fresh capital. Quite similar to overall nonfinancial firms results (manufacturing weightage is maximum in total nonfinancial firms) Major usage of fund is involved in gross fixed assets. Second usage comes out to be loans and advances and third usage varies per year between working capital and dividend.

Equity dividend as a % of profit after tax (PAT) after touching a high of 319% in 2001-02, falls near 23% in 2010-11. No clear trend appears on face for this variable over the years from 1991 to 2011. ([Exhibit 1- Manufacturing sector](#))

5.4.2 Diversified (subset of manufacturing)

Indian Diversified (subset of manufacturing) firms (Figure-20) depicts a different picture in year 2001-02, where its debt to total asset reached highest 53.2%. Where in 1991-92 it was 46% and in 2010-11 it became 41.5%.

D/E ratio has showed a steady decline over the period from 2.5 to 1.34 and net-worth to total assets support the trend with a steady increase from 18% to 31%.

Funds raised from primary markets depict a very interesting trend, over the years. first instance comes in 2000-01 and 2001-02 when this sector has chosen almost 100% debt route, which continued little same till 2005-06. Then in 2007-08 the route was 100% equity and followed by 100% debt. Majority of funds are being generated from operations, second is borrowings and third is fresh capital. Major usage of fund is involved in gross fixed assets. No clear trend is identified among the next uses loans and advances, working capital and dividend.

Equity dividend as a % of profit after tax (PAT) reached a zero level in 2001-02 and 2002-03, which were also the years of approx. 100% debt. Currently it's 30% in 2010-11 ([Exhibit 2 - Diversified sector](#)).

A particular trend of interest coverage ratio is observed in the diversified sector, which shoots up to 4.7 during high equity financing and come down as low as 0.3 during high debt financing ([Exhibit 2 - Diversified sector](#)).

5.4.3 Mining sector

Very interestingly facts are being revealed during analysing firms of mining sector ([Figure 21 - Mining Sector – Important graphs](#)) a consistently declining debt to total assets with a very high fall. In 1991-92 it was close to 50% and by the end of two decades it's 8%. A much more curiosity aroused to understand the very nature of mining sector, which comes out to be a very heavy initial investment (mine procurement mostly by leasing agreement) that at least calls for moderate debt levels. However this sector is displaying a different debt picture. Further exhibit-3 suggests that over the considered period firms have increased their bank borrowing as a % of total

assets is mostly less than 2% and sometimes even less than 1%, foreign borrowings as a % of total assets went as high as 17% in 1994-95 which in 2010-11 reaches 0.5% whereas internal financing or reserves and surplus as a % of total debt has considerably reached to highest levels from -8% in start of 1992 to 44% in the start of 2012.

Leverage ratios like D/E ratio has showed a steady decline over the period from 1.36 to 0.2 and net-worth to total assets support the trend with a steady increase from 35% to 48%, always on a higher end. Funds raised from primary markets depict a trend, which shows high equity levels approximately 100% from 2006 onwards. The transition from 100% debt to 100% equity from 2001 to 2002 is drastic mining feature.

Primary debt issuance as a % of total assets keep on fluctuating between the range of 0% to 0.6% whereas and equity issued per year as a % of total assets witnessed a range of 0% to 11% ([Exhibit 3- Mining Sector](#)).

Majority of funds are being contributed from operations, and others like borrowings and fresh capital have a minimum share. Major usage of fund is predominantly gross fixed assets, only in 2011 the share of working capital requirement shoots up. Dividend distribution requires more funds with increasing equity financing, so that is here. Funds were always consumed in issuing loans and advances.

As per [Exhibit 3- Mining Sector](#), equity dividend as a % of PAT has seen a tremendous growth from 5% (1991-92) to 52% (2000-01), currently hanging around 33% (2010-11). Corporate tax as a % of PBT has grown from 11% (1991-92) to 31% (2010-11)

Depreciation as % of total assets were 1.7 (1992-93) reached a high of 7% (1995-96) and now at 4% (2010-11)

Interest coverage ratio has again witnessed an interesting fluctuation, from 1 (1991-92) to a high of 69% (2006-07) and reached 54% (2010-11)

5.4.4 Electricity Sector:

Electricity sector firms, are highly capital intensive. However ([Figure 22 - Electricity Sector – Important graphs](#)) shows a trend of decreasing total debt to total assets from 50% to 42% from 1992 to 2011 respectively, with a lowest of 38%. [Exhibit 4- Electricity sector](#) suggests that over the considered period firms have increased their bank borrowing as a % of total assets from 5% to 17%, foreign borrowings as a % of total assets has crashed from 10% (1991) to 4% (2011) whereas internal financing or reserves and surplus as a % of total debt has consistently and considerably increased from 13% to 20% over 1992 to 2011.

D/E ratio remains closer to 1 over the period from 1.47 to 1.27 and net-worth to total assets support the trend with a consistent figure close to 34%, this sector is using its strengthen position for debt hiring.

Issued market debt to total assets is the highest in 2011-12 i.e. 98% and the lowest in 2007-08, i.e. 12%. While issued primary equity is the highest is 2007-08. ([Exhibit 4- Electricity sector](#))

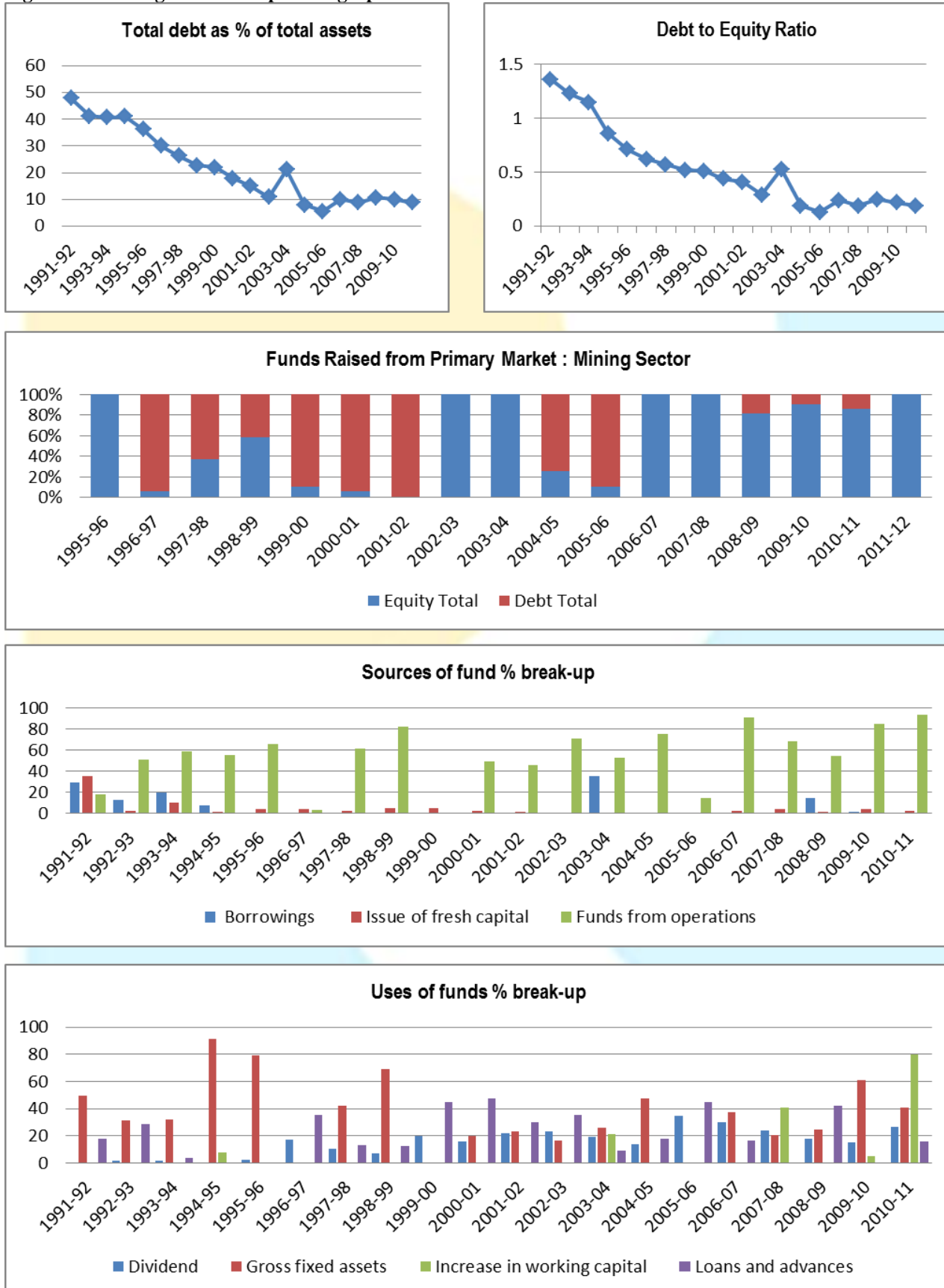
Figure 19 - Manufacturing Sector – Important graphs



Figure 20 - Diversified Sector – Important graphs



Figure 21 - Mining Sector – Important graphs



Looking at the sources of funds contribution from operating activities has decreased, while borrowings share has increased and fresh capital contribution is more or less constant. Majority of fund is used to finance gross fixed assets, while lowest usage goes to dividends.

But interestingly, equity dividend as a % of profit after tax (PAT) has kept on increasing from 1.53% (1992) to 44% (2011). Corporate tax as a % of profit before tax (PBT) over the two decades increased from 1.5 to 19 per cent.

5.4.5 Services Sector (other than financial services)

Service industry firms are taking good amount of debt shows in (Figure-23) but with a declining total debt to total assets from 44% to 33% from 1992 to 2011 respectively. This suggests these firms have reduced their debt component as a % of their total assets. Exhibit-5 suggests that over the considered period firms have increased their bank borrowing as a % of total assets from 6% to 17%, foreign borrowings remained in the range of 9 to 3.4% of total assets whereas internal financing or reserves and surplus as a % of total debt has consistently and considerably increased from 15% to 30% over 1992 to 2011.

D/E ratio has showed a steady decline over the period from 1.85 to 0.89 and net-worth to total assets support the trend with a steady increase from 24% to 40%, which reinforces the fact that these firms are behind less debt, with a strengthened position.

Clear cyclic trend of low and high primary debt levels with respect to market timings, highest level of 88% towards 2011-12. Issued market debt to total assets is the highest in 1997-98 (2.76) and the lowest in 2007-08 (0.07). While issued primary equity as a % of total assets is the highest (5.15) in 2000 and 0.75 in 2011.

Always more than 25% funding comes from operating activities. One instance of 1993-94 where borrowings become 52% financing source and another instance of 1999-00 when even higher 45% funding comes from equity sources. Even being service industry firms utilize majority of funds in generating gross fixed assets. Interestingly second usage comes out to be loans and advances (which is actually not their primary business)

Equity dividend as a % of profit after tax (PAT) touched highest in 2011 i.e. 63% and was at 17% in 1992. Corporate tax as a % of profit before tax (PBT) over the two decades has reduced from 31% to 23%. [Exhibit 5- Services sector \(other than financial services\)](#)

5.4.6 Transport Services

Transport service firms follow a different pattern, where total debt to total assets once decreased and then came closer to original levels, it declined from 54% in 1992 to 34% in 2005 and then started increasing; came close to 51% in 2011 [Figure 24](#) – Transport Sector – Important graphs. [Exhibit 6-Transport](#) services sector suggests that over the considered period firms have increased their bank borrowing shoots up as a % of total assets from 4.26% to 26%, foreign borrowings shoots down from 23% – 6.00%

of total assets whereas internal financing or reserves and surplus as a % of total debt has become 15% in 2011.

D/E ratio has showed a steady decline over the period 1992-2005 and then started increasing, currently (2011) at the same levels of 1992 i.e. 2.3 and net-worth to total assets support the trend with a steady increase from 24%(1992) to 33%(2005), and then to 23% (2011)

Issued market debt to total assets is the highest in 2003 i.e. 8.35% and the lowest as 0.00 in 1992. While issued primary equity is the highest is 2005, i.e. 2.22 and the lowest was 0.00 in 2009. The market timings are effectively followed, for issuing of fresh capital in the market by keeping close to 100% debt in economic recession period. Majority of funds are being generated from operations till 2005 and then onwards borrowings become the major source. Throughout majority usage of fund is involved in gross fixed assets.

Equity dividend as a % of profit after tax (PAT) touched a high of 606% in 2011, while was at 0.00 in 2009 and 2010. Corporate tax as a % of profit before tax (PBT) over the two decades stays in a wide range of 5.3% to 24%. Depreciation effect, the widely used tax-shield is measured as depreciation as % of total assets; particularly follows a range of 3-6%. Interest coverage ratio, was at 2.12 in 1992 falls to 0.37 in 2009 and then came up to 1.2 in 2011.

[Exhibit 6-Transport](#) services sector

5.4.7 Construction & real estate Sector

Indian construction and real estate firms [Figure 25](#) – Construction & real-estate Sector – Important graphs shows a clear trend of decreasing total debt to total assets from 46% to 32% from 1992 to 2011 respectively. [Exhibit 7-Construction](#) & real estate sector suggests that over the considered period firms have increased their bank borrowing as a % of total assets from 13% to 16%, foreign borrowings remained in the range of 0.15 – 1.46% of total assets (with a very high variation) whereas internal financing or reserves and surplus as a % of total debt has consistently and considerably increased from -3.32% to 29% over 1992 to 2011 (a constant increase with a significant growth rate)

D/E ratio has showed a sharp decline over the period from 31 to 0.97 (particularly 0.00 in 1993) and net-worth to total assets support the trend with a steady increase from 1.5% to 34% (particularly -0.5 in 1993).

Issued market debt to total assets shows a very different picture swings between 0 and 1, is the highest in 2011. While issued primary equity is the highest is 2008 (7%) and lowest in 2009 (0.04%). [Exhibit 7-Construction](#) & real estate sector These companies are majority equity financed appears in [Figure 25](#) – Construction & real-estate Sector – Important graphs with 100% fund raised by equity in 1996-97, 2000-01, 2002-03, 2004-05, 2006-06, 2007-08

Equity dividend as a % of profit after tax (PAT) after touching a high of 453% in 1993, falls near 0% in 1998 and 14% in 2011. No clear trend appears on face for this variable over the years from 1991 to 2011. Corporate tax as a % of profit before tax (PBT) over the two decades decreased from 33% (1992) to 27% (2011) with

fluctuation up and down. Depreciation as % of total assets falls from 1.7 (1992) to 0.77 (2011). Interest coverage i.e.

strength of repayment capacity increased from 0.86(1992) to 2.69(2011).

Figure 22 - Electricity Sector – Important graphs



Figure 23 – Services (other than financial) Sector – Important graphs



Figure 24 – Transport Sector – Important graphs

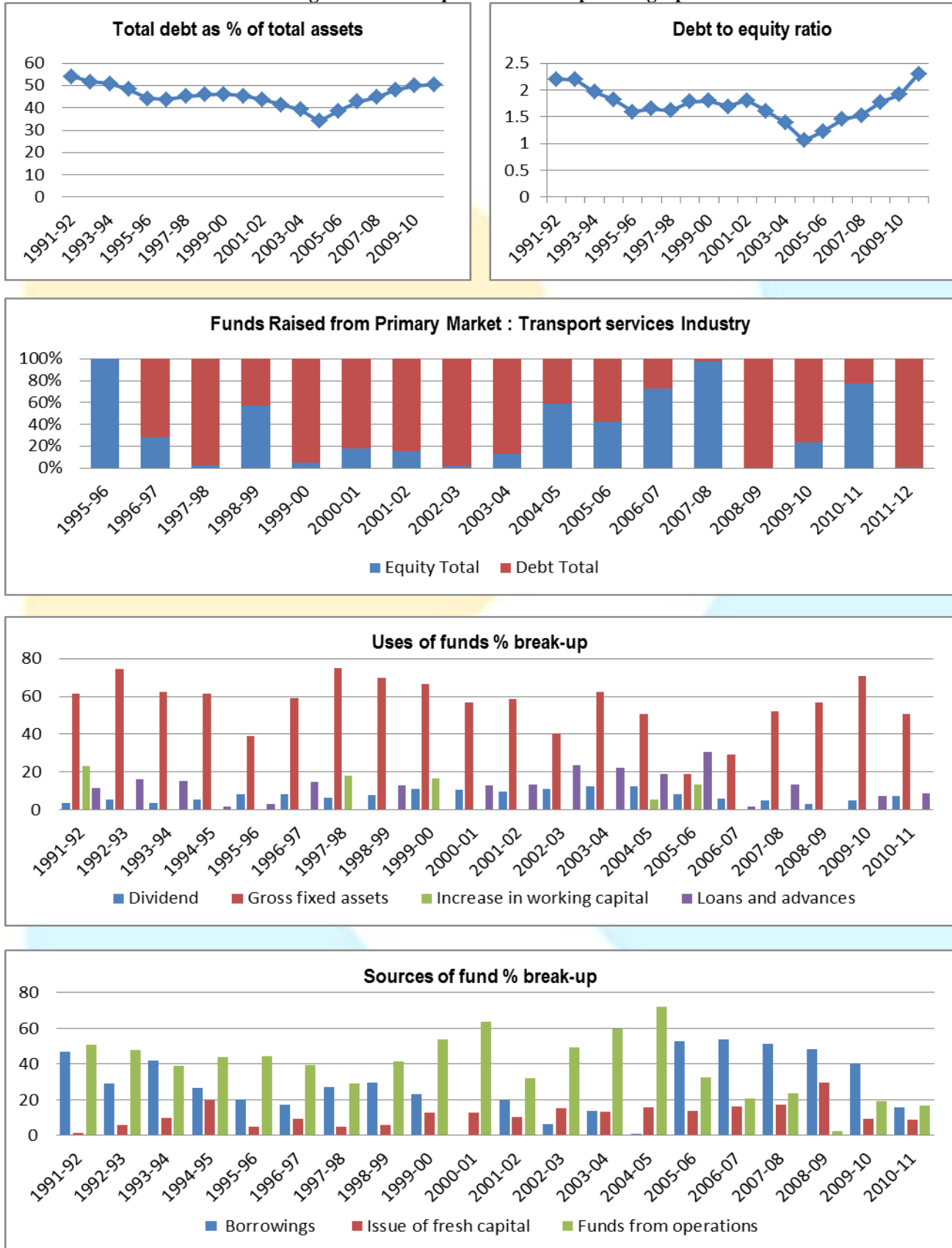


Figure 25 – Construction & real-estate Sector – Important graphs



6. THE CRUX

The objective of doing this in-depth analysis of seven sectors with fourteen variables is to identify the most striking facts lying deep in the non-financial firms of India. Below the facts have been organized with respect to four major time periods that is 1991 to 1995, 1996 to 2000, 2001 to 2005 and 2006 to 2011. (Few variables also have 2012 data). This examination is divided into five major categories of variables as financing of total assets, leverage ratios, primary market activities, sources and uses of funds and miscellaneous ratios

6.1 Time period 1:1991-1995

1991, this year is known for the opening up of Indian economy to the world and the start of LPG league (Liberalisation, Privatisation and Globalisation). Entire corporate India was excited enough for observing the outcomes of this start. This period has witnessed one of the highest values in category financing of total assets, specific to debt financed and foreign borrowing funded assets whereas bank borrowings and internal financing has observed their lowest values. (compared to total time period of 1991 to 2012).

Debt to equity ratio was the highest value during the 1991-92 year, which is consistently declining. Construction firms have observed a value of "0" for debt to equity in year 1992-93 a very sharp decline from 1991-92 of 31. Data for primary market activities during year 1991 to 1995 is unavailable with the concerned database resource (CMIE).

During 1991-95, sources and uses of funds have observed borrowings as the key source of fund and fixed assets as the key use of fund. But moving towards 1995 from 1992 has observed equity with an increasing contribution as a source for funding, except for mining where funds from operations were gaining momentum in supporting the total funds requirement.

Other miscellaneous ratios during this period, support the above identified facts. Low equity dividends, high corporate tax, high depreciation values and low interest coverage ratios all corresponds to high levels of debt, means high debt to equity.

6.2 Time period 2: 1996-2000

This time period has witnessed a shift in previous trend, where financing of total assets were shifting towards bank and internal finance rather by debt or foreign fund financing. Debt to equity ratio was quite stable but half of the peak 1991-92 value. Net-worth to assets was increased to some 10 bps compared to 1991-92 and was stable during 1996-2000.

Primary market activities have witnessed Asian crisis during the 1997, so the entire equity and asset bubble was collapsed. Primary debt to total assets has seen its highest value in 1997-98 and fell close to half in 1998-99. Primary equity was at one of the lowest levels during 1997-98. Funds raised from primary markets support the above

observed facts of issuing debt and equity timings. Sector like construction has witnessed a 100% equity in 1996-97.

During 1996-2000, major sources of funds were borrowings and funds from operations while uses of funds were directed towards either fixed assets or dividends & loans and advances (not the primary activity of non-financial sector firms)

Equity dividends consistently rise from 1996 to 2000 and achieved its highest value, corporate taxes were the lowest in 1996 then were moderated towards 2000, depreciation was on an increasing frontier during this period and interest coverage ratios were rolling on their lowest ranges.

6.3 Time period 3: 2001 to 2005

Debt to total assets witnessed the lowest values during 2004-05 foreign borrowings reached its lowest in 2003-04, whereas the bank borrowings and internal financing was rising towards ever increasing values. This era started the bent of financing towards banks and internal reserves and surpluses. A decline of debt to equity ratios from 1.40 to 0.95 over 2001 to 2005 (For the first time in all previous years D/E has reached less than 1 value)

Overall debt levels were declining and equity levels were raising, with exceptions like diversified sector (a subset of manufacturing) which was observing a close to 100 % debt levels for this entire time period of 2001 to 2005. Mining with close to 100 % debt in 2002 shifted towards 100 % equity in 2003 and 2004. Capital intensive transport witnessed high debt whereas again capital intensive construction witnessed high equity issuances.

During this period, funds from operations were the much higher source of funds than borrowings and equity. Usage of funds was predominantly towards fixed assets funding, then dividends and then loans.

Except for equity dividends all other miscellaneous ratios were rising, interesting was the interest coverage ratio reaching towards its higher values.

6.4 Time period 4: 2006 to 2011

This period has witnessed the lowest debt to assets value of 31% in 2007-08 (the year of highest ever equity returns and the preceding year to the global financial crisis). Moderated foreign borrowings level of 4.7 % (highest in this decade) in 2007-08. Highest bank borrowings 17% in 2008-09 (The recession year). The highest level of internal financing reached to 30.3% in 2010-11. This period has observed the lowest debt to equity ratio of 0.88 in 2007-08 which rises a little 0.98 in 2008-09 but returned to 0.88 in 2010-11, with mining sector close to 0.2 % in 2010-11 (lowest among all sectors)

2007-08 has observed a 96% equity funds raised from primary markets with only 4 % debt (a unique year, in which every sector has observed more than 95 % of equity financing). But the next year, the crisis year 2008-09 has observed sudden surges in debt financing (more inclined towards easy debt, bank borrowings). Sectors like transport and diversified observed a 100 % debt as primary funding in 2008-09.

Major source of funds remained the operations but its contribution to total funds was reduced and replaced by more of equity in 2007-08 and by debt in other years. Usage of funds remained towards fixed assets funding with almost nil contributions towards increase in working capital during period 2009 onwards.

Equity dividends (28.6% in 2010-11) reached close to 1992 levels of 31%. Corporate tax follows an increasing trend during this period 2006 to 2011 and reached to 24.7% in 2011 (23.5 % in 1992). Depreciation remained at moderate levels. Interest coverage ratio rises to highest of 5% in 2006-07 and falls back to 2.7% in 2008-09, currently at 3.2% (2010-11)

7. CONCLUSION

This paper has brought out the stylized facts of corporate financing of Indian non-financial sectors. These facts are very interesting per se the financing pattern in some time periods had followed the pecking order theory and in some other time periods follows the market- timing theory. Particular time period 1 and 4 have not followed pecking order theory while time period 2 & 3 were close to pecking order.

Some striking facts from mining sector, which is running by its funds from operations (internal financing) and use only equity financing as an external source, that to closely following market timings. There are sectors like transport, where more than 50% of assets are financed by debt. Transport and electricity, these two sectors have rising D/E ratios. However all other sectors are observing declining D/E ratios.

The Indian equity markets are at par with emerging economies with a very sound regulatory infrastructure. Indian debt market is far behind than emerging peers in terms of volumes, values and even basic infrastructure. Budget 2013 talks for dedicated debt platforms in stock exchanges with some favourable demand side incentives for institutional investors. Indian corporates offer much more private placements than market offers for issuing debt due to lessor issuing cost & hassles.

This paper provides a food for thought for much deeper analysis of theories and practices behind every documented fact. Indian sectors are observing a very unique set of practices which are still waiting for strong theoretical support.

Notes:

1. Data as per World economic outlook 2013 by International Monetary fund, global projections for 2013 are positive and growth rates will be on gradual upturn.
2. India has witnessed a surge in entrepreneurial spirit, number of non-financial companies whose CMIE prowess keep a record increased from 2544 (in 1992) to 20512 (in 2012)

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Exhibits:

A	Bank Borrowings to Total Assets	F	Primary Debt to Total Assets
B	Foreign Borrowings to Total Assets	G	Primary Equity to Total Assets
C	Reserves & Surplus to Total Assets	H	Equity Dividend as % of PAT
D	Net-worth to Total Assets	I	Corporate Tax as % of PBT
E	Interest Coverage Ratio	J	Depreciation as % of Total Assets

Exhibit 1- Manufacturing sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	11.64	3.63	14.14	22.63	1.67	NA	NA	41.27	25.14	3.34
1992-93	13.33	3.49	16.23	24.03	1.54	NA	NA	44.78	28.29	3.16
1993-94	10.82	2.91	18.95	28.36	1.79	NA	NA	35.35	26.8	2.46
1994-95	11.57	2.56	23.12	32.3	2.25	NA	NA	27.9	20.22	2.33
1995-96	13.2	2.38	23.83	32.23	2.17	0.54	1.96	28.12	17.26	2.32
1996-97	13.64	3.08	22.35	30.2	1.66	0.88	0.94	39.05	19.13	2.53

1997-98	13.83	3.67	21.36	28.74	1.47	1.28	0.52	51.88	22.03	2.71
1998-99	13.23	3.64	19.25	26.38	1.25	0.79	0.46	125.29	19.89	2.83
1999-00	14.17	3.37	18.62	26.2	1.26	0.93	0.62	127.78	21.08	3.15
2000-01	14.41	3.07	17.03	24.91	1.21	0.76	0.53	167.22	19.74	3.25
2001-02	15.21	2.76	14.8	22.13	1.15	0.81	0.27	318.6	19.32	3.4
2002-03	15.33	2.51	14.37	21.68	1.76	0.49	0.27	69.07	21.06	3.44
2003-04	15.48	1.89	18.36	25.88	2.99	0.23	0.48	33.35	23.46	3.43
2004-05	14.16	4.36	20.42	27.24	4	0.96	0.55	28.09	21.43	3.27
2005-06	15.8	5.14	23.87	29.88	4.54	1.05	1.26	24.83	20.29	2.96
2006-07	16.98	5.91	27.34	33.07	5.54	0.35	1.27	20.64	21.96	2.76
2007-08	17.89	6.35	29.02	34.33	4.89	0.04	1.46	18.23	22.96	2.49
2008-09	19.93	5.89	29.6	33.84	2.99	0.81	0.67	23.16	23.24	2.34
2009-10	18.54	4.96	31.36	35.5	3.97	0.99	1.22	23.89	23.42	2.49
2010- 11	17.14	5.2	32.66	36.57	3.96	0.85	0.8	22.86	24.69	2.54

Exhibit 2 - Diversified sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	10.23	3.59	13.35	18.31	1.38	NA	NA	102.44	17.16	3.59
1992-93	10.50	4.67	14.23	20.57	1.29	NA	NA	116.42	30.87	3.43
1993-94	6.44	4.57	24.32	33.60	1.87	NA	NA	29.61	9.22	2.42
1994-95	8.31	3.73	29.12	37.60	2.50	NA	NA	22.44	5.57	2.07
1995-96	10.81	4.20	30.81	38.45	2.48	0.38	0.89	22.99	6.42	2.02
1996-97	10.98	4.91	36.30	39.26	2.14	1.17	0.42	28.18	8.50	2.32
1997-98	8.00	6.78	29.46	31.35	1.77	2.09	0.38	36.05	10.44	2.40
1998-99	10.86	5.78	27.89	28.04	1.46	1.04	0.12	47.05	8.56	2.68
1999-00	12.55	6.42	24.47	25.80	1.56	2.68	0.16	41.32	6.65	3.62
2000-01	11.20	0.23	23.74	25.41	1.57	1.64	0.01	34.37	6.02	3.59
2001-02	13.94	0.63	3.79	10.68	0.30	1.44	0.01	0.00	13.59	2.98
2002-03	14.98	0.55	7.50	9.66	0.77	3.61	0.36	0.00	15.29	2.43
2003-04	10.25	0.93	13.36	18.28	2.16	0.73	0.03	27.77	27.96	2.26
2004-05	6.96	1.92	16.39	17.43	3.84	1.39	0.04	25.52	23.34	1.97
2005-06	7.60	2.60	17.11	18.40	4.72	0.59	0.01	21.43	22.07	1.73
2006-07	17.69	1.96	16.81	21.35	3.51	0.03	0.28	24.80	36.12	2.04
2007-08	20.93	2.38	19.36	21.59	2.64	0.00	2.67	18.59	25.52	1.73
2008-09	20.28	5.63	25.04	27.64	2.35	7.31	0.05	25.20	24.87	1.82
2009-10	20.51	4.22	25.49	29.46	3.07	0.80	1.47	20.53	21.45	1.93
2010- 11	23.01	5.49	26.90	31.24	2.15	1.39	0.36	30.09	22.06	1.79

Exhibit 3- Mining Sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	1.67	1.33	-8.86	35.32	0.99	NA	NA	5.53	10.95	2.75
1992-93	1.05	14.80	18.43	33.62	1.49	NA	NA	10.33	4.24	1.78
1993-94	1.79	13.18	19.82	35.48	1.98	NA	NA	4.91	6.79	1.80
1994-95	1.51	16.58	32.28	47.64	2.18	NA	NA	4.80	6.22	5.03
1995-96	1.51	15.28	33.05	50.93	2.19	0.00	0.12	13.88	4.44	6.79
1996-97	2.34	8.53	34.16	48.66	3.86	0.64	0.04	30.54	15.82	5.27
1997-98	0.74	8.35	32.08	46.32	4.71	0.26	0.15	27.56	29.79	5.69
1998-99	1.96	9.13	32.89	45.95	3.98	0.02	0.03	39.70	25.77	6.26
1999-00	1.69	7.50	32.63	45.19	5.60	0.17	0.02	39.00	28.06	5.77
2000-01	1.26	4.61	31.65	43.27	7.16	0.23	0.01	52.06	35.86	4.93
2001-02	1.81	3.58	28.50	38.81	11.87	0.38	0.00	36.98	39.68	2.60
2002-03	2.03	2.50	30.69	40.33	25.87	0.00	0.00	39.73	32.60	3.61
2003-04	3.30	1.98	31.28	39.52	33.78	0.00	7.42	36.46	35.41	3.57
2004-05	1.80	1.71	34.40	41.88	51.43	0.03	0.01	40.42	31.17	4.00
2005-06	0.85	0.61	36.54	42.52	68.72	0.14	0.02	37.55	37.35	4.77
2006-07	1.27	0.64	35.92	41.36	68.96	0.00	11.37	34.74	30.35	4.06
2007-08	0.99	0.54	41.64	47.12	32.66	0.00	0.07	35.97	32.52	4.63
2008-09	1.55	0.44	38.68	43.39	25.94	0.19	0.84	36.97	33.04	3.82
2009-10	1.58	1.06	41.72	45.69	39.34	0.36	3.50	35.20	36.87	3.66
2010- 11	1.84	0.70	43.78	47.91	54.25	0.64	3.89	32.94	30.52	4.16

Exhibit 4- Electricity sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	5.27	9.87	13.42	33.97	1.76	NA	NA	1.53	1.54	1.67
1992-93	3.40	10.78	13.90	38.19	1.70	NA	NA	2.11	2.47	2.20
1993-94	1.73	10.78	17.23	39.44	1.78	NA	NA	7.24	2.58	2.27
1994-95	1.24	11.18	20.42	42.14	1.77	NA	NA	10.84	2.56	2.95
1995-96	1.80	10.29	21.82	42.97	1.93	0.36	1.03	11.71	0.83	3.40
1996-97	2.17	9.49	21.26	41.83	1.71	0.86	0.53	19.29	4.84	3.65
1997-98	2.56	10.12	21.44	41.16	1.81	2.68	1.14	17.93	6.15	3.71
1998-99	3.11	11.79	23.82	43.51	2.21	2.32	0.82	19.84	23.46	3.92
1999-00	4.50	10.23	23.53	43.11	2.27	3.51	0.88	19.04	7.95	3.93
2000-01	6.13	7.48	24.55	44.91	2.47	3.58	0.60	18.35	11.54	3.86
2001-02	8.59	7.76	21.38	42.66	2.10	1.90	0.62	16.16	20.34	3.01
2002-03	7.55	4.07	17.44	36.74	1.64	1.94	0.82	28.46	16.52	3.26
2003-04	6.52	5.19	18.53	37.37	1.88	2.47	0.61	24.45	18.56	3.35

2004-05	8.40	5.23	18.93	36.79	1.95	0.86	2.01	47.04	7.53	3.05
2005-06	10.32	5.94	19.20	36.44	2.07	0.38	0.72	55.46	13.47	2.68
2006-07	11.33	5.50	18.18	35.11	1.89	0.50	0.86	35.48	14.32	2.56
2007-08	11.41	4.46	19.85	37.31	1.98	0.53	3.86	38.73	14.86	2.27
2008-09	13.14	5.03	17.49	33.72	1.34	1.07	0.21	86.32	17.28	2.18
2009-10	14.31	4.09	18.08	33.51	1.59	1.32	2.25	60.87	17.57	2.21
2010- 11	16.55	3.97	19.74	33.46	1.67	1.46	1.20	44.00	18.69	2.04

Exhibit 5- Services sector (other than financial services)

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	5.82	8.55	14.90	23.77	2.74	NA	NA	16.72	30.64	3.80
1992-93	6.22	12.83	16.37	23.82	2.35	NA	NA	25.09	31.78	4.25
1993-94	22.33	5.81	15.89	23.58	2.17	NA	NA	19.48	28.20	2.38
1994-95	20.76	5.36	17.26	26.83	1.88	NA	NA	19.50	25.22	2.58
1995-96	15.70	4.54	19.94	30.01	2.10	0.68	0.25	21.35	23.42	2.52
1996-97	14.73	3.90	20.68	30.66	2.07	1.27	0.24	24.34	22.76	2.47
1997-98	16.44	5.49	21.52	30.04	2.17	2.77	0.13	25.01	26.79	2.60
1998-99	15.92	4.52	20.85	29.87	2.07	0.67	0.65	29.06	23.36	2.74
1999-00	17.03	3.68	24.55	34.12	1.99	2.49	0.30	29.77	21.23	2.67
2000-01	16.24	3.13	27.28	36.78	2.31	1.73	0.71	35.32	18.92	2.87
2001-02	13.91	1.91	28.90	38.68	2.26	0.74	0.49	35.80	18.06	4.75
2002-03	14.72	1.56	27.16	37.46	1.87	1.78	0.17	41.60	16.88	4.81
2003-04	13.64	1.24	24.53	35.06	2.93	0.86	0.32	30.69	20.44	4.47
2004-05	13.59	2.22	25.66	35.40	3.85	1.49	2.23	19.05	19.31	4.31
2005-06	14.21	1.95	29.16	40.45	3.83	1.37	0.97	28.00	14.98	3.58
2006-07	15.84	3.42	29.70	38.45	4.22	0.25	1.05	20.11	15.26	3.49
2007-08	14.65	3.74	29.85	39.63	3.94	0.07	1.71	22.31	15.89	3.13
2008-09	16.86	3.82	30.00	39.19	2.08	0.55	0.00	34.61	19.55	3.04
2009-10	16.61	3.17	29.28	38.85	1.95	1.25	0.38	48.34	18.77	3.24
2010- 11	17.28	3.41	29.11	39.39	1.84	0.36	0.61	63.97	22.61	3.17

Exhibit 6-Transport services sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	4.26	22.79	13.25	24.66	2.12	NA	NA	12.27	5.13	6.10
1992-93	4.02	28.12	14.85	23.60	1.72	NA	NA	25.91	1.71	5.91
1993-94	16.46	16.71	18.36	26.05	2.58	NA	NA	22.07	7.00	3.61
1994-95	13.13	16.41	17.44	26.55	1.83	NA	NA	25.95	9.51	4.56
1995-96	11.51	13.51	19.03	27.74	1.99	0.00	0.25	32.62	9.39	4.26
1996-97	13.60	12.44	17.16	26.52	1.87	0.61	0.24	47.06	8.94	4.28

1997-98	11.03	17.96	19.27	27.99	2.35	5.15	0.13	33.38	23.85	4.38
1998-99	8.58	14.99	17.43	25.93	1.99	0.49	0.65	44.77	24.26	4.60
1999-00	10.24	14.24	16.06	25.68	1.95	5.81	0.30	60.59	18.46	5.11
2000-01	9.05	11.03	16.32	27.33	2.08	3.20	0.71	39.42	25.73	5.75
2001-02	8.44	7.95	15.56	24.62	2.17	2.67	0.49	44.62	27.46	5.49
2002-03	8.92	5.92	15.76	25.99	2.85	8.36	0.17	36.43	27.75	4.86
2003-04	10.33	2.94	17.09	28.48	3.94	2.14	0.32	34.75	28.72	4.53
2004-05	10.85	2.56	22.03	32.37	4.83	1.52	2.23	23.33	19.93	4.46
2005-06	17.65	3.77	23.20	32.11	4.01	1.34	0.97	29.75	17.84	3.55
2006-07	23.57	4.33	21.68	30.10	2.49	0.40	1.05	34.82	20.14	3.00
2007-08	21.93	4.76	23.76	29.58	2.53	0.04	1.71	28.04	19.47	2.77
2008-09	24.83	3.64	22.11	28.20	0.37	0.75	0.00	0.00	22.12	2.99
2009-10	24.87	3.40	18.65	27.04	0.84	1.23	0.38	0.00	25.27	3.33
2010- 11	25.84	6.02	14.68	23.01	1.20	0.17	0.61	605.90	26.30	3.60

Exhibit 7-Construction & real estate sector

YEARS	A	B	C	D	E	F	G	H	I	J
1991-92	12.53	0.15	-3.33	1.50	0.86	NA	NA	0.00	33.47	1.70
1992-93	11.28	0.09	-4.20	-0.53	1.05	NA	NA	452.33	32.95	1.51
1993-94	8.68	0.00	0.68	4.20	1.47	NA	NA	51.61	20.89	1.31
1994-95	9.09	0.23	6.64	15.20	2.02	NA	NA	28.56	24.06	1.03
1995-96	7.76	0.12	8.18	13.62	1.62	0.77	2.39	40.56	20.77	1.07
1996-97	7.68	0.06	8.22	14.22	1.13	0.00	1.08	81.19	21.20	0.98
1997-98	8.93	0.31	11.23	16.23	0.99	0.13	0.78	0.00	28.96	1.44
1998-99	8.25	0.29	14.63	18.83	1.53	0.31	0.52	31.74	24.06	1.03
1999-00	7.72	0.14	17.09	21.61	1.71	0.47	0.12	25.77	25.75	1.10
2000-01	8.96	3.94	19.97	26.31	1.85	0.00	0.28	25.77	24.90	1.20
2001-02	11.07	0.07	12.76	18.94	1.47	0.05	0.19	33.45	25.87	1.27
2002-03	13.28	0.16	11.98	17.63	1.86	0.00	0.90	26.08	22.62	1.24
2003-04	13.98	0.10	11.93	16.70	2.33	0.18	0.10	31.64	17.74	1.20
2004-05	10.79	1.36	10.81	15.63	2.04	0.06	0.89	34.58	23.51	0.99
2005-06	12.82	1.64	14.95	22.53	3.51	0.95	2.75	16.01	23.80	1.11
2006-07	16.41	2.06	20.52	26.69	4.71	0.25	6.05	14.75	23.65	0.95
2007-08	15.10	0.72	25.58	30.76	4.43	0.00	6.87	14.68	24.97	0.71
2008-09	16.63	0.82	23.59	29.26	2.45	0.33	0.05	10.08	22.95	0.80
2009-10	15.97	0.72	26.48	32.05	2.65	0.79	2.79	16.08	23.04	0.81
2010- 11	15.76	1.47	28.54	33.65	2.69	1.04	1.55	14.32	26.58	0.78