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ON

**CORPORATE FINANCING OPTIONS IN INDIA:
BANKING VS. CAPITAL MARKETS**

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List of Abbreviations

ADR	American Depository Receipts
ASCB	All Schedule Commercial Banks
AT1	Additional Tier-1
ATR	Asset Turnover Ratio
BRICS	Brazil Russia India China and South Africa
BSE	Bombay Stock Exchange
CAGR	Compound Annual Growth Rate
CBLO	Collateralized Borrowing and Lending Obligations
CCIL	Clearing Corporation of India Ltd.
CCP	Central Counter Party
CD	Certificates of Deposit
C-D	Credit to Deposit
CDR	Current Debt Ratio
CDS	Credit Default Swap
CDSL	Central Depository Services Limited
CFCR	Cash Flow Coverage Ratio
CP	Commercial Paper
CRISIL	Credit Rating Information Services of India Limited
EBIT	Earnings Before Interest and Tax
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
ECB	External Commercial Borrowings
EV	Enterprise Value
FDI	Foreign Direct Investment
FII	Foreign Institutional Investment
FPI	Foreign Portfolio Investment
FY	Financial Year
GDP	Gross Domestic Product
GDR	Global Depository Receipts
GoI	Government of India
GR	Good Ratio
G-sec	Government Securities
HDFC	Housing Development Finance Corporation
HTM	Held to Maturity
ICR	Interest Coverage Ratio
ICSE	Inter-Connected Stock Exchange
I-D	Investment to Deposit
IFC	International Finance Corporation
IMF	International Monetary Fund
INR	Indian Rupee
IPO	Initial Public Offerings

IPO	Initial Public Offer
LAF	Liquidity Adjustment Facility
LIBOR	London Interbank Offered Rate
LIC	Life Insurance Corporation
MCAP	Market Capitalization
ME	Market Value of Equity
MM	Modigliani-Miller
MTM	Mark to Market
NBFC	Non-Banking Financial Corporations
NCAER	National Council of Applied Economic Research
NGNF	Non-Government Non-Financial Public Limited
NIM	Net Interest Margin
NSDL	National Securities Depository Limited
NSE	National Stock Exchange
NYU	New York University
PCE	Partial Credit Enhancement
PE	Private Equity
RBI	Reserve Bank of India
RE	Retained Earnings
REIT	Real Estate Investment Trusts
ROA	Return on Asset
ROCE	Return on Capital Employed
RRB	Regional Rural Bank
SB	Size of Bank
SEBI	Security and Exchange Board of India
SENSEX	Stock Exchange Sensitive Index
SLR	Statutory Liquidity Ratio
SME	Small and Medium Enterprise
SPV	Special Purpose Vehicle
TA	Total Assets
USD	US Dollar
VS	Versus
VWAP	Volume-Weighted Average Price
WC	Working Capital
YoY	Year on Year

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EXECUTIVE SUMMARY

- ❖ Commercial Banks play an important role in the intermediation process because of their overwhelming control over the entire financial assets of the economy and more so because of the underdeveloped capital market in our country.
- ❖ The advent of direct market financing techniques for large borrowers such as securitization and institutionalization has led to the disintermediation of financial institutions. Over the years, financial intermediaries (banks) have been sharing the pie in financial intermediation business to capital markets.
- ❖ It is important to have alternate sources of funding for the corporate sector, both to finance growth and de-risk the balance sheet of the banks as also to strengthen balance sheets of investors as well as issuers.
- ❖ Economic liberalization helped cross border free capital movement. As a result, good creditworthy borrowers are tapping cheap source of finance from domestic as well as from international markets.
- ❖ Total resources raised by the corporate sector have increased manifold as the Market Capitalisation of the Indian stock markets in proportion of the GDP were only 12.2% in 1990-91 and have grown to the level of 103.0% in 2007-08 before moderating to 75.5% of GDP in 2015-16 (BSE: 75.5%, NSE: 68.6%).
- ❖ The financial disintermediation process does not necessarily lead banks to lose their business. It opens many more opportunities for the existing players. The data on Indian financial system shows that though disintermediation process kick-started in 1980s, the impact of these newly developed institutions on bank credit is limited and the bank credit still dominates the financing market.
- ❖ With increasing need for formalization of the economy and privatization of its large public sector, it is essential that capital needs to be effectively intermediated to increase efficiency. With tight regulatory norms, balance sheet mismatch and rising bad debts, Indian banks may not prefer to happily lend to long term projects, mainly to infrastructure sector.
- ❖ The RBI considers it desirable that large corporate groups should gradually start tapping the corporate bonds and commercial paper markets for meeting at least a part of their

financing needs. It proposes to encourage large borrowers to raise a certain portion of their financing needs through the market mechanism.

- ❖ Total leverage ratio of the firms moderated in 2014-15 to 66.3% after recording a jump in the previous year. Larger corporate are having less leverage compared to smaller ones. Leverage of small firms having sales less than Rs.1 billion, witnessed continuous increase from 97.2% in 2012-13 to 128.3% in 2014-15. Large corporate (sales above Rs.10 billion) are having lower leverage ratio, below 60%.
- ❖ IMF's latest financial stability report (October 2016) shows that leverage ratio (ICR) of India's corporate sector appear to be a potent source of risk as the ratio has come down from 6.7 in 2010 to 3.7 at present level, just above to Brazil (2.8).
- ❖ In view of huge investment requirement for infrastructure sector, the presence of a well developed corporate bond market assumes significance in India as the dominated financial system is unlikely to fund such a high amount.
- ❖ Compared to other economies, the size of the Corporate Bond market in India is small, near to 17.8% of GDP, much lower than the countries like Korea, Malaysia, Singapore and Hong Kong. It is mainly dominated by Government bonds that accounts for over 65% of bond market capitalization and almost 35.0% of GDP.
- ❖ Private placements dominate Indian Corporate Bond market. The public issuances which were Rs.94.51 billion in 2010-11 had a significant rise to Rs.338 billion in 2015-16, a CAGR of 29.0%. At the same time private placements increased from Rs.2,188 billion in 2010-11 to Rs.4,581 billion in the year 2015-16, a CAGR of 16.0%.
- ❖ India's Corporate debt market is dominated by financial institutions. Banking and financial services accounted for 74% of all primary issues in FY15 whereas, non-financial corporate accounted only for 19% of all outstanding issuance.
- ❖ Net outstanding on Indian Corporate Bond market has grown considerably over the years from Rs.7.9 trillion in March 2010 to Rs.20.2 trillion by March 2016, a CAGR of 17.0% and is largely accessible to the top rated borrowers.
- ❖ The disintermediation process that started in later half of the nineties got pronounced till the sub-prime crisis. The capital market crash again weakened the disintermediation process and banks regained their lost position in credit disbursement.
- ❖ During the full studied period (2000-01 to 2014-15), a positive correlation between credit disintermediation index and banks' interest income and expenses is seen though not significant.

- ❖ Regression analysis conducted to test the hypothesis whether disintermediation has affected the profitability and performance of banks shows that the disintermediation has not impacted the banks' performance and profitability significantly.
- ❖ The dynamic and equilibrium relationship study between corporate health and external financing show that the increasing proportion of total borrowing out of enterprise value has a significantly negative impact on financial health of the firm.
- ❖ A higher equity financing out of total borrowing and a lower total borrowing out of its enterprise value can boost corporate financial health provided the firms achieve a significant net sales over their total asset, an ideal portion of long term asset financed by debt and firms reinvesting back a significant amount of its retained earnings.
- ❖ Excess current debt and more debt financing of long term asset would negatively impact corporate health and hence, more investment may not add value under such circumstances.
- ❖ It is observed that among external financing parameters, bank borrowing to total borrowing is negatively and significantly impacting the debt financing but positively impacting current liability. We may infer that financing current liability through bank borrowing may have positive impact on corporate balance sheet but financing long term asset through bank borrowing may not be a good idea. The study does not suggest to equity financing to monetize either current or non-current liability.
- ❖ We have seen that when corporate go for more and more institution borrowing, i.e. increasing debt financing, is expected to boost commercial banks' return on assets. But if corporate prefer more equity financing than debt, then banks profitability is negatively impacted.
- ❖ An excess of total corporate borrowing out of their enterprise value may have a negative impact on banks' profitability. Excess debt holding not only impacts corporate health, but also impacts bank's profitability negatively, and may make banking sector more vulnerable.
- ❖ The primary research survey result showed that corporate prefers equity over debt financing. Between banks and capital markets, respondents opined in support of equity to bank finance.
- ❖ When respondents were asked to vote between borrowings from banks over corporate bond market, majority voted in support of banks as development of Corporate Bond market is still at its nascent stage.

- ❖ The over-dependence of corporate on banks for their funding requirement might be caused by many factors including paucity of availability of other alternatives.
- ❖ Development of equity as well as bond market is referred as the best solution that would help the corporate to bypass the bank route for their financial requirements.

Recommendations

On the basis of the findings, the recommendations of the present study are;

- ❖ As the firm's financial health gets adversely affected by an increasing cost of borrowing, during economic slowdown, regulator may opt for an easy monetary targeting for non-financial sector of the economy so that the total cost of borrowings of those firms would not cross a minimum threshold limit.
- ❖ Secondly, the study finds a positive relationship between higher equity financing and financial health. Then the question arises, why firms are not leveraging this opportunity while India has a well regulated capital market. Some of the important questions in this regard to be addressed by the regulators are; (1) Are institutional financing are easily accessible than market based i.e. equity financing? (2) Are legal requirements for institutional financing is user friendly than market based financing? (3) Are Indian non-financial firms prefer to take a fairly certain calculated risk from institutional borrowing than an uncertain risk from market borrowing? (4) Is it an institutional issue or Indian firms are unwilling to migrate from conventional practices of borrowing to modern market based practices of equity financing? The policy makers need to look upon these issues to remove the bottlenecks in the system.
- ❖ The study finds that excess current debt and more debt financing of long term asset may push the firm into debt trap where additional investment may not add much value to the firm. In such circumstances, the study recommends the Managers to prioritize their working capital management and focus on debt ratio. Non-current liability should not be substantial to the value of total asset and firms should avoid debt financing for long term assets.
- ❖ The study also observes that the commercial banks' assets are highly correlated with firm specific parameters. The policy makers should facilitate corporate to approach capital market rather than banks' for long term asset creation. Moreover, corporate are advised to diversify their external financing from institutional borrowing to equity financing for

better financial health. Diversifying corporate borrowing from bank based to equity based will not adversely affect balance sheet of the domestic banking sector, rather an appropriate equity financing will improve the corporate health and will intern stimulate commercial banks' asset base indirectly. Furthermore the coefficient of corporate borrowing that is seen significant and negative while explaining total asset/liability of scheduled commercial banks is a very strong signal for policy makers to focus the policy attention on the above points.

- ❖ This further justifies that diversified financing of the corporate will solve the dual objective of better corporate and banks' health and better asset management. This would divert funding by banks to the other needy sectors.
- ❖ The study observed that the over-dependence of corporate on banks for their funding requirement is due to paucity of availability of other alternatives. Hence it is important to penetrate on the alternative borrowing/capital raising avenues.
- ❖ Development of equity as well as corporate bond market is seen as the best solution for corporate to bypass the bank route for their long term financial requirements. It is important to have alternate sources of funding for the corporate sector, both to finance growth and de-risk the balance sheet of the banks as also to strengthen balance sheets of investors as well as issuers.
- ❖ The financial disintermediation process does not necessarily lead banks to lose their business. It does open many more opportunities for the existing players. Hence banks and capital market are advised to work together in addressing the securitization and risk-sensitive bank capital requirement.
- ❖ Banks are better in credit appraisal and securitization. Hence, with securitization, banks certify borrowers' credit quality and capital market finances the borrowers which will reduce financial frictions. However, the development of the capital market lowers the cost of bank equity capital and thus enables banks to raise the extra capital needed to take on riskier loans that they would otherwise reject.
- ❖ In view of huge investment requirement for infrastructure sector, the presence of a well developed corporate bond market assumes significance in India as the dominated financial system is unlikely to fund such a high amount. Hence, it is advised for a robust corporate bond market in India as a substitute to bank financing.
- ❖ The leverage ratio for India's corporate sector is at an alarming stage. Appropriate policy needs to be implemented to reverse the trend and reduce the interest burden of corporate.

- ❖ As the development of capital market and other financing avenues are backed by large international companies, banks need to consolidate and act as universal financial institutions so that the pressure of competitions from the alternative channels can be negated/ neutralized. Banks need to bring innovative products to meet rising customer aspirations or needs, mainly by exploiting digital banking to help attract Gen-Y customers.
- ❖ As disintermediation process gets penetrate further, it would lead to loss of revenue from interest income segment for banks. Hence the banks can strategically penetrate more towards non-interest income business.
- ❖ A larger and developed capital market helps the banking system to improve in screening of borrowers, monitoring investments more efficiently, and signals risk elements through information. With gradual development of the capital market, banks may attain the same degree of protection against financial distress, and the same reputation-signaling effect, with lower capital-to-asset ratios than those operating in smaller systems. The regulator should consider both the sectors i.e., bank and capital market as complementary to each other not competitive. It should facilitate the development of both the sectors simultaneously and not one sector at the expense of the other. Together these can meet the financing requirement of the economy with their best effort.

CHAPTER I

Introduction, Motivation, Objectives and Scope of the Study

1.1 Introduction

The development strategies pursued in India since the Eighth Five Year Plan (1992-97) has emphasized the role of private investment in the growth process of the economy. To facilitate this process, financial sector reforms were initiated. This has resulted in about a shift in corporate financing with fresh issues of capital becoming an important source of funds, as against bank borrowing of the earlier periods.

Corporate investment is financed either by internal or external sources of funds. Internal sources include accumulated profits, paid-up capital, reserves and surplus, and provisions including depreciations. External sources of funds include, share capital and premium, long-term borrowings through bonds/debentures and banking channel, short term borrowings through bank borrowings, trade payables, other liabilities, capital raised through equity markets, corporate bond markets, external commercial borrowings, foreign direct investment, private equity etc. The external sources can again be classified as combination of debt and equity. The relative share of each source in total sources of funds reveals the importance attached to a particular source meeting corporate strategy and thus determines the financing pattern.

Subprime meltdown of 2008 and subsequent debt issue in Europe, followed by slowdown in both developing (lower middle income) and developed economies, have significantly altered the financing sources to Indian corporate. Today, though liquidity conditions and the capital market have recovered from multi year lows, anemic global demand and weak outlook have compelled corporate to struggle in obtaining funds.

1.2 Motivation and Scope of the Study

Corporate investment is seen as a significant source of economic growth over the past couple of decades. There has been tremendous growth in overall investment level in India,

from less than 25.0% of GDP in 2000 to over 35.0% by 2006 and has moderated to 32.0% in 2015. A significant part of this investment drive has come from the corporate sector. Given the linkage between investment levels and its impact on overall economic growth, corporate financing and investment are crucial components of India's future growth potential.

With increasing need for formalization of the economy and privatization of its large public sector, it is essential that capital needs to be effectively intermediated to increase efficiency. With tight regulatory norms, balance sheet mismatch and mounting bad debts, banks are not happily lending to long term projects, mainly to infrastructure sector. With Corporate Bonds playing a key role in intermediating debt capital efficiently between savers and businesses; India needs to have deeper markets with larger issuances and trading of Corporate Bonds. Large dependence of corporate on bank lending will remain a challenge to India's long term growth aspirations. With globalization and increased capital flows, bonds can be effective tools of leveraging external capital flows in the most efficient manner.

Banks and capital markets have been viewed as competing sources of financing (Jacklin and Bhattacharya 1988, Diamond 1997). This distinction suggests that one sector, either banks or the capital market, develops at the expense of the other. Banks and capital markets, rather than simply being competitors, are in fact complement to each other. Capital market development lowers the cost of bank equity capital, and enables banks to raise extra capital needed to take on loans that are riskier and would have been rejected. Banks have a comparative advantage in assessing credit quality, granting and renewing bank loans should provide positive signals to outside investors (Fama 1985), specially when the borrowing firms do not have an established reputation. For this interconnectedness and mutual dependency, efforts should be made to develop both the sectors side by side.

Bank-led financing of corporate has undergone a change post reforms of 1990s. The new and alternative available sources have been welcomed by corporate India. Most importantly, all these developments have prompted high net worth corporate to raise money from the market. Continuous effort by the regulators to promote alternate avenues and asset quality issue of banking sector has invited many research questions on the area. Though a lot of works has been done in patches, this has analyzed the financial disintermediation process in India and how the business cycle has impacted the corporate financing behavior. It has also studied the impact of corporate health on Banks' performance and profitability.

1.3 Objectives of the Study

The proposed research primarily aims to study the corporate financing pattern in Indian context. The study will examine the changing trend of financing pattern of Indian corporate during pre and post economic crisis. The funds mobilised by corporate India through equity and debt issuance is studied to capture the preferences of corporate at different time periods. Development of alternate financing sources of corporate and their determinants are also identified. Within this primary objective, the specific objectives of that study are as follows:

1. To study the financial disintermediation process and its impact on banks' performance and profitability
2. To study the dynamic and equilibrium relationship between corporate health and external financing
3. To study the dynamics of financial health on corporate balance sheet and its impact on banks' financing and Net Interest Margin.
4. To study the financing preferences of Indian corporate across business cycle. How/Why preferences for debts and equity financing have changed?

In view of the above, it is vital to revisit the corporate financing pattern in India and then emerging trend. This study tries to explain the present financing pattern for corporate and how the regulatory norms to develop alternate financing avenues have materialized, their impact on traditional channels and the possible future outcome. The rest of the report is organized as follows. Chapter 2 discusses about the development of the corporate financing pattern in India, followed by a brief overview of the development of alternate channels of finance and their success. Theoretical framework related to the study and the relevant literatures are reviewed in Chapter 3. Relevant literatures on Indian and international context are reviewed and the statistical techniques used in the study are explained in this chapter. Description of the data and their sources are discussed in Chapter 4. Chapter 5 provides details of empirical results. The primary survey results are also discussed in this chapter. Chapter 6 concludes the study with possible suggestions and further scope of the study.

CHAPTER II

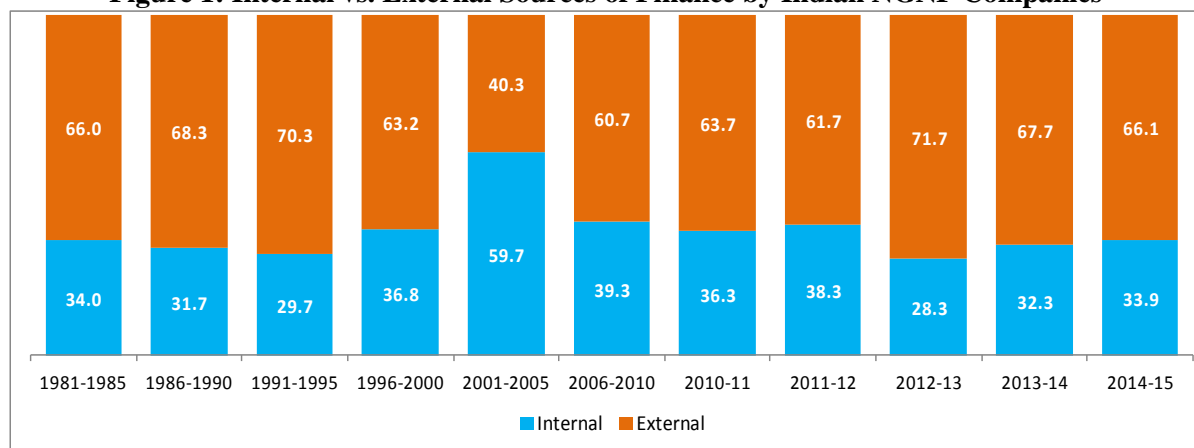
An Overview of Corporate Financing Pattern in India

2.1 Introduction

Reserve Bank of India (RBI) defines internal sources of funds as; paid-up capital, reserves and surplus, and provisions (including dividends). Nearly, 33.0% of corporate financing for public and private limited companies in India comes from internal sources. Even large firms in manufacturing and services sector get internal funding nearly 67.0% and 47.0%, respectively. However, the case is different for small and medium enterprises. These firms often do not have significant savings and hence internal sources average only 10.0% of total funds. Smaller firms face stronger credit constraints vis-à-vis their larger counterparts. Private corporate investment as percentage of GDP in India has increased from 4.2% in 1980s to 16.0% in 2014-15. Similarly, share of private corporate sector in gross domestic capital formation has increased from 19.1% in 1980s to nearly 42.0% in 2014-15.

June 2016 Financial Stability Report (RBI) has emphasized that “...bank credit is closed to a section of borrowers exhibiting a strong network effect in their resource/capital allocation decisions. As a result, lending to un-networked small borrowers seems much less preferred. [3.xxii].

Figure 1: Internal vs. External Sources of Finance by Indian NGNF Companies



Source: Reserve Bank of India; NGNF: Non-Government Non-Financial Public Limited

Banks led financing of corporate has undergone a change post reforms of 1990s. The new and alternative available sources have been welcomed by many corporate. Most importantly, all these developments have prompted high net worth corporate to raise money from the market. Though the pie is shared with many new alternative avenues of finance, but corporate still trust on the bank borrowings as the most important and dominant source of finance.

Using the broad classification of sources of funds into internal and external, and comparing their constituents' share in total sources of funds show that internal sources of funds contributed on an average comprise of one third of total sources of funds during 1980s and 1990s. Though, firms relied more on internal source of finance during 2000-01 to 2004-05, their reliance on external finance has been increasing since 2005-06. During 2008-09, external sources contributed more than two-thirds of total sources of funds. The latest number shows that the financing trend has remained more or less in the same order since 1980s. In 2014-15, internal sources funding was 33.9% compared to 66.1% by external sources. In more detail, the internal funding pattern has seen an increasing trend in reserves and surplus funding (8.5% in 1980-85 to 21.0% in 2014-15) and a decline in provisions (from 23.6% in 1981-85 to 7.7% in 2014-15). Paid-up capital ratio has remained almost stable.

Among external sources, the share of borrowing though has shared the pie with other alternatives, but still dominates external sources of funding with 29.6% of share in 2014-15, compared to 37.7% in 1980-85. The bank borrowings, that was contributing 12% of total funding in 1981-85 has also moderated to 9.9% in 2014-15. Most of the corporate prefer to raise long term capital as it constitutes nearly 26.0% of total borrowings and 39.0% of external borrowings. Long term borrowings from banks that was nearly 19.3% in 2013-14 has come down drastically to 12.0% in 2014-15. This was substituted by capital raising through bond market. The borrowings through bonds and debentures, has gone up from 2.3% of total capital funding (3.4% of external sources of funding) in 2013-14 to 8.9% (13.5% of external sources of funding) in 2014-15. This shows a gradual change in trend from bank borrowings to bonds resources.

Table 1: Average of Sources of Funds by Non-Government Non-Financial Public Limited Companies

(per cent of total)											
SOURCES OF FUNDS	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
<i>Number of Companies</i>	1,745	1,957	1,835	1,897	2,083	3,180	3,485	18,255	1,628	18,255	16,923
INTERNAL SOURCES	34.0	31.7	29.7	36.8	59.7	39.3	36.3	38.3	28.3	32.3	33.9
Paid-up capital	2.0	2.3	1.3	0.9	0.1	1.2	0.4	0.1	10.4	3.5	5.3
Reserves and Surplus	8.5	5.1	12.0	13.4	9.7	24.5	22.5	21.5	12.5	17.0	21.0
Provisions	23.6	24.3	16.4	22.5	49.9	13.7	13.4	16.7	5.3	11.8	7.7
EXTERNAL SOURCES	66.0	68.3	70.3	63.2	40.3	60.7	63.7	61.7	71.7	67.7	66.1
Paid-up capital	2.9	7.0	19.0	12.8	9.2	15.6	14.8	7.3	6.8*	16.5*	23.6*
Net issues	2.0	2.8	4.4	4.3	4.2	1.5	2.6	3.9			
Premium on shares	0.8	4.2	14.6	8.5	5.1	14.1	12.3	3.4			
Capital receipt	0.3	0.3	0.1	0.3	0.6	0.3	0.1	0.1			
Borrowings	37.7	37.8	32.9	35.1	10.6	27.3	25.2	25.8	42.6	40.2	29.6
<i>Debentures</i>	8.2	11.1	7.4	6.4	-1.0	1.5	2.7	2.3	4.6	2.3	8.9
<i>Loans and advances</i>	22.6	24.4	24.6	27.3	11.7	25.2	22.5	22.9			
<i>From Banks</i>	12.0	13.5	8.1	11.7	18.6	19.1	17.9	15.3	20.4 [@]	15.0 [@]	9.9 [@]
<i>From other financial institutions</i>	7.9	7.4	10.2	9.7	-3.0	-0.4	0.8	0.0			
From others	9.7	5.7	7.3	7.3	-4.0	7.1	3.7	8.2	14.9	3.7	6.4
Trade dues & other current liabilities	24.9	23.3	18.3	15.0	19.8	17.5	23.6	28.1	9.9	7.4	6.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

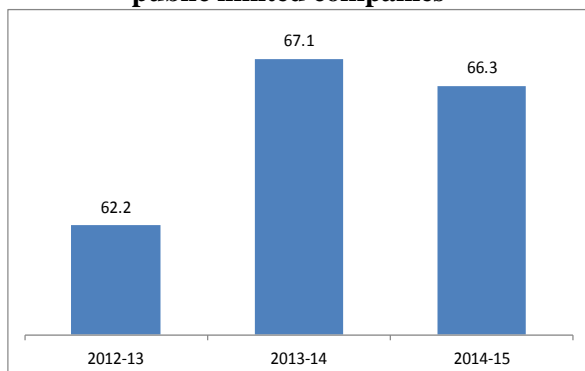
Source: Flow of Funds Accounts of the Indian Economy: 2014-15, Aug 10, 2016; *: Share Capital and Premium, @: Both long & Short term

The share of funds raised through external sources has declined during the last couple of years. Composition of liabilities of the select companies was characterised by continuous increase in the share of long term borrowings. Reserves and surplus also recorded improvement in their share in 2014-15 after witnessing a decline in previous year. Of the funds raised during 2014-15, there was preference for long term over short term borrowings. Short term borrowings witnessed sharp decline in their share in 2014-15 over previous year. This resulted in decline in share of funds raised through external sources. Among internal sources, share of provisions (including depreciation provision) declined whereas that of reserves and surplus improved on account of improved profits in 2014-15.

2.2 Leverage Ratio of Indian Corporate

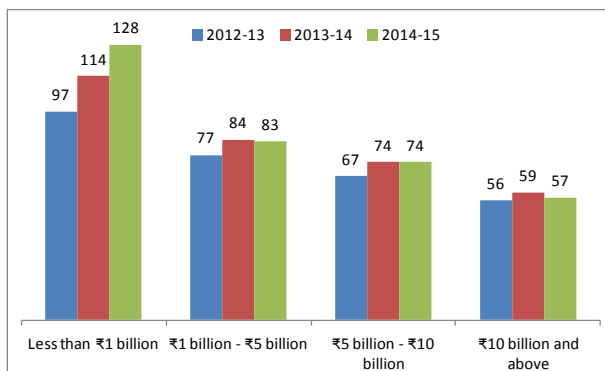
The flow of funds account of Indian economy published by RBI using the data of financial performance of select 16,923 Non-Government Non-Financial (NGNF) public limited companies for the financial year 2014-15 based on their audited annual accounts closed during April 2014 to March 2015, shows very interesting facts.

Figure 2: Leverage Ratio of selected NGNF public limited companies



Source: Reserve Bank of India

Figure 3: Leverage Ratio: by sales



Source: Reserve Bank of India

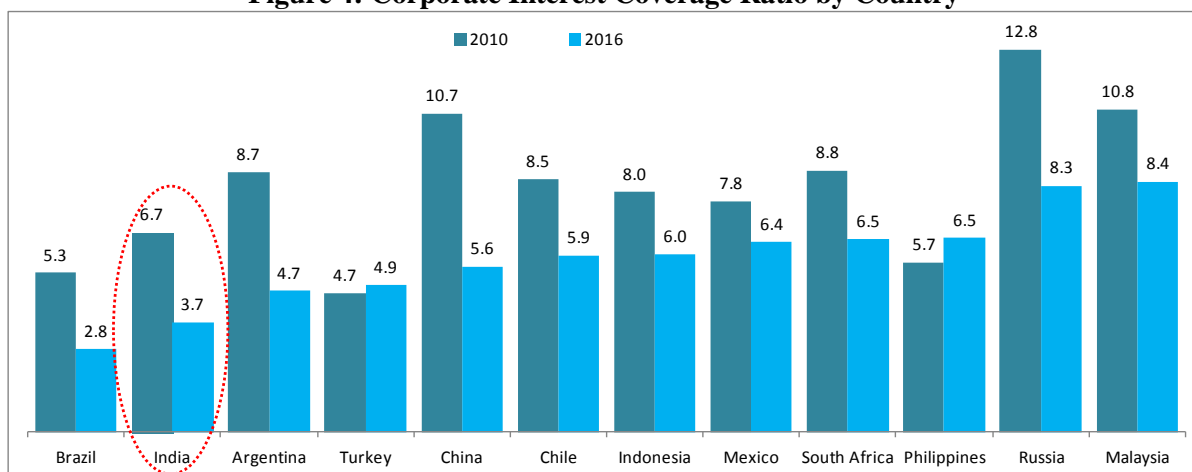
Leverage ratio, as measured by debt (long term borrowings) as a percentage of equity (net worth) recorded gradual increase during 2012-13 to 2014-15. Total borrowings to equity ratio of the companies declined in 2014-15 to 66.3% after recording a jump in the previous year (67.1%). Total borrowing to equity ratio for small companies having sales less than Rs.1 billion, witnessed continuous increase from 97.2% in 2012-13 to 128.3% in 2014-15. It is the large corporate who are having lower leverage ratio. Corporate having sales above Rs.10 billion have maintained their leverage rate below 60.0%. This statistics shows that larger corporate are less leverages compared to the smaller ones. Small corporate mostly believe in higher borrowing than internal financing. Additional data also highlights that leverage ratio of smaller firms reached 10-year high in 2014-15.

The net debt to equity ratio of non-financial BSE-500 companies moderated from a decade high in 2013-14 to about 57.0% in 2014-15. This was mainly due to conscious effort of corporate to deleverage. Additionally, the sluggish economic environment and weak equity markets have limited capital raising in the form of new equity which was limited to \$17.4 billion in 2011-12 and 2012-13 compared to more than \$40 billion raised in 2013-14. In 2014-15, equity raising were merely \$10.0 billion, almost half the amount raised in the

previous up-cycle. It was observed that many corporate indulged in selling their assets to slash the leverage.

The interest coverage ratio (ICR) is a measure of a company's ability to meet its interest payments. Interest coverage ratio is equal to earnings before interest and taxes (EBITDA) for a time period, divided by interest expenses for the same time period. The interest coverage ratio is a measure of, the number of times a company could make the interest payments on its debt with its EBITDA. It determines how easily a company can pay interest expenses on outstanding debt. Theoretically, the lower the interest coverage ratio, the higher the company's debt burden and the greater the possibility of bankruptcy or default is. A lower ICR means fewer earnings available to meet interest payments and that the business is more vulnerable to rise in interest rates. Excessive leverage poses balance sheet risk and makes interest servicing a difficult task.

Figure 4: Corporate Interest Coverage Ratio by Country



Source: International Monetary Fund, Global Financial Stability Report (GFSR), October 2016

IMF's latest financial stability report (October 2016) shows that leverage ratios in India's corporate sector appear to be a potent source of risk. As can be seen, the interest coverage ratio of India's corporate sector in 2016 stands at 3.7, just above to Brazil (2.8). Most importantly, the recent trend is very alarming for India as the ratio has come down from 6.7 in 2010 to 3.7 at present level. This is the second lowest amongst BRICS and emerging market peers. Other emerging peers perform much better than India.

Long term borrowings constituted around 70.0% of total borrowings of companies in 2014-15, with predominant share of bank borrowings (more than 50.0%). However, the share

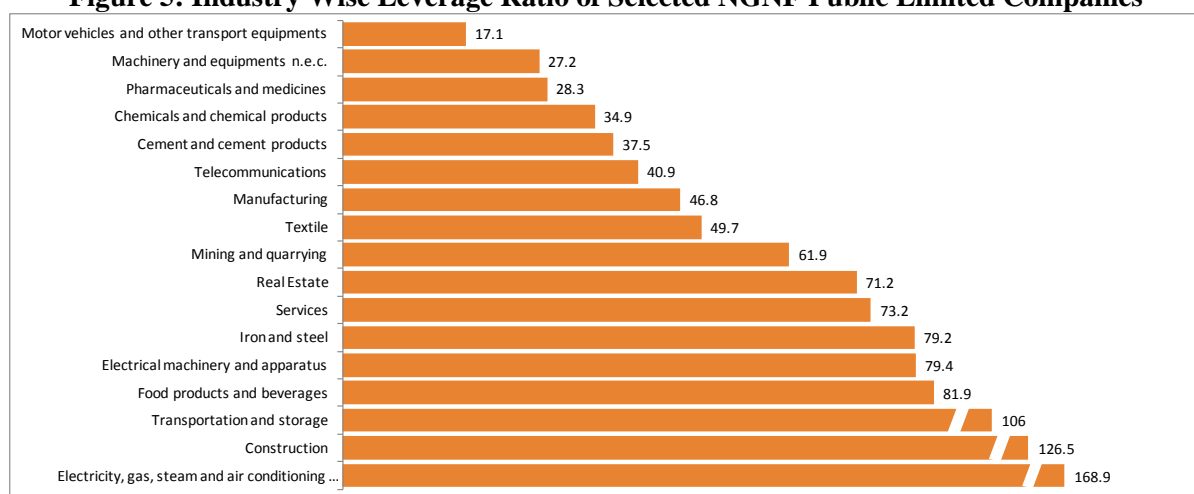
of bank borrowings declined over the years. Distribution of share of long term borrowings (debt) in total borrowings in different leverage classes revealed that companies with very high leverage ratio (more than 400%) had 55.0% of their total borrowings as bank borrowings. Loss making companies (companies with their net worth less than zero) had 33.2% of their total borrowings as bank borrowings.

Leverage Class (Per cent)	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
0- 100	60.4	58.4	61.9	56.1	51.4	49.2
100 - 200	84.3	78.7	76.3	63.2	58.8	55.9
200 - 300	83.9	85.3	87.1	60.0	61.7	64.5
300 - 400	89.4	91.5	91.0	60.1	57.9	59.0
Above 400	89.7	85.7	84.1	56.0	58.1	55.0
Net worth <0	71.0	61.2	55.4	43.9	34.6	33.2
Total	70.5	68.4	70.2	56.6	53.3	51.5

Source: Reserve Bank of India

At sectoral level, for Manufacturing sector and its major constituent industries (except for cement and cement products), total borrowings to equity ratio improved in 2014-15 as compared to 2013-14. Electricity sector was vulnerable in terms of high and increasing total borrowing to equity ratio during the study period. Total borrowings to equity ratio in the services sector deteriorated continuously. However, 9.1% companies had their leverage ratio more than 200% and interest coverage ratio less than one or negative net worth in 2014-15. Such companies had 21.8% share in total bank borrowings of select 16,923 companies.

Figure 5: Industry Wise Leverage Ratio of Selected NGNF Public Limited Companies



Source: Reserve Bank of India,
Finances of Non-Government Non-Financial Public Limited Companies: 2014-15

2.3 Capital Market Financing in India

The main components of Indian financial market are capital market (equity and debt), money market, G-sec market, derivatives market, and foreign exchange market. Since the beginning of reforms, the financial market has begun to respond in a favorable way. As part of the overall reform process, the agenda has included structural transformation of the capital market to bring it at par with their developed counterparts (Mohan, 2004).

To accelerate the process, Indian government and the Regulator have taken some important steps including market pricing of public issues, introduction of proportional allotment of shares, guidelines for corporate governance, revival of accounting standards at par with international norms, opening market for FIIs etc. There has been an increase in the share of retail investors from 25.0% to nearly 40.0% in share allotment process to investors through book building. In this process, various intermediary institutions have emerged and are in association with both the segments of capital market.

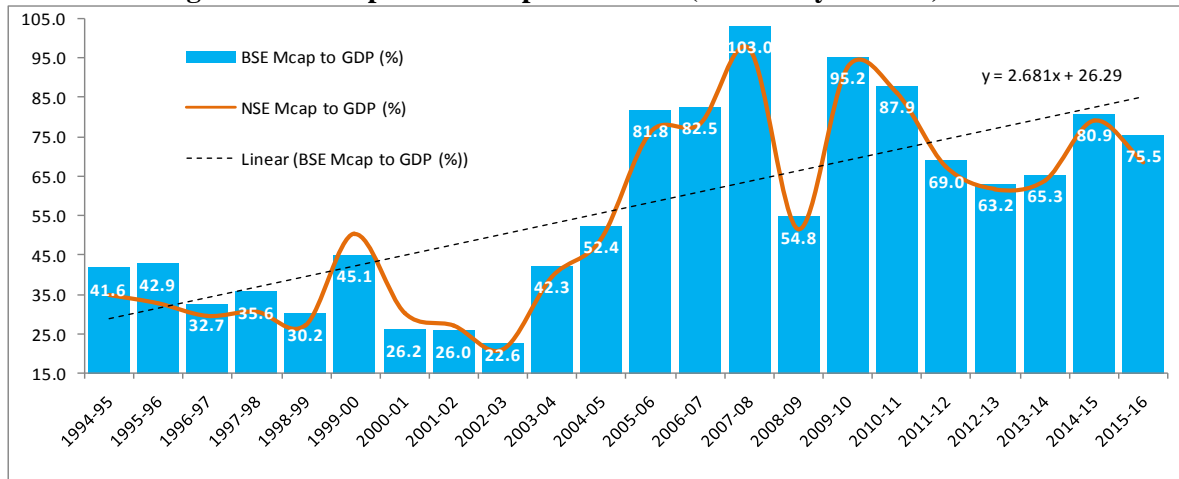
The passing of Depositories Act in 1996 followed by the establishment of Central Depository Services Limited (CDSL) and National Securities Depository Limited (NSDL) as depositories, marked the beginning for trading of dematerialized securities. This resulted in improved settlement with speed, accuracy and security. Another important feature is the shortening of the settlement period with the introduction of rolling settlement system. The settlement system that was started at T+5 basis since July 2001 has been brought down to T+3 system on April 2002 and to T+2 since April 2003. The Clearing Corporation of India Ltd. (CCIL) was set up in April, 2001 to provide guaranteed and smooth clearing and settlement functions for transactions in Money, G-Secs, Foreign Exchange and Derivative markets. The introduction of guaranteed clearing and settlement led to significant improvement in the market efficiency, transparency, liquidity and risk management/measurement practices in these market along with added benefits like reduced settlement and operational risk, savings on settlement costs, etc. Establishment of Clearing Houses and Trade and Settlement Guarantee Funds, along with mechanism for on-line margins and positions monitoring and implementation of risk management system, have improved the quality of trading in terms of safety, transparency and efficiency.

2.3.1 Secondary Equity Market Financing in India

Capital market development has made a commendable progress since the establishment of SEBI. In response to liberalization measures, the secondary market too has witnessed a period of continuous boom during 1991-92. The establishment of National Stock Exchange of India (NSE) marked the beginning of on-line screen based trading followed by other exchanges. Another important event was the demutualization of Bombay Stock Exchange (BSE) and its conversion into a limited company. Although, at present, there are 19¹ stock exchanges in India, NSE and BSE together account for around 99.0% of the total market turnover.

Total resources raised by the corporate sector have increased to Rs.4,426 billion by 2014 from the level of Rs.342 billion during 1995-96. The resources mobilized from the capital market have certainly increased since 1990s. Market capitalisation of the Indian stock markets in proportion of the Gross Domestic Product (GDP) were only 12.2% in 1990-91 and have grown to the level of 103.0% in 2007-08. Latest data shows that Market capitalization on the Indian stock markets as a proportion of GDP reached 75.5% in 2015-16 (BSE: 75.5%, NSE: 68.6%).

Figure 6: Development of Capital Market (Secondary Market) in India



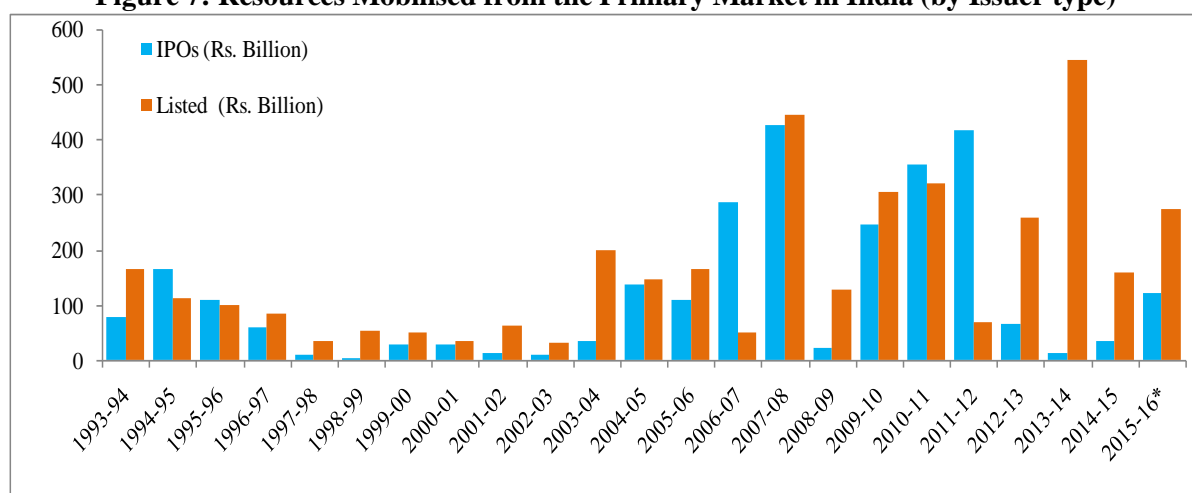
Source: Reserve Bank of India, SEBI Hand Book of Statistics, NSE

¹ Metropolitan Stock Exchange of India Ltd. Is valid up to 15-SEP-2016, The Hyderabad Securities and Enterprises Ltd (erstwhile Hyderabad Stock Exchange), Coimbatore Stock Exchange Ltd, Saurashtra Kutch Stock Exchange Ltd, Mangalore Stock Exchange, Inter-Connected Stock Exchange of India Ltd, Cochin Stock Exchange Ltd, Bangalore Stock Exchange Ltd, Ludhiana Stock exchange Ltd, Gauhati Stock Exchange Ltd, Bhubaneswar Stock Exchange Ltd, Jaipur Stock Exchange Ltd, OTC Exchange of India, Pune Stock Exchange Ltd, Madras Stock Exchange Ltd, U.P. Stock Exchange Ltd, Madhya Pradesh Stock Exchange Ltd and Vadodara Stock Exchange Ltd have been granted exit by SEBI vide orders dated January 25, 2013, April 3, 2013, April 5, 2013, March 3, 2014, December 08, 2014, December 23, 2014, December 26, 2014, December 30, 2014, January 27, 2015, February 09, 2015, March 23, 2015, March 31, 2015, April 13, 2015, May 14, 2015, June 09, 2015 and November 09, 2015 respectively

2.3.2 Primary Equity Market Financing in India

Total Capital raised through Initial Public Offerings (IPOs) reached Rs.415.2 billion in 2011-12 from Rs.78.6 billion in 1993-94. However, the global financial crisis coupled with slowdown in Indian economy did hit the capital market and as a result, the capital raised through IPOs sharply declined to the level of Rs.122.6 billion by December 2015. Similarly capital raised in the form of listing has also increased from Rs.165.1 billion in 1993-94 to Rs.544.2 billion in 2013-14, and moderated to Rs.274.0 billion in the first nine months of 2015-16.

Figure 7: Resources Mobilised from the Primary Market in India (by Issuer type)

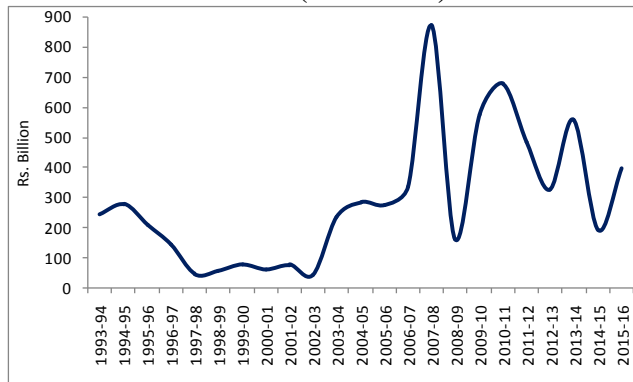


Source: SEBI Hand Book of Statistics; *, For 2015-16, data is from April 2015 to December 2015

Similarly corporate preference for funds raised through primary market (both public and rights issue) has also seen considerable growth over the years. Total resources raised from primary market have increased from Rs.243.7 billion to Rs.870.3 billion in 2007-08. However, onset of the sub-prime crisis in 2007-08 discouraged further expansion and latest number shows that for FY15-16 (by December 2015) an amount of Rs.396.5 billion was raised from primary market.

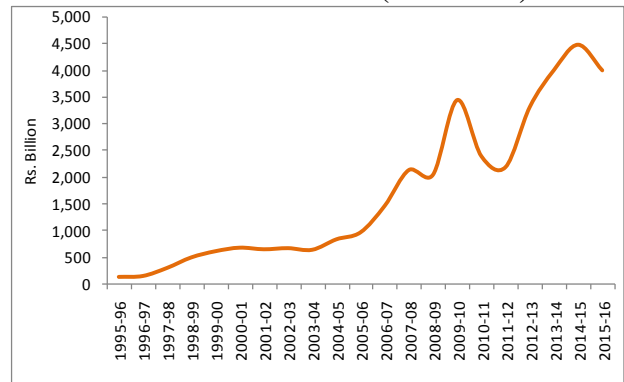
Another significant development in the Indian capital market is the emergence and growth of private placement of debts. Data shows that corporate prefer private placement more than the public issue as substantiated by a continuous rise in percent of amount raised through private placement. This is mainly due to ease of operation/servicing/administering, relaxed regulation/complications and lower cost of raising funds.

Figure 8: Resources Mobilized through Primary Market (Rs. Billion)



Source: SEBI

Figure 9: Resources Mobilized in Private Placement Market (Rs. Billion)



Source: Reserve Bank of India, SEBI

2.3.3 Corporate Bond Financing in India

One of the pre-requisite for a successful economy is a well developed corporate bond market that supports economic activity as it supplements the banking system and develops an alternative source of finance for long-term investment requirement of the corporate sector. Additionally, an active corporate bond market also helps in diversification of the risks in the financial system. It would also provide institutional investors such as insurance companies and provident and pension funds with quality long term financial assets, helping them in matching their assets and liabilities.

Corporate bond market is a stable source of finance compared to equity markets as the latter is volatile to a greater extent. Penetration into corporate bond market enables firms to tailor their asset and liability profiles to reduce the risk of maturity mismatch. Recent report by PwC-NAREDCO-APREA, titled 'Building the Economy Block by Block', highlights that nearly \$1 trillion is needed in the next five years to meet India's infrastructure & housing demand. The report has also highlighted that banks, private equity, NBFCs (Non-Banking Financial Corporations) and REITs (Real Estate Investment Trusts) are expected to be the major sources for financing infrastructure projects in the country.

Banks and Equity markets are the dominant sources of funds for business in India even as the corporate bond market has languished for decades now. Going forward, the stress in the banking sector along with increased capital requirements under Basel III may compel banks to tighten lending. Bond markets could then play pivotal role in supporting the diverse financing requirements of the growing Indian economy. Especially so for small and medium

enterprises and infrastructure projects, which carry higher risks or require longer-term financing that banks with their asset-liability constraints cannot provide. As the landscape for bank-intermediated financing transforms under regulatory reforms and technological advances, the need and opportunities for domestic corporate bond markets development are apparent.

In view of huge investment requirement for infrastructure sector, the presence of a well developed corporate bond market assumes significance in India as the dominated financial system is unlikely to fund such a high amount. Corporate bond market is likely to be more beneficial for business having longer term cash flows, where investors may be wary of risks associated with equity and long-term financing from banks may not be easily available [Report on High level committee on corporate bond and securitisation (2005)]

Corporate bond market development is still at a nascent stage in India. Though its existence can be traced back since independence, but the real development started in the decade of 1980s. The market is still far lagging behind and miniscule in comparison to the Government securities market and Western markets.

Indian Corporate Bond market has seen some growth in recent years, both in terms of number of issues and amount. The outstanding issues at end March 2016 reached to 22,374. The amount outstanding has recorded Rs.20.2 trillion by March 2016. The Indian corporate bond market is mainly dominated by fixed rate bonds, both in number and value and most of these issuances are by financial entities.

Table 3: Corporate Bond Issuances in India			
Year	Private placement (Rs. Crore)	Public Issue (Rs. Crore)	Private placement to Public Issue (number of times)
FY09	173,281	1,500	116
FY10	212,635	2,500	85
FY11	218,785	9,451	23
FY12	261,283	35,611	7
FY13	361,462	16,982	21
FY14	276,054	42,383	7
FY15	404,137	9,713	42
FY16	458,073	33,812	14
FY17 (Apr-Oct)	380,743	23,901	16

Source: SEBI

Many new and innovative instruments have since been introduced over a period time including partly convertible debentures, fully convertible debentures, deep discount bonds, zero coupon bonds, bonds with warrants, floating rate bonds and secured premium notes, with maturity period varying between one to ten years and coupon rates depending upon tenure and credit rating. Recently, the GoI has introduced ‘*Masala Bonds*’ by which Indian companies can borrow in Indian rupee from overseas markets.

The International Finance Corporation (IFC), the investment arm of the World Bank issued a Rs.1,000 crore bond (November 2015) to fund infrastructure projects in India. In the latest event (July 12, 2016), HDFC raised Rs.3,000 crore through the rupee denominated Masala Bonds with an annualized yield of 8.33% to the investors.

Compared to the equity market, the corporate bond market is relatively underdeveloped in India. Compared to other economies, the size of the bond market in India, however, remains moderate as a percentage of GDP and is mainly dominated by Government bonds that accounts for over 65.0% of bond market capitalization and almost 35.0% of GDP. The size of the Indian Corporate bond market is 17.8% of GDP, much lower than the countries like Korea, Malaysia, Singapore and Hong Kong (as on Mar’16). There are potential risks associated with this market, such as, insufficient liquidity, narrow investor base, refinancing risk, lack of better market facilities and standardization.

Recent measures by RBI, SEBI and GoI have resulted in increase in Corporate Bond issuance by nearly 155% from Rs.2709.46 billion in 2010-11 to Rs.4,789.62 billion in 2014-15. The number of issuances has increased by almost 77% from 4,280 in 2010-11 to 10,941 in 2014-15². Apart from these, there has been significant increase in the number of registered foreign institutional investors (FIIs) in India. The surge in investor interest has created large amounts of capital availability for the corporate sector. In the primary market, private-sector issuances have been outpacing issuances by the public sector for the past several years. A diverse array of companies from the entertainment to finance industries, are raising capital through the primary market.

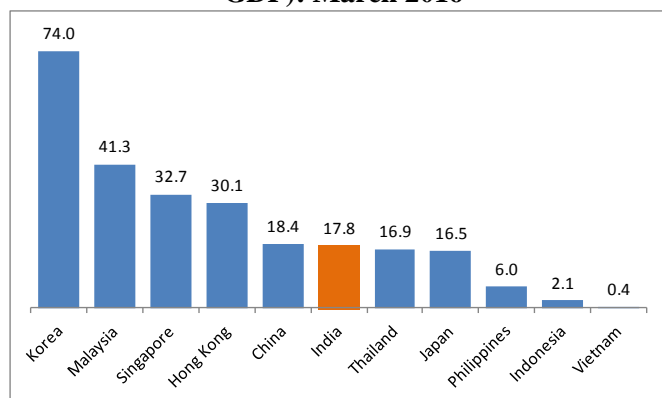
On 12 May, 2016, RBI has released a discussion paper on a proposed ‘*Framework for enhancing Credit Supply for Large Borrowers through the Market Mechanism*’. Through these guidelines, RBI is endeavoring to develop a deep and liquid Corporate bond market in

² https://rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=980

India with an objective that a well developed bond market provides additional avenues to corporate for raising funds in a cost effective manner and reduces reliance of corporate on bank finance.

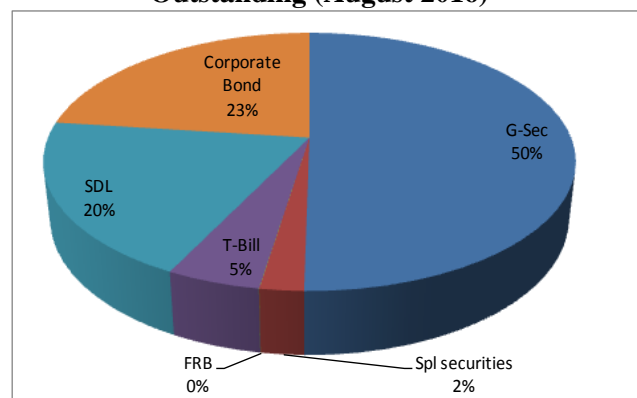
Private placements dominate Indian Corporate Bond market. Private placement remains the most-preferred route to raise funds due to ease of issuance, cost efficiency, administration and institutional demand in private placements. The public issuances which were Rs.94.51 billion in 2010-11 had a significant rise to Rs.338 billion in 2015-16, a CAGR of 29.0%. At the same time private placements increased from Rs.2,188 billion in 2010-11 to Rs.4,581 billion in the year 2015-16, a CAGR of 16%. The secondary market trading which was at Rs.6,053 billion in 2010-11, grew to Rs.10,224 billion in 2015-16, a CAGR of 11.0%.

Figure 10: Size of the Corporate Bond Market (as % GDP): March 2016



Source: Asia Bond Monitor

Figure 11: Share in India's Debt market Outstanding (August 2016)



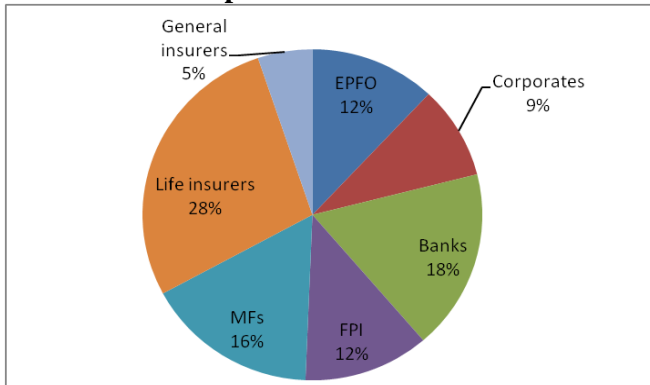
Source: Reserve Bank of India

The table manifests that the primary issuance of corporate bonds is dominated by private placements. More than 95% of total issues are privately placed. In 2015-16, private placement was almost 14 times higher than public issuances. As long as information about such issues and their life-cycle performance (particularly default history) is publicly available, investors should be able to take informed decisions. What is required here is a public database that is freely accessible. Effort of authorities has been towards building a trade repository of both primary and secondary activities.

Another significant character of India's corporate debt market is the dominance of financial institutions. Bulk of the issuance is in the so-called banking, financial services and

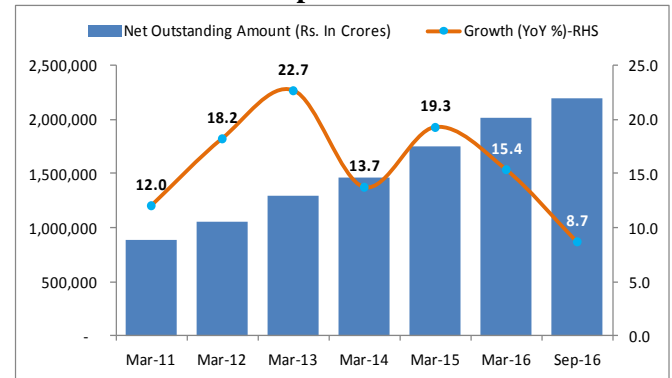
insurance sector. Banking and financial services accounted for 74.0% of all primary issues in 2014-15 whereas, non-financial corporate accounted only for 19.0% of all outstanding issuance. This points out that the access of non-financial corporate is limited to Indian corporate bond market, which needs to be addressed.

Figure 12: Institutional Investment in Indian Corporate Bond Market



Source: CRISIL, Yearbook On The Indian Debt Market 2015

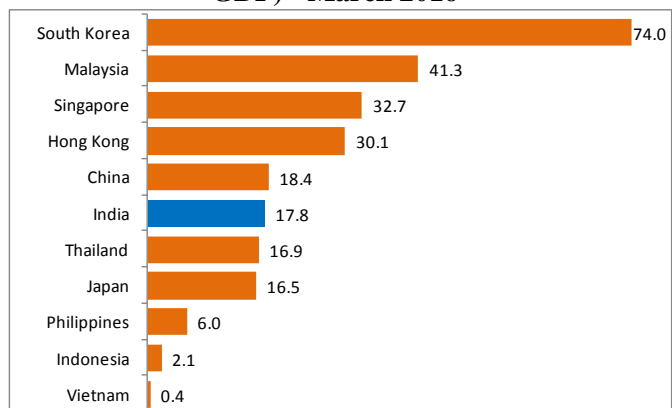
Figure 13: Net Outstanding Amount (Rs. In Crores) in Indian Corporate Bond Market



Source: SEBI

The size of the Indian Corporate Bond market as on March 2016 was 17.8% of GDP, much lower than the other peers including like Korea, Malaysia, Singapore and Hong Kong. However, the recent RBI's announcement to limit the lending to large borrowers is expected to push large borrowers to the bond market. Firms are expected to increasingly tap the corporate bond markets for their funding requirements and issuances of corporate bond could be expected to see a spurt. These steps in conjunction with the measures announced by the RBI for the development of the corporate bond markets would provide the much needed boost for the deepening and strengthening of the corporate bond market segment.

Figure 14: Size of Corporate Bond Market (% of GDP) - March 2016



Source: Asian Bonds Online, SEBI, RBI

The key institutional investors in the Indian corporate bond market are; mutual funds, banks, retirement funds, insurance companies and foreign portfolio investors, which are generally, governed by different regulators and policy frameworks. The limit imposed by the regulators to protect the investors is skewed towards government securities (G-Secs) and higher rated papers. Life Insurance Company holds the highest share followed by banks and mutual funds.

Net outstanding on Indian Corporate bond market has grown considerably over the years from Rs.7.9 trillion in March 2010 to Rs.20.2 trillion by March 2016, a CAGR of 17%. Indian corporate bond market is largely accessible to the top rated borrowers. Most of the corporate issuance in India is of top credit quality, with AA- or better accounting for about 80% of all issuance while BBB or worse accounted for only 14% in 2015-16 (CRISIL IDM 2015). However, efforts are required to facilitate the access of low credit borrowers to this market. Relaxing the investment guidelines of insurance and pension funds is required.

Table 4: Rating-wise Decomposition of Indian Corporate Bonds (Amount in Rs. Crore)

Ratings	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2015-16 (% of total)
AAA	132,075	189,447	226,311	189,396	280,348	185,840	54.0%
AA+	18,775	28,054	54,742	36,917	60,466	41,500	12.0%
AA	10,851	12,587	25,351	15,360	24,345	24,271	7.0%
AA-	13,856	6,237	16,946	9,404	26,707	24,286	7.0%
A+	8,178	2,167	3,735	5,880	12,637	9,620	3.0%
A	5,844	6,175	12,015	5,207	7,826	7,832	2.0%
A-	890	3,414	2,536	2,243	5,357	3,455	1.0%
BBB and Below	1,658	3,356	10,637	6,539	15,007	47,095	14.0%
Total	192,127	251,437	352,272	270,946	432,692	343,898	100%

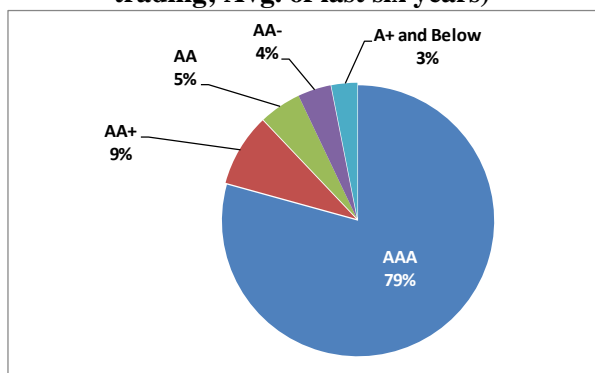
Source: SEBI, Prime Database, CRISIL Research; FY16 (Apr-Dec)

Indian secondary corporate bond market is thin which ultimately affects the transparency of the market as well as makes the process of price discovery suspect. Average daily trading volumes in secondary market have been increasing, from about Rs.5 billion in 2008-09 to about Rs.45 billion in 2014-15 (CRISIL IDM 2015), one tenth of the volumes in the G-sec market.

Several measures have been taken by GoI, RBI and SEBI to spur the growth of corporate debt market in India. The impact of such development measures is evident in the growing primary issuances and also the growth in the secondary market volumes. Measures

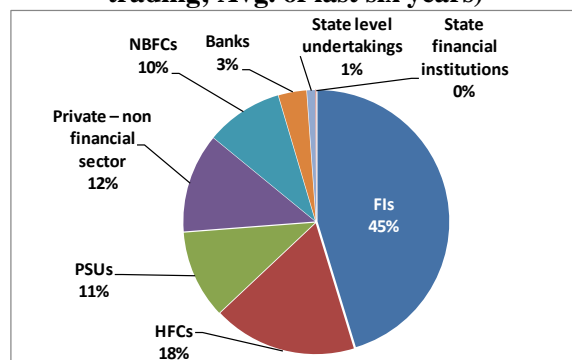
such as rationalising the listing norms, simplification in issuance procedures and processes, standardisation of market conventions, setting up of reporting platform, implementation of Delivery versus payment settlement of corporate bond trades, allowing banks to hold corporate bonds from the infrastructure sector on their balance sheet under the category of Held to Maturity (HTM) assets and issuing long term bonds without the requirement for maintaining reserves have had an encouraging impact on the market.

Figure 15: Rating-wise trading of Corporate Bonds in the secondary Market (% of total trading; Avg. of last six years)



Source: FIMMDA, NSE, BSE, CRISIL Research

Figure 16: Sector-wise trading of Corporate Bonds in the secondary Market (% of total trading; Avg. of last six years)



Source: FIMMDA, NSE, BSE, CRISIL Research

India has taken a calibrated approach to letting in foreign portfolio flows into her debt market. Over time, the FPI debt portfolio has been getting more stable with a steady inflow of long-term investors. Obviously, it would be preferable from the point of view of financial stability that the FPI investor base consists largely of this category of investors rather than speculative capital or arbitrage funds. The development of this market requires fundamental reforms in financial markets, public finance and regulatory governance, something not easy to achieve.

To attract sizable foreign funds into capital markets, RBI has allowed FPIs to invest in unlisted debt securities as well as in securitized debt instruments. The RBI directive follows the government announcement in the Union Budget 2016-17 to expand the scope of investment by foreign investors. As per the RBI directive, FPIs can invest in the primary issues of non-convertible debentures/bonds by a public company. Such investment would be permitted only if the issuing company does not use the borrowing proceeds for real estate activities, purchase of land, investing in capital market or on-lending to other entities. FPI

limits in government bonds are currently low at 4%, which is significantly lower than other peers.

Bottlenecks in Indian Corporate Bond Market

Some of the major bottlenecks in the development of the corporate bond market in India that is widely discussed time to time in different committee report and forums are listed as follows:

- Global experience says that the largest participants in the corporate bond market are insurance companies. Surprisingly, in India institutional investors like Insurance companies, pension funds and provident funds with having large assets under their management still have several constraints in the nature of investment mandates resulting in limited participation of such entities. They prefer gilt over corporate bonds as they have to provide safe and guaranteed returns.
- India's financial system has traditionally been a bank dominated system with corporate relying more on loan financing compared to bond financing. Weaning corporate away from banks has proved to be an uphill task.
- Unavailability of credit risk transfer mechanism in the corporate bond market also works as a deterrent for its growth. Though credit default swap (CDS) has been introduced in India for years, there is no activity in the market. One of the major constraints is restriction on netting of mark to market (MTM) position against the same counterparty for capital adequacy and exposure norms.
- The absence of robust bankruptcy laws is also reckoned as one of the major reasons for lack of investor interest in corporate bonds. However, the Insolvency and Bankruptcy Code, 2016 is expected to address some of the issues.
- Lack of centralised database which enables investors to get complete information about corporate debt market at one place.
- Lack of functional trading platform with Central Counter Party (CCP) facility.

Measures on Development of the Corporate Bond market in the Union Budget 2016-17

In the Union Budget 2016-17, a number of important measures have been announced for the development of the corporate bond market in India, and importantly, some of these are followed by directives from RBI recently. The budget measures are;

- RBI to issue guidelines to encourage large borrowers to access a certain portion of their financing needs through market mechanism instead of the banks, which have already been brought into force.
- Investment basket of foreign portfolio investors will be expanded to include unlisted debt securities and pass through securities issued by securitisation SPVs.
- LIC of India to set up a dedicated fund to provide credit enhancement to infrastructure projects. The fund will help in raising the credit rating of bonds floated by infrastructure companies and facilitate investment from long term investors.
- For developing an enabling eco-system for the private placement market in corporate bonds, an electronic auction platform will be introduced by SEBI for primary debt offer.
- A complete information repository for corporate bonds, covering both primary and secondary market segments will be developed jointly by RBI and SEBI.
- A framework for an electronic platform for repo market in corporate bonds will be developed by RBI.

Committees on Corporate Bond Market in India

A number of reports has been presented by the expert Committees on the development of corporate bond markets in India viz. Report of High Level Expert Committee on Corporate Bonds and Securitisation in 2005 (R. H. Patil Committee), Report of the High Powered Expert Committee on Making Mumbai an International Financial Centre in 2007 (Percy Mistry Committee), A Hundred Small Steps [Report of the Committee on Financial Sector Reforms (CFSR)] in 2009 (Dr. Raghuram Rajan Committee), Reports of the City of London, etc.

These Committees have examined in detail various aspects related to the development of corporate bond market and have made useful recommendations. Many of these recommendations have been implemented. Most recently, the Working Group on Development of Corporate Bond Market in India (H R Khan) submitted its report on August 2016.

H. R. Khan Committee recommendations

Given the importance of developing the corporate bond market in India, the committee has given its recommendation under 7 'I' framework (Issuers, Investors, Intermediaries,

Infrastructure, Instruments, Incentives and Innovations). Some of the recommendations are listed below.

- Enhancing credit supply for large borrowers through market mechanism- for exposure beyond a threshold.
- Allowing banks to provide partial credit enhancement (PCE) of 50% of the bond issue size subject to the PCE provided by any single bank not exceeding 20% of the bond issue size.
- Issuance of rupee denominated bonds overseas (Masala Bonds) by banks as AT1 and T2 capital.
- Permitting brokers in repo in corporate bonds.
- Allowing FPIs to trade directly in corporate bonds.
- Initiating the process of accepting corporate bonds under Liquidity Adjustment Facility (LAF) of RBI.
- Setting up of electronic book platform for issuance of privately placed bonds for size of Rs 500 crore and above.
- Setting up of centralized database of corporate bonds.

Challenges and way forward for development of Corporate bond market in India

Indian corporate bond market is stuck with many structural bottlenecks. Some of these are discussed below.

Market Infrastructure: It is desirable to have a highly efficient and safe market infrastructure for a prospering bond market in any economy. A solid infrastructure would make it easy for the investors to trade on bonds. Electronic platforms for trading need to be developed.

Issuer Diversity: Going by the statistics, more than 85% of the corporate bond issuance is undertaken by high rated issuers. For a successful credit enhancement mechanism, more and more retail investors' participation is a must. Retail investors could absorb the credit risk through wider dissipation.

Increasing the Depth: Indian corporate bond market depth is thin and justifies strengthening further. Most importantly, corporate find it difficult to raise fund from the international market by issuing bonds in domestic currency. Recent development of 'Masala

Bond' concept is a progressive effort and many corporate have successfully raised capital even in a troubled international market.

Managing and transferring risk: Managing risk is one of the important parameters where corporate bond market in India lags. Penetration of the corporate bond market would invite more and more borrowers with lower ratings to enter the market that will raise the default rate. Investors will have low confidence given probability of more defaults. To boost the confidence of investors to fund risky borrowers, risk hedging instruments including Credit Default Swaps needs to be introduced.

SDLs and Municipality bonds: With increase need of infrastructure in the country and fiscal consolidation road map of the Centre as well as State and municipalities, local governments including municipalities' need to explore additional sources of finance to fund infrastructure.

Apart from these measures some of the most important and urgent steps required are;

- To initiate measures in improving liquidity, such as, consolidation of particularly the privately placed bonds
- Suitable framework for market making in corporate bonds
- Introducing a suitable institutional mechanism for credit enhancement to enable SMEs and other
- Facilitating corporate with lower credit rating to access the corporate bond market
- Developing a smooth yield curve for the government securities market for efficient pricing of the corporate bonds
- Increase the scope of investment by provident/pension/gratuity funds and insurance companies in corporate bonds
- Developing the securitization market under the new regulatory framework
- Wider participation of retail investors in the market through stock exchanges and mutual funds

2.3.4 Financing through American/Global Depository Receipts (ADR/GDR)

Since 1992, Indian companies have been listing abroad through American Depository Receipts and Global Depository Receipts (ADRs and GDRs). Issuance reached a peak of \$6.6 billion in 2007 and moderated thereafter. Funds raised through ADR/GDR were \$1.3 billion

in 2015-16. Over the next few years, more companies may choose to raise funds via the ADR/GDR route as opposed to raising debt or equity in domestic markets. This route is likely to be more popular for firms that have overseas operations and thus, are able to manage currency risks more effectively than purely domestic companies.

Table 5: Foreign Investment Inflows to India (\$ Billion)

Year	Net FDI	Direct Investment to India	Net Portfolio Investment	GDRs/ ADRs	FII's	Foreign Investment Inflows	ECB
FY05	3.7	6.0	9.3	0.6	8.7	13.0	10.8
FY06	3.8	9.6	12.5	2.6	9.9	16.3	16.1
FY07	7.7	22.7	6.9	3.8	3.2	14.6	23.0
FY08	15.9	34.7	27.4	6.6	20.3	43.3	28.1
FY09	22.3	41.7	-14.0	1.2	-15.0	8.3	15.4
FY10	18.0	33.1	32.4	3.3	29.0	50.4	20.5
FY11	11.3	27.8	30.3	2.0	29.4	41.6	25.0
FY12	21.9	33.0	17.2	0.6	16.8	39.0	35.4
FY13	19.8	27.0	26.9	0.2	27.6	46.7	32.0
FY14	21.6	30.8	4.8	0.1	5.0	26.4	33.2
FY15	32.6	34.4	40.9	0.0	40.9	73.6	28.4
FY16	6.8	7.7	1.6	1.3	0.3	8.4	24.4

Source: Reserve Bank of India

For individual foreign investors, ADRs/GDRs are an easy and cost effective way to buy shares of an Indian company. Some of the other important aspects of these instruments include saving of considerable money and energy by trading in ADRs, as it reduces administrative costs and avoids foreign taxes on each transaction. Foreign investors prefer ADRs, because they get more exposure to Indian companies and it allows tapping Indian equity market. Corporate prefer raising funds through ADRs/GDRs as the shares represented by ADRs/GDRs are without voting rights. In case of ADRs/GDRs, the cost of borrowing is also very low compared to domestic market rate. One of the important aspect investors consider while investing in these instruments are foreign currency risk.

2.3.5 Borrowings through External Commercial Borrowings (ECB)

ECBs have been an important source of financing for Indian corporate (outside the capital markets) as companies can take advantage of prevailing lower interest rates abroad and often receive loans with longer maturities. Borrowings are undertaken either under the automatic or approval route. Borrowing through ECB route was \$24.4 billion in 2015-16

from 2004-05 level of \$10.8 billion. The growth has been fuelled not only by increasing investment needs and available foreign capital, but also by the gradual relaxation of regulations. Weighted average maturity for borrowings through ECB route has gone up from 4.11 year in 2004-05 to 6.2% in 2015-16. In 2015-16, the weighted average margin over 6-month LIBOR or reference rate for Floating Rate ECB Loans was 1.5%.

2.3.6 Borrowings through Foreign Direct and Institutional Investment (FDI/FII)

Foreign Direct Investment (FDI) in India has increased significantly in the past several years as regulations have been streamlined to suit corporate growth in India. FDI ceilings on various sectors have gradually been increased in various sectors over the past decade. Net FDI inflows to India have registered a growth from \$3.7 billion in 2004-05 to \$32.6 billion by end of 2014-15 and moderated to \$6.8 billion in 2015-16. A large number of investments are also getting routed through Mauritius given advantages of the Indo-Mauritian tax treaty. The services sector (both financial and non-financial), computer, real estate, and telecom sectors have traditionally received the highest amount of FDI in recent years.

India continues to be a preferred market for foreign investors. FII's net investments in Indian equities and debt have touched record highs of \$40.9 billion in 2014-15. This was backed by expectations of a steady economic recovery, easing interest rates and improving earnings outlook. However, the recent events such as US fed rate tapering, uncertainty in Europe and growing geo-political unrests have increased preference of safe haven and capital is flying back from emerging markets (including India) to Greenback. Thus a moderate net FII inflow of \$0.3 billion was seen in 2015-16.

2.3.7 Financing through Private Equity (PE)

A variety of international firms starting from global private equity players to investment banks and sovereign investment funds, have entered into the Indian private equity market in recent years. Thus, the market is often considered to be part of the FDI category. However, given the significant and growing number of domestic players, it can be important to look at PE as a distinct category. As the Government has renewed its commitment to infrastructure development, called for a greater number of public-private partnerships, and raised FDI caps, opportunity for PE has grown tremendously. Total PE deals have increased by 62% YoY to \$1.2 billion in February 2016 through 94 deals. PE investments during the

October-December 2015 period was \$3.9 billion, leading to total PE investments for 2015 to a record high of \$19.5 billion through 159 deals.

2.3.8 Financing through Financial Derivatives

Another development was the introduction of derivatives that took place in 1995 when Securities Contracts (Regulation) Act 1956 was amended to withdraw the prohibition on option trading. Subsequently, a committee was set up by SEBI under the chairmanship of Shri L. C Gupta to suggest appropriate regulatory guidelines for introduction of derivatives. The Committee suggested for introduction of exchange traded derivatives to be declared as securities so that framework for securities trading could also be made applicable for derivative trading purpose. This was followed by setting up of a sub-committee under Shri J. R Verma in 1998, who suggested for risk mitigating measures in derivative trading. It was only after the Report submitted by these two committees that SEBI allowed BSE and NSE to start with trading on index futures. BSE commenced trading on Index Futures from June 9, 2000 followed by NSE on June 12, 2000.

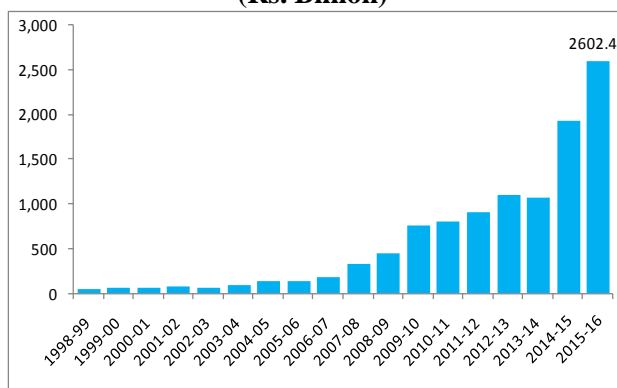
Now, there are a number of derivatives that are traded in the form of futures and options which are both index based as well as stock specific. Trading for these derivatives also takes place in Inter-Connected Stock Exchange (ICSE) in addition to BSE and NSE and to facilitate this, overall guidelines have been issued by SEBI. These guidelines have enabled the Exchanges to do overall supervision and guidance while SEBI has acted as a regulator of the last resort for the trading in derivatives market (SEBI, 2006). Trading mechanism of derivatives has been kept separate from that of cash segment with a clear modus operandi for clearing and settlement. A broker of cash segment cannot become a member of derivatives by automatic means.

2.3.9 Financing via Money Market Instruments

Money market is a composition of various sub-markets, such as, call/notice market, Treasury Bills market, repo market, Certificates of Deposit (CD) and Commercial Paper (CP) and commercial bill market. Since the initiation of reforms, there has been a concerted effort by RBI towards development of a money market with efficiency, liquidity and stability as a distinctive character. In order to widen, a deepen the money market RBI has taken several steps to create a favorable policy environment by way of appropriate institutional and instrumental development, technological enhancement.

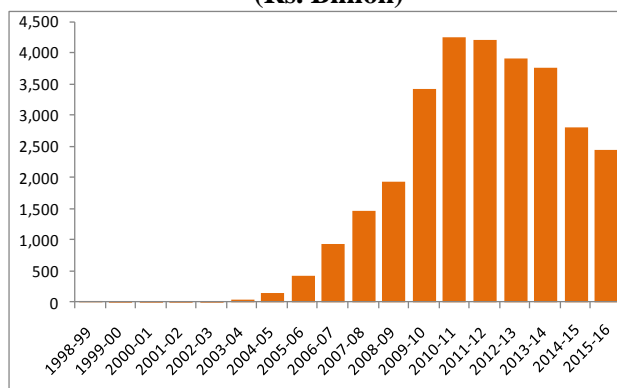
CP market is a constituent of the unsecured money market, in which corporate do their fund-raising for their operational obligations. Prior to the introduction of CP, Indian corporate had to negotiate hard for borrowing their working capital needs from commercial banks by pledging inventory as collateral security. The introduction of CP helped corporate to explore debt instruments and allowed them to access funds in the open market with certain conditionality.

Figure 17: Commercial Paper (CP) Outstanding (Rs. Billion)



Source: RBI & SEBI

Figure 18: Commercial Deposit (CD) Outstanding (Rs. Billion)



Source: SEBI & RBI

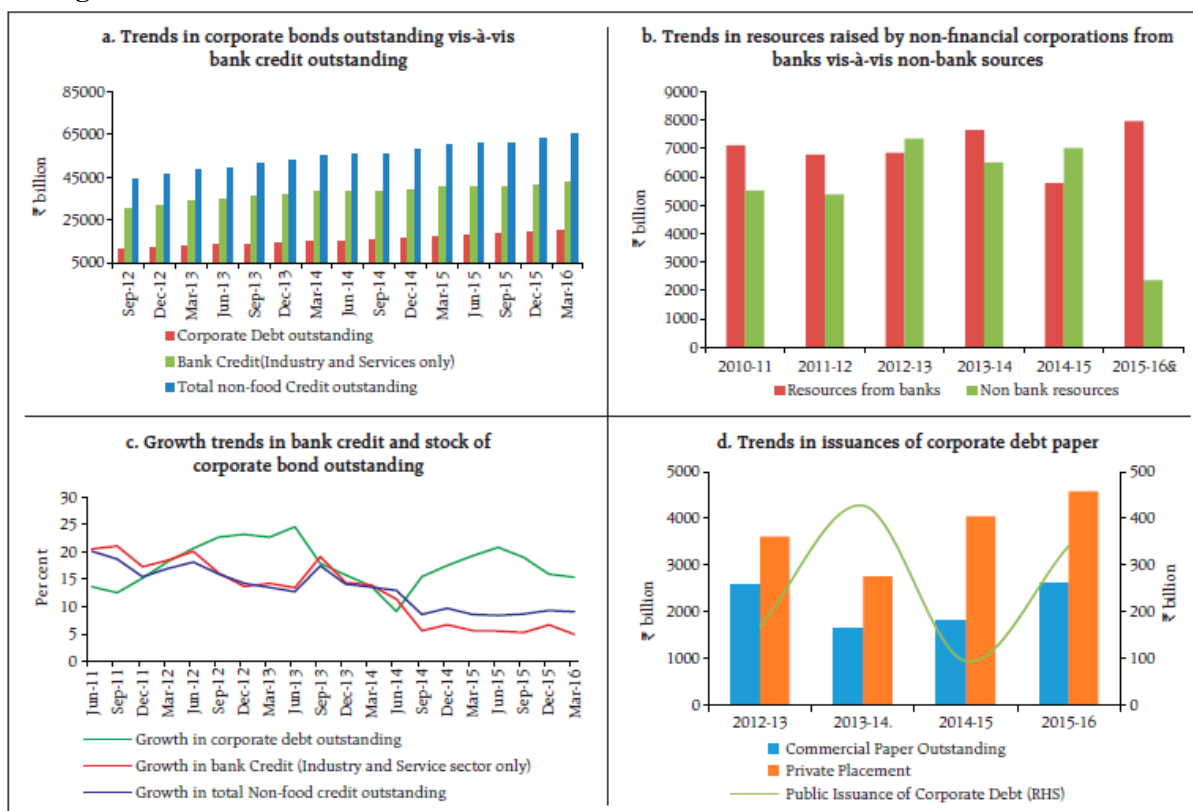
The outstanding in CP rose from Rs.47.7 billion in 1998-99 to Rs.441.7 billion in 2008-09. Following various relaxations in the terms and conditions for issue of CP, its issuances gathered momentum thereafter and reached Rs.2602.4 billion at the end of the year 2015-16.

With the increased market orientation of monetary policy along with greater global integration of domestic markets, RBI's emphasis has been on setting prudential limits on borrowing and lending in the call money market, encouraging migration towards the collateralized segments and developing derivative instruments for hedging market risks (Mohan, 2007). In this connection, steps have been taken over the period of time for development of each of the sub-sectors that could ultimately result in modification of existing instruments, introduction/innovation of new instruments as well as new measures that could add to depth and liquidity in market. New instruments such as repo and CBLO (collateralized borrowing and lending obligations) have increased their share in the annual average market turnover in comparison to the earlier existing instruments such as call money market whose share has rather declined.

2.3.10 Commercial Banks Dominate External Debt Financing

In India, bank credit forms a major part of external funding for corporate. In public limited companies, bank borrowings account for nearly 30% of external financing and 20% of total financing. In private limited companies, bank borrowings constitute 28.1% of external financing and 17.3% of total company financing.

Figure 19: Flow of Resources from Banks and Non-bank Sources to Commercial Sector



Source: RBI Financial Stability Report June 2016

Drying/scanty sources of other financing models are one of the reasons for heavy demand for bank finance in India. Regulatory hurdles, such as the high SLR and Priority sector lending requirement have constrained banks' lendable fund. Apart from the sluggish demand and lack of pricing power of corporate have lead to lower credit off-take in recent years. On the supply side, despite eased monetary policy, encouragement from policymakers, and liquidity injections from RBI, banks have been selective in lending. As they face profitability pressures and increased provisioning for non-performing loans, most banks made only moderate cuts to their lending rates.

2.4 Financial Disintermediation in India

The term, intermediation is defined in financial dictionary, anz.com as “*to have middle-man (intermediary) between borrowers and lenders, rather than borrowers and lenders dealing directly to each other*”. The role of the Commercial Banks in the intermediation process is very important because of their overwhelming control over the entire financial assets of the economy and more so because of the underdeveloped capital market in our country.

Financial intermediaries emerge in the saving-investment process to intermediate between the ultimate borrowers and ultimate lenders. The main objective was to mobilise resources from the individual savers for the purpose of onward deployment, for which they make two contracts: one with the lender and the other with the borrower. Among all the financial intermediaries operating in market, commercial banks are the oldest ones known and occupy a pivotal position in the entire economic system.

Disintermediation process would lead to a situation where there would be limited need for financial intermediaries. As a result of the existence of transaction and information costs, financial intermediation is unlikely to become redundant. Hence, disintermediation can more properly be defined as a loss in importance of traditional banking activities, such as, the collection of deposits from households for onward transmission to companies. In this scenario, the role of financial institutions shifts to the provision of financial services on a fee basis.

In our Indian economic system, like many other countries, other institutions including mutual funds, non-banking financial companies etc. also function in the same line alongside banks, albeit in a slightly different way in accepting deposits as well as different in investment pattern.

Bank disintermediation process in India started in 1980s with development of capital market as well as initiative from the Government towards tax concession policy and permission to Public sector undertakings to accept deposits. Introduction of new tax concession schemes by LIC and Small Saving Schemes by Postal Department also added to the process. All these led to reduction of banks share in household savings as well as in credit. With liberalization of Indian economy, capital is moving freely. Good creditworthy

borrowers are tapping cheap source of finance from domestic as well as from international market.

The role of financial institutions in the capital intermediation process has changed significantly during post liberalization period of 1991. In the past, funds were intermediated through banks and other savings institutions. The household as well as corporate savings were deposited in these institutions and subsequently transmitted to business and retail consumers. The advent of direct market financing for large borrowers techniques such as securitization and institutionalization of savings has led to the disintermediation of financial institutions. Over the years, global financial intermediaries including those in India have been sharing the pie in financial intermediation business to capital markets.

The developments also brought new dimensions in the process of financial intermediation – ‘vertical intermediation’ that involves money moving from savers to users of funds and ‘horizontal intermediation’ wherein market participants move funds amongst themselves.

Indian financial market experienced significant changes from 1980s onwards. With the introduction of new instruments of savings in market, there was a decline in the rate of bank savings. So it could be said that financial disintermediation was already in place from the first half of 1980s resulting to 33% decline in bank savings in 1981-82 from 53% in 1980-81 (Murthy, 1984).

Even if there is an effort to spread the overall risks away from the banks in a hitherto bank dominated financial system, one cannot undermine the role of banks, which do credit screening in a competitive market and that information becomes a vital input in the process of price discovery and risk management in capital markets. However, banks’ efforts in disseminating the information gathered through credit screening could be severely curtailed if active secondary markets are absent.

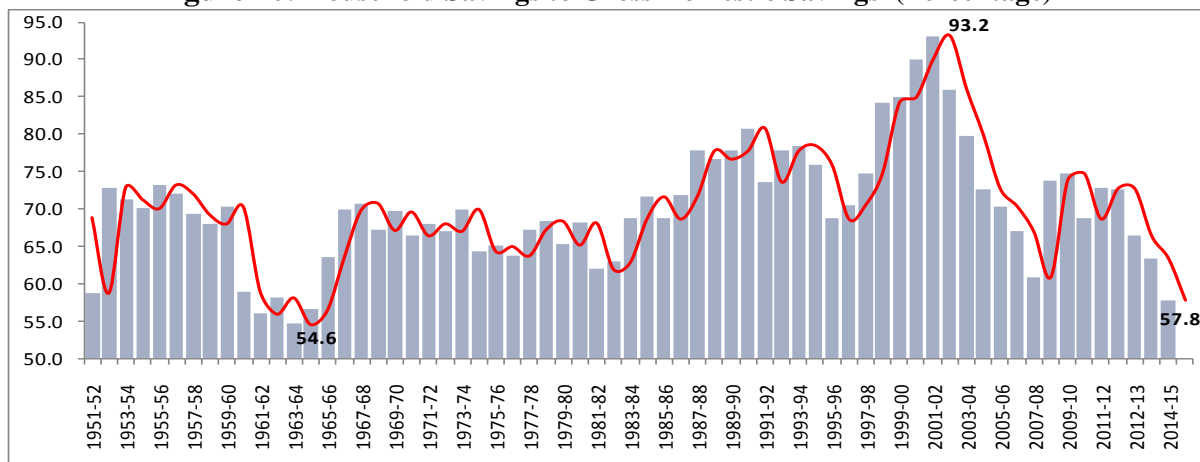
In Indian capital market, inadequacy of retail investor presence is felt. Retail investor interest in India’s capital market has been far short of potential. The survey of household saving and investment behavior conducted by the NCAER in 2011 found that households investing in bonds, debentures, equity instruments, mutual funds and derivatives totaled 24.5 million and constituted only 10.74% of all households in the country. The proportion of investor households was nearly 21% in urban areas and 6% in rural areas. Of

these investors, 43% showed a preference for mutual funds, 22% had interest in bonds and debentures, another 22% to the secondary market, 10% invested in IPOs and less than 4% in derivatives. To sum up, though a significant share of investor households were exposed to the secondary equity market, they amounted to only 2.4% of all households, with that figure falling to just above 1% in terms of exposure to IPOs(NCAER 2011). Retail investor presence appears smaller when assessed relative to population. A 2011 study from the Indian School of Business (De, Gondhi and Sarkar 2011) estimated that there were around 2.02 million retail investors in India, which was small relative to the Indian population (0.2%).

2.4.1 Change in Financial Savings and Investment Patterns of Households

Households in India are major contributors to national savings. According to the National Accounts series with 2011-12 as base the ratio of financial savings of households to Gross Domestic Savings reached its peak to 93.2% in 2001-02. Household savings then nosedived before the global financial crisis to 60.90% in 2007-08 and further moderated to 57.83% in 2014-15.

Figure 20: Household Savings to Gross Domestic Savings (Percentage)

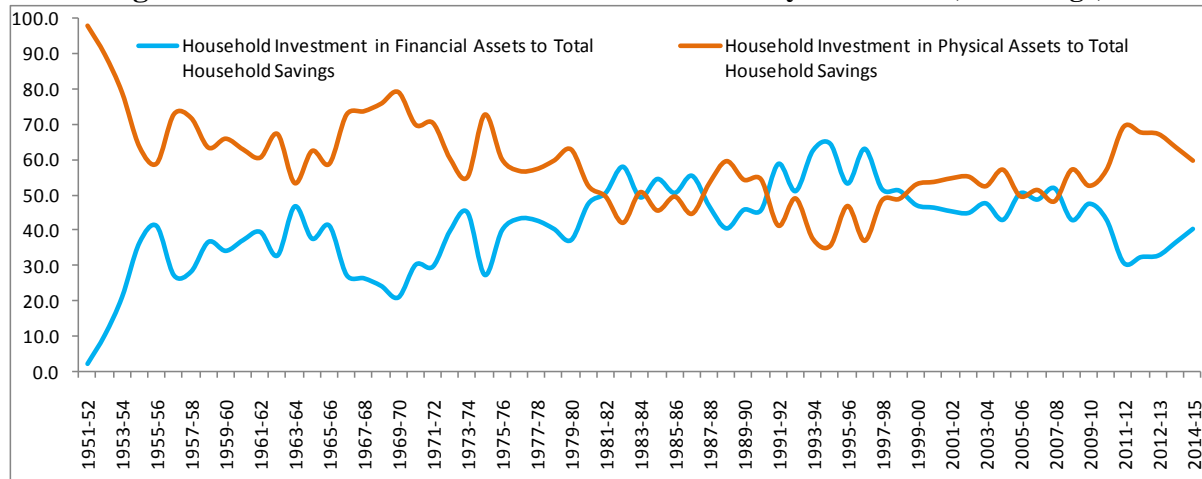


Source: Reserve Bank of India

The national accounts statistics compute households' savings as the sum total of household financial savings and the savings of households in physical assets. The share of household savings in financial and physical assets has always remained in support of the latter. Household savings in financial assets has increased from 2.2% in 1951-52 to 64.5% in 1994-95 and moderated to 40.4% in 2014-15. Household savings in physical assets was 97.8% of total savings in 1951-52, which came down to 48.1% in pre sub-prime crisis. The onset of meltdown and economic crisis again attracted higher share of household savings

towards physical assets and reached 69.2% in 2011-12 and moderated to 59.6% in March 2015.

Figure 21: Household Investment in Financial and Physical Assets (Percentage)



Source: Reserve Bank of India

Post economic reform, Indian corporate were given the option to raise funds from international capital market and allowed the overseas corporate bodies to invest directly in Indian corporate. This gives them an advantage to go for owned capital thus avoiding banks for loaned source. Even in domestic front, the growth of debt market as a source of finance is another factor that may affect Banks' own ability to lend to the companies especially the blue chip companies who will otherwise prefer to go for direct market financing if they can raise funds at a cheaper rate that may include instruments such as commercial papers for short-term funding purpose.

Both the deposit as well as credit portfolio of banks' are now getting shared with capital markets and other sophisticated investment options. Banks have now to compete with these new and innovative instruments and institutions as against the pre-reform period where they had to compete mostly among peer level. This, however, is likely to affect banks performance and profitability and ultimately may lead to further disintermediation. Hence a study is required to see the effect of these new institutions and instruments and specifically the impact of a growing capital market on banks' business.

CHAPTER III

Theoretical Framework & Literature Review

3.1 Introduction

Capital structure is generally defined as the combination of debt and equity capital that a firm uses to finance its long-term operations. The ideal capital structure is an everlasting discussion topic among academicians and industry experts. The optimum capital structure as defined by Ezra Solomon is “*Optimum leverage can be defined as that mix of debt and equity which will maximize the value of a company, i.e., the aggregate value of the claims and ownership interests represented on the credit side of the balance sheet.*”

In corporate finance, the ratio between debt and equity is named as leverage which needs to be optimized, as high leverage would bring a higher profit at an additional solvency risk. However, the important thing in capital structure policy involves a choice between risk taking capacity and expected return. The optimal capital structure strikes a balance between these risks and returns. Some of the important guiding principles of capital structure are discussed below.

3.2 Guiding Principles of Capital Structure

Cost principle: This principle is based upon cost minimization. The ideal pattern of capital structure is one that minimizes cost of financing and maximizes the earnings per share. Most importantly, the cost of capital is understood along with interest rate at which payments have to be made to suppliers of funds and component of tax. Debt capital is cheaper from this prospective.

Risk principle: This principle suggests that the source of finance that puts rigid burden on earnings is risky. Hence such a pattern should be devised so that the company does not run the risk of bringing on a receivership with all its difficulties and losses. Common stock

for financing capital requirements is preferred under risk principle and forbids as far as possible the use of fixed income bearing securities.

Control principle: While taking a call on appropriate capital structure of the firm, the important thing to keep in mind is that controlling position of residual owners remains undisturbed. The use of preferred stock and debts offers a means of raising capital without jeopardizing control. Issuance of equity dilutes control of existing shares and has adverse impact on earnings per share.

Flexibility principle: Under this approach, the capital structure is to be so designed as such that it allows management to use all sources whenever need for additional long term funds is felt. As the exhaust of any particular source leads to loss of bargaining power for the company and ultimately leads to raising funds at higher cost and adverse terms, hence the capital structure should be flexible.

Timing principle: Timing is always important in financing, particularly in a growing concern. Capital structure needs to be so designed as to allow management to exploit opportunities presented in dynamic capital markets. This would enable the company to seize the market opportunities and minimize cost of raising capital and obtain substantial savings. Timing is an important concept in market as with different phases of business cycles, demand of different types of securities oscillates. In times of boom when there is all-round business expansion and economic prosperity and investors have strong desire to invest, it is easier to sell equity shares. But during depression, bonds or other debt funding should be preferred.

3.3 Factors Influencing Capital Structure Decisions

Apart from these above discussed principles, a number of factors influence the capital structure decision of a firm. Those principles are not complementary to each other and hence the firm has to assign appropriate weightage to each of these principles to design prudent capital structure. These factors can be broadly categorized in to three segments, i.e., as per characteristics of the economy, characteristics of the industry and characteristics of the firm.

3.3.1 Characteristic of the Economy

Tempo of the business activity: During the recovery phase, when the economy is likely to recover and the level of activity is expected to expand, greater reliance is accorded to flexibility. Equity is preferred over debt in such situations.

State of capital market: Cost and availability of funds are determined by the capital market conditions. If the stock market is going to be plunged in bearish state and interest rates are expected to decline, the management may provide greater weightage to maneuverability factor in order to take advantage of cheaper debt later on.

Taxation: The taxation policy plays an important role in deciding the capital structure. In case of India the existing tax provision makes debt more advantageous than equity/stock.

State regulations: State plays an important role in decision regarding capitalization. Control of Capital Issues Act in India prefers 4:1 ratio between debt and equity and 3:1 between equity and preferred stock.

Policy of Term-Financing Institutions: The financial institutions involved in term lending business are important in this aspect. A relatively tight lending policy under restrictive terms offers management to abstain from borrowing from those institutions so as to preserve the company's flexibility in capital funds.

3.3.2 Characteristics of the Industry

Cyclical variations: Income elasticity is an important concept which affects sales and profitability of firms under different economic phases. There are industries whose products are subject to higher sensitivity to income of the mass, whereas some products have low income elasticity and their sales do not change in proportion to variation in national income. The management keeps these things in mind and attaches more significance to flexibility and risk principle in choosing suitable sources of funds. This is even more sensitive to an industry dealing in products whose sales fluctuate very markedly over a business cycle. This facilitates the firm to have a freedom either in expanding or contracting the resources used in accordance with business requirements.

Degree of competition: Degree of competition is important in deciding the source of finance as public utility concerns are generally free from intra industry competition. In such concerns, the management provides greater preference to cost principle. But in industry which faces neck to neck competition, risk principle is usually accorded more consideration.

Stage in life cycle: For a newly setup like infant industry, risk principle should be the sub-guide line in selecting sources of funds since in such industry the rate of failure is very

high. During the period of growth flexibility factor should be given special consideration so as to leave room open for easy and rapid expansion of funds used.

3.3.3 Characteristics of the Firm

Size of the business: Business size is an important determinant of source of capital as smaller companies find it hard in mobilising funds because of not having credit rating (poor credit worthiness). In such circumstances, flexibility principle needs to be given special attention to assure that as the company grows in size, it can easily access funds when needed under acceptable terms. This is why common stock represents major portion of the capital in smaller firms. Additionally, the control factor also invites special attention as larger concerns have to employ different types of securities to procure desired amount of funds at reasonable cost. To ensure availability of large funds for financing future expansion, concerns may insist on flexibility principle. On the contrary, in medium sized companies who are in a position to obtain the entire capital from a single source, leverage principle should be given greater consideration so as to minimize cost of capital.

Form of Business Organization: In private limited companies where ownership is closely held in a few hands, control principle is given more weightage. In case of public limited companies, control principle may not be that effective (usability of the capital looms large) as it is easier to acquire equity as well as debt capital. In proprietorship or partnership firms, control is an important consideration because it is concentrated in a few hands.

Stability of earnings: With greater stability in sales and earnings, a company can insist on leverage principle and accordingly it can undertake the fixed obligation debt with low risk. But a company with irregular earnings will not choose to burden itself with fixed charges. Such company should pay greater attention to risk principle.

Age of the firm: Younger companies find themselves in difficult situation to raise capital in the initial years. It is, therefore, worthwhile to give more weightage to flexibility principle so as to have as many alternatives open as possible in future to meet the growth requirement. Established companies insist on cost principle.

Asset structure of the firm: A company which have invested major portion of funds in long lived fixed assets and demand of whose products is assured, should pay greater

attention to leverage principle to take advantage of cheaper source of fund. But risk principle is more important for a firm whose assets are mostly receivables and inventory.

Credit standing: A company with high credit standing has greater ability to adjust sources of funds. In such a case, the management should pay greater attention to flexibility principle.

Attitude of management: Attitude of persons who are at the helm of affairs of a company need to be analyzed in depth while assigning weights to different factors affecting the pattern of capitalization. Where the management has strong desire for exclusive control, preference is given to borrowing in order to be assured of continued control. If the principal objective of the management is to stay in office, they insist more on risk principle. But members of the Board of Directors who have been in office for pretty long time feel relatively assured and they prefer to insist on cost principle.

3.4 Review of Capital Structure Theories

The capital structure of a firm as determined by its financing decision, affects its cost of capital. There are different viewpoints on the impact of the debt-equity mix on the shareholders' wealth. One set of thought strongly supports the argument that the financing decision has major impact on the shareholders' wealth, while the other group refutes it. Traditionalists argue that the firm can lower its cost of capital and increase the market value per share by the judicious use of leverage. On the other hand, Modigliani & Miller argue that in the absence of taxes and other market imperfections, the total value of the firm and its cost of capital are independent of capital structure. The capital structure decision of the firms is based on some of the important criteria. Most of these capital structure literatures deal with concern the following questions: How do firms finance their operations?, which factors influences these choices?, is it possible to increase the firm value just by changing the mix of securities issued? and is there an optimal debt-equity combination that maximizes the value of the firm? The set of theories explaining the relationship between capital structure, cost of capital and value of the firm are elaborated below.

3.4.1 Net Income Approach

David Durand (1963) has suggested that the capital structure decision is relevant to the valuation of the firm. His approach was based on the three assumptions i.e., there are no

taxes, the cost of debt is less than the cost of equity and the use of debt does not change the risk perception of the investors. Based on all the three assumptions, he argued that a change in the capital structure leads to a corresponding change in the overall cost of capital as well as the total value of the firm. If the ratio of debt to equity is increased, the weighted average cost of capital will decline, while the value of the firm as well as the market price of ordinary shares will increase. Conversely, a decrease in the leverage will cause an increase in cost of capital and a decline in the value of the firm as well as that of the market price of equity shares.

The argument is based on the logic that as the degree of leverage increases, the weighted average cost of capital tends to decline and this leads to an increase in the total value of the firm. Thus, the cost of debt being constant, the increased use of debt will magnify the shareholders' earnings and thereby the market value of the ordinary shares as well. The argument suggests that the firm can employ almost 100% debt to maximize its value.

3.4.2 Net Operating Income Approach

This approach suggests that there is nothing such as an optimum capital structure. Any capital structure is optimum for the firm. This approach is also advocated by David Durand but is diametrically opposite to the Net Income Approach. This approach believes that the market value of a firm depends on its net operating income and business risk. The change in the degree of leverage employed by a firm cannot change these underlying factors. It merely changes the distribution of income and risk between debt and equity without affecting the total income and risk which influence the market value of the firm.

It argues that the capital structure decision of the firm is irrelevant. Any alteration in leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of the leverage. This approach is based on the assumptions that: a) the overall cost of capital remains constant for all degrees of leverage, b) the value of equity is residual which is determined by deducting the total value of debt from the total value of the firm, c) the cost of equity increases with the degree of leverage as with the increase in the proportion of debt the financial risk of the shareholders will increase. To compensate for the increased risk, the shareholders expect a higher rate or return and finally, d) the cost of debt has two parts: explicit and implicit cost. The explicit cost is represented by the rate of interest. Irrespective of the degree of leverage

the firm is assumed to be able to borrow at a given rate of interest. This implies that the increasing proportion of debt in the financial structure does not affect the financial risk of the lenders and they do not penalize the firm by charging higher interest.

However, an increase in the degree of leverage causes an increase in the cost of equity. This increase in cost of equity being attributable to the increase in debt is implicit part of cost of debt. Thus the advantage associated with the use of debt supposed to be a cheaper source of funds in terms of the explicit cost is exactly neutralized by the implicit cost represented by the increase in cost of equity. As a result, the real cost of debt and the real cost of equity according to Net Operating Income are the same and equal to overall cost. It does not matter howsoever is the degree of leverage, the total value of the firm will remain constant. The market price of shares will also not change with the change in the leverage ratio.

3.4.3 Traditional Approach

The Traditional Approach is a mid-way approach between the Net Income and Net Operating Income approach. It partly contains features of both the approaches. The traditional approach accepts that the capital structure of the firm affects the cost of capital and its valuation. However, it does not subscribe to the Net Income approach that the value of the firm will necessarily increase with all degrees of leverages. Rather, it subscribes to the net operating income approach which says that beyond a certain degree of leverage, the overall cost of the capital increases resulting in decrease in the total value of the firm. Importantly, it differs from net operating income approach in the sense that the overall cost of capital will not remain constant for all the degree of leverages.

The essence of the traditional approach highlights that a firm uses an optimum leverage ratio through judicious use of debt-equity mix to increase its total value and thereby reduces its overall cost of capital. Summing up, a traditional approach highlights that up to a point, the content of debt in the capital structure will favourably affect the value of the firm and beyond that point the use of debt will adversely affect the value of the firm. At this level of debt-equity mix the capital structure will be optimum.

3.4.4 Modigliani-Miller Approach

The Modigliani-Miller (MM) theorem was proposed by Franco Modigliani and Merton Miller. This is treated as the basis for modern thinking on capital structure. The

theorem argues that in a perfect market, the value of a firm is irrelevant to how that firm is financed. The benchmark MM Irrelevance Propositions is the cornerstone of capital structure theory.

The theory assumed a perfect capital market where information is symmetrically available to all agents. There is absence of transaction and bankruptcy cost, and the securities are infinitely divisible. Managers act in the interest of shareholders and the firms can be grouped into equivalent risk classes on the basis of their business risk. Most importantly it argues that there is no tax.

Under the above set of assumptions Modigliani and Miller (1958) postulated three propositions. The first irrelevance proposition says that, a firm's total market value is independent of its capital structure. This proposition was more or less similar to that of the net operating income approach. They viewed the value of a firm as a function of expected operating income divided by the discount rate appropriate to its risk class, and proved that the average cost of capital within a given class is independent of the degree of leverage.

The proposition II held that a firm's cost of equity increases linearly with its debt-equity ratio. Financial leverage adds to expected earnings per share while the share price remains constant. This is due to the reason that the change in the expected earnings is offset by a corresponding change in the return expected by the shareholders.

Proposition III suggests that an investment financed by common stock is advantageous to the current stockholders if and only if its yield exceeds the capitalization rate. When a corporate income tax, under which interest is a deductible expense is considered, gain can accrue to stockholders from having debt in the capital structure, even when capital markets are perfect.

Modigliani and Miller (1963) took taxation under consideration and proposed that the firms should employ as much debt as possible. Companies have an advantage in using debt rather than using internal capital, as they can benefit from debt tax shields. This tax shield allows firms to pay lower tax than they should, when using debt capital instead of using only their own capital. The theory argues that the more debt is, the more a firm's value is created.

However, the theorem and its irrelevance propositions are valid only in case of a perfect market structure which is a rare phenomenon. Relaxing these assumptions, which is a

common phenomenon in the real world that is characterised by various imperfections such as existence of taxes, bankruptcy costs, agency costs, and informational asymmetries, MM theorem rarely holds. Post Modigliani and Miller's (MM) path-breaking article in 1958, whether an optimal capital structure exists, has been academically and intensively studied. Relaxing some of the assumptions of Modigliani and Miller's (MM) approach is discussed below.

3.4.5 Relaxing the Taxes and Capital Structure Condition

One of the most important imperfections is the presence of taxes. When taxes are very much applicable to corporate income, debt financing is advantageous. Modigliani and Miller (1963) in the work "Corporate Income Taxes and the Cost of Capital: A Correction" have made a correction to bring out the tax advantages of debt financing. The study argued that the value of a firm is a function of leverage and the tax rate. While dividends and retained earnings are not deductible for tax purposes, interest on debt is a tax-deductible expense. As a result, when debt capital is used, the total income available for both the shareholders and debt holders is greater than to others. The tax deductibility of corporate interest payments favors the use of debt.

However the existence of other taxes, personal taxes (Miller 1977) and non-debt tax shields (DeAngelo and Masulis 1980) makes the case different. Castanias (1983) cross-sectional test of capital structure irrelevance hypothesis and the tax shelter-bankruptcy cost hypotheses showed results inconsistent with the capital structure irrelevance hypothesis but consistent with the tax shelter-bankruptcy cost hypotheses. The results were consistent with the thesis that ex-ante default costs are large enough to induce the typical firm to hold an optimum mix of debt and equity.

Stulz (1990) argued that debt can have both a positive as well as negative effect on the value of the firm (even in the absence of corporate taxes and bankruptcy cost). Stulz (1990) argued that as managers have zero equity ownership in the firm, this might tempt them to often undertake negative present value projects. To solve this problem, shareholders may force firms to issue debt; however, if firms are forced to pay out funds, they may have to forgo positive present value projects. Therefore, the optimal debt structure is determined by balancing the optimal agency cost of debt and the agency cost of managerial discretion.

Not surprisingly, there are some controversial findings. Schnabel (1984) in the study titled, 'Bankruptcy, interest tax shields and 'optimal' capital structure: A cash flow formulation' showed that an optimal capital structure does not involve exclusive reliance on debt financing in contrast to the classic result of Modigliani and Miller. Berens and Cuny (1995) have revisited the capital structure puzzle in perspective of growth. Real growth distorts the debt ratio as a measure of tax shielding. They argued that firms typically issue debt characterized by fixed interest payments, even when they expect positive growth in earnings. To totally shield itself from corporate tax, a firm is not advised to set debt equal to firm value. Instead, it should set its current interest payments equal to current earnings.

The main benefit of debt is tax deductibility of interest and the costs are bankruptcy cost (Kim, 1978) and agency cost (Jesen and Meckling, 1976; Myers, 1977). MacKie-Mason (1990) studied the tax impact on the choice between debt and equity and concluded that changes in the marginal tax rate for any firm should affect financing decisions.

Booth et al (2001) use the average tax rate, arguing that it includes the impact of tax loss carry forwards and the use of the corporation as a conduit for income inflows. The average tax rate would affect financing decision.

3.4.6 Merton Miller Argument

Merton Miller argued that the original MM proposition, which says that financial leverage does not matter in a tax free world, is valid in a world where both corporate and personal taxes exist. The study argued that the changes in the capital structure have no effect on a firm's total valuation. This proposition is the same as Modigliani-Miller's original proposition in a world of no taxes, but it contrasts sharply with their 1959 corporate tax adjustment article, in which they found that debt had substantial advantage and companies will continue issuing debt till the tax rate for the marginal bondholders is the same as the corporate tax rate. Beyond this point, there is no tax advantage to companies from issuing debt.

Miller's equilibrium has the personal tax effect entirely offsetting the corporate tax advantage. Accordingly, his model implies that at the margin, the personal tax rate on debt income must equal to the corporate tax rate and in that scenario, changes in the proportion of debt in the capital structure do not change the total after-tax income to investor. As a result, capital structure decisions by the corporation would be irrelevant.

3.4.7 Trade-off Theory

This theory argues that a firm's capital structure decision involves a trade-off between the tax benefit of debt financing and the costs of financial distress. When firms adjust their capital structure, they tend to move towards a target debt ratio that is consistent with theories based on tradeoffs between the costs and benefits of debt. Management always evaluates the various costs and benefits of alternative leverage plans and strives to bring a trade-off between them and a solution is obtained to balance marginal costs and marginal benefits. It also said that firms are assumed to trade-off the tax benefits of debt with the bankruptcy costs of debt when making their decisions.

Trade-off theory allows the bankruptcy cost to exist. It states that there is an advantage to financing with debt (the tax benefit of debts) and that there is a cost of financing with debt (the bankruptcy costs of debt). The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and/or equity is used for financing.

3.4.8 Static Trade-off Theory

Static trade-off theory as suggested by Myers (1984), proposes that a firm is viewed as setting a target debt to value ratio and gradually moving towards it. It suggests that every firm has an optimal debt–equity ratio that maximizes its value. The theory also affirms that firms have optimal capital structures, which they determine by trading off the costs against the benefits of the use of debt and equity. The benefits from debt tax shield are thus adjusted against cost of financial distress. It also argued that, agency cost, informational asymmetry and transaction cost are some of the other costs to be mitigated.

The theory predicts that an optimal target financial debt ratio exists, which maximizes the value of the firm. The optimal point can be attained when the marginal value of the benefits associated with debt issues exactly offsets the increase in the present value of the costs associated with issuing more debt (Myers, 2001). Transaction costs play an important role in a firm's capital structure decision. Transaction costs associated with obtaining new external financing are higher than the costs of obtaining internal financing. Internal funds do not bear any transaction costs. Studies are consistent with the pecking order theory (Gaud et al., 2005; Mazur, 2007).

3.4.9 Dynamic Trade-off Theory

In identifying the optimal capital structure of a firm, the role of time is very crucial. In a dynamic model, the correct financing decision typically depends on the financing margin that the firm anticipates in the next period. Some firms expect to pay out funds in the next period, while others expect to raise funds. Stiglitz (1972) took the drastic step of assuming away uncertainty. The first dynamic models to consider the tax savings versus bankruptcy cost trade-off are Kane, Marcus, and MacDonald (1984) and Brennan and Schwartz (1984). Their models took into consideration of the following factors; uncertainty, taxes, and bankruptcy costs, but no transaction costs. These firms maintain high levels of debt to take advantage of the tax savings and to adjust to shocks without any cost as there is no transaction cost. The theory suggests that if the firms optimally finance only periodically because of transaction costs, then the debt ratios of most firms will deviate from the optimum, most of the time. The theory also highlights that if the firm's leverage reacts less to short-run equity fluctuations and more to long-run value changes.

3.4.10 Pecking Order Theory

Donaldson (1961) and Myers (1984) have viewed that management follows a preference ordering when it comes to financing. The argument says that the costs of issuing risky debt or equity overwhelm the forces that determine optimal leverage in the trade-off model and hence resulting into preference for pecking order. The trade-off theory fails to predict the wide degree of cross-sectional and time variation of observed debt ratios. The pecking order theory is mainly a behavioural explanation of financing pattern of certain companies. It is consistent with some rationale arguments, such as asymmetric information and signalling, as well as with flotation costs. Moreover, it is consistent with the observation that the most profitable companies within an industry tend to have the least amount of leverage.

The pecking order theory is popularized by Myers (1984) which argues that equity is a less preferred means to raise capital because when managers (who are assumed to know better about true condition of the firm than investors) issue new equity, investors believe that managers think that the firm is overvalued and managers are taking advantage of this overvaluation. As a result, investors will place a lower value to the new equity issuance.

The pecking order theory rightly explains why the bulk of external financing comes from debt, and why more profitable firms borrow less not just because of their low target debt ratio. The order of financing is seen as follows; a) firms prefer internal finance, b) if external finance is required, firms issue the safest security first. They start with debt, then possible hybrid securities such as convertible bonds, then perhaps equity as a last resort. This theory argues that profitable firms prefer internal funds and when external funds are required, the firm will borrow. Financing through equity issuing is the least preferred option. The pecking order theory assumes that there is no target capital structure.

This theory suggests that firms avoid external financing while they have internal financing available and avoid new equity financing while they can engage in new debt financing at reasonably lower interest rate. This theory is based on the assertion that the managers have more information about their firms than the investors. This disparity of information is referred to as asymmetric information. Other things being equal, because of asymmetric information, managers will issue debt when they are positive about their firms' future prospects and will issue equity when they are unsure.

The determination of capital structure in practice involves considerations in addition to the concerns about earning per share, value and cash flow. A firm may have enough debt servicing ability but it may not have assets to offer as collateral. Attitudes of firms with regard to financing decisions may also be quite often influenced by their desire of not losing control, maintaining operating flexibility and have convenient timing and cheaper means of raising of funds.

3.4.11 Signalling Theory

Noting the inconsistency between trade-off theory and the observed pecking order of financing, Myers and Majluf (1984) proposed a new theory, called the signalling, or asymmetric information theory of capital structure. The study highlighted that with asymmetric information, equity issues are rationally interpreted on average as bad news, since the managers are motivated to make issues when the stock is overpriced. This theory argues that if firms issue no new security but only use its retained earnings to support the investment opportunities, the information asymmetric can be resolved. That implies that issuing equity becomes more expensive as asymmetric information insiders and outsiders increase. Firms whose information asymmetry is large should issue debt to avoid selling under-priced securities. The capital structure decreasing events such as new stock offering

leads to a firm's stock price decline. An announcement of increasing capital structure events is received by the market as good news because financial intermediaries like investment bank can become insiders to monitor the firm's performance.

3.4.12 Market Timing Theory

Baker and Wurgler (2002) have suggested a new theory of capital structure, the "Market Timing Theory". This theory states that the current capital structure is the cumulative outcome of past attempts to time the equity market. Market timing implies that the firms issue new shares when they perceive they are overvalued and that the firms repurchase their own shares when they consider these to be undervalued. As a consequence, current capital structure is strongly related to historical market values. The results suggest the theory that capital structure is the cumulative outcome of past attempts to time the equity market.

3.4.13 Free Cash Flow Theory

Myers (2001) argued that high debt levels will increase value, despite the threat of financial distress, when a firm's operating cash flow significantly exceeds its profitable investment opportunities. Thus, the profit earning capacity increases the value of the firm despite the threat of financial distress. Firms with a negative free cash flow increase their debt ratio to respond to the lack of internal funds. The percentage adjustment is smaller for firms with relatively more debt than for firms with relatively low debt. This theory mainly talks about the matured firms those are prone to over invest. Firms with a positive free cash flow use this cash flow to lower their debt ratio.

3.4.14 Bankruptcy Cost

This is one of the important imperfections affecting capital structure decision of a firm. When a firm is unable to meet its obligations, it results in financial distress that can lead to bankruptcy because a major contributor to financial distress is debt. The greater the level of debt, the larger the debt servicing burden associated with it and, the higher the probability of financial distress. If there is a possibility of bankruptcy, and if administrative and other costs associated with bankruptcy are significant, the leveraged firm may be less attractive to investors than that of the unleveraged one. As a result, the investors are more likely to penalize the price of the stock as leverage increases. This leads to rise in expected bankruptcy

cost and a decline in profit. Hence this pushes less profitable firms toward lower leverage targets.

Similarly, expected bankruptcy cost is higher for firms with more volatile earnings that drive smaller, less-diversified firms towards fewer targets leverage. Baxter (1967) used the concept of bankruptcy costs to argue for the existence of an optimal capital structure. Expected bankruptcy cost depends on the cost of bankruptcy (legal fees, loss of sales, employees and suppliers) and the probability of occurrence. Increased debt financing will increase the probability of bankruptcy and will in turn increase expected bankruptcy costs. The optimal debt ratio is reached when the marginal tax savings from debt financing is equal to the marginal loss from expected bankruptcy costs. Bankruptcy cost is a cost directly incurred when the perceived probability that the firm will default on financing is greater than zero. One of the bankruptcy costs is liquidation cost, which represents the loss of value as a result of liquidating the net assets of the firm. Another bankruptcy cost is distress cost, which is the cost, a firm incurs if stakeholders believe that the firm will discontinue.

3.4.15 Agency Cost

The concept of agency cost was put forward by Jensen and Meckling (1976). It argues that there is an agency relationship between the shareholders and creditors of firms that have substantial amounts of debt, where the shareholders have little incentive to limit losses in the event of a bankruptcy. Agency theory says that the interests of managers and shareholders may conflict and managers may make major financial policy decisions on capital structure which is sub-optimal from the shareholders' point of view. Usually, the managers are interested in accomplishing their own targets which may differ from the firm value. The owners may try to monitor and control the managers' behaviours. These monitoring and control actions results in agency costs of equity. When a lender provides money to a firm, the interest rate is based on the risk of the firm. The manager may tempt to transfer value from creditors to shareholders. These monitoring and control actions results in agency cost of debt.

Mehran (1992) viewed that compensation contracts, managerial equity investment, and monitoring by the board of directors and major shareholders can reduce conflicts of interest between the managers and the shareholders. The study also suggested that capital structure models that ignore agency costs are incomplete. However, long back, Jensen and Meckling (1976) argued that debt financing limits free cash flow available to the managers and thereby helps to control agency problem.

Myers (1977) put forth another type of agency cost of debt which arises from the underinvestment problem. When a firm has debt which matures after an investment option expires, shareholders save the incentive to reject projects that have positive net present values because the benefits from accepting the projects accrues to the bondholders without increasing the shareholders' wealth. The issuance of debt, therefore, leads to suboptimal investment for the firm, requiring this type of agency cost to be traded off against the tax savings of debt financing to determine the optimal capital structure. Ang, Cole, and Lin (2000) on the other hand, stated that agency costs are significantly higher when an outsider rather than an insider manages the firm and lower with greater monitoring by banks.

3.5 Sources of Finance for Corporate

Corporate can follow various ways to finance the investment appetite. There are various sources of finance which can be classified on the basis of time period, ownership and control, and the respective source of funding or source of generation of funding. Choosing right source and the right pattern (mix) of finance are a matter of in-depth financial analysis and pose a key challenge for every finance manager to have a primary understanding of the characteristics of the financing sources. Sources are the point of generation of capital. All the sources of capital have different characteristics to suit different types of requirements.

3.5.1 Sources of Finance by Time

Classifying the sources of finance on the basis of time period is commonly classified into Short term, Medium term and Long term sources of financing.

Short Term Sources of Finance: Short term financing means financing for a period of less than 1 year needed by firms mostly to meet short term financial requirements like to finance the current assets such as inventory of raw material and finished goods, debtors, maintaining minimum cash in hand and bank balance etc. Hence short term financing is otherwise known as working capital financing. Short term finances are available in the form of:

- Trade Credit
- Short Term Loans like Working Capital Loans from Commercial Banks
- Fixed Deposits for a period of 1 year or less
- Advances received from customers

- Creditors
- Payables
- Factoring Services
- Bill Discounting etc.

Medium Term Sources of Finance: This is source of financing for a period of 3 to 5 years. It is needed mostly to a corporate firstly when, long-term capital is not available for the time being and secondly, when a large amount of deferred revenue expenditures of the current period are to be written off over a period of 3 to 5 accounting years. Medium term financing sources can in the form of one of:

- Preference Capital or Preference Shares
- Debenture / Bonds
- Institutional Loans from Financial Institutes/NBFIs, Government, and Commercial Banks etc.
- Lease Finance
- Hire Purchase Finance

Long Term Sources of Finance: Long-term financing meets the capital requirement over a period of more than 5 years to 10, 15, 20 years or maybe more depending on other factors. Capital expenditures in fixed assets like plant and machinery, land and building etc. of a business including a part of the working capital that permanently stays with the business are funded using long-term sources of finance. Long term financing sources can be in form of any of them:

- Share Capital or Equity Shares
- Preference Capital or Preference Shares
- Retained Earnings or Internal Accruals
- Debenture / Bonds
- Term Loans from Financial Institutes, Government, and Commercial Banks
- Venture Funding
- Asset Securitization
- International Financing by way of Euro Issue, Foreign Currency Loans, ADR, GDR etc.

3.5.2 Sources of Finance by Ownership and Control

The source of capital on the basis of ownership and control is categorized in two unique types. One is rate of interest of the capital and the other is sharing of ownership and control. It is well known source of financing through debt and equity. Firms may choose either of one or may go for a combination of both. When, firms may not like to dilute their ownership rights in the business, they may prefer debt financing whereas others may believe in sharing the risk, may choose equity. Strategically, firms may choose a combination of both.

Borrowed Capital/Debt Instruments: Finance sourced through debt instruments are generally borrowed at interest cost and can be borrowed from external financial sources like financial institutions, commercial banks or even from public (people of the country) through debt instruments like debentures, commercial papers, credit notes etc. The advantage of this type of funding is that there no dilution of ownership or control on business of the entrepreneur. Cost of debt is generally lower than that of equity because it is risk free and can provide tax benefit by reducing taxable income. Moreover it gives business a leverage benefit.

Owned Capital/Sharing Ownership: It is the source of financing through equity capital by issuing equity shares. When the business grows and internal accruals like profits of the company are not enough to meet financing requirements, the promoters have a choice of selecting ownership capital. Owners' capital is sourced from Equity Capital, Preference Capital, Retained Earnings, Convertible Debentures, Venture Fund or from Private Equity. In spite of dilution of ownership, equity financing carries certain advantages such as it is a long term capital and is retained permanently with the business and there is no burden of paying interest or installments like borrowed capital. Moreover the risk of bankruptcy also reduces. Businesses in infancy stages prefer equity capital for this reason.

3.5.3 Sources of Finance by Generation of Funding

From the source of generation, it can be either internal or external source to generate fund. Internal source of capital is the capital which is generated internally from the business such as retained profits, reducing or controlling working capital, or from the sale of assets of the business. It will have the same features of owned capital or equity. The best part of the

internal sourcing of capital is that the business grows in accordance with the entrepreneur's strategy and does not depend on outside parties. As a result, in case of internal funding, neither ownership is diluted nor fixed obligation / bankruptcy risk arises.

Similarly, an external source of finance is the capital which is sourced from outside the business. Deciding the right source of finance is a crucial business decision taken by top-level finance managers. The wrong source of finance increases the cost of funds which in turn would have a direct impact on the profit and feasibility of project under concern. Improper match of the type of capital with business requirements may go against the smooth functioning of the business. For instance, if fixed assets, which derive benefits after 2 years, are financed through short-term finances will create cash flow mismatch after one year and managers will again have to look for finances and pay the fee for raising capital again.

3.6 Review of Literatures

Modigliani and Miller (1958) were the pioneers in theoretically examining the effect of capital structure on a firm's value. In their seminal papers (1958, 1963), they showed that under the assumptions of perfect capital market, equivalent risk class, no taxes, 100% dividend-payout ratio and constant cost of debt, the value of a firm is independent of its capital structure. Hence in the perfect capital market, the capital structure does not affect a firm's value. It is the theory of capital structure irrelevance that a firm's value depends on the ability of its assets to create value, and is irrelevant if the assets originate in internal capital or external capital.

3.6.1 Global Experience

Modigliani and Miller (1958) in their paper 'the cost of capital, corporation finance and the theory of investment' observed that the correlation between cost of capital and leverage was significantly equal to zero. When a corporate income tax, under which interest is a deductible expense, is considered, gain can accrue to stakeholders from having debt in the capital structure even when capital markets are perfect.

David Durand (1963) criticized the Modigliani and Miller model on the ground that the assumptions used in their model are unrealistic. He propounded the net income approach of capital structure which states that firm can increase its value or lower the cost of capital by using the debt capital. Solomon (1963) argued that the cost of debt does not always remain

constant. It further explained that when the leverage level exceeds the accepted level, the probability of default in interest payments increases thus raising the cost of debt.

Stiglitz (1969, 1974) proved the validity of the M-M model under relaxed assumptions whereas Smith (1972), Krause and Litzenberger (1973), Baron (1974, 1975), and Scott (1976, 1977), supported the M-M model, but only under the conditions of risk free debt and costless bankruptcy. They argued that when bankruptcy has positive costs, there exists an optimal capital structure which is a trade-off between tax advantage of debt and bankruptcy costs.

This trade-off theory was challenged by Miller (1977) on the ground that bankruptcy and agency costs are too small to offset the tax advantage of debt. But when personal taxes are taken into account, this advantage is completely offset by the disadvantage of personal tax. Thus, in equilibrium, the value of a firm is independent of its capital structure, even the market structure is imperfect.

In subsequent studies, De Angelo and Masulis (1980) rejected the Miller's argument and said that even if bankruptcy, agency and related costs are ignored, introduction of non-tax debt shields is enough for a firm to have an optimal capital structure. And even if these costs are taken into account, an optimal capital structure exists, irrespective of availability of non-debt tax shields. Their study demonstrated that with the presence of corporate tax shield substitutes for debt, each firm will have a "unique interior optimum leverage decision with or without leverage related costs".

Ghemawat and Caves (1986), in their study titled 'Capital commitment and profitability: An empirical investigation' studied that, Opportunities to pre-commit costs can either increase the rents of incumbent firms (by deterring entry), or decrease them (through commitment races and lapses into non-cooperation). Authors seek to discriminate statistically between these predictions in the determinants of profits of businesses in a cross-section of concentrated markets for producer nondurables. They concluded that profits decline with deepening of capital intensity. The study argued cut-throat competition as a result of capital intensity might eliminate all future profits, depressing each firm's security level. Overall, a business's profitability declines with its industry's scope for pre-committing production capacity (sunk costs). However, variables interacted with the scope for commitment does not point clearly toward one or the other mechanism. Therefore, commitment opportunities seem

likely to lead to deterrence and non-cooperative rivalry in proportions that differ idiosyncratically among markets.

However, capital structure decision is an unresolved issue as there is no definite pattern observed. Jensen and Meckling (1976) highlighted the agency cost involved in conflict of interest between the managers and the shareholders which leads to finance investment opportunities through outside fund. Myers (1984) suggested a hierarchy for funding known as pecking order theory that suits to large size firms with considerably high profit. The signaling theory pioneered by Gordon Donaldson (1961) and further developed by Myers and Majluf (1984) and others portrayed the bad signal that the firm would confer if they issue equity capital instead of debt capital which forces the firm to issue debt capital. The papers analysed in detail highlights the role played by the debt capital in determining the optimal capital structure which would enable the firm to increase its profit and thereby improve the value of the firm. Al-Sakran (2001), Kayo and Kimura (2010) got the evidence in support of pecking order theory.

Ross (1977) suggested that the value of firms will rise with leverage as increasing leverage drives market perception of value. Asquith and Mullins (1983), Masulis and Korwar (1986), and Mikkelson and Partch (1986) also empirically observed that announcements of new equity issues are greeted by sharp declines in stock prices. This is a major reason why equity issues are comparatively rare among large established corporations. Harris and Raviv (1990) highlighted that debt also plays an important role in allowing investors to generate information useful for monitoring management and implementing efficient operating decisions. Moreover, risk of the firm's return is unknown to investors. They are forced to rely on noisy signals such as the firm's level of capital structure to determine the risk of their investment and the firm's value may be under-priced by the market (Myers and Majluf, 1984).

Harris (1988), in the paper titled, 'Capital intensity and the firm's cost of capital', explored whether specification errors rather than measurement errors explained empirical result. It was observed that negative capital intensive coefficients in structure-performance equations support allegations of gross measurement error in accounting-based measures of economic profitability. The result was consistent with theoretical prediction that both higher predicted profitability and higher capital requirements increase capital intensity. Higher firm-specific cost of capital reduces capital intensity.

Titman and Wessels (1988) in their paper, “The determinants of capital structure choice”, analyzed the explanatory power of some of the theories of optimal capital structure. The study extends empirical work on capital structure theory in three ways. First, it examines a much broader set of capital structure theories, many of which have not previously been analyzed empirically. Second, since the theories have different empirical implications in regard to different types of debt instruments, the authors analyze measures of short-term, long-term, and convertible debt rather than an aggregate measure of total debt. Third, the study used a factor-analytic technique that mitigates the measurement problems encountered when working with proxy variables. It observed an opposite relation between collateralizable capital and debt level. This is because a manager wants to avoid secured debt financing as they increase the level of monitoring and reduce the level of perquisites. It observed that future growth rates were negatively related to long-term debt, accepting the pecking order theory which assumes that firms give more preference to retained earnings when deciding about financing a project.

Pinegar and Wilbricht (1989), in a study titled “What managers think of capital structure theory: A survey” analyzed the responses received from 176 firms chosen out of the list of fortune 500 firms for 1986, out of which, 121 firms indicated that they follow a financing hierarchy, while 47 indicated that they seek to maintain a target capital structure. The financing hierarchy showed that the managers first prefer internal equity (retained earnings) for financing new projects. The next priority goes to straight debt, convertible debt, external common equity, straight preferred stock and convertible preferred stock in a sequence. So the projected cash flow from the asset is the major determinant of the choice of the managers among various sources of capital, leading to conclude that corporate managers are more likely to follow a financing hierarchy than to maintain a target debt- equity ratio.

Harris and Raviv (1991), in their paper titled “The theory of capital structure” have used the agency cost, asymmetric information, product/input market interactions and corporate control considerations (but excluded tax-based theories) concepts in analysing the capital structure. The study concluded that in the agency model the leverage is positively associated with a firm’s value and is negatively related to the extent of growth opportunities, interest coverage, and the cost of investing firm prospects. However, the study also highlighted that leverage of a firm increases with the extent of informational asymmetry.

Givoly Collins et al. (1992), in their work “Taxes and Capital Structure: Evidence from Firms' Response to the Tax Reform Act of 1986” studied the interaction between taxes and leverage decisions in a controlled environment in the years surrounding the enactment of the Tax Reform Act. The results supported the tax-based theories of capital structure and indicated that there exists a substitution effect between debt and non debt tax shields, and that both corporate and personal tax rates affect leverage decisions.

Rajan and Zingales (1995), in paper titled “What do we know about capital structure? Some evidences from international data” investigated the determinants of capital structure choice by analyzing the financing decisions of public firms in the major industrialized countries. At an aggregate level, firm leverage was found to be fairly similar across the G-7 countries. Profit was found to be negatively correlated with leverage. They stated that in the short run, dividends and investments were fixed, and if debt financing was the dominant mode of external financing, then changes in profit will be negatively correlated with changes in leverage. Large firms tend to issue less equity. They also emphasized that the negative influence of profit on leverage should become stronger as firm size increases.

Hovakimian, Opler, and Titman (2001) in their empirical work argued that firms may face impediments to movements toward their target ratio, and that the target ratio may change over time as a firm's profitability and stock price change. Masulis (1980, 1983), Brennan and Schwartz (1978) and Jensen and Meckling (1976) also advocated the existence of an optimal capital structure in an imperfect market, while using different mechanisms.

Empirical work by Bradley, Jarrell and Kim (1984), Long and Malitz (1985) and Titman and Wessells (1985) largely supports bankruptcy costs or agency costs as partial determinants of leverage and of optimal capital structure.

The finding of Berger (2002) was consistent with the agency costs hypothesis, i.e. higher leverage or a lower equity capital ratio is associated with higher profit efficiency, all else equal. Additionally the study also concluded that under the efficiency risk hypothesis, the expected high earnings from greater profit efficiency substitute for equity capital in protecting the firm from the expected costs of bankruptcy or financial distress, whereas under the franchise-value hypothesis, firms try to protect the expected income stream from high profit efficiency by holding additional equity capital.

The study by Chudson (1945) got the direct evidence on the industries with high proportion of fixed assets tending to use more long-term debt. Remmer et al. (1974) suggested that certain institutional variables, earning rate seem to be more important as determinants of debt ratio internationally. Toy et al. (1974) reported that the corporation size and the industry-class do not appear to be determinants of debt ratio. Scott and Martin (1975) concluded that industry-class is indeed a determinant of financial structure. They also concluded that corporate size is the determinant of firm's financial leverage ratio. Lulose (1976) proved that the concern should reduce the proportion of borrowed funds either by conversion of debts into equity or by retiring part of debt capital through the issue of further shares.

Carelton and Siberman (1977) concluded that the higher the variability is in rate of return on invested capital, the lower will be the degree of financial leverage adopted. They also found the return on investment to be negatively correlated with the debt ratios. Ferri and Jones (1979) concluded that the industry-class was linked to a firm's leverage, but not in a direct manner than what has been suggested in other researches. Myers (1977) argues that firms with growth potential will tend to have less capital structure. Growth opportunities can produce moral hazard effects and push firms to take more risk. In order to mitigate this problem, growth opportunities should be financed with equity instead of debt.

Harris, Rodney, Roenfeldt and Cooley (1983) stated that financial leverage clienteles play an important role in the determination of the capital structure. Richard Kolondy and Diane Rizzule Suher (1985) indicated that no relationship is shown between shareholders return and the company's pre-issue degree of financial leverage. Kose John (1987) has viewed that in case of pure signalling case, the equilibrium is characterized by direct contractual pre-commitments to implement investment policies, which is riskier than pare to-optimal levels.

Mathew (1991) studied the relationship between capital structure and value of the firm. It aimed to find the significance of differences in capital structures of different companies inter and intra industry. The results supported the view that an increase in leverage leads to a fall in the cost of capital as debt is a cheaper source than equity. It also pointed out that the optimum debt level balances a decrease in the profitability of acquisition against a higher share of the synergy for the target's shareholders.

Israel (1991) studied the capital structure theory based on corporate control considerations. The study concluded that the optimum debt level balances, a decrease in the profitability of acquisition against a higher share of the synergy for the target's shareholders. His study concluded certain implications: (a) the probability of firms becoming acquisition targets decreases with their leverage, (b) acquirers' share of the total equity gain increases with targets' leverage, (c) when acquisitions are initiated, targets' stock price, targets' debt value, and acquirers' firm value increase, and (d) during the acquisition, target firms' stock price changes further; the expected change is zero and the variance decreases with targets' debt level.

Pettit and Singer (1985) argued that tax considerations are of little importance for small firms because these firms are less likely to generate high profit and therefore are less likely to use debt for tax shields. Large firms have an incentive to employ more debt because they have tax deductible such as depreciation, research and development expense and investment deductions.

Cressy and Olofsson (1997) argued that the growth of small firms is more sensitive to internal finance than that of larger firms. For small firms the probability of facing financial constraints is higher and that makes it harder to gain access to banking resources. The study also argued that these small players are prepared to pay higher interest rates for additional loans and don't consider issuing external equity in order to stay in control.

Chungchang (1992) got the evidence that the leverage can be used as an instrument to transfer wealth between investors and employees. The transfer can go in either direction. Hull (2002) found that the industry debts to equity norms are significantly more negative than the returns for the firms moving closer to these norms. Rajan and Zingales (2002) in their study found that Firms across G-7 countries are fairly leveraged to same extent, with only UK and Germany being relatively less leveraged. Nissim and Penman (2003) concluded that the financial statement analysis distinguishes leverage in financing activities from leverage in operations. Tucker (2007) tried to understand whether industry-optimal gearing ratio targeting behaviour arises in the long run while a hierarchy of financing (or pecking order) arises in the short run. The relationship between components of common corporate gearing ratios is investigated using a Johansen co-integration methodology. Evidence of target adjustment is found, though only with respect to certain gearing ratios.

Smith and Watts (1992) observed the negative relation between debt and growth opportunity. On the other hand, firms with high growth will tend to look to external funds to fit the growth (Michaelas et al., 1999). Growth is likely to put a strain on retained earnings and push the firm into borrowing. Firms would look to short-term, less long-term for their financing needs. Studies found growth is positively related to capital structure (Michaelas et al. 1999; Bevan and Danbolt, 2002; Eriotis, 2007).

Bhaduris (2002) suggested that dividends are the signal of financial health to outsiders. A firm with a constant stream of dividends will face less asymmetric information when entering into the equity market. Dividend payments decrease with the amount of internal funds and increase with the need for external financing. Dividend policy allows for releasing of resources when a firm has no profitable projects and conveys information about a firm's future expectations to capital markets. Booth et al (2001), Amidu (2007), Abor and Biekpe (2006), Abor and Biekpe (2009) observed that size plays an important role in capital structure. Frank and Goyal (2004) observed a positive relationship between payout ratio and debt.

Hussain and Matlay (2007) assert that small firms strive for external sources of finance only if the internal sources are exhausted. These firms try to meet their financial needs with a pecking order of personal and retained earnings, debt and issuance of new equity. Small firms are often managed by very few managers whose main objective is to minimize the intrusion in their business and that are why internal funds will lie in the first place of their preference of finance. If internal funds are not enough, small firms will prefer debt to new equity mainly because debt means lower level of intrusion and lower risk of losing control.

Daskalakis and Psillaki (2008) concluded that the behaviour of the small firms can be easily linked to the pecking order theory as these firms borrow as their investment needs rather than an attempt to achieve an optimal capital structure.

Ang and McConnel (1982) viewed that large firms are less susceptible to bankruptcy as they tend to be more diversified than smaller companies. Hence, lower expected bankruptcy costs enable large firms to take on more debts. Padron et al. (2005) suggested that large firms can reduce the level of information asymmetries in the market and obtain

financial resources more easily. They argued that among two companies with same profitability, larger company will get more external finance than the smaller one.

Ceston and White (2003) suggested that the small firms find it more difficult to access financial services due to greater information and transaction costs. They argued that information cost can be considered nil for internal finance but are very high when issuing new capital, whereas debt lies in an intermediate.

Tucker and Lean (2003) believed that fixed transaction costs prevent small firms from accessing financial services and disproportionately help large firms. Small firms do not bear higher business risk but also higher financial distress risk. Banks tend to respond to this risk by the value of collateral available. This creates a problem for small firms in that they often do not have significant fixed assets to secure.

Miao (2005), in a paper “Optimal capital structure and industry dynamics” provided a competitive equilibrium model of capital structure and industry dynamics. He indicated that firms make financing, investment, entry, and exit decisions subject to idiosyncratic technology shocks. The capital structure choice reflects the trade-offs between the tax benefits of debt and the associated bankruptcy and agency costs. More efficient firms are less likely to exit and have lower agency costs. It was concluded that interaction between financing and production decisions is important in an industry equilibrium after analyzing the changes in technology growth, technology risk, entry distribution, entry cost, fixed cost, bankruptcy cost, and tax policy.

Padron et al. (2005) argued that large firms with regular dividend payment history can obtain financial resources more easily. This is based on the belief that large firms, when issue more dividend to their stock holders, will tend to borrow less money from banks compared to small firms will do. More profitable firms have more internal financing available. That suggests when firms lacking internal funds are using more debt financing. This supports the pecking order theory and confirms the findings of some earlier studies (Gaud et al. (2005), Amidu (2007), Chakraborty (2010), Vanacker and Manigart (2010)).

Michaelas et al (1999) argued that firms with high growth are more likely to exhaust internal funds and require additional capital. The coefficient of growth opportunity and capital structure is significant positive. Growth is likely to put a strain on retained earnings

and push the firm into borrowing. Psillaki and Daskalakis (2009) believed that, the asset structure is not correlated with capital structure. However, Hall et al. (2004) find a negative relationship between the short-term debt and the asset structure and a positive relationship between long-term debt and asset structure.

Banks and capital markets, rather than simply being competitors, are in fact complement to each other. Capital market development lowers the cost of bank equity capital, and enables banks to raise extra capital needed to take on riskier loans which they would otherwise reject. Banks have a comparative advantage in assessing credit quality and therefore granting and renewing bank loans should provide positive signals to outside investors (Fama 1985), especially when the borrowing firms do not have an established reputation. For this interconnectedness and mutually dependency, efforts should be made to develop both the sectors side by side.

Fama (1985) and Diamond (1991) have suggested that as banks have a comparative advantage in assessing credit quality, then granting and renewing bank loans should provide positive signals to outside investors, especially when the borrowing firms do not have an established reputation. This is already a proven success story as James (1987) analyses the impact of loan announcements on firms' stock returns, and compares it with that of other financings. He finds that bank loan agreements convey positive information to investors on borrowing firms' prospects in that these firms show higher excess returns around the event date than for alternative financings.

Song and Thakor (2010) further argue that such a co-dependence connects the banks and markets through two channels - securitization and regulatory requirements of risk-sensitive bank capital. Under the process of securitization, through credit screening the banking system certifies a borrower's credit quality (hence the importance of ensuring the quality of loan origination for developing a credible and sustainable securitization market) and the markets provide the financing. Development of capital markets eases financing friction and thus reduces the cost of capital for banks. This helps banks in raising additional capital to extend riskier loans which they might avoid otherwise.

3.6.2 Indian Experience

Study by Chandra (1975) got the evidence of a significant relationship between the share price and return, risk, growth size, leverage, etc. It also concluded that leverage in the

capital structure is one of the factors affecting the value of a share of a firm. Venkatesan (1983) found that only debt coverage ratio was found to be the important variable significantly affecting the financial structure of the firm.

Study by Sharma (1986) on the financial appraisal of Industrial corporations in India concluded that there may not be a uniform capital structure which will suit the requirements of all the companies. Capital structure has to be tailored to suit the needs of every individual company. However, the study viewed that it is possible to frame a model capital structure for a group of companies having similar characteristics.

The study by Pandey (1984) and Bhatt (1990) revealed that the corporate managers generally prefer borrowings to owned funds because of the advantage of the lower cost and no dilution of existing management control over the company.

Contrary to this view, the study by Babu and Jain (1998) argued that the corporate firms in India show an almost equal preference for debt and equity in designing their capital structure. Their study cited the freedom in paying dividend and ease in raising money are the prime reasons for equity preference. Additionally, intense competition has dented returns which is the reason why firms do not prefer debt over equity even though debt is a cheaper source of finance backed by tax advantage.

Pandey (1992) observed that the M-M theory is not fully valid under Indian conditions. His study concluded that, initially, the cost of capital and value of a firm are independent of the capital structure changes, but they rise after a certain level. Though the earlier study, Pandey (1988) revealed that the tendency of large size companies is to concentrate in the high-level leverage, but it was difficult to conclude that the size has an impact on the degree of leverage.

Sengupta (1998) in the paper titled “Corporate disclosure quality and cost of debt”, made an attempt to prove that the firms with high disclosure quality rating from financial analysts enjoy a lower effective interest cost of issuing debt. The paper investigated the link between a firm’s overall disclosure quality and its cost of debt financing. Sample of 114 firms were taken in total and 103 firms with total interest cost were taken for regression. The study concluded that there exists a significant negative association between a measure of a firm over all disclosure quality and two alternative measures of firms incremental borrowing cost.

Rao and Mohana (1989) concluded that there is a negative correlation between retained earnings and the debt-equity ratio in the sense that a company with higher volume of retained earnings had low debt equity ratio.

Study by Sharma and Rao (1969) tested the M-M model using cross-sectional analysis for engineering companies and found that the value of a firm was independent of its capital structure after allowing for tax advantage. Kakani (1999) highlighted that diversification strategy is a significant strategy and sizes were found to be of insignificant in deciding the leverage level of the firm.

Kotrappa (2000) stated that the choice between debt and equity sources of capital for a corporate borrower is greatly influenced by factors viz., taxes on corporate income, inflation, controlling interest and capital market reforms.

Sen and Pattanayak (2005) examined the issue of corporate financial structure and its determinants by studying its association between observed leverage and a set of explanatory variables. The result suggested that liquidity, size, efficiency and growth, quality of assets, profitability and service diversification are the most critical factors influencing the capital structure of the Indian banking firms.

Sahoo and Omkarnath (2005) in an attempt to find the determinants of capital structure taking into account the three measurements of debt-equity choice such as short-term, long-term and total debt ratio respectively found that some of the variables were significant for some specific dependent variables. Their study found out that profitability, asset structure were most significant factors deciding the capital structure instead of the firm size and growth opportunity.

Dogra and Gupta (2009) studied the sources of funds of SME sector operating in the state of Punjab. The study tried to find out the existence of the relationship between capital structure of the firm and its characteristics. The Pearson chi-square statistics was highly significant showing strong association of capital structure with the type of firm, age of the firm, growth of the firm, degree of competition and level of capital investment but not by the owner's qualification.

Malabika Deo and Jackline (2009), in their study titled “The determinants of debt ownership structure: Some empirical evidence” found that firms across industries do not have a specific norm or preference for debt choices. They concluded that the firms with low profit/profitability go for long term borrowings while rising costs (both agency costs and bankruptcy costs) associated with raising funds induced the firms to shift to short term borrowings. The total debt increased with the increase in size for smaller sized and large sized firms whereas it increases with the decrease in size of medium sized firms. However, total debt came down with increase in profit and increased with rise in collateral assets.

Bhattacharjee (2010) in the paper titled “Determinants of capital structure of Indian industries” conducted an empirical study of the determinants of capital structure of 151 selected firms across 13 industrial sectors. The major finding was that the variables like liquidity and growth in terms of performance of the firms have significant influence on debt-equity ratio. The study concluded that leverage varied across industries and between firms belonging to the same industrial sector.

Vinayek and Gupta (2010), in their work “Determinants of capital structure in drugs and pharmaceutical industry in India: A comparative study of pre and post-liberalization period” examined the determinants of capital structure of firms in drugs and pharmaceutical industry in pre-liberalization period and post-liberalization period. They found a significant difference in the determinants of capital structure in pre-liberalization as well as on post-liberalization periods. The variables like profit, capital intensity and collaterals which were insignificant in the pre-liberalization period were significant to the market value debt equity ratios in the post- liberalization period, while size of the firm which was found to be the significant determinant of capital structure in both the pre-liberalization and post-liberalization period. They concluded that the difference was due to the changes in business environment and capital market.

Sinha and Ghosh (2010) examined the adjustment speed in the dynamic capital structure choice of the firms. The study tried to explore whether a firm’s recapitalization policy that allows dynamic adjustments in leverage revision through two decision variables, i.e., the target leverage and the adjustment speed. They found that the firms’ recapitalization is subject to changes in the firm-specific as well as macroeconomic variables, where both the target leverage and the adjustment speed are determined by the firm’s reactive and/or proactive adjustment behaviours.

Azhagaiah and Deepa (2011) in a study “Impact of firm size on the relationship between profitability and capital structure” analyzed the impact of sales size on the relationship between profit and leverage, considering the size as the control variable. The findings proved that there exists a positive correlation between them in case of small size firms while, the study showed a negative relation providing evidence that debt capital decreases with increase in size of the firm.

Azhagaiah and Deepa (2011) in another empirical work “Choice of capital structure model: An empirical analysis with reference to static trade-off vs. pecking order theories in beverage and alcohol industry in India” attempted to determine the predictors of capital structure in the beverage and alcohol industry in India and also to find out the approach followed by these firms to decide their capital structure. The findings proved that pecking order hierarchy is followed in beverage and alcohol industry in India. Collateral value of assets and profit are found to be the major determinant of capital structure.

Azhagaiah and Deepa (2011), in an empirical work entitled “Determinants of profitability: A study with reference to income size-wise analysis of selected firms” analyzed the impact of income on determinants of profitability by grouping the firms of tea, dairy and vegetable oil sector into three size categories viz., “low income”, “medium income”, and “high income” firms based on their profit before interest tax and depreciation. The results indicated that future growth and volatility determined the profit of medium and high income firm, while capital intensity was the significant major determinant variable of profitability in case of low income firms.

Panigrahi (2011), in the work “Location as a Determinant of Capital Structure: A Study of Indian Private Sector Firms” analyzed whether the location of a firm affects its capital decisions of Indian companies. The analysis was conducted on a sample of 300 Indian private sector companies, comprising of 20 different sectors for the period 1999-2000 to 2007-2008, duly grouping them on the basis of their regions as western, eastern, southern and northern region. Findings revealed that the region or location of a company strongly influences the quantum of inflow of funds.

Pahuja and Sahi (2012) analyzed the factors determining the capital structure of Indian companies using agency and pecking order theory. Debt equity ratio was used as the dependant and size, growth, profitability, liquidity and tangibility are treated as independent

variables in the study. The data for a sample of 30 companies listed Bombay Stock Exchange's SENSEX were considered for a period comprising 2008-2010. Two major determinants of capital structure are observed to be growth and liquidity.

Chadha and Sharma (2015) in their study "Determinants of capital structure: an empirical evaluation from India" observed that the size, age, asset tangibility, growth, profitability, non-debt tax shield, business risk, uniqueness and ownership structure are significantly correlated with a firm's financial leverage or key determinants of capital structure in Indian manufacturing sector. It also observed that the other variables like dividend payout, liquidity, interest coverage ratio, cash flow coverage ratio (CFCR), and inflation and GDP growth rate are empirically found to be insignificant to determine the capital structure of Indian manufacturing sector. Additionally the study concluded that no single theory (trade off vs. pecking order) which can explain the capital structure nature of Indian manufacturing sector holds completely true for India. What is observed is a mix of both the theories.

Bossonne (2010), Song and Thakor (2010) have suggested that banks and capital markets are integral parts of a co-evolving financial system, wherein they not only compete, but also complement and co-evolve. Some studies also suggest that expanding bank activities into capital markets by allowing them to hold equity stakes in firms might generate efficiency gains (Bossonne and Lee, 2004; Li and Masulius, 2004). Access to larger capital markets reduces bank costs by providing banks with more efficient instruments of risk management and reputation signalling which enable them to economise on the financial capital.

Krishnamurthy (1994) was of the view that though there is no evidence to support the view of large scale disintermediation, but there is some visible decline on aggregate deposit growth rate requiring banks to guard themselves against future threat of financial disintermediation. Further, due to liberalization of Indian economy and with increased importance of capital market during 1990s, the share of bank credit mainly to commercial sector recorded a downturn. This is due to new financing options available to corporate (EPW, 1991; RBI, 2000; RBI, 2002).

Based on the selected data of Indian banking sector from 1980-89, Sen (1991) has concluded that high SLR requirement with low yield is detrimental to growth of banks as the private firms on the face of credit crunch offer bonds and shares at attractive rates to tap

funds directly from households resulting in financial disintermediation. This also means a fall in the amount of funds available to the public due to SLR requirements of commercial banks.

CHAPTER IV

Research Methodology and Description of Data

The study is composed of a set of objectives. The methodology used and the sources of data are different for all the objectives. In this chapter, individual objective's methodology and nature and sources of data are discussed separately.

4.1 Objective 1: Financial Disintermediation and its Impact on Banks' Performance

One of the objectives of the study is to measure the overall impact of financial disintermediation on all scheduled commercial banks' profitability and performance. The overall impact on the banks due to the development of alternate financial institutions as well as the growth of Indian capital market, both as possible sources of disintermediation, has been studied. With the development of capital market, there can be a shift in the preference of the investors to invest in the new and innovative instruments like mutual funds, insurance (those paying additional returns along with insurance benefit) and such other instruments that are giving better return than banks, and hence are more attractive. Thus withdrawals from banks may go to invest in other sources. When more and more household savings are getting transmitted to capital market related instruments, it promotes more disintermediation process.

While pursuing the work of disintermediation process and its impact on bank performances and profitability, the following sub-objectives are taken into consideration;

1. To review the growth and composition of financial intermediaries and instruments.
2. To examine the disintermediation impact of capital market growth on the performance of Indian Banks.
3. To examine the overall financial disintermediation impact on Banks' Profitability.

The Hypotheses of our disintermediation study are as follows;

H_0 : There is no significant impact of overall financial disintermediation on the Performance of Banks.

H_0 : There is no significant impact of overall financial disintermediation on the Profitability of Banks.

The study is exploratory in nature. It is an empirical research work based on aggregate data and is meant to provide information on any negative impact on banks' deposit and loan growth functions due to the development of alternative avenues of deposits and credit that is better known as 'disintermediation'. For this purpose, to begin with, an examination for growth and development of financial institutions and instruments in Indian Financial System has been made.

Borrowers' preference from Commercial Banks to other non-banking sources of credit is a genesis of bank disintermediation. In order to see the impact of capital market and other non-banking credit and deposit sources on banks' loan disbursement and deposit acceptance, indices have been developed. Finally, the impact on profit and performance of Banks' has been analyzed. For this purpose, important indicators of profit have been identified and analyzed for shift in trend followed by regression analysis to determine if disintermediation has impacted their profitability and performance.

Some of the indicators used to measure the performance and profitability of Indian banks are explained below. They are the basic indicators usually used to measure the performance comprising of both income and expenses. Income here includes income from both on and off balance sheet activities. On balance sheet activity represents income from intermediation activity, whereas off-balance sheet activity represents income from non-intermediation activity. Similarly, expenses have been classified as expenditure towards interest payment and other expenses, where the former represents expense made for intermediation activity.

Interest Income: Interest income represents income from traditional intermediation activity of loan disbursement. Increase in interest income is a result of more and more of deposits being converted into loans of different forms, supported by opportunities/avenues.

Interest expense: Interest expense represents expenditure towards traditional intermediation activity of accepting deposits. An increase in interest expense represents more of national savings of nation being converted into deposits of different forms of savings.

Non-Interest Income: Non-interest income represents income from other sources (other than interest on loan) such as, commissions, brokerage, exchange, service charges, government fees, rent from lockers and premises, cross-selling etc. An increase in such income suggests that there is a shift from banks' traditional to fee generation activities (more towards those falling out of their traditional intermediation activity).

Non-interest Expense: Non-interest expenses include establishment and other operating expenses, such as, payments to and provisions for employees, rent, taxes, lighting, stationeries, telephone, printing, depreciation etc. The major item of non-interest expenditure is the establishment cost that include major chunk of salary and allowances to employees. An increase in this type of expenses represents inefficiency on the part of management to control over the cost of operation that makes a negative impact on performance and profitability because efficient banks are expected to have a lower operating cost.

Net-Interest Margin: Another important indicator of efficiency is net interest margin. It is defined as the excess of interest income over interest expense. It is an important indicator of banks efficiency since it drives a wedge between interest paid to depositors and the interest received from borrowers on their loans.

Apart from these basic indicators, credit-deposit ratio, investment-deposit ratio as well as internal determinants like the log of bank assets (to determine the importance of banking finance), capital to total assets, overheads to total assets, advance to total assets and also some of the variables introduced in regression analysis to capture the impact of disintermediation in banks' performance like market capitalization to GDP and bank disintermediation (loan & deposit) index.

C-D & I-D Ratio: The two important measures that determine the level of bank performance in terms of their intermediary behavior are the credit-deposit ratio (C-D ratio) and investment-deposit (I-D ratio). These two ratios determine as to what percent of deposits accepted goes towards loan and what percent goes towards investment activities instead of loan conversion. An increase in the C-D ratio shall mean that more of the deposit is converted into loan assets, which is a sign for improvement of basic intermediation activity. Whereas increase in I-D ratio means deviation away from intermediation activity as it shows that more and more of deposits is getting invested into market.

4.1.1 Data Sources

This objective is based on secondary data sourced from RBI, SEBI and Indian Banks' Association. Data is collected mostly from various publications issued by the RBI, including Handbook of Statistics on Indian Economy, Report on Trend and Progress of Banking in India, and Statistical Tables Relating to Banks in India. In addition, another source has been Handbook of Statistics on the Indian securities market published by Security and Exchange Board of India (SEBI). Key business statistics data of Indian Banks' Association is used for extraction of relevant information.

4.1.2 Statistical Tools used for Analysis

Identification of the factors augmenting the disintermediation process in Indian financial sector is one of objective of the study. The impact of capital market and the overall disintermediation on the important banking variables are identified with the help of regression techniques. Factors are identified for measuring the movement of these variables through trend analysis and other statistical techniques. The tools applied for analysis are ratio analysis, trend analysis, linear growth rate, correlation analysis, multiple linear regression models etc. In addition, some tests have also been applied like the Durbin-Watson test for autocorrelation, Multicollinearity Test, F-test and T- test. A brief explanation for each of these tools and techniques is given below.

4.1.3 Methodology for Bank Credit and Deposit Intermediation Indices

There is growth of alternative means of investment in last couple of years. An analysis of the trend with respect to time for measuring any change in the intermediary role vis-à-vis bank credit and deposit is important. The indices shown here show the intermediary role of commercial banks and non-banking institutions with regard to both deposit taking and credit disbursal.

- Bank Deposit Intermediation Index (BDI Index) = Net annual deposit with commercial banks / Total deposit with all intermediary institutions.
- Non Bank Deposit Intermediation Index (NBDI Index) = Net annual deposit with non banking financial intermediaries / Total deposit with all intermediary institutions, i.e., 1- BDI Index.
- Bank Credit Intermediation Index (BCI Index) = Net annual credit by commercial banks / Total credit by all intermediary institutions

- Non Bank Credit Intermediation Index (NBCI Index) = Net annual credit by non banking financial intermediaries / Total credit by all intermediary institutions, i.e., 1-BCI Index

Where; *Total deposit with all intermediary institutions = Aggregate of Bank deposits, NBFC deposits, RNBC deposits and deposits of State Co-operative Banks maintaining accounts with RBI.*

Total credit with all intermediary institutions = Aggregate of Bank credit (including RRB credits), Credit by State Cooperative, credit by all India financial institutions and credit from primary market (equity, bonds & private placement).

4.1.4 Capital Market Disintermediation Indices

The recent trend shows that corporate prefer to access capital market directly to raise funds rather than depending on an intermediary institute for the purpose. This has led to development of capital market allowing corporate houses to bypass intermediary institutions. This might be articulated by a number of factors including rate of interest, the degree of risk associated or the amount of liquidity, cheap availability of funds for corporate houses and so forth.

Recent relaxation in norms to promote capital market has helped corporate to overtake banks and access direct credit. It is important to find whether there is any disintermediation effect of capital market both on commercial banks as well as on financial institutions with respect to their deposit taking and credit disbursal. For this purpose four indices are developed as under mentioned:

- Bank Disintermediation (deposit) Index (BDD Index) = Net annual deposit with commercial banks / Total annual capital market mobilization
- Financial Disintermediation (deposit) Index (FDD Index) = Net annual deposit with all financial intermediaries / Total annual capital market mobilization
- Bank Disintermediation (loan) Index (BLD Index) = Net annual loan by commercial banks / Total annual capital market mobilization
- Financial Disintermediation (loan) Index (FLD Index) = Net annual loan by all financial intermediaries / Total annual capital market mobilization

Where; Total capital market mobilization is the sum of resources mobilized from the primary market, resource mobilization in the private placement market and net resources mobilized by mutual funds. These are the total funds mobilized in the form of primary capital market in India.

The Banking disintermediation indices are prepared to analyze the impact of capital market disintermediation on banks deposit and loan. Similarly, the financial disintermediation indices are to measure the impact of capital market disintermediation on all financial institutions (both bank and nonbanking institutions). In case of BDD index which shows banks' deposit disintermediation, a higher index number shows lower deposit disintermediation and vice versa. Similar is the case for BLD index that measures banks' credit disintermediation. A higher index number shows lower credit disintermediation and vice versa. The FDD and FLD indices which measure deposit and credit disintermediation of all financial institutions (both bank and nonbanking institutions), a higher index number shows lower deposit and credit disintermediation and vice versa.

4.1.5 Regression Analysis to Measure the Impact of Disintermediation on Banks' Performance and Profitability

To test the hypothesis whether disintermediation has affected the profitability and performance of Indian banking sector, a set of two regression equations are framed. Following, Kunt & Ross (1999) and Naceur & Goaid (2005), Net Interest Margin (NIM), which is a measure of efficiency of performance and is also the determinant of net return from intermediation activity, is used as regressand (dependant variable) in the equation.

Similarly, Naceur & Goaid (2005), Return on Assets (ROA), i.e. Percentage of profit earned per unit of asset has been used as regressand (dependant variable) in the other equation. This is a measurement of the efficiency of the Bank in terms of profitability, measured per unit of assets, i.e., Total Bank Income after Tax/ Total Assets.

$$\text{NIM} = f(\text{SBS}, \text{MCAP}, \text{BDD Index}, \text{BLD Index}, \text{C-D}) \dots \dots \dots (1)$$

$$\text{ROA} = f(\text{SBS}, \text{MCAP}, \text{BDD Index}, \text{BLD Index}, \text{C-D}) \dots \dots \dots (2)$$

Where:

SBS: Size of the Banking System

MCAP: Market Capitalization Index

C-D: Credit to Deposit ratio

NIM: Net Interest Margin and

ROA: Return on Assets

The regressors (dependant variables) used in the equations are MCAP, size of the Bank, BLD Index, BDD index and C-D ratio. The regressors are defined as follows;

1. Market Capitalization Index (MCAP) is the total stock market capitalization/GDP. This variable is used as a proxy for financial market development and as a measure of the size of the equity market.
2. Size of Bank (SB) is the total asset of the Bank/GDP. This is used to represent the importance of banking finance in economy.
3. Bank Credit Disintermediation index (BLD Index) is defined as Net annual credit by the Bank to total Annual Capital Market Mobilization.
4. C-D Ratio is introduced in the model as the basic indicator of intermediation activity.

4.2 Objective 2: The Dynamic and Equilibrium Relationship between Corporate Health and External Financing

This part of the study aims at exploring the relationship between corporate health and investments with respect to external financing. Corporate can follow various ways to finance the investment appetite. There are various sources of finance which can be classified on the basis of time period, ownership and control, and the respective source of funding or source of generation of funding. Choosing right source and the right pattern (mix) of finance are a matter of in-depth financial analysis and pose a key challenge for every finance manager to have a primary understanding of the characteristics of the financing sources. On the basis of a “time period”, the financing sources are classified into long term, medium term, and short term financing. On the basis of “ownership and control”, sources of finance is based on owned capital and borrowed capital, and for sources of capital, it might be internal sources or external sources of capital. Sources are the point of generation of capital. All the sources of capital have different characteristics to suit different types of requirements.

Corporate health could emerge from three sources/factors such as firm specific, industry specific and macroeconomic factors. In the present study, we have considered two core representatives of corporate health i.e. ‘Altman Z Score’ and ‘Tobin’s Q’.

4.2.1 Altman Z score

It is popularly used as a parameter to capture bankruptcy. Previously in order to trace any signs of imminent bankruptcy, investors have to calculate and analyze all kinds of financial ratios. But each ratio has its unique feature and tells a different story about a firm's financial health. At times, they can even appear to contradict each other. Having to rely on a bunch of individual ratios, the investor may find it confusing and difficult to know when a stock is going to the wall.

In a bid to resolve this conundrum, NYU Professor Edward Altman introduced the Z-score formula in the late 1960s. Rather than search for a single best ratio, Altman built a model that distills five key performance ratios into a single score. As it turns out, the Z-score gives investors a pretty good snapshot of corporate financial health. Here, we look at how to calculate the Z-score and how investors can use it to help make buy and sell decisions.

The Z-score Formula: $Z\text{-Score} = (1.2 \times A) + (1.4 \times B) + (3.3 \times C) + (0.6 \times D) + (1.0 \times E)$

Where:

A = Working Capital/Total Assets

B = Retained Earnings/Total Assets

C = EBIT/Total Assets

D = Market Value of Equity/Total Liabilities

E = Sales/Total Assets

The lower the score, the higher the chance that a company is headed for bankruptcy. A 'Z-score' of lower than 1.8, in particular indicates that the company is heading towards bankruptcy. Companies with scores of above 3 are unlikely to suffer from bankruptcy. Scores in between 1.8 and 3 lie in a gray area. But in the present study, we have only used the 'Z score' as a representative of the financial health, since predicting and analyzing bankruptcy are beyond the scope of the present study. The present study tries to capture the dynamic relationships between 'Altman Z score' with a group of firm specific and external financial indicators.

Theoretical Relevance of the constituents of ‘Z Score’

Working Capital/Total Assets (WC/TA): This ratio is a good test for corporate distress. A firm with negative working capital is likely to experience problems meeting its short-term obligations because there simply are not enough current assets to cover those obligations. By contrast, a firm with significantly positive working capital rarely has trouble paying its bills.

Retained Earnings/Total Assets (RE/TA): This ratio measures the amount of reinvested earnings or losses that reflects the extent of the company's leverage. Companies with low RE/TA are financing capital expenditure through borrowings rather than through retained earnings. Companies with high RE/TA suggest a history of profitability and the ability to stand up in a bad year of losses.

Earnings Before Interest and Tax/Total Assets (EBIT/TA): This is a version of Return on Assets (ROA), an effective way of assessing a firm's ability to squeeze profits from its assets before factors like interest and tax are deducted.

Market Value of Equity/Total Liabilities (ME/TL): This is a ratio that shows, if a firm is to become insolvent, then how much the company's market value would decline before liabilities exceed assets on the financial statements. This ratio adds a market value dimension to the model that isn't based on pure fundamentals. In other words, a durable market capitalization can be interpreted as the market's confidence in the company's solid financial position.

Sales/Total Assets (S/TA): This tells investors how well management handles competition and how efficiently the firm uses assets to generate sales. Failure to grow market share translates into a low or falling S/TA.

4.2.2 Tobin's Q Model

‘Tobin's Q’ is the ratio of the market value of a company's assets (as measured by the market value of its outstanding stock and debt) divided by the replacement cost of the company's assets (book value). ‘Q-ratios’ are also popularly used for calculating a stock market valuation. In this case, the aggregate of the stock market value for companies in a given stock market or index is divided by the aggregate of the replacement value of those

companies' assets. It states that if q (representing equilibrium) is greater than one ($q > 1$), additional investment in the firm would make sense because the profits generated would exceed the cost of firm's assets. If q is less than one ($q < 1$), the firm would be better off selling its assets instead of trying to put them to use. The ideal state is where q is approximately equal to one denoting that the firm is in equilibrium. In the present study we have taken 'Q value' and tried to analyze the empirical relationship of firm specific and external financing factors with 'Q value' which otherwise represents the value of the firm.

Relevance of Tobin's q , Revisiting Theory:

A better measure of a floor for the stock price is the firm's liquidation value per share. This represents the amount of money that could be realized by breaking up the firm, selling its assets, repaying its debt, and distributing the remainder to its shareholders. The reasoning behind this concept is that if the market price of equity drops below the liquidation value, the firm becomes attractive as a takeover target. A corporate raider would find it profitable to buy enough shares to gain control and then actually to liquidate. Similarly, another approach to value a firm is the replacement cost of its assets less liability. Some analysts believe the market value of the firm cannot remain for long too far above its replacement cost because if it did, competitors would try to replicate the firm. The competitive pressure of other similar firms entering the same industry would drive down the market value of all firms until they came into equality with replacement cost. These ideas are popular among economists, and the ratio of market price to replacement cost is known as Tobin's q after the Nobel winning economist James Tobin. In the long run, according to this view, the ratio of market price to replacement cost will tend towards 1, but the evidence is that this ratio can differ significantly from 1 for very long period. Although focusing on the balance sheet can give some useful information about a firm's liquidation value or its replacement cost, the analyst must usually turn to expected future cash flows for a better estimate of the firm's value as a going concern.

4.2.3 Nature and Sources of Data

The present study uses annual data over the period 2000 to 2015 for 1000 Indian non-financial firms listed on BSE. To capture corporate health, the study has used 'Altman Z score' which is largely used as proxy for corporate health. To have a better understanding of corporate health, the study has extended its focus to address the relationship of corporate financing structure with firm value. Tobin Q is taken as proxy for firm value. For external financing, the study will be focusing on various medium to long term financial indicators.

Over external financing, we have considered financing opportunities of firms from various sources like (1) Current portion of long term foreign currency borrowings, (2) Long term borrowings from RBI, (3) Borrowing from banks, (4) Borrowing from financial institutions, (5) Borrowings from Central & State Govt. (6) Borrowings through Debentures and Bonds and (7) Borrowings through equity. Moreover it has been observed from the data that for raising debt, Indian firms are relying mostly on borrowings from banks and financial institutions. Borrowing through Bond and Debentures and from Central and State Govt. is very low. There are large numbers of missing variables observed for large number of the firms under the study period. Hence, to deal with the situation, we have consolidated borrowings from banks, financial institutions, and through equity in line with the title of the study (i.e. banks vs. capital markets). The list of variables, definitions and sources are discussed in table below.

4.2.4 Data Definitions and Sources

Table 6: Data Definitions & Sources		
Indicator	Definition	Sources
Net Sales	Net sales are the amount of sales generated by a company after the deduction of returns, allowances for damaged or missing goods and any discounts allowed.	Prowess (CMIE)
Total Assets	Total assets are the sum of all current and noncurrent assets, equal to the sum of total liabilities and stockholders' equity combined.	Prowess (CMIE)
Net Fixed Asset	The fixed-asset turnover ratio is, in general, used by analysts to measure operating performance. It is a ratio of net sales to fixed assets, net of depreciation.	Prowess (CMIE)
EBITDA	Earnings before interest, tax, depreciation and amortization (EBITDA) is a measure of a company's operating performance.	Prowess (CMIE)
Current liabilities	Current liabilities are a company's debts or obligations that are due within one year, appearing on the company's balance sheet and include short term debt, accounts payable, accrued liabilities and other debts.	Prowess (CMIE)
Non-Current Liabilities	Noncurrent liabilities are long-term financial obligations listed on a company's balance sheet that are not due within the present accounting year, such as long-term borrowing, bonds payable and long-term lease obligations.	Prowess (CMIE)
Retained earnings	Retained earnings refer to the percentage of net earnings not paid out as dividends, but retained by the company to be reinvested in its core business, or to pay debt. It is recorded under shareholders' equity on	Prowess

	the balance sheet	(CMIE)
Enterprise Value (EV)	Enterprise Value (EV) is a measure of a company's total value, often used as a more comprehensive alternative to equity market capitalization. It includes market value of equity plus market value of Debts.	Prowess (CMIE)
Working Capital	Working capital is a measure of both a company's efficiency and its short-term financial health. The working capital ratio i.e. (Current Assets/Current Liabilities) indicates whether a company has enough short term assets to cover its operation and short term debt.	Prowess (CMIE)
EBIT	Earnings before interest and taxes, (EBIT), indicates a firm's revenue, or earnings, and subtracts its COGS and operating expenses. EBIT, is also called "operating earnings," or "operating profit," or "operating income."	Prowess (CMIE)
Market Value of Equity	Market value of equity is calculated by multiplying the number of shares outstanding by the share price of a particular date.	Prowess (CMIE)
Outstanding Shares	Outstanding shares refer to a company's stock currently held by all its shareholders, including share blocks held by institutional investors and restricted shares owned by the company's officers and insiders	Prowess (CMIE)
Volume Weighted Average Price of Shares	Volume-weighted average price (VWAP) is the ratio of the value traded to total volume traded over a particular time horizon (usually one day). It is a measure of the average price at which a stock is traded over the trading horizon.	Prowess (CMIE)

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Dividend Paid	Company's net profits can be allocated to shareholders by ways of dividend, or kept within the company as retained earnings. Dividend paid implies the cash outflow due to payment of Dividend.	Prowess (CMIE)
ROA	Return on assets (ROA) is an indicator of how profitable a company is in relation to its total assets. It is calculated by dividing a company's annual earnings by its total assets.	Prowess (CMIE)
ROCE	Return on capital employed (ROCE) is a financial ratio that measures a company's profitability and the efficiency with which its capital is employed. ROCE is calculated as: $ROCE = \text{Earnings Before Interest and Tax (EBIT)} / \text{Capital Employed}$.	Prowess (CMIE)
Market Capitalization	Market capitalization is the market value of a company's outstanding shares. This figure is found by taking the current stock price and multiplying it by the total number of shares outstanding.	Prowess (CMIE)
NIM	Net interest margin (NIM) is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (i.e. to deposits), relative to the amount of their interest earning assets.	Prowess (CMIE)
ROA (Banks)	Return on Asset of all schedule commercial banks	Prowess (CMIE)
Total Asset (or) Liability	Total assets or liabilities of all schedule commercial banks	Prowess (CMIE)

Calculated Variables for the Study			
Indicator	Calculation	Definition	Sources
Asset Turnover Ratio (ATR)	Net Sales/Total Assets	The asset turnover ratio is an efficiency ratio that measures a company's ability to generate sales from its assets	Author's Calculation
EBITDA Return on Assets Ratio (EBITDAR)	EBITDA/ Total Assets	The EBITDA Return on Assets ratio measures the amount of EBITDA profit generated in comparison to total assets.	Author's Calculation
Current Debt Ratio (CDR)	Current liabilities/Total assets	It shows the proportion of a company's assets which are financed through current debt or liability. Higher the ratio indicated that the poor working capital management.	Author's Calculation
Debt Ratio (DR)	Non-Current Liabilities /Total Assets	It shows the proportion of a company's assets which are financed through debt. A high liability to assets ratio can be negative; this indicates the shareholder equity is low and potentiality of the solvency issues.	Author's Calculation
Good Ratio (GR)	Retained earnings /Total Assets	The higher the retained earnings to assets ratio, the lower reliant the company is on other common types of debt and equity financing.	Author's Calculation
ETTB Ratio	Equity/Total Borrowing)	Ratio of market value of Equity to Total Borrowing	Author's Calculation

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BBTTB Ratio	Bank Borrowing /Total Borrowing	Ratio of Bank Borrowing to Total Borrowing (Bank Borrowing includes borrowing from Financial institutions)	Author's Calculation
BBTEV Ratio	Bank Borrowing /EV	Ratio of Bank Borrowing to Enterprise Value (EV)	Author's Calculation
TBTEV Ratio	Total Borrowing/EV	Ratio of Total Borrowing to Enterprise Value (EV)	Author's Calculation
ETEV Ratio	Equity/EV	Ratio of Equity / Enterprise Value (EV)	Author's Calculation
A	Altman "A"	Working Capital/Total Assets	Author's Calculation
B	Altman "B"	Retained Earnings/Total Assets	Author's Calculation
C	Altman "C"	EBIT/Total Assets	Author's Calculation
D	Altman "D"	Market Value of Equity/Total Liabilities	Author's Calculation

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E	Altman "E"	Sales/Total Assets	Author's Calculation
AMZ	Altman Z Score	$(1.2 \times A) + (1.4 \times B) + (3.3 \times C) + (0.6 \times D) + (1.0 \times E)$	Author's Calculation
TQ	Tobin' Q	Market value of outstanding stock and debt/ Book value of Asset	Author's Calculation
INTR	Interest Rate	Annual interest rate	RBI Bulletin

4.2.5 Statistical Models

$$\text{Basic Model: } CH_{it} = \alpha + \beta F_{it-1} + \gamma EF_{it} + \phi C_t + \varepsilon_{it} \quad \dots\dots (1)$$

CH_{it} Stands for Corporate Health for firm i at time t , F_{it-1} is the firm specific factors. These are considered in one period lag to ensure that the data are observable prior to the event of financial performance, EF_{it} represent the external financing indicator over the time across the firms, and finally C_t are the macroeconomic indicators that are used as control variables in the model to enhance the predictive ability of the overall model. Market interest rate has been used as;

Model 1:

$$AMZ_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 2:

$$AMZ_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTEV_{it} + \gamma_2 TBTEV_{it} + \gamma_3 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 3:

$$AMZ_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} \\ + \theta_1 INTR_t + \varepsilon_{it}$$

Model 4:

$$TQ_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 5:

$$TQ_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTEV_{it} + \gamma_2 TBTEV_{it} + \gamma_3 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 6:

$$\begin{aligned}TQ_{it} = & \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ & + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} \\ & + \theta_1 INTR_t + \varepsilon_{it}\end{aligned}$$

Model 1, 2 and 3 uses 'Altman Z' Score as proxy for corporate health. The components under external finance consider two broad prospects like borrowing through banks and financial institutions and through equity. The first considers the debt component which creates obligation without sharing ownership whereas the second captures ownership without obligations. Again the proportion of external financing is captured firstly with respect to total borrowing and secondly with respect to enterprise value of the corporation. No doubt this makes the models more vibrant to capture the inter linkages between corporate health and external financing in the context of bank vs. capital market. The firm specific parameters like asset turnover ratio, ratio of EBITDA on total asset, debt ratio, current debt ratio and good ratio are captures sales efficiency, operational efficiency, asset financing through current debt, long term debts etc. captures the channels of linkages of external financing to firm's value and its performance. Moreover the study attempts to bring out the relevance of internal financing through retained earning which is captured by good ratio (GR) i.e. proportion of retained earnings over total asset. All the firm specific parameters are taken in one period lag to capture the impact parameter accurately. In all the models, interest rate is used as control variable to improve the overall level of significance of the model.

4.2.6 Methodology of the Study

The present study has undertaken panel data analysis to capture the investment behaviour of Indian manufacturing firms. Panel data otherwise known as longitudinal or cross sectional time series is a data structure where the behaviour of the entities is observed across time. These entities could be countries, states, firms etc. The advantage of panel data over other data structure is that it allows controlling the variables that cannot be observed or measured. It also controls the variables that change over time but not across entities. Hence it accounts for individual heterogeneity and have the freedom to include variables at any stage of the analysis. Keeping in mind the large scope of heterogeneity in the firm size, the present study

has used panel data technique. Fixed Effect and Random Effect models have been experimented to capture the functional relationships between the models.

Fixed Effect (FE) Model: FE models are useful when we want to analyse the impact of variables that vary over a period of time. It explores the relationship between predictor and the outcome variable within an entity and each of the entity has its own features that may or may not be captured by the predictor variables. It is believed that something within the individual entities may bias the predictor or outcome variable and hence, need to be controlled. This is the rationale behind the assumption that the correlation between an entity's error and predictor variable should be zero. FE model removes the effects of the time invariant features of the predictor variables so that the net and unbiased effect of the predictor can be captured. Generally, those time invariant characteristics are unique to the entity and should not be correlated with other entities. Each entity is independent and therefore the entity's error term (ϵ_{it}) and constant (α_i) should not be correlated with others. The constant (α_i) captures the individual effects. If error term (ϵ_{it}) and constant (α_i) are correlated, then FE model is not suitable, rather we have to choose Random Effect (RE) models. The equation of FE model can be written as:

$$Y_{it} = \alpha_{1i} + \beta_1 X_{1it} + \beta_2 X_{2it} + \epsilon_{it}$$

$$i = 1, 2, \dots, N. \text{ (Cross-sectional identifier)}$$

$$t = 1, 2, \dots, T. \text{ (Time identifier)}$$

FE model assumes slope of the model remain constant and intercept (α) change across individuals (or panels) but remains fixed over time. Hence FE models are time Invariant.

Random Effect Model: RE models are otherwise known as Random intercept or Partial pooling model. The rational of RE model is that the variation across entities is assumed to be random and uncorrelated with the independent variables. If the difference across entity has some influence on dependent variable RE model should be used. Moreover, time invariant variables can be included in RE models, which are absorbed by intercept (α_i) in FE models. In case of RE model, α_{1i} is assumed to be random with group mean value of intercept.

$$Y_{it} = \alpha_{1i} + \beta_1 X_{1it} + \beta_2 X_{2it} + \epsilon_{it}$$

$$\text{and } \alpha_{1i} = (\alpha_1 + \mu_i)$$

$$Y_{it} = \alpha_1 + \beta_1 X_{1it} + \beta_2 X_{2it} + \omega_{it}$$

Where $\omega_{it} = (\mu_i + \varepsilon_{it})$ is a composite error term with firm specific error (μ_i) and cross section error term (ε_{it}).

Selection of Appropriate Model

Hausman test is used to decide the preferred model between FE and RE models in panel data analysis. It basically tests whether the unique error (μ_i) is correlated with regressor. The null hypothesis (H_0) of Hausman test implies, $H_0: \mu_i$ is not correlated with regressor. Hausman assumes an asymptotic Chi-square (χ^2) distribution. If H_0 is rejected, then Fixed Effect (FE) model will be the appropriate model, otherwise Random Effect (RE) model would be the alternative selection. Conceptually, if μ_i and X_i are correlated, then FE model is preferred and if μ_i and X_i are uncorrelated, then RE model is preferred.

4.3 Objective 3: Dynamics of financial health on corporate balance sheet and its Impact on Banks' financing and Net Interest Margin

This objective aims to capture the impact of financial health on corporate balance sheet with special reference to corporate profitability and operating efficiency. The structure of external financing impacts corporate balance sheet via corporate profitability, addressing operational efficiency of capital employed, use of debt financing to long term asset and the change in the structure of current liability, are the major research questions. The study extends its models i.e. model 7 to 11 that aims to capture the impact of financial health through the structure of its external financing on corporate balance sheet outcomes. Model 7 captures the impact on return on asset, which is a profitability indicator of corporate balance sheet. Similarly, Model 8 captures the impact on return on capital employed, which is the profitability indicator of capital employed. Model 9, 10 and 11 have studied the impact of external financing on current and non-current liability as well as net working capital management. These models are presented below.

4.3.1 Statistical Models

Model 7:

$$ROA_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} \\ + \theta_1 INTR_t + \varepsilon_{it}$$

Model 8:

$$ROCE_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 CDR_{it-1} + \beta_4 DR_{it-1} + \beta_5 GR_{it-1} \\ + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} \\ + \theta_1 INTR_t + \varepsilon_{it}$$

Model 9:

$$DR_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 ROA_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} \\ + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 10:

$$CDR_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 ROA_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} \\ + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 11:

$$NWC_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 EBITDAR_{it-1} + \beta_3 ROA_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} \\ + \gamma_2 ETTB_{it} + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 12:

$$BROA_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 CDR_{it-1} + \beta_3 DR_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} \\ + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 13:

$$NIM_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 CDR_{it-1} + \beta_3 DR_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} \\ + \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it}$$

Model 14:

$$\begin{aligned} L\&A_{it} = \alpha + \beta_1 ATR_{it-1} + \beta_2 CDR_{it-1} + \beta_3 DR_{it-1} + \beta_4 GR_{it-1} + \gamma_1 BBTTB_{it} + \gamma_2 ETTB_{it} \\ &+ \gamma_3 BBTEV_{it} + \gamma_4 TBTEV_{it} + \gamma_5 ETEV_{it} + \theta_1 INTR_t + \varepsilon_{it} \end{aligned}$$

CHAPTER V

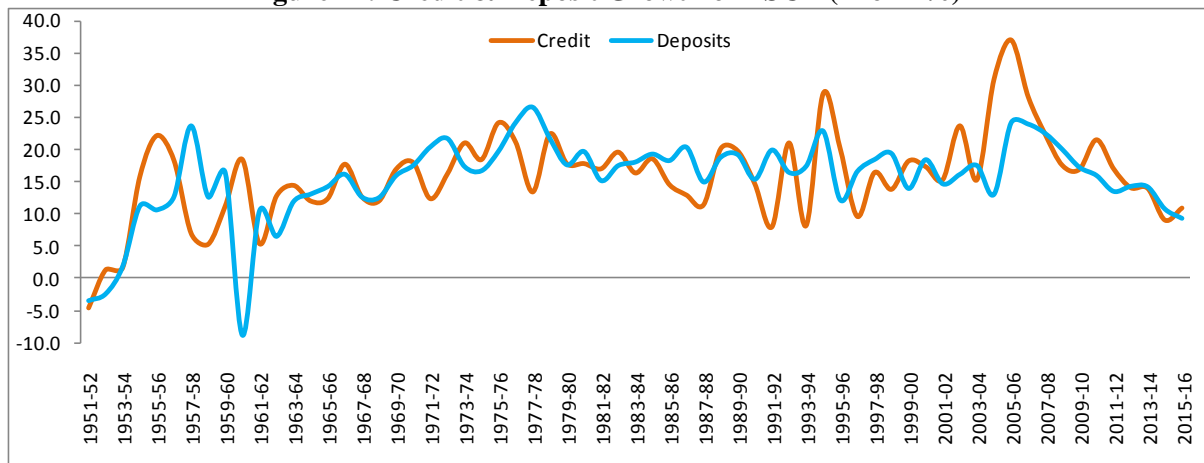
Empirical Results & Interpretation

This chapter has presented the empirical analysis and findings as per individual objectives.

5.1 Objective 1: Financial Disintermediation and its Impact on Banks' Performance and Profitability

The role of Commercial banks in the intermediation process is very significant for Indian economy as Commercial banks have overwhelming control over the entire financial assets of the economy and more so because of the underdeveloped capital market. To understand the bank disintermediation process for the whole banking industry, the credit and deposit disintermediation indices are analyzed here. The hypothesis '*Capital market growth is a significant disintermediation variable for banking in India*' is being tested.

Figure 22: Credit & Deposit Growth of ASCB (Y-o-Y %)



Source: Reserve Bank of India

Total credit off-take by all schedule commercial banks has nevertheless registered positive growth over the years, but the acceleration speed has come down. Total credit outstanding with the ASCB has reached to Rs.71.12 lakh crore in March 2016 from Rs.5.99 lakh crore in March 2002, at a CAGR of 19.6%. Similarly, the total deposits of ASCB

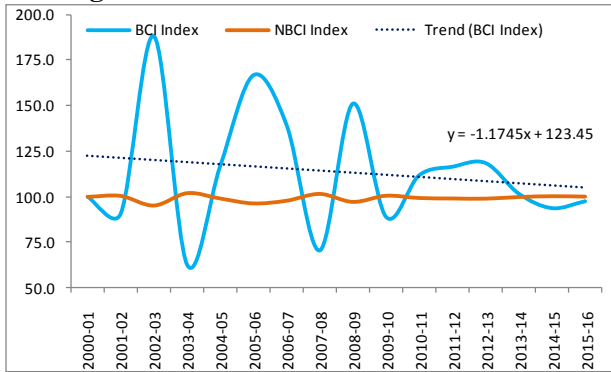
reached to Rs.93.27 lakh crore by March 2016 from Rs.11.03 lakh crore in March 2002, at a CAGR of 16.5%.

The average credit growth of the ASCB in pre-recession period (2001-02 to 2007-08) was much higher (24.6%) compared to post recession period (2009-10 to 2015-16) at 14.5%. Similarly, the average deposit growth in pre-recession period (2001-02 to 2007-08) was much higher (18.8%) compared to post-recession period (2009-10 to 2015-16) at 13.6%. This moderation in credit and deposit growth is attributed to a number of factors including economic slowdown and low business confidence, but development of alternate source of funding options is also one of the factors responsible for the moderation in credit. Similarly, the robust performance of the capital market attracted more and more household savings towards capital market indicating a clear shift of deposits from banks. The sub-prime crisis of 2007-08, crashed the market and resulted in investor or depositor shy away from the capital markets.

The individual decision to park the savings in a bank account or in a non-bank institution varies from time to time. The same argument is also applicable in case of credit. Hence, a drop in banks' intermediation indices (both deposit and credit) in relation to time with a similar increase in the index figures of non-banking institutions, or otherwise, a negative slope in trend can be considered as bank disintermediation through institutionalization. The index values are rebased based on the 2000-01 number (2000-01=100).

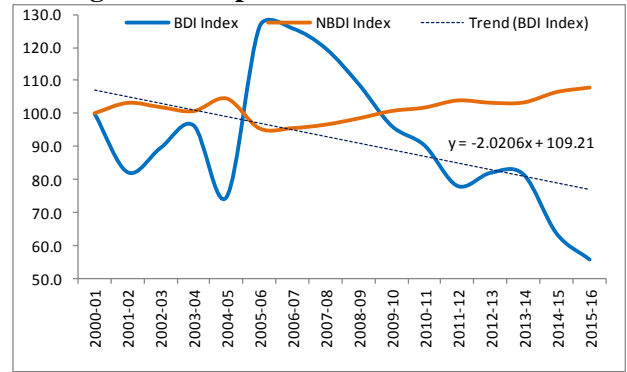
Bank Credit Intermediation Index though has remained same in 2015-16 compared to 2000-01 but appears with a huge volatility in between years. The overall slope as measured by the trend line shows a negative slope for bank credit intermediation index. In case of bank deposit intermediation index, the index showed a sudden jump from 0.15 in 2000-01 to 0.19 in 2005-06 and then declined further to reach minimum of 0.08 in 2015-16. Similar negative slope is also recorded for deposit intermediation index for banks. Hence an evidence of bank disintermediation through institutionalization is observed.

Figure 23: Credit Intermediation Index



Source: RBI, SEBI, Authors' Calculation

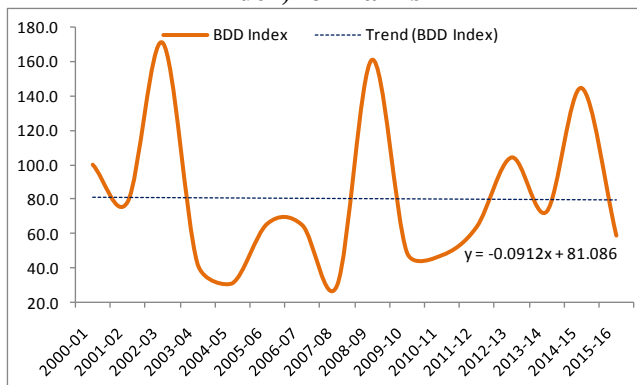
Figure 24: Deposit Intermediation Index



Source: RBI, SEBI, Authors' Calculation

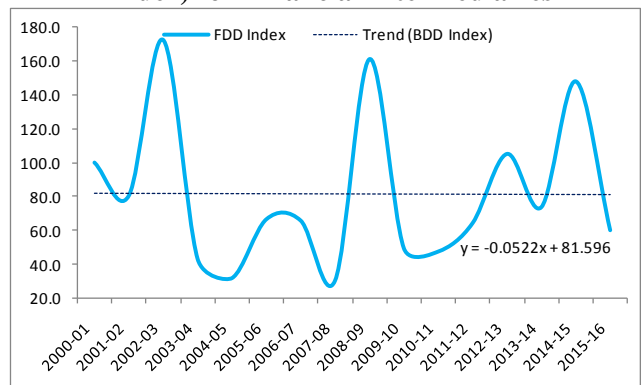
Financial disintermediation indices are to measure the impact of capital market disintermediation on all financial institutions (both bank and nonbanking institutions). The Figures depict the movement of all the four indices from 2000-01 to 2015-16. For BDD Index, the ratio has declined to 0.13 in 2015-16 from 0.21 in 2000-01. Similar trend is also observed for FDD index as the index has come down from 0.21 in 2000-01 to 0.13 in 2015-16. The common trend between the two indices is seen as they are highly positively correlated. It is seen that the deposit indices have reached lowest level in 2007-08, pre-subprime crisis, when the equity market boomed and market capitalization of corporate reached its peak. Due to better return, depositors were parking their savings in equity market related instruments.

Figure 25: Deposit Disintermediation Index (BDD Index) for Banks



Source: RBI, SEBI, Authors' Calculation

Figure 26: Deposit Disintermediation Index (FDD Index) for Financial Intermediaries



Source: SEBI, RBI, Authors' Calculation

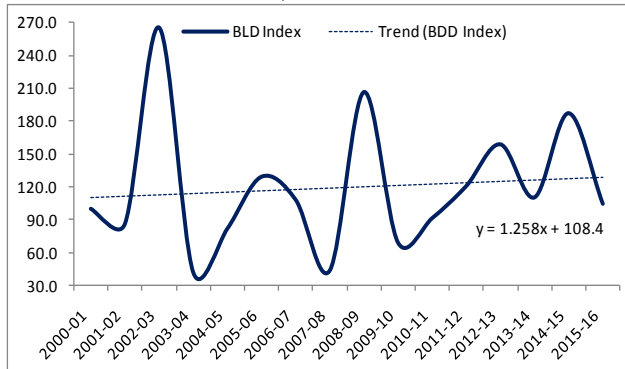
The deposit disintermediation index depicted in above picture portrays no clear movement of the index during the studied period, though with an insignificant negative slope

that pronounces more disintermediation. In the event of segregating the whole studied period of 16 years to pre (2000-01 to 2007-08) and post sub-prime crisis (2008-09 to 2015-16) period, it throws some interesting facts. The slope coefficient of the banking (deposit) disintermediation index was negative during both the studied periods but the slope coefficient during pre-recession phase was much higher than the slope coefficient of post recession phase. The same trend is also observed for financial disintermediation (deposit) index. This clearly shows that the disintermediation process that started in later half of the nineties got pronounced till the sub-prime crisis. The capital market crash again weakened the disintermediation process.

In case of credit disintermediation indices, especially for bank credit disintermediation index, the index did not record any significant change, albeit there was volatility in the interim periods. This shows that banks are still treated as major source of finance for corporate. Importantly, the credit disintermediation index for banks is seen declining gradually to reach lowest point (0.05) in 2007-08, before having a 'u' turn (0.22) in subsequent year, 2008-09. This shows that it was not only depositors who were attracted towards capital market investment, corporate were also getting access to easy credit at lower rate compared to those from banks. But economic meltdown led to a nosedive in capital market activity and corporate again shifted to banks as the favorite financing destinations. In case of financial disintermediation index, the numbers are hard to interpret as during some of the years negative net credit was seen by all financial institutions. A significant variation is observed during the subprime crisis as during this phase, funds mobilized through capital market came to a standstill due to panic, contagion effect from international market and depletion in investors' faith.

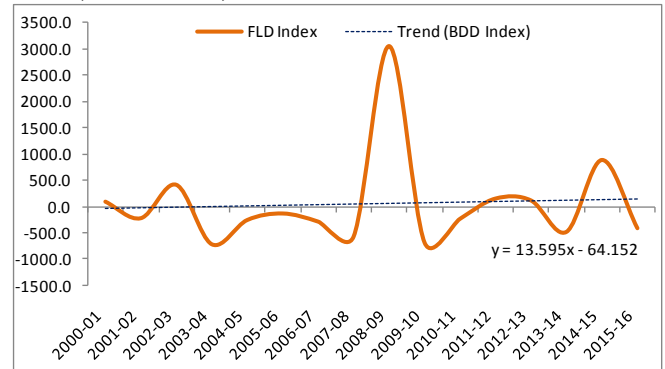
When we segregate the whole studied period of 16 years to pre (2000-01 to 2007-08) and post sub-prime crisis (2008-09 to 2015-16) period, it is observed that the slope coefficient of the banking (credit) disintermediation index was negative during both the studied periods but the slope coefficient during pre-recession phase was much higher than the slope coefficient of post recession phase. This clearly shows that the disintermediation process that started in later half of the nineties got pronounced till the sub-prime crisis. The capital market crash again weakened the disintermediation process and banks regained their lost position in credit disbursement.

Figure 27: Loan Disintermediation Index (BLD Index) for Banks



Source: RBI, SEBI, Authors' Calculation

Figure 28: Loan Deposit Disintermediation Index (FLD Index) for Financial Intermediaries



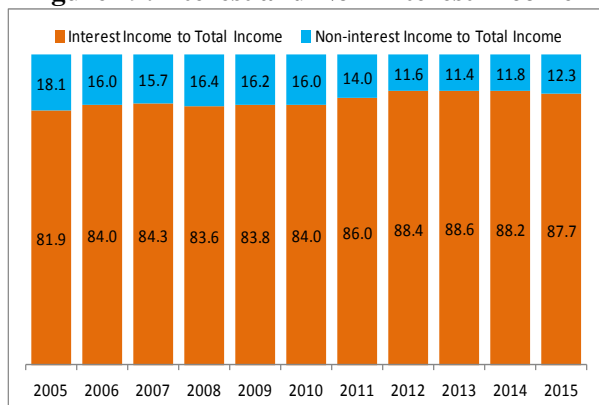
Source: RBI, SEBI, Authors' Calculation

For a lower-middle income economy like India, there is huge need of funds to finance growth. In a speech (26 June, 2016) addressing a seminar on "Infrastructure and Global Economic Growth" organized by Asia Infrastructure Investment Bank (AIIB), Finance Minister Shri Arun Jaitley has stated that, "Over the next decade, we require over \$1.5 trillion in India alone to fill up the infrastructure gap". Total credit outstanding of ASCB at end 2015-16 was \$1.08 trillion (assuming 1 USD= 66 INR). When only infrastructure sector's funding requirement is projected at \$1.5 trillion which is ~ \$450 billion higher than total credit outstanding of ASCB till now, threat of disintermediation seems to be not alarming at this juncture, which might change in the later phase. Commercial banks get ample space to expand their business to meet the funding requirement of all the sectors of the economy.

5.1.1 Impact of Disintermediation on Banks' Performance and Profitability

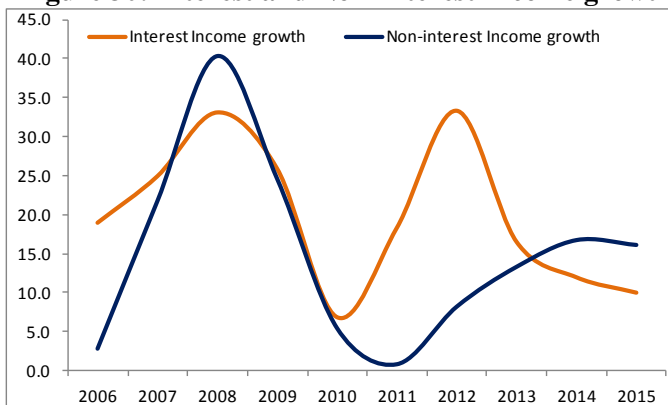
Bank performance is a function of several inputs. As defined by 'Berger 2005', both micro, i.e., bank related variables and macro variables affect its performance. One of the important measures of efficiency is the intermediation cost stated as a percent to total assets. Another widely used measure is the cost-income ratio that may be defined as the ratio of operating cost to net total income. In addition, some of the widely used measures are non-interest operating expenses to total assets, total expenses to assets, total expenses to total revenue, non-interest expenses to adjusted operating revenue and staff expenses to assets. The parameters of profitability used are return on assets, return on equity, profit per employee, etc.

Figure 29: Interest and Non-Interest Income



Source: Reserve Bank of India

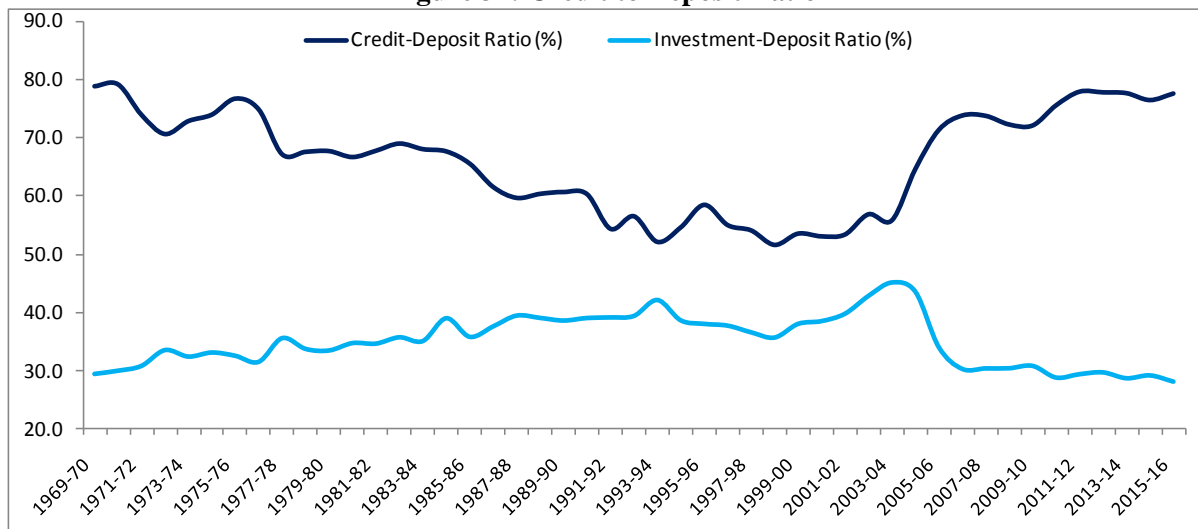
Figure 30: Interest and Non-Interest Income growth



Source: Reserve Bank of India

Logically, gradual disintermediation would lead to relatively increased contribution of the non-interest income to total income of the Bank. The reason behind this is the shift in services by the bank away from interest earning assets, such as, loans and advances, and investment activities towards various other non-income activities which include income from fee, commission and other service charges. Non-interest income to total income of the ASCB has moderated from 18.1% in 2004-05 to 11.8% in 2013-14 before increasing marginally to 12.3% in 2014-15. The ratio of non-interest income to interest income has come down from 22.1% in 2004-05 to 14.1% in 2014-15. The growth rate of the interest income of the ASCB has slowed down from 19% in 2004-05 to 10% in 2014-15. At the same time, non-interest income growth has increased from 2.7% to 16.1% during the same period. This shows that due to deepening of disintermediation and competition from peers, banks are attempting to raise non-interest income.

Broadly saying, the two important measures that determine the level of bank performance in terms of its intermediary behavior are the credit-deposit ratio (C-D ratio) and investment-deposit (I-D ratio). These two ratios determine as to what percent of deposits accepted goes towards loan and what percent goes towards investment activities instead of getting converted into loan. An increase in the C-D ratio shall mean that more of the deposit is converted into loan assets, which is a sign for improvement of basic intermediation activity. Whereas increase in I-D ratio means deviation away from intermediation activity as it shows that more and more of deposits is getting invested into market.

Figure 31: Credit to Deposit Ratio

Source: Reserve Bank of India

Both C-D ratio and I-D ratio of ASCB is depicted above show a gradual increase in I-D ratio till the year 2004-05, accompanied by a decline in C-D ratio. The C-D ratio of the ASCB declined from 79% in 1969-70 to the lowest level of 51.7% in 1998-99 and accelerated thereafter to record 77.7% in 2015-16. I-D ratio also expanded from 29.5% in 1969-70 to 42.1% in 1993-94 and reached peak of 45% in 2003-04 before moderating further to reach 28.1% in 2015-16. From credit side, development of the capital market along with economic liberalization was one of the important reasons why I-D ratio was high in nineties and beginning of twenty first century. Economic boom helped corporate to raise capital from the primary market and through issuance of bonds. Most importantly, the important segment of the bank lending, i.e., large corporate borrowing was very limited during that phase. Most of the large corporate were relying on market sources rather than bank credit for their business expansion.

However, C-D ratio jumped from 55.9% in 2004-05 to 64.7% in 2005-06, outpacing the growth of I-D ratio. Further, the sub-prime crisis incidence augmented deepening of the bank credit as capital market collapsed and most of the borrowers shifted their preference to bank borrowings due to lack of liquidity in the capital market. Higher I-D ratio in the first phase of twenty first century was attributed to the regulatory guidelines including RBI instructions of maintaining higher reserve requirements that required more of funds to be parked in Government securities and other approved securities and ultimately lower allocation towards

credit. Gradually, the policy in lowering the mandatory requirements of SLR and CRR resulted in increasing quantity of funds available with banks for credit disbursal.

5.1.2 Disintermediation and the Bank Performance: A Correlation

Table 7: Correlation Matrix (2000-01 to 2014-15)				
	BLD Index	BDD Index	Interest income	Interest Expense
BLD Index	1.00			
BDD Index	0.925** (0.000)	1.00		
Interest income	0.309 (0.263)	0.457 (0.087)	1.00	
Interest Expense	0.284 (0.305)	0.490 (0.064)	0.903** (0.000)	1.00
2000-01 to 2006-07				
BLD Index	1.00			
BDD Index	0.900 (0.006)	1.00		
Interest income	0.335 (0.463)	0.672 (0.098)	1.00	
Interest Expense	0.335 (0.463)	0.672 (0.098)	0.990 (0.000)	1.00
2008-09 to 2014-15				
BLD Index	1.00			
BDD Index	0.973** (0.00)	1.00		
Interest income	0.222 (0.633)	0.113 (0.809)	1.00	
Interest Expense	0.386 (0.393)	0.441 (0.322)	0.471 (0.286)	1.00

*Source: Author's Calculation; *&**: Correlation is significant at the 0.05 level (2-tailed) and 0.01 levels (2-tailed); Number in parenthesis is the p-value.*

To study the impact of financial disintermediation process on the performance of the commercial banks, it is necessary to measure the correlation between disintermediation indices and the basic measures of the banks' performance. The correlation matrix discloses the relation between the disintermediation indices with two of the important performance indicators for the Banks, i.e., interest income and interest expense (both expressed as a percent to total assets). For the measures of performance, i.e., interest income and interest expense, the theoretical assumption is that due to the impact of disintermediation both will get reduced, or in other words, there will be a direct positive correlation between them and the disintermediation indices. Theoretically, the correlation between banking

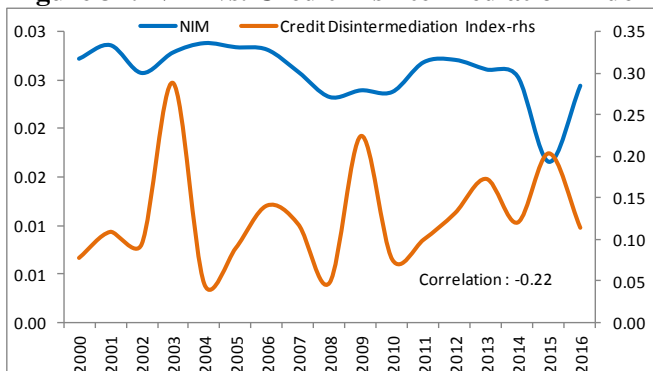
disintermediation indices (credit & deposit), and banks' interest income and expense should be positively correlated, which show higher intermediation activity and vice versa.

During the full studied period (2000-01 to 2014-15), we have seen an insignificant positive correlation between credit disintermediation index and banks' interest income and expenses. Even segregating the complete studied period to pre and post-recession period shows no significant change in the correlation value and sign. But the correlation between deposit disintermediation index and interest income and expenses of the banks' show positive correlation though significant at 10% level. However, the correlation between these has become weak and insignificant in the post-recession period, whereas, pre-recession period correlation was robust and positive and only significant at 10% level.

5.1.3 Regression Result: Impact of Financial Disintermediation on Banks' NIM

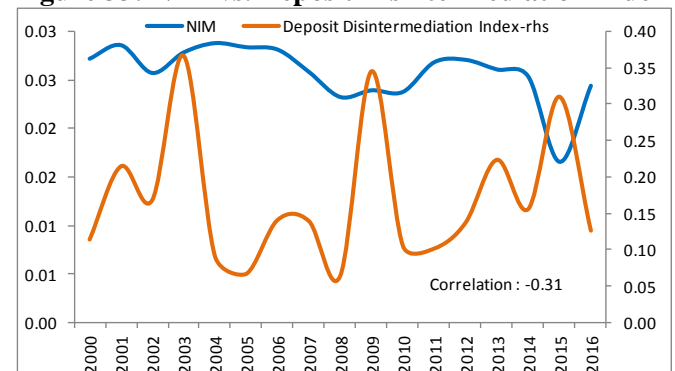
Theoretically, if disintermediation impacts the performance and profitability of the banks, then there will be a negative slope between the net interest margin with that of the market capitalization index, i.e., with an increase in market capitalization index, there will be a decline in the value of net interest margin. The correlation coefficient in our case is reported as -0.50 with 5% level of significance. MCAP and SB may also indicate the complementarities or substitutability between bank and equity market financing. Hence, it may be anticipated that if NIM has negative relation with market capitalization, then it would also have negative relation with size of a bank (bank asset to GDP). In our present case, we have also observed the same negative correlation of -0.60 with 1% significant level.

Figure 32: NIM vs. Credit Disintermediation Index



Source: RBI, Authors' Calculation

Figure 33: NIM vs. Deposit Disintermediation Index



Source: RBI, Authors' Calculation

The credit disintermediation index that measures impact of capital market development over bank credit, contrary to previous variables (MCAP & SB), the relation here between NIM and disintermediation index is expected to be a straight one as it may well be assumed that if disintermediation is making impact over banks' performance, there will be a decline in the Bank's NIM. However, the study has shown negative correlation (0.20) though it is insignificant. This might be lauded by increase in competition and regulators restriction which has limited the commercial banks' pricing power and interest income.

Surprisingly, our study shows a negative slope though insignificant at 10% level. However, the relation between these two variables during pre and post sub-prime crisis is seen positive. The correlation co-efficient between disintermediation index and NIM was recorded 0.32 during 2001-02 to 2007-08 and the relation further strengthened to 0.57 during post-crisis period (2009-10 to 2015-16).

Table 8: Regression Result: Financial Disintermediation and Banks' NIM		
Dependent Variable: <i>Net Interest Margin (NIM)</i>	Model 1	Model 2
Constant	0.03** (4.84)	0.03** (5.91)
SB	-0.02 (-2.07)	-0.02 (-1.72)
MCAP	-0.01 (-1.92)	-0.01* (-2.36)
CD	0.04 (1.75)	0.03 (1.59)
BLD	-.018 (-1.54)	-
BDD	-	-.016* (-2.27)
Diagnosis	<i>F statistics: 3.44 (p-0.04)</i> <i>R²: 0.534</i> <i>Root MSE: 0.002</i> <i>VIF: 7.66</i> <i>Heteroscedasticity (Breusch-Pagan):4.90 (p- 0.03)</i> <i>DW: 1.73</i>	<i>F-statistics: 4.68 (p-0.02)</i> <i>R²: 0.609</i> <i>Root MSE: 0.002</i> <i>VIF: 7.16</i> <i>Heteroscedasticity (Breusch-Pagan):3.59 (p- 0.058)</i> <i>DW: 1.578</i>
<i>Note: The numbers in parentheses are t-statistics. ** and * represent statistical significance at 1% and 5% levels, respectively.</i>		

We have set two sets of regression models using credit disintermediation and deposit disintermediation model separately as these two variables are highly correlated (0.92) at 1%

significance level. The first model that uses credit disintermediation index is seen to be significant (F-statistics: 3.44) at 5% level. Though most of the independent variables (except SB) reflected wrong sign, those were not statistically significant. The goodness of fit is recorded as 53% with root mean square error of 0.002. The overall model is significant at 5% level. The regression result of NIM shows that, the regression co-efficient of market capitalization index is negative and significant at 5% level.

The regression diagnostics are conducted to see the predictability of the regression model. To check whether regression model suffers from multicollinearity, we have conducted VIF (Variance Inflation Factor) test. The primary concern is that as the degree of multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. As a rule of thumb, if VIF values are greater than 10, it may merit further investigation. Tolerance, i.e., defined as $1/VIF$, is also used to check on the degree of collinearity, tolerance value lower than 0.1 is comparable to a VIF of 10. It means that the variable could be considered as a linear combination of other independent variables. In our case, VIF and tolerance of none of the variables is worrisome and is found to be in the reasonable limit. Hence our model is free from multicollinearity issue.

In the second diagnostic stage, we have conducted Breusch-Pagan/Cook-Weisberg test to identify the heteroscedasticity issue in the model. The null hypothesis of constant variance or homoscedasticity is rejected as the chi-square (χ^2) value is recorded at 4.90, significant at 5% level. Hence the model suffers from heteroscedasticity problem. The next diagnostic check is of Autocollinearity. The Issues of Independence is checked via Durbin Watson statistics. The assumption that the errors associated with one observation are not correlated with the errors of any other observation covering several different situations. The Durbin-Watson statistic has a range from 0 to 4 with a midpoint of 2. The observed value in this case is close to 2, i.e., 1.73, giving indication of no autocollinearity. Though the model is a good fit, outputs may not be reliable.

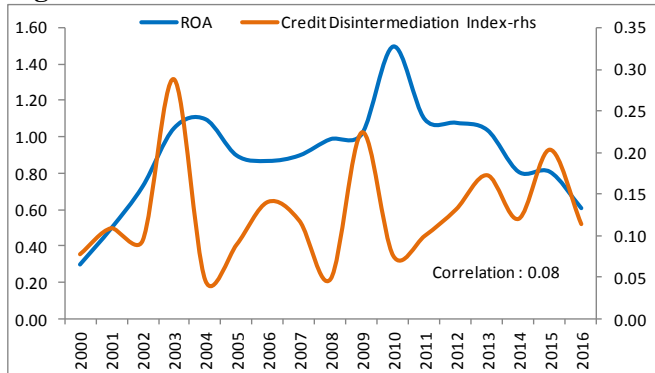
In the second regression equation, altering deposit disintermediation index in place of credit disintermediation index, we have seen better results. The model is seen to be significant (F-statistics: 4.68) at 5% level. Most of the independent variables (except SB) here also reflects unexpected sign, but not statistically significant. Among the independent variables, only MCAP is significant at 5% level. The goodness of fit is recorded as 60% with

root mean square error of 0.002. The overall model is significant at 5% level. The diagnosis check shows better result than the earlier model. We can conclude that disintermediation has not significantly affected the performance of the banks.

5.1.4 Regression Result: Impact of Financial Disintermediation on Banks' ROA

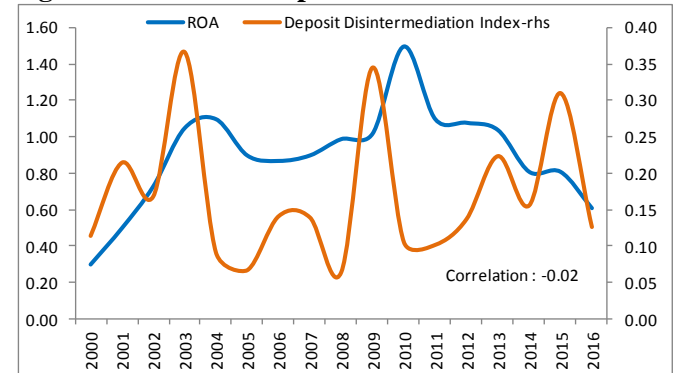
In this equation, the impact of credit and deposit disintermediation on banks' profitability is measured. The hypothesis of disintermediation affects profitability of the banks is tested here. Theoretically, there should be a negative relation between profitability measure (ROA) with market capitalization index, i.e., with an increase in the value of market capitalization index, there will be a decline in the value of ROA.

Figure 34: ROA vs. Credit Disintermediation Index



Source: RBI, Authors' Calculation

Figure 35: ROA vs. Deposit Disintermediation Index



Source: RBI, Authors' Calculation

In the current study, the regression co-efficient of market cap is seen positive (0.64) but statistically insignificant. SB and ROA are positively correlated but not significant. The credit disintermediation index is expected to be negatively correlated to ROA. But, the study shows a positive but insignificant slope. A negative insignificant positive relation between C-D ratio and ROA shows that intermediation activity is no more the main source of profitability for the banks. Hence, apart from intermediation activity, banks' profitability also gets determined by other sources. The overall model is seen to be insignificant even at 10% level as the F-statistics records at 1.68. The R^2 is printed at 36%, showing that the model is a not a good fit and the sum of four regressors explains nearly 34% variations in ROA.

Table 9: Regression Result: Financial Disintermediation and Banks' ROA		
Dependent Variable: <i>Return on Asset (ROA)</i>	Model 1	Model 2
Constant	1.03 (1.71)	0.88 (1.47)
SB	2.43 (1.89)	2.29 (1.70)
MCAP	0.87 (1.62)	0.64 (1.23)
CD	-4.08 (-1.70)	-3.34 (-1.43)
BLD	1.13 (0.94)	-
BDD	-	0.23 (0.28)
Diagnosis	<i>F statistics: 1.99 (p-0.16)</i> <i>R²: 0.40</i> <i>Root MSE: 0.24</i> <i>VIF: 7.66</i> <i>Heteroscedasticity (Breusch-Pagan):0.08 (p- 0.77)</i> <i>DW: 0.639</i>	<i>F-statistics: 1.68 (p- 0.22)</i> <i>R²: 0.36</i> <i>Root MSE: 0.25</i> <i>VIF: 7.16</i> <i>Heteroscedasticity (Breusch-Pagan):0.00 (p- 0.96)</i> <i>DW: 0.660</i>
<i>Note: The numbers in parentheses are t-statistics. ** and * represent statistical significance at 1% and 5% levels, respectively.</i>		

The regression diagnostics for the profitability model is conducted to see the predictability of the regression model. To check whether regression model suffers from multicollinearity, we have conducted VIF (Variance Inflation Factor) test. In this case, VIF and tolerance of none of the variables is worrisome and is found to be in the reasonable limit. Hence the model is free from multicollinearity issue. In diagnostic stage of heteroskedasticity, the Breusch-Pagan/Cook-Weisberg test, null hypothesis of Constant variance or homoscedasticity is not rejected as the chi-square (χ^2) value is recorded at 0.00, not significant even at 10% level. Hence our model is also free from Heteroscedasticity problem. The next diagnostic check is of Autocollinearity. The observed D-statistics in our model is not close to 2, i.e., 0.66, giving indication of autocollinearity issue. Overall the model is not reliable. Hence the model is not sufficient to predict any relation between regressors and regressand. The same set of results is also seen for the other model. Hence we do not see the impact of disintermediation on banks' profitability.

5.2 Objective 2: The Dynamic and Equilibrium Relationship between Corporate Health and External Financing

Each model has given special attention with respect to predestination tests to capture the multicollinearity and heteroskedasticity among the panels. Though the present study uses the balance sheet information and the key parameters are estimated for the balance sheet information, there is high probability that the independent variables will be correlated. Hence before moving to solving the final model, the collinear variables are identified through their VIF (variance inflating factor). Again, the estimated models are adjusted with robust standard error to capture the heterogeneity among the panels.

Model 1, captures the empirical relationships between Altman Z score (AMZ) and a group of regressor including firm specific and external financing variables. Out of the independent variables, the model considers asset turnover ratio (ATR), debt ratio (DR) and good ration (GR) as the firm specific variables. Other forms of specific variables are not considered in model 1 due to multicolianearity, failure to capture the model objectives and to improve the overall level of significance of the model. Secondly, the model 1 aims to capture the impact of institutional financing of firm value. Analyzing the estimated statistics, the Hausman test recommends random effect after it fails to reject the null hypothesis (H_0) that the difference in coefficients is not systematic. The significant Wald Chi square, indicated the overall significance level of the model. It has been found that the asset turnover ratio (ATR), debt ratio (DR) and good ration (GR) are positively and significantly impacting financial health of the firms as indicated by AMZ which is in line of theoretical expectation. Among the external financing parameters, i.e. equity out of total borrowing (ETTB) and bank borrowing out of total borrowing (BBTTB), ETTB is positively and significantly impacting financial health of the firm i.e. higher equity financing out of total borrowing would increase Z score (AMZ) where increase Z score implies better financial health and far from bankruptcy. Control factor interest is appearing positive and significant in influencing financial health in the present study.

Similarly, model 2 captures the impact of external financing captured by bank borrowing as proportion of enterprise value (BBTEV), total borrowing as proportion of enterprise value (TBTEV), and equity financing out of enterprise value (ETEVE) on Z score where TBTEV is negatively and significantly impacting Z score. The increasing proportion of total borrowing out of enterprise value would have a significantly negative impact on

financial health of the firm. Increasing total borrowing out of enterprise value would reduce Z score that decreases financial health and increases chances of bankruptcy. Bank and equity borrowing to enterprise value i.e. (BBTEV) and (ETEVE) is appearing insignificant to influence financial health of the firms. Moreover all the firm specific indicators and the interest rate are positive and significant in line with Model 1, supporting the stability of the estimated parameters.

Table 10: Estimated Results of Model 1 & 2: Corporate Health vs. External Financing			
Model 1: AMZ (Dependent Variable)		Model 2 AMZ (Dependent Variable)	
Number of Observations	16000	Number of Observations	16000
Number of Groups	1000	Number of Groups	1000
Wald Chi ²	357.09***	Wald Chi ²	365.07***
Rho	0.0029	Rho	0.0021
Variables	Coefficients	Variables	Coefficients
ATR	0.082***	ATR	0.081***
DR	0.091**	DR	0.140**
GR	0.048***	GR	0.047***
BBTTB	0.003	BBTEV	0.007
ETTB	0.004**	TBTEV	-0.016**
INTR	0.145**	ETEVE	0.008
Constant	0.058	INTR	0.140**
		Constant	0.177
Hausman Test Statistics		Hausman Test Statistics	
Chi ² = 2.04 Prob. = 0.84		Chi ² = 12.94 Prob. = 0.117	
<i>Note: ***, **, * implies the level of significance at 1%, 5% and 10% level, respectively.</i>			

Model 3, brings all the five external financing parameters together to analyze their impact on financial health indicator. The consistency of the properties of the estimated parameters in the Model 3 further justifies the robustness of the model and probability of accuracy. All the firm specific parameters are positive and significant. Out of external financing parameters, ETTB is having a significantly positive and TBTEV is having a significantly negative impact on corporate health. Collectively a higher equity financing out of total borrowing and a lower total borrowing out of its enterprise value can boost corporate financial health, provided the firms achieve a significant net sales over its total asset, an ideal portion of long term asset financed by debt and the firms reinvesting back a significant amount of their retained earnings. In all the three models of AMZ, the rho, the interclass correlation parameter is substantially low (less than 3%) implying less than 3% of variance in

the error distributions of the model is due to difference across panels. All the 1000 sample firms are of different size. Hence heterogeneity seems to be natural phenomenon. To capture these heterogeneity, the study has estimated the parameters with robust standard error that could successfully controlled the heteroskedasticity in the estimated error.

Table 11: Estimated Results of Model 3 & 4: Corporate Health vs. External Financing			
Model 3: AMZ (Dependent Variable)		Model 4: TQ (Dependent Variable)	
Number of Observations	16000	Number of Observations	16000
Number of Groups	1000	Number of Groups	1000
Wald Chi ²	368.22***	Wald Chi ²	127.11***
Rho	0.0022	Rho	0.045
Variables	Coefficients	Variables	Coefficients
ATR	0.081***	EBITDAR	1.905**
DR	0.140**	CDR	-0.162*
GR	0.047***	DR	-0.158*
BBTTB	0.002	GR	1.876**
ETTB	0.003*	BBTTB	-0.008
BBTEV	0.007	ETTB	0.003**
TBTEV	-0.016**	INTR	1.350**
ETEV	0.007	Constant	-5.507
INTR	0.139*		
Constant	0.180		
Hausman Test Statistics		Hausman Test Statistics	
Chi ² =12.81 Prob. = 0.118		Chi ² =02.91 Prob. = 0.719	
<i>Note: ***, **, * implies the level of significance at 1%, 5% and 10% level respectively.</i>			

In a similar attempt, the present study also tries to capture the impact of external financing on corporate health; taking Tobin's Q as the indicator of a firm's health. The estimated result of Models 4, 5 and 6 is presented in adjacent table. In these models, as firm specific factor, we have taken ratio of EBITDA to total asset (EBITDAR), current debt ratio (CDR) i.e. ratio of current debt to total asset, Debt ratio (DR) i.e. ration of non-current liability to total asset and finally good ratio (GR) i.e. retained earnings over total asset. The variables are selected to avoid multicollinearity among regressor and those variable are taken that can improve models predictive ability without suffering from the problem of model misspecification. In the present study, enormous effort has been given to make each model unique to its structure of parameters.

Table 12: Estimated Results of Model 5 & 6: Corporate Health vs. External Financing

Model 5: TQ (Dependent Variable)		Model 6: TQ (Dependent Variable)	
Number of Observations	16000	Number of Observations	16000
Number of Groups	1000	Number of Groups	1000
Wald Chi ²	27.79***	Wald Chi ²	127.01***
Rho	0.044	Rho	0.045
Variables	Coefficients	Variables	Coefficients
EBITDAR	1.902***	EBITDAR	1.902***
CDR	-0.151**	CDR	-0.152**
DR	-0.146**	DR	-0.147**
GR	1.873**	GR	1.874**
BBTEV	-0.002	BBTTB	-0.008
TBTEV	-0.015**	ETTB	0.003*
ETEV	0.002	BBTEV	-0.002
INTR	1.27**	TBTEV	-0.015**
Constant	-5.212	ETEV	0.002
		INTR	1.268**
		Constant	-5.128
Hausman Test Statistics		Hausman Test Statistics	
Chi ² = 09.73 Prob. = 0.218		Chi ² = 14.73 Prob. = 0.071	
<i>Note: ***, **, * implies the level of significance at 1%, 5% and 10% level respectively.</i>			

All the firm specific parameters are appearing statistically significant. EBITDAR and GR are positively impacting TQ compared to CDR and DR which are having negative impact. Since TQ represents firm value, an increased earning and retained rate would definitely add to value and more current and non-current liability would impact negatively. Hence the estimated statistics is as per theoretical expectation. Among the external financing parameters ETTB i.e., Equity out of total borrowing is having significantly positive impact on TQ. Similarly, in Model 5, total borrowing out of enterprise value (TBTEV) is significantly and negatively impacting. The same consistency is observed in Model 6. More over all the external financing parameters are impacting corporate health in the same way irrespective of corporate health being proxied by Altman Z score or Tobin's Q value. All the 6 models are statistically significant and rejected the null hypothesis that not all the coefficients are equal to zero. On the recommendation of Hausman test, the random effect estimates are considered and all models are estimated with robust standard error.

5.3 Objective 3: Dynamics of Financial Health on Corporate Balance Sheet and its Impact on Bank financing and NIM

The estimated statistics of the Model 7 and 8 are shown below. In Model 7, ROA is significantly explained by asset turnover ratio, good ratio, debt ratio and EBITDA ratio. These parameters are influencing ROA positively and significantly. Out of external parameters, equity financing out of total borrowing and enterprise value is having a significantly positive impact on return on asset. Hence, equity financing is contributing positively to the profitability parameter of the corporate balance sheet. Contrary to equity, total borrowing out of enterprise value, is having a negative impact. In other words, equity financing is positively contributing to profitability whereas debt finance is negatively contributing. In this case, interest rate is appearing significant.

Table 13: Estimated Results of Model 7 & 8: Dynamics of financial health on corporate balance sheet			
Model 7: ROA (Dependent Variable)		Model 8: ROCE (Dependent Variable)	
Number of Observations	16000	Number of Observations	16000
Number of Groups	1000	Number of Groups	1000
Wald Chi ²	18.50***	Wald Chi ²	83.57***
Rho	0.042	Rho	0.018
Variables	Coefficients	Variables	Coefficients
ATR	0.0605***	ATR	0.0701***
GR	0.2395**	GR	0.3967*
DR	0.0428*	DR	0.0169
EBITDAR	0.2257**	EBITDAR	0.3632**
BBTTB	0.0039	BBTTB	0.0013**
ETTB	0.0082***	ETTB	0.0016***
BBYEV	0.0044	BBTEV	0.0080
TBTEV	-0.0401***	TBTEV	-0.018***
ETEV	0.0849**	ETEV	0.0247**
INTR	0.2852***	INTR	0.3598
Constant	-1.648	Constant	-1.1698
Hausman Test Statistics		Hausman Test Statistics	
Chi ² = 08.03 Prob. = 0.131		Chi ² = 11.94 Prob. = 0.111	
<i>Note: ***, **, * implies the level of significance at 1%, 5% and 10% level respectively.</i>			

In case of Model 8, other than debt ratio, all the firm specific parameters are appearing statistically significant. Similarly, except bank borrowing to enterprise value, all

the external financing parameters are statistically significant. Total borrowing out of enterprise value is negatively influencing return on capital employed. In other word, it has been concluded that so far return on capital employed is concerned, any kind of financial structure such as either debt or equity, may impact positively on return on capital employed, but total borrowing should not exceed an optimum level.

Table 14: Estimated Results of Model 9, 10 & 11: Dynamics of financial health on corporate balance sheet

Model 9: DR		Model 10: CDR		Model 11: NWC	
Number of Obs.	16000	Number of Obs.	16000	Number of Obs.	16000
Number of Groups	1000	Number of Groups	1000	Number of Groups	1000
F-Statistics	140.53***	F-Statistics	139.7***	F-Statistics	118.47*
RMSE	95.78	RMSE	95.63	RMSE	60.74
Variables	Coeff.	Variables	Coeff.	Variables	Coeff.
ATR	-0.060***	ATR	0.068***	ATR	-2.35***
EBITDAR	0.233*	EBITDAR	-0.187*	EBITDAR	9.35*
ROA	1.024***	ROA	-1.010***	ROA	31.01***
GR	-0.352***	GR	0.306***	GR	-9.25**
BBTTB	-0.081**	BBTTB	0.083**	BBTTB	-0.02
ETTB	-0.003	ETTB	0.030	ETTB	-0.04
BBTEV	0.001	BBTEV	-0.001	BBTEV	-0.13*
TBTEV	0.005	TBTEV	-0.003	TBTEV	-0.05
ETEV	-0.028**	ETEV	-0.014*	ETEV	0.001
INTR	-3.763***	INTR	3.637***	INTR	55.88**
Constant	11.55***	Constant	-2.547	Constant	17.38

*Note: ***, **, * implies the level of significance at 1%, 5% and 10% level respectively.*

Model 7 and 8 presents the relationship between external financing on debt ratio and current liability ratio. Among firm specific factors, asset turnover ratio and good ratio is having a negative impact on debt ratio. It is obvious that more retained earnings would reduce the scope of debt financing to long term asset, and a lower asset turn over may be the result of higher debt financing to asset. Hence the model seems to capture the firm behavior in line with the theoretical expectation. Out of external financing parameters, bank borrowing to total borrowing is having negative and significant impact on the debt financing but positively impacting current liability. Hence we may infer that financing current liability through bank borrowings may have positive impact on corporate balance sheet but financing long term

asset through bank borrowing may not be as good. Moreover, the study does not suggest in support of equity financing, either to monetize current or non-current liability. In the same line, for working capital management, the structure of external financing hardly makes any sense. It is only the firm specific parameters that plays crucial role even though bank borrowing is significant at 10% level of probability.

Equation 12, 13 and 14 tries to model banking sector parameters with respect to financial health of corporate. As indicators of the banking sector, the study has considered Return on Assets of all scheduled commercial banks (BROA), net interest margin (NIM) and change in total asset or liability of the banking sector. As corporate are appearing as one of the potential financial customer of banking sector, and in the previous models we have tried to capture the financial health of the corporate with respect to external financing, where financing from banks and financial institution stands to be a major component, here an attempt is made to study the impact on banking sector with respect to the financial health of the corporate. This is in a way exploring another dimension of capturing impact of corporate health on banking sector. The model- 12 to 14, are estimated with simple panel OLS and the estimated statistics are presented in table below. In model 12, ROA of all the scheduled commercial banks are regressed upon a group of firm specific and external parameters. It has been noticed that asset turnover ratio (ATR), current liability to total asset ratio (CDR) and non-current liability to total asset ratio (DR) is having significant positive impact on return on asset of the banking sectors.

Similarly out of external financing parameters, bank borrowing to total borrowing (BBTTB) and bank borrowing to enterprise value (BBTEV) is positively and significantly influencing commercial banks ROA, which seems to be in line of theoretical expectation. When, corporate go for more and more institutional borrowing, i.e., in case of increasing debt financing among corporate is expected to boost commercial banks' return on asset. But incase corporate prefer more equity financing than debt financing they shift from bank borrowing to equity financing where ROA is negatively impacted. This is captured by ETTB and ETEV, which are significant and negative. But an excess total corporate borrowing out of their enterprise value may have a negative impact on banks profitability as indicated by (TBTEV). Hence an excess leverage i.e., excess debt holding not only impacts corporate health, but also impacts banks' profitability negatively and may make banking sector more vulnerable.

In case of NIM, current debt, non-current debt and retained earnings are impacting NIM positively. Out of the external borrowing, all the bank borrowing parameters are impacting NIM positively. But in this case equity out of total borrowing is also affecting positively to NIM which seems difficult to justify. In model 14, the study has attempted to capture determinants of total asset or liability of commercial banks. In this case all the firm specific parameters are positively and significantly contributing to commercial banks asset. But corporate bank borrowing is negatively impacting total asset and liabilities of scheduled commercial banks.

Table 15: Estimated Results of Model 12, 13 & 14: Dynamics of financial health on Banks' financing and Net Interest Margin (NIM)

Model 12: BROA		Model 13: NIM		Model 14: L&A	
Number of Obs.	16000	Number of Obs.	16000	Number of Obs.	16000
Number of Groups	1000	Number of Groups	1000	Number of Groups	1000
F-Statistics	8.89***	F-Statistics	250.9***	F-Statistics	14.38***
RMSE	26.11	RMSE	10.28	RMSE	6.45
Variables	Coeff.	Variables	Coeff.	Variables	Coeff.
ATR	0.75***	ATR	-0.001	ATR	0.140**
CDR	15.69***	CDR	0.092**	CDR	2.477***
DR	15.31***	DR	0.104**	DR	2.812***
GR	0.27	GR	0.003**	GR	0.295**
BBTTB	0.02**	BBTTB	0.020**	BBTTB	-0.005**
ETTB	-0.02***	ETTB	0.055***	ETTB	-0.003
BBTEV	0.24	BBTEV	0.005*	BBTEV	-0.091
TBTEV	-0.97***	TBTEV	0.003	TBTEV	-0.068
ETEV	0.02***	ETEV	-0.003	ETEV	-0.001
INTR	-0.63***	INTR	-0.045***	INTR	-0.271***
Constant	80.98***	Constant	2.822***	Constant	20.035**

*Note: ***, **, * implies the level of significance at 1%, 5% and 10% level respectively.*

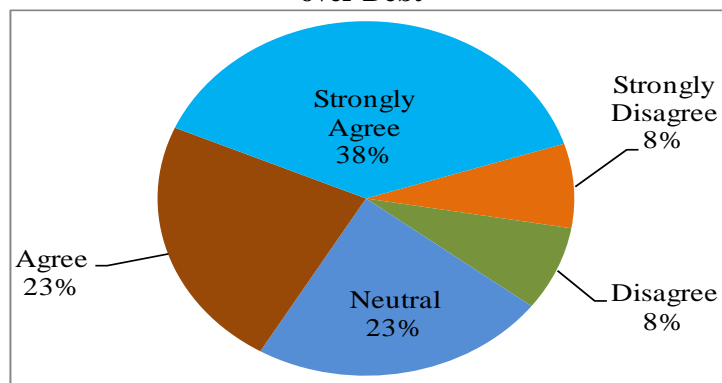
5.4 Objective 4: The Financing Preferences of Indian Corporate Across Business Cycles (Primary Research Survey)

With an objective to understand the corporate financing trends in India, we have conducted a survey among 3,500 Chief Financial Officers (CFOs), Directors and other top executives who are directly involved in decision making of financing of the firms. The questionnaire was designed to collect data on financing pattern and behavior of the top management towards financing needs. We followed a convenient sampling method given the access and approach to the top executives. Most of the questions were close-ended and executives were given a scale of preference from 1 to 5 where 1 stands for strongly disagree and 5 for strongly agree. (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree). The questionnaire was circulated in a manner targeting all the industries throughout the geography of the country. Even multinational companies operating in India are also covered in the survey. This chapter is based on the collective response of a set of two hundred and seventeen responses that is collected. The responses of the questions are as follows;

5.4.1 My Organization Prefers Equity to Debt Capital

Debt versus equity is a very logical comparison when a firm thinks about raising funds to meet its capital needs. Equity is especially important for certain industries and kinds of businesses, like technology start-ups and companies with global aspirations. Equity investment is mainly done through venture capital and private equity investors. The general belief is

Figure 36: My Organization Prefers Equity Financing over Debt



that, equity investment is prevalent in a particular region where start-up environment is at a nascent stage. However, as the environment of start-ups mature and valuation becomes saturated, then the debt financing becomes the need of the hour. Equity is the preferred choice of the start-ups in their incipient stage as they do not have access to easy debt funding and they need good amount of funds for marketing and increasing their customer base. Best part of the equity investment is that the founders need not have to worry about repaying the money back. Founders and equity investors are sitting in the same boat and equity investors

are looking for their high value exits. On the other hand, in the first round of equity funding, start-ups lose nearly 10%-20% of the company control.

However, raising funds for working capital needs at the cost of losing equity is not justified. As working capital is a cash flow mismatch of 3-6 months and losing control of the company for that is not a wise decision. But debt financing always comes with certain costs including, bankruptcy, agency etc.

With the objective to identify the preference of corporate in source of funding between equity and debt, we have enquired the corporate executives regarding their choice. Though each one of these alternatives have their own set of merits and demerits, but corporate prefer to approach the channel that best suits to its organisational structure and growth strategy. Here the responses of the executives toward preferences of equity over debt were ambiguous. Nearly 61% (strongly agree and agree) of respondents opined their preference for equity financing over debt financing. Only 16% of respondents did not agree with the question and for them equity is not a preferred channel for them to raise capital. Nearly 23% of respondents were neutral in commenting the source of funding. Interestingly, respondents those viewed that equity is preferred to debt were almost equally shared by both large as well as small corporate. Though for small business and start-ups, equity funding through capital market is equally difficult to capital raising through debt market, mainly corporate bond market, but additional sources of equity (venture capital, funding from private equity etc) and debt financing (borrowing from banks) seem to be equally approachable.

5.4.2 My Organization Prefers Borrowing from Bank to Corporate Bond Market

Narrowing down further, this question is aimed at understanding the preference of corporate within two important debt financing option. Among the major instruments available in the debt financing, bank lending and borrowing from corporate bond market are two popular instruments used in India. Indian corporate bond market is less developed compared to bank borrowings. There are many existing bottlenecks in the system. Though the Government is striving to minimize the obstacles and providing incentives to corporate to raise capital from bond market, this has not come with great success. Corporate prefer bank credit over corporate bond borrowings. For specific question of preference of corporate in the various available debt market instruments, nearly 46% of the respondents opined that they prefer borrowings from banks to corporate bond market. Importantly, 46% of respondents were neutral and only 8% believed that they would prefer to source from bond market to bank

borrowings. Neutral responses also throw some light on recent development of the corporate bond market. However, most of the respondents who believed that borrowings from bond market are easier belong to large corporate.

Figure 37: My Organisation Prefers Borrowing from Bank to Corporate Bond Market

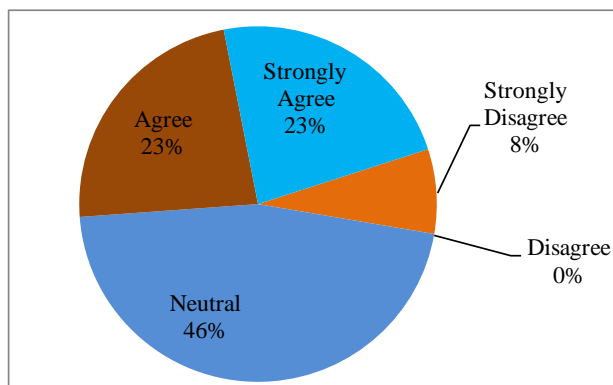
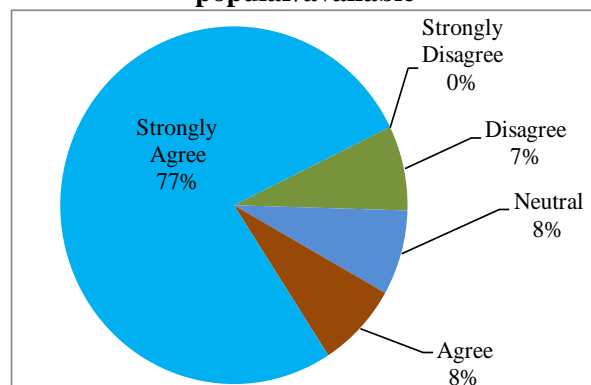


Figure 38: Corporate Prefer Bank credit in India as the alternative funding options are not popular/available



Corporate decision to issue bonds instead of other methods of raising money can be driven by many factors viz. the features and benefits of bonds versus other common methods of raising capital. In India though banks still dominate the market space, when it comes borrowing, issuing bonds is often a more attractive proposition. The interest rate that the firm obliges on bond finance is often less than the interest rate they would be required to pay in bank loan. Since the money paid out in interest is subtracted from corporate profits, and companies are in business to generate profits, minimizing the interest amount that must be paid to borrow money is an important consideration. It is one of the reasons why healthy corporate, those do not seem to need money, often issue bonds when interest rates are at extremely low levels. The ability to borrow large sums of money at low interest rates gives corporate the ability to invest in growth, infrastructure and other projects. Additionally, issuing bonds also gives companies significantly greater freedom to operate as they see fit - free from the restrictions that are often attached to bank loans.

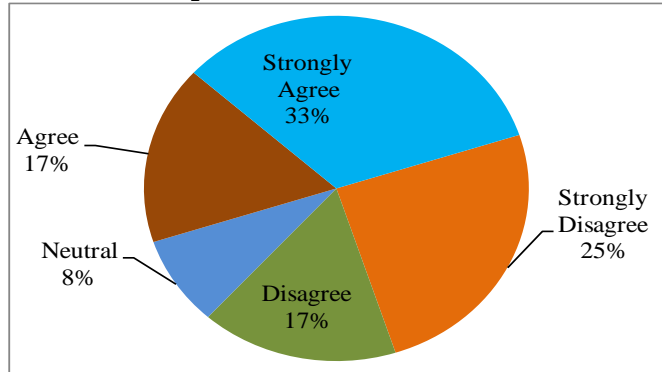
Further digging down in knowing reason for preference of bank finance over other available alternatives, nearly 85% of respondents opined that alternative funding options are not popular/ available in the country, the incidence of which compels more and more corporate to opt for bank lending route. It is difficult for a new and small enterprise to raise capital from equity and corporate bond market. Additionally, prolonged economic slowdown

and weak business cycles also prevent corporate to raise capital efficiently from both corporate bond as well as equity market.

5.4.3 My Organisation Prefers to Raise Funds from Capital Market rather than Banks

Addition to the question 1 where corporate opined their preference of equity financing over debt, this question aims at understanding the preference of corporate between equity financing and a part of the debt finance segment, i.e., popular debt financing channel, bank borrowings. The responses were

Figure 39: My Organisation prefers to raise funds from Capital Market rather than Banks



in the same expected manner as nearly 50% of respondents opined that they would prefer equity over bank finance. However, the percentages of responses from those prefer bank borrowing channel was nearly 42%. Most importantly, compared to the question 1, where 16% of respondents did not agree with the fact that equity is not a preferred channel for them to raise capital over debt, here 42% preferred banking channel to capital market. This clearly indicates that the bank borrowing channel still dominates to meet the capital appetite in India.

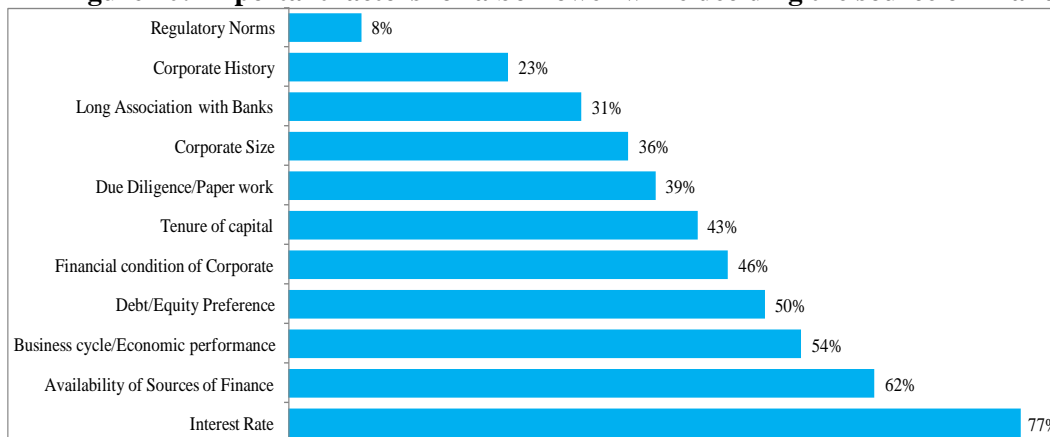
The notion of the entrepreneurs towards capital market has undergone a dramatic change due to further deepening of the capital market. Earlier, it was believed that the capital market was more expensive than the bank borrowing, but over the last few years what is seen is completely opposite to it. A great deal depends on the costs involved in a transaction on the capital market, like a potential prospectus. These costs are a burden especially for smaller accounts.

5.4.4 Important factors for a borrower while deciding the source of finance

With an objective to identify the crucial factors for a borrower while opting for a source of finance, the respondents were asked to rank their preferences from the set of possible reasons. Interest rate leads the rank as 77% of the respondents believed that interest rate is the most important factor in deciding the source of finance followed by availability of source of finance (62%). Business cycle and economic condition shared the third place with

54% responses. Fourth position was assigned to ‘debt/equity preferences’ as it held 50% of respondents.

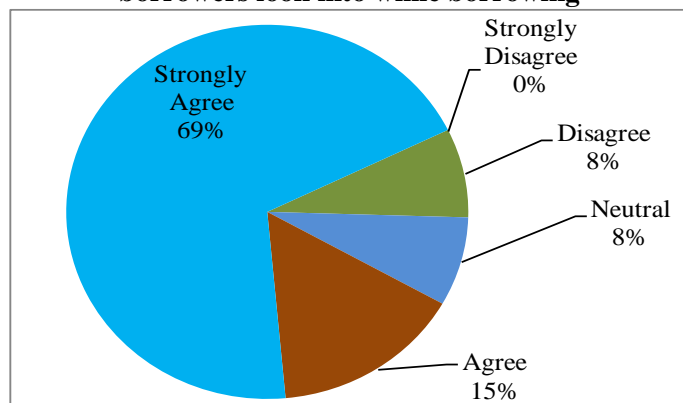
Figure 40: Important factors for a borrower while deciding the source of finance



Among other factors, due diligence, financial condition of corporate, history and size of the corporate, relation with banks and tenure of capital are identified as other important factors determining the source of finance.

Subsequently, when respondents were asked whether interest rate is an important factor for them in deciding the source of finance, 84% of respondents opined in favour of it while only 8% denied. As interest rate is an important factor that is connected to the business activity so closely, even corporate considering raising capital from capital market also take into account the interest cost element in deciding the source of finance.

Figure 41: Interest rate is an important factor borrowers look into while borrowing



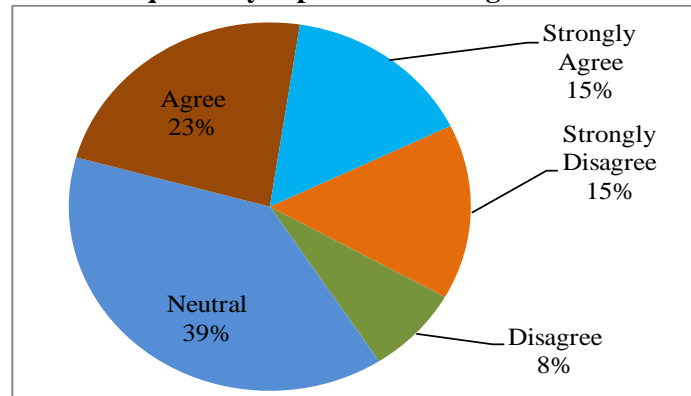
5.4.5 Due diligence process by banks easier than the information and screening required by capital market regulators

Importantly here we have tried to capture whether the borrowers find the due diligence process by banks easier than the information and screening required by capital

market regulators. No definite conclusion is derived as nearly 38% of respondents agreed that due diligence process in banks is easier for them to fulfill and obliged to, than the 23% who were opposed to it. Almost 40% of respondents were neutral.

Hence the due diligence process for corporate while raising capital is almost equally difficult to oblige for both bank as well as capital market. Additionally, the analysis of cases by sector and borrower profile also points that small borrowers find it almost difficult to access the capital market. At the same time, they struggle in fulfilling the documentation process desired by the banks. Similarly, if a firm that belongs to a stressed sector, approaches capital market, investors punish the firm through lower subscription or demand for higher yield. With gradual relaxation of norms in the capital market and initiatives in promoting corporate bond market, we believe that due diligence process might be less painful in coming days.

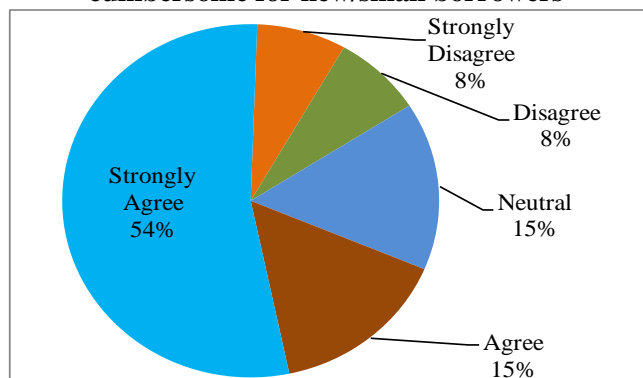
Figure 42: Borrowers find the due diligence process by banks easier than the information and screening required by capital market regulators



5.4.6 Due diligence process followed by banks is cumbersome for new /small borrowers

With specific intention to know how difficult the due diligence process for small borrowers approaching for bank credit, the question was thought upon them. The general belief of small and new borrowers finding it difficult to access bank credit seems to be true as 69% of respondents opined in favour of it. Only 16% of respondents did not agree. In India, mainly the new/small entrepreneurs/ borrowers generally operate as unregistered enterprises and more often, they do not maintain proper books of accounts and are not formally covered under taxation rules. Hence, the banks shy away from lending these institutions and they are forced to access

Figure 43: Due diligence process of banks is cumbersome for new/small borrowers

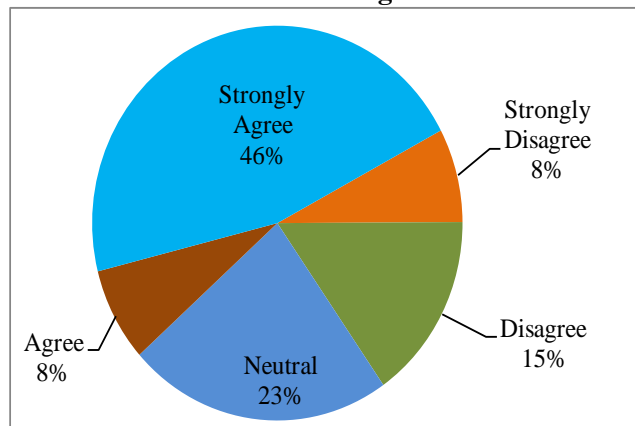


outside sources of finance at an exorbitant rate. But changing rules and initiatives by the government/regulators including MUDRA scheme has opened up the space for small entrepreneurs and has taken enough steps to reduce their hassles.

5.4.7 Additional services rendered by Banks in addition to financing (including Vendor management, supply chain management, buyer collaborations etc.) are important for attracting borrowers

We were interested in knowing despite cheaper and hassle free options available to the borrowers for fund raising, why corporate still prefer to borrow from banks. Sometimes in addition to financing the loan, banks also offer a bundle of additional value added services to borrowers that neither capital market nor bond market offers. Some of these services includes; vendor management, supply chain management, buyer collaborations, payments, tax payment, salary disbursement etc.

Figure 44: Additional support services by the banks in addition to financing attracts borrowers



However, only 54% of respondents agreed to us saying that additional services offered might be attracting more borrowers towards banking channel. Jointly 46% of respondents were neutral and disagreed with the statement. This might be driven by the fact that not all banks do offer all the additional services. Corporate in business for long are more professional than banks in arranging these added services at a much cheaper and effective way. Its only those small borrowers who are new to the business might be interested in these services.

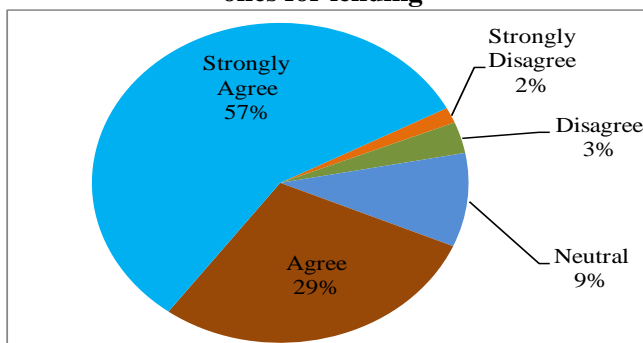
5.4.8 Banks prefer large corporate to small ones for lending

The hypothesis that the banks prefer large corporate borrowers to small ones in financing is tested here. Moreover, 86% of respondents opined that banks prefer large corporate borrowers. Only 9% were neutral and 5% disagreed. There are ample reasons with banks for their leniency towards large borrowers which have both business and reputational

considerations. But recent asset quality issue has given sudden jolt to banks as more and more number of large corporate credit are getting re-structured, due to rising NPA.

Banks have already realised their mistake in their focus of lending to large corporate as the latest RBI data illustrates that the major part of the stress in banks' balance sheet is attributed to large borrowers as their share in GNPA is 86.4% against a share of 58.0% on total credit portfolio as on march 2016. Concentration risk is recorded highest to large corporate in sectors including power, infrastructure, steel and cement etc. Banks need to relook their strategy and should diversify their customer portfolio.

Figure 45: Banks prefer Large Corporate to Small ones for lending



5.4.9 Corporate with weak balance sheet/ulterior motives (siphoning of funds to other business) prefers to raise funds from capital market to banks

Generally, due diligence process followed by the banks in financing corporate is believed to be strict. Hence, there is a common thought that corporate with weak balance sheet or promoters with ulterior motives including siphoning of funds to other business, prefer raising funds from capital market to banks. For quite some time, the banking regulator (RBI) has come out with a set of strict measures to put in place to disseminate credit information pertaining to willful defaulters for cautioning banks and financial institutions so as to ensure that further bank finance is not made available to such borrowers. 35% of respondents were neutral as there is another set of theory that argues that those promoters or corporate believe that capital market participants are well aware about the company's financial condition and balance sheet structure. Hence all the available information gets reflected in the demand of the corporate share. Investors price the already available information and punish the firms with low demand when they come public for raising funds. Only 35% of respondents agreed that weak corporate or promoters with ulterior intentions prefer to raise capital from the capital market, followed by 30% of respondents, not subscribing to the thought.

In an open ended question to the respondents regarding the sources of finance for corporate with weak balance sheet, we have seen that 47% of the respondents opined that

external commercial borrowings are most preferred instruments for corporate, followed by venture capital (40%). Only 33% of respondents believed that banks are preferred by those enterprises. Weak corporate might believe that international borrowers may not price harshly for their weak balance sheet and ulterior intention compared to domestic investors, and allowed them a space to raise capital through ECB route.

Figure 46: Corporate with weak balance sheet & ulterior motives prefer to raise funds from capital market to banks

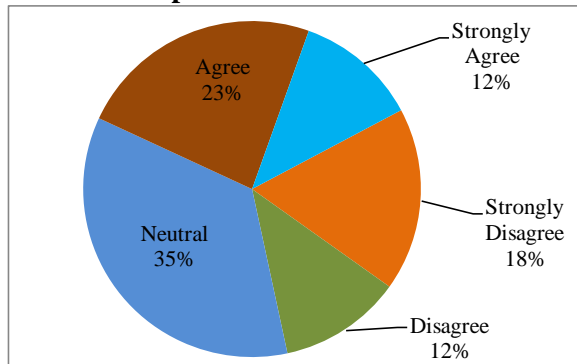
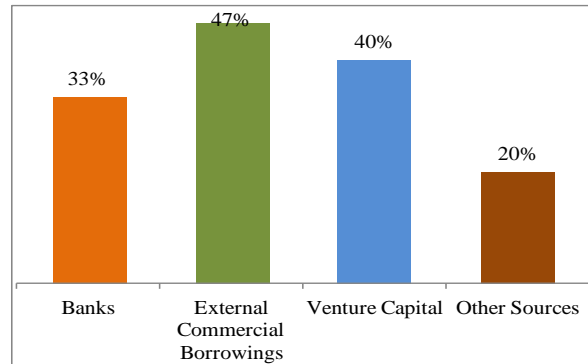


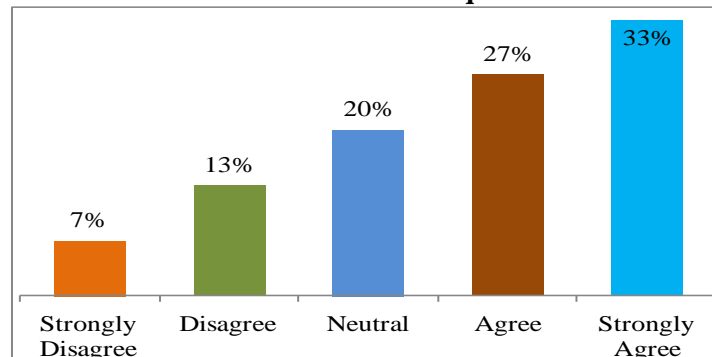
Figure 47: Corporate having weak financial condition prefers to raise funds through which mode



5.4.10 Development of equity market (including debt market) would help corporate to bypass the bank route for their financial requirements

A comparison of corporate funding split with other economies shows a high degree of reliance on loans from banks and other financial institutions. Traditionally, bank finance coupled with equity markets and external borrowings has been the preferred funding source for Indian corporate. While it is true that the Indian corporate debt market has transformed itself into a much more vibrant trading field for debt instruments from the elementary market than what it was about a decade ago, there is still a long way to go.

Figure 48: Development of Equity Market (including Bond Market) would help Corporate to bypass the Bank route for their financial requirements

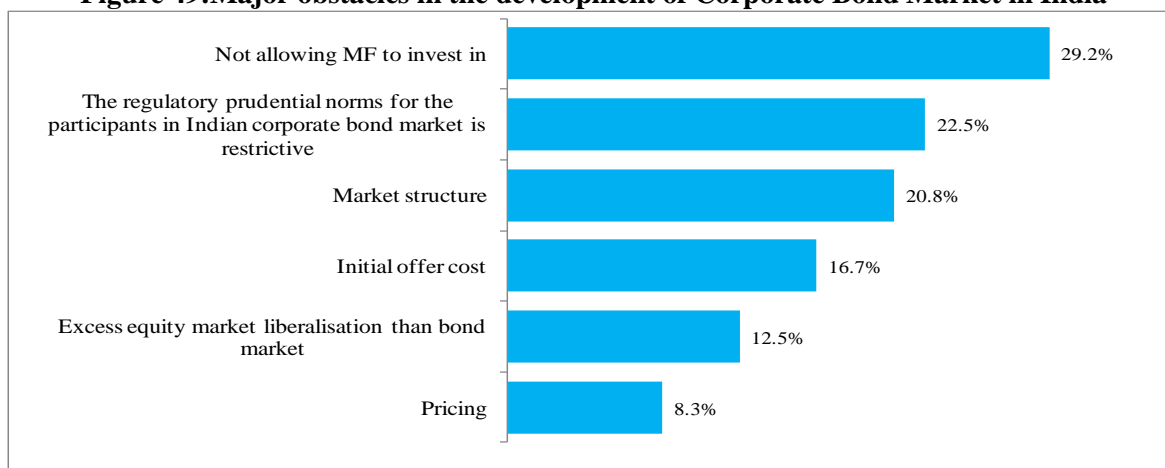


This particular question is asked to understand the concern of the entrepreneurs whether they believe that over dominance of bank credit is mainly due to scanty supply of other sources of finance. Surprisingly, nearly 55% of respondents opined

that limited availability of other financing options compels promoters to approach bank for finances. Only 20% of respondents did not agree with the thought. An efficient bond market helps corporate to reduce their financing costs. It enables them to borrow directly from investors, bypassing the major intermediary role of a commercial bank. Recent RBI instructions to limit the bank lending to large corporate is expected to open up sufficient space for the development of the corporate bond market in India.

5.4.11 What are the major obstacles in the development of Corporate Bond market in India?

Figure 49: Major obstacles in the development of Corporate Bond Market in India



Banks and equity markets are the dominant sources of capital for business in India even as the corporate bond market has languished for decades now. The development of bond market requires fundamental reforms in financial markets, public finance and regulatory governance, something not easy to achieve. The basic market infrastructure needs to be put in place. With the intention of knowing the major obstacles in the development of the corporate bond market in India, we have given a set of reasons to the respondents to identify or choose the obstacles for the development of the corporate bond market in India.

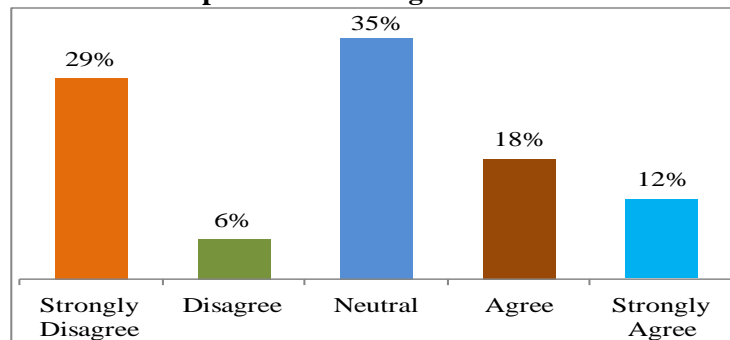
Nearly 30% of respondents agreed that not allowing mutual funds to invest in the Indian corporate bond market is the prime reason followed by the restrictive regulatory prudential norms for the participants in Indian corporate bond market. 21% of respondents believed that existing market structure does not work in support of the corporate bond market

in India followed by 17% of respondents suggested that higher initial offer cost discourages corporate bond market in India.

5.4.12 Implementation of Strategic Debt Restructuring/Corporate Debt Restructuring (SDR/CDR) coupled with Bankruptcy and Insolvency Code will discourage corporate borrowing from Banks

To understand the reaction of the borrowers towards recent policy development and tightening norms towards bad loans, we have sought the opinion of entrepreneurs whether enforcement of new measures including CDR/CDR and Bankruptcy and Insolvency Code would discourage them to

Figure 50: Implementation of SDR/CDR and Bankruptcy and Insolvency code will discourage Corporate borrowing from Banks



approach banks for further capital. 35% of respondents were neutral and 35% disagreed with the question. However, only 30% agreed with the statement. Hence, implementation of new rules might not discourage the preferences of corporate for banking finance and would still take a risk.

CHAPTER VI

Conclusions

The role of the commercial banks in the intermediation process is very important because of their overwhelming control over the entire financial assets of the economy and more so because of the underdeveloped capital market in our country. In India, bank credit forms a major part of external funding for corporate. In public limited companies, bank borrowing accounts for nearly 30% of external financing and 20% of total financing. In private limited companies, bank borrowing constitutes 28.1% of external financing and 17.3% of total company financing.

To support the endeavoring effort of the Indian economy and to sustain its high growth rate, it is imperative that financing constraints in any form be removed and alternate financing channels be developed in a systematic manner for supplementing traditional bank credit. While the equity market in India has been quite active, the size of the corporate debt market is very small in comparison not only to developed markets, but also to some of the emerging market economies in Asia such as Malaysia, Thailand and China. A liquid corporate debt market can play a critical role by supplementing the banking system to meet the requirements of the corporate sector for long-term capital investment and asset creation.

6.1 Financial Disintermediation and its Impact on Banks' Performance and Profitability

The share of household savings in financial and physical assets has always remained in support of the later. Household savings in financial assets has increased from 2.2% in 1951-52 to 64.5% in 1994-95 and moderated to 40.4% in 2014-15. Household savings in physical assets was 97.8% of total savings in 1951-52, which came down to 48.1% in pre sub-prime crisis.

Bank credit intermediation index though has remained same in 2015-16 compared to 2000-01 but with a huge volatility in between years. The overall slope as measured by the trend line shows a negative slope for bank credit intermediation index. In case of bank deposit intermediation index, the index had a sudden jump from 0.15 in 2000-01 to 0.19 in

2005-06 and then declined further to reach minimum of 0.08 in 2015-16. Similar negative slope is also recorded for deposit intermediation index for banks. Hence an evidence of bank disintermediation through institutionalization is observed. In case of credit disintermediation indices, especially for bank credit disintermediation index, the index did not record any significant change, albeit there was volatility in the interim periods. Segregate the whole studied period of 16 years to pre (2000-01 to 2007-08) and post sub-prime crisis (2008-09 to 2015-16) period, it is observed that the slope coefficient of the banking (credit) disintermediation index was negative during both the studied periods but the slope coefficient during pre recession phase was much higher than the slope coefficient of post recession phase. This clearly shows that the disintermediation process that started in later half of the nineties got pronounced till the sub-prime crisis. The capital market crash again weakened the disintermediation process and banks regained their lost position in credit disbursement.

During the full studied period (2000-01 to 2014-15), we have seen an insignificant positive correlation between credit disintermediation index and banks' interest income and expenses. Even segregating the complete studied period to pre and post-recession period shows no significant change in the correlation value and sign.

Regression analysis conducted to test the hypothesis whether disintermediation has affected the profitability and performance of banks shows a mixed result. Regression Result of NIM shows a negative and significant co-efficient with market cap. Similarly, a negative significant relation between size of the Bank and NIM is too observed. The disintermediation has not impacted the performance of the banks.

In the equation measuring the impact of disintermediation on profitability, regression co-efficient of market cap is seen positive, albeit insignificant too. A positive relation between the size of the Bank and ROA is also recorded. The hypothesis that 'disintermediation does not affect the performance of banks' is not rejected. Similarly, for profitability the hypothesis that 'disintermediation does not affect the profitability of banks is also not rejected.

For a lower-middle income Economy like India, there is huge gap of funds to finance growth. In a recent speech addressing a seminar on "Infrastructure and Global Economic Growth" organized by Asia Infrastructure Investment Bank (AIIB), Finance Minister Shri

Arun Jaitley has viewed that, “Over the next decade, we require over \$1.5 trillion in India alone to fill up the infrastructure gap”. The total credit outstanding of ASCB at end 2015-16 was \$1.08 trillion (assuming 1 USD= 66 INR). When only infrastructure sector’s funding requirement is projected at \$1.5 trillion which is ~ \$450 billion higher than total credit outstanding of ASCB till now (\$1.08 billion), threat of disintermediation though is significant, banks have enough room for intermediation activity.

6.2 The dynamic and equilibrium relationship between corporate health and external financing

The present study has taken five external financing parameters such as proportion of equity to total borrowing, proportion of bank borrowing to total borrowing, bank borrowing to enterprise value, total borrowing to enterprise value and equity to enterprise value and for corporate health, we have taken Altman Z score and Tobin’s Q. Six models at different combinations are estimated where each model is unique at its kind. The firm specific variables are selected correcting multicollinearity, avoiding model misspecification and improving overall level of significance level of the model. The parameters are estimated with robust standard error to control heteroskedasticity. Panel random effect model is suggested by Hausman test. The study concludes that total borrowing to enterprise value negatively and significantly impacting Z score. The increasing proportion of total borrowing out of enterprise value would have a significantly negative impact on financial health of the firm. Increasing total borrowing out of enterprise value would reduce Z score that decreases financial health and increases chances of bankruptcy. Collectively a higher equity financing out of total borrowing and a lower total borrowing out of its enterprise value can boost corporate financial health provided the firms achieve a significant net sales over their total asset, an ideal portion of long term asset financed by debt and firms reinvesting back a significant amount of its retained earnings.

The robustness of the model is checked by regression the same external financing parameters on Tobin’s Q, where the study concludes the same recommendations. While taking TQ as proxy for corporate health, EBITDAR, CDR, DR and GR have been considered as the firm specific parameters. The study finds the same behavior of external financing on corporate health i.e. a higher equity financing out of total borrowing and a lower total borrowing out of its enterprise value can boost corporate financial health provided the firms achieve a significant earning over its total asset and a significant reinvestment back from

retained earnings. Moreover excess current debt and more debt financing of long term asset would negatively impact corporate health and hence, more investment may not add value under such circumstances.

6.3 Dynamics of financial health on corporate balance sheet and its Impact on bank financing and Net Interest Margin (NIM)

The present study extends its model to capture the impact of financial health on corporate balance sheet through the channels of external financing. As was observed, each model is developed and estimated uniquely. The study concludes that out of external parameters, equity financing out of total borrowing and enterprise value is having a significantly positive impact on return on asset. Hence, equity financing is contributing positively to the profitability parameter of the corporate balance sheet. Contrary to equity, total borrowing out of enterprise value is having a negative impact. In other words, equity financing is positively contributing to profitability whereas debt finance contribution is negative.

Similarly, except bank borrowing to enterprise value, all the external financing parameters are statistically significant addressing ROCE. Total borrowing out of enterprise value is negatively influencing return on capital employed. In other words, it has been concluded that so far return on capital employed is concerned, any kind of financial structure either debt or equity may impact positively to return on capital employed, but total borrowing should not exceed an optimum level.

Out of external financing parameters, bank borrowing to total borrowing is negatively and significantly impacting the debt financing but positively impacting current liability. Hence, we may infer that financing current liability through bank borrowing may have positive impact on corporate balance sheet but financing long term asset through bank borrowing may not be a good idea. Moreover, the study does not suggest to equity financing to monetize either current or non-current liability. In the same line, for working capital management, the structure of external financing hardly makes any sense. It is only the firm specific parameters that play crucial role even though bank borrowing is appearing significant 10% level of probability.

So far as banking sector is concerned, the study has identified that when corporate go for more and more institution borrowing, i.e. in case of increasing debt financing among

corporate is expected to boost commercial banks' return on asset. But if corporate prefer more equity financing than debt, and financing preference shifts from bank borrowing to equity financing, then banks profitability is negatively impacted. Similarly, an excess of total corporate borrowing out of their enterprise value may have a negative impact on banks' profitability. In other words, excess debt holding not only impacts corporate health, but also impacts bank's profitability negatively, and may make banking sector more vulnerable.

In case of NIM, current debt, non-current debt and retained earnings are impacting NIM positively. Out of the external borrowings, all the bank borrowing parameters are impacting NIM positively. But in this case, equity out of total borrowing is also affecting positively to NIM, which seems difficult to justify. The results of the model, studying the determinants of total asset or liability of commercial banks show that all the firm specific parameters are having a positive and significant impact on commercial banks' asset. But bank borrowing by corporate is seen negatively impacting total asset and liabilities of scheduled commercial banks.

6.4 Financing preferences of Indian corporate across business cycle (Primary Survey)

Answering the most critical question, 'debt versus equity', majority of the respondents voted in support of equity financing over debt financing. Interestingly, respondents those viewed that equity is preferred over debt were almost equally shared by both large as well as small corporate. Among various available options in the debt market, banks and corporate debt market are popular. Given the dominance of the banking system in the country, when respondents were asked to vote between borrowings from banks over corporate bond market, majority voted in support of banks as development of corporate bond market is still at its nascent stage. Respondents while expressing their preference of banking channel over other available alternatives pointed out that the scarce availability of alternate funding options is one of the reasons for such trend.

But between banks and capital markets, respondents opined that they would prefer equity to bank finance. This points the changing outlook of corporate towards equity market, which has become possible due to deepening of the capital market. Among the various factors, investors consider while raising capital, interest rate is voted as the most important followed by availability of source of finance and business cycle and economic condition.

Respondents with equal footing accepted and rejected that current due diligence process in banks is easier for them to fulfill and obliged to compare to, than raising from capital markets. This may vary based on a banks' risk perception towards different sectors and geographies. Most of the respondents also opined that small and new borrowers find it difficult to access banking credit. But we believe that MUDRA scheme might act as a game changer in coming days. Sometimes, banks are able to attract more borrowers mainly from small and new entrepreneurs due to a bundle of additional value added services like vendor management, supply chain management, buyer collaborations etc. Corporate in business for long are more professional than the banks in arranging these added services at a much cheaper and effective way. It is only those small borrowers who are new to the business might put interest, a dominant factor over other services. Respondents believed that banks prefer large borrowers compared to small ones. Banks need to relook their strategy as the ratio of large accounts turning toxic or stressed is higher as per the RBI's latest report.

Borrowing behavior of ulterior motive entrepreneurs, who intend to siphon away the funds to other business, is now regularly getting discussed in the public domain. There is a common belief that corporate with weak balance sheet or promoters with ulterior motives including siphoning of funds to other businesses prefer to raise funds from capital market than accessing bank finance. The respondents were divided in their opinion as there is another set of theories which tell otherwise. When the respondents were asked about the exact source of preference of funds for those borrowers who want to divert the funds from one to the other business, external commercial borrowings was voted the best, followed by venture capital and bank borrowings. The over-dependence of corporate on banks for their funding requirement might be caused by many factors including paucity of availability of other alternatives. Development of equity as well as bond market is referred as the best solution that would help the corporate to bypass the bank route for their financial requirements. Despite sincere effort by the Govt. and other regulators, Indian bond market is still dominated by Govt. securities and highest rated corporate bonds.

Recent policy actions by the RBI in limiting the credit of commercial banks to large borrowers as well as some other important policy changes are expected to boost liquidity and deepen the corporate bond market in India. Some of the major roadblocks in the development of corporate bond market in India as identified by the respondents are; a) not allowing mutual funds to invest in the Indian corporate bond market, b) restrictive regulatory prudential norms

for the participants in Indian corporate bond market and c) existing market structure, which is not conducive for corporate bond market in India.

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