Domestic Debt Market in India –Its Resilience in Funding Infrastructure

Swamy, Vighneswara

Institute of Economic Growth Delhi

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By

Dr. Vighneswara Swamy
Institute of Economic Growth, Delhi

Abstract

As India is projected to be the world's most populous country by 2025, the growing needs of the economy, with expanding population, in the recent years have placed intense stress on physical infrastructure. In order to meet the deficit in the provision of infrastructure, mid-term appraisal of the twelfth plan suggests that to attain 9 percent real Gross Domestic Product (GDP) growth rate, infrastructure investment should be on average almost 10 percent of GDP during the Twelfth Plan which translates into INR 65795 billion (about One trillion dollar). Though there has been a progressive involvement of the private sector in infrastructure investments, the government has to play a proactive role in developing a well-structured platform for raising the required investments in Indian infrastructure. Given the huge demand of US$ 1 trillion for infrastructure investments during the 12th plan period, there is a greater emphasis on creating a domestic debt market with special focus on bond market as an alternate source of funding for bank finance, which is faced with myriad problems of stress assets, asset restructuring, etc.

Key Words: Domestic Debt, Debt Market, Infrastructure, Institutions, Growth

JEL classification: D53, H54, H63, O43

1. Introduction

Infrastructure sector has gained considerable focus in the Union Budget 2014. The same sector was rather overlooked for the last decade under the Congress-led UPA rule. The previous NDA Government led by Vajpayee had emphasized on the infrastructural development of the country and launched two ambitious infra projects: Golden Quadrilateral project and Pradhan Mantri Gram Sadak Yojana. Again, it is the BJP led NDA that mentioned the word 'infrastructure' as many as 31 times in the 41 page long BJP manifesto document and promised to give the sector a requisite focus. As infrastructure sector plays a very significant role in economic development, its growth is essential to create employment opportunities, mobilize resources, and generate revenue in order to revive the economy.

India with over 1.21 billion people, about 17.5% of the world's population is projected be the world's most populous country by 2025. Coupled with expanding population, the growing needs of the economy in the recent years have placed intense stress on physical infrastructure i.e. electricity, railways, roads, ports, irrigation, water supply and sanitation, all of which already suffer from deficit in terms of capacities as well as efficiencies. The stated object of inclusive growth averaging at 9 percent per year as envisaged under the Twelfth Five Year Plan (2012-17) can be achieved, provided, the infrastructure deficit is overcome. To attain this, adequate investment has to take place in the infrastructure sector to support higher growth. Mid-term appraisal of the twelfth plan suggests that in order to attain 9 percent real gross domestic product (GDP) growth rate, infrastructure investment should be on average almost 10 percent of GDP during the twelfth plan, which translates into around INR 65 lakh crores at current prices. Accordingly, energy sector requires around INR 23242 billion, transport and storage sector – INR22446 billion, telecommunication – INR 11140 billion, Irrigation – INR 5953 billion and Water supply and sanitation – INR 3013 in all adding up to INR 65795 billion (about One trillion dollar).

There has been a progressive involvement of the private sector in infrastructure investments. World Bank data, suggest that during the period 2006-12, private sector investments in India were to the tune of US$ 60949 in telecommunications, US$ 117920 in energy, US$ 75202 in transport and US$ 357 in Water and Sanitation. However, the government has to play a proactive role in developing a well-structured platform for raising the required investments in Indian infrastructure. Given the huge demand of US$ 1 trillion for infrastructure investments during the 12th plan period (Table 1), there is a greater emphasis on creating a domestic debt market with special focus on bond market as an alternate source of funding for bank finance, which is faced with myriad problems of stress assets, asset restructuring, etc.

Table 1: India's Infrastructure Investment Requirements

Infrastructure Investment requirement for the 12th Plan (2012-17):	Public sector contribution at INR 33700 billion	Budgetary support of INR 13143 billion
		Internal generation of INR 6869 billion
		Borrowings of INR 10693 billion
	Private sector contribution at INR 31300 billion	Internal generation of INR 9630 billion
		Borrowings of INR 21670 billion

Source: Planning Commission data

In this backdrop, this paper analyses the resilience of Indian debt markets in meeting the funding requirements of Indian infrastructure. The paper is organized as follows: In the ensuing section 2, we provide an understanding about the significance of domestic debt markets followed by a brief description of some of the macroeconomic fundamentals that are crucial for domestic debt market development in section 3. The structure, size, and reach of the domestic debt market in India is portrayed in section 4. We discuss the indicators of bond market in section 5. The challenges for the domestic debt market in India are capsuled in section 6 followed by our conclusion in section 6.

2. Domestic Debt Markets

The importance of debt markets in growth of an economy is well recognized. More particularly in an economy of the size of India, the need for a domestic debt market is of great importance. There has been dire need to foster a sound and diversified debt market, which can efficiently perform the function of financial intermediation. An efficient debt market aids economic growth and development through transfer of capital from savers to borrowers. It enhances the allocative efficiency of resources in the economy apart from assisting financial stability by improving monetary policy transmission. Further, the experience from the Asian financial crisis underscores the importance of bond markets as excessive reliance on bank lending may increase systemic risk. Indian bond market has made some rapid strides in the last few years due to several initiatives by the central bank, government and other stakeholders. Nevertheless, while activity in the corporate bonds market has picked up, the Indian bonds market continues to be dominated by government bonds market.

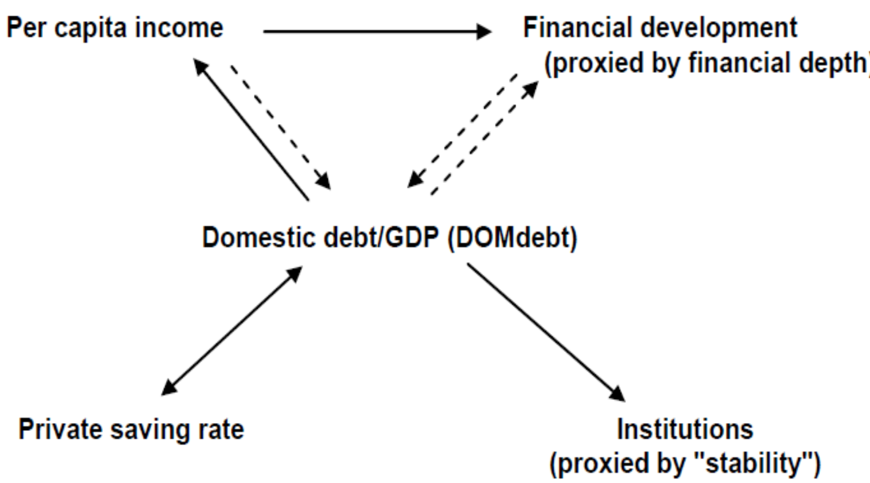
Domestic debt markets help strengthen money and financial markets, boost private savings, and encourage investment. First, government securities are a vital instrument for the conduct of indirect monetary policy operations and collateralized lending in interbank markets; the latter helps banks manage their own liquidity more effectively, reducing the need for frequent central bank interventions. Consequently, central banks operating in well-developed DD markets do not have to rely as much on direct controls like credit ceilings, interest rate controls and high reserve requirements, all of which distort financial sector decisions and lead to financial disintermediation at the expense of private sector savings and investments (Gulde *et al.,* 2006). Second, yields on government securities can serve as a pricing benchmark for long-term private debt issued by banks or enterprises and, hence, promote the development of a corporate bond market, which boosts competition in the banking sector (Fabella and Mathur, 2003). Third, the availability of domestic debt instruments can provide savers with an attractive alternative to capital flight as well as lure back savings from the non-monetary sector into the formal financial system (IMF, 2001). The possible benefits here can go beyond saving mobilization and extend to a reduction in the size of the black economy, widened tax base, increased financial depth, dedollarization, and improved perceptions of currency and country risk.

A well-developed debt market invariably should have an appreciable depth, breadth, width, choice of instruments, resilience. The depth of the market indicates the level of magnitude to which it can handle large transactions without setting off sharp changes. The depth of the market is determined by the diversity in market participants and the heterogeneity in their responses. The width of the market is represented by the spread and the liquidity in the market. The wider the bid-ask spread, the less the liquidity and vice-versa. A developed market offers a bouquet of financial instruments (such as; fixed rate bonds, floating rate bonds, inflation indexed bonds, zero coupon bonds, etc.) to cater to the varied needs of the market participants and investors. The resilience of the market is indicated by the speed of dissipation of the price fluctuations that occur due to some shocks. It is generally believed that the deeper and broader are the markets more resilient they are and tend to display greater stability in responding to the financial and economic distractions. Undoubtedly, the government has to play a crucial role in facilitating the development of domestic debt markets. It can play triadic role, viz., (i) as an issuer of debt, (ii) developed of market and (iii) regulator of market. While as a developer of the market it can establish appropriate institutional framework by providing market infrastructure, as a regulator, it can take steps for systemic stability, market integrity for consumer protection. An efficient debt market is shaped by: (a) sound fiscal and monetary policies, (b) effective legal and tax systems, (c) efficient intermediaries, and (d) adequate infrastructure. Further, institutional framework for market efficiency involves: (i) regulator, (ii) primary dealers (PDs), (iii) market makers, (iv) market infrastructure, (v) clearing & settlement system, (vi) central counter parties (CCPs), and (vii) self-regulatory organizations (market associations), etc.

3. Macroeconomic Drivers of Domestic Debt Markets

Unstable economic environment characterized by hyperinflation, high volatility of output, lack of confidence in the institutions, and policies make it difficult to develop or sustain domestic debt market. As macroeconomic situation stabilizes and the government is able to achieve monetary credibility, the share of domestic debt in total debt should increase. A good strand of literature suggests that domestic debt and private savings were found to be closely associated. Higher private savings are found to enhance the scope for domestic debt issuance while a larger supply of debt instruments provides incentives to increase private savings. Strengthening and expanding domestic debt, therefore, can form a potentially virtuous cycle of higher private savings and stronger and resilient markets. Private savings is one of the four important drivers of domestic markets (Figure 1). Research shows that domestic debt is found to Granger-cause financial depth weakly and positively. However, financial depth has a significant impact of financial development on economic growth. Further, the quality and span of domestic debt market can have a substantial impact on the optimal size of domestic debt. A higher level of domestic debt can likely be sustained without compromising growth if domestic debt; is issued in the form of marketable securities, bears positive real interest rates, and is issued to investors outside the banking system. It is established that institutional and retail participation in the government securities market boosts competition in the financial sector, both on the deposit-taking side– as banks have to compete with government for individual and institutional deposits – and, on the investment side – as banks compete with other sector in public securities auctions. This increased competition should put downward pressure on banks' overheads and intermediation margins, partly alleviating the efficiency concerns associated with high bank holdings of domestic debt emphasized by Hauner (2006).

Figure 1: Drivers of domestic debt



A strong savings tendency in an economy propels the domestic debt markets. India's savings performance has been quite impressive in a cross-country context. India's gross domestic savings rate in the recent period is comparable to that of Indonesia, Thailand and Korea, though much lower than that of China, Malaysia and Singapore but much higher than that of many other emerging and advanced economies. The magnitude of increase in the domestic savings rate in India and China during the period 2000 to 2007 was among the highest in the world (Table 2). Surprisingly, the savings rates of many of the advanced countries and some of the Asian emerging market economies witnessed a decline during this period. In 2012, the gross domestic savings of China is the highest followed by Malaysia amongst the emerging economies. India (27.9%) is well below the levels of China (51.6%), Russia (33.2%), Brazil (16.2%), and South Africa (16.3%). Advanced economies such as France (17.6%), Germany (23.1%), UK (12.6%), and USA (15.6%) with comparatively low savings levels have fully grown domestic debt markets. On the other hand, in spite of satisfactory growth in savings, India has not been so far successful in developing a domestic debt market for efficient financial intermediation in the domestic economy.

Table 2: Gross Domestic Savings (% of GDP)

Country	1990	2000	2005	2007	2008	2009	2010	2011	2012
Asia EMDEs									
India*	22.8	23.7	33.5	36.9	32	33.8	32.1	30.0	27.9
China	39.1	37.5	47.6	50.5	51.8	52.1	51.9	50.7	51.6
Indonesia	32.3	32.8	29.2	29	28.9	33.8	33.9	34.4	34.4
Malaysia	34.5	46.1	42.8	42.1	42.3	36	40.2	39.4	37.6
Select other EMEs									
Brazil	21.4	16.5	19.8	19.8	20.9	16.5	19.2	18.9	16.2
Russian Federation	30.3	38.7	33.8	32.8	34.6	26.1	30.7	34.0	33.2
South Africa	23.2	18.9	17.5	18.3	18.9	18.6	19.0	18.8	16.3
Select advanced economies									
France	21.2	21.4	19.5	20.3	19.8	17	17.0	17.7	17.6
Germany	23.1	22.1	22.2	25.4	24.9	21.4	22.9	23.4	23.1
United Kingdom	18.1	15.8	13.6	15.2	14.1	11.2	12.8	13.4	12.6
United States	16.3	16.7	14.1	14	12.5	11.4	14.9	14.7	15.6
World	23.2	22.2	21.7	22.5	21.4	18.9	21.7	21.6	21.6

Note: EMDEs - Emerging Market and Developing Economies Source: World Development Indicators May 2014.

Reserve Bank of India report of the working group on savings during the twelfth five-year plan (2012-13 to 2016-17) indicates that there needs an effort to gradually transform the currency holdings into bank deposits and a portion of physical savings into non-banking deposits (Table 3). Currency holding of Indian household has been increasing since 2011-12 (1.6%) and projected to reach 1.7% by 2016-17. Further, about 11.5% of Indian household saving goes into physical savings, which needs to be channelized into the financial system for profitable investments and faster economic progress. It is surprising that due various reasons the household savings in physical savings has been increasing and projected to touch 12.7% by 2016-17. Enabling environment could be provided by an efficient and investor friendly domestic debt market. Besides, this approach would strengthen solidity and breadth in the domestic debt market to sustain possible risks in the markets.

Table 3: Projection of the components of household savings over the twelfth plan

(As per cent of GDP at current market prices)

		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Average XII Plan
1	Currency	1.6	1.6	1.6	1.7	1.7	1.7	1.7
2	Bank deposits	8.6	8.8	8.9	9.1	9.2	9.4	9.1
3	Non- banking deposits	0.1	0.1	0.1	0.1	0.1	0.1	0.1
4	Life insurance fund	2.9	2.9	3	3	3.1	3.1	3
5	Provident and pension fund	1.7	1.7	1.7	1.8	1.8	1.8	1.8
6	Claims on Government	0.8	0.8	0.8	0.9	0.9	0.9	0.9
7	Shares & debentures	1.2	1.3	1.3	1.3	1.3	1.3	1.3
8	Gross Financial Assets (1 to 7)	16.8	17.1	17.4	17.6	17.9	18.2	17.6
9	Gross Financial Liabilities	5.1	5.2	5.3	5.4	5.5	5.5	5.4
10	Net Financial Savings (8 – 9)	11.7	11.9	12.1	12.3	12.5	12.7	12.3
11	Physical Savings	11.5	11.7	11.9	12.1	12.3	12.5	12.1
12	Household total Savings (10+11)	23.2	23.6	24	24.4	24.8	25.2	24.4

Source: Reserve Bank of India Report of the Working Group on Savings during the Twelfth Five-Year Plan (2012-13 to 2016-17)

In order to harness the domestic savings for long term productive investment needs of the economy, there is undoubtedly a strong need for a mature bond market. Bond markets connect issuers having long-term financing needs with the investors willing to place funds in long-term, interest-bearing securities. A developed domestic bond market offers a wide range of opportunities for funding the government and the private sector, with the government bond market typically creating opportunities for other issuers. A brief macroeconomic indicator survey of the level of bank deposits to GDP among the emerging economies, BRICS economies and advanced economies (refer Table 4) using the world development indicators suggests that though India in 2011 (62%) has higher level of banks deposits compared to China (49.9%), Brazil (50%), Russia (37.5%), and South Africa (59.1%), it needs to expand the banking base when compared to USA (80.8%), France (83.9%), Germany (114%), and Malaysia (120.9%).

Table 4: Bank deposits to GDP
(in percent)

Country	2005	2006	2007	2008	2009	2010	2011
India	50.0	51.2	54.4	59.2	60.9	60.4	62.0
Indonesia	35.6	34.5	34.1	32.3	32.0	31.9	32.0
China	43.3	42.4	41.9	41.7	46.6	50.9	49.9
Malaysia	105.9	105.9	105.7	104.0	122.1	119.4	120.9
Brazil	47.2	50.9	53.7	55.9	54.9	48.8	50.4
Russia	20.7	23.4	27.0	28.1	35.7	36.3	37.5
South Africa	52.2	56.0	59.2	63.6	63.8	59.3	59.1
France	67.6	67.4	67.7	71.6	77.2	79.7	83.9
Germany	98.7	99.0	100.5	107.4	116.7	114.0	114.0
USA	66.7	69.2	72.9	80.7	85.9	83.0	80.8
World	35.1	35.6	36.3	39.7	43.9	42.5	44.1

Source: World Development Indicators

On a global comparison of outstanding domestic private debt securities to GDP, India with 4.9% in 2011 (refer Table 5) is way behind when compared to China (23.1%), Brazil (21.7%), and South Africa (18.8%). USA with 91.9% and Malaysia with 58.1% are progressing remarkably. India began its journey in this category very recently since 2005 with 0.9% when compared to Malaysia, which was already with 47.4%. As the domestic private debt securities play a very important role in mobilizing financial resources for the domestic economy there is an imminent need to evolve suitable instruments in the domestic debt market in India for faster financial intermediation in the economy.

Table 5: Outstanding domestic private debt securities to GDP
(in percent)

Country	2005	2006	2007	2008	2009	2010	2011
India	0.9	1.7	2.6	3.1	4.0	5.2	4.9
Indonesia	2.2	2.0	2.0	1.6	1.5	1.6	1.4
China	10.7	12.8	13.9	15.9	19.3	21.5	23.1
Malaysia	47.4	61.3	62.8	56.5	58.9	58.7	58.1
Brazil	12.7	15.2	17.0	17.9	22.2	23.4	21.7
South Africa	16.1	15.9	17.7	18.0	19.7	21.5	18.8
France	38.3	39.1	46.6	51.2	53.8	55.9	56.3
Germany	34.9	32.7	35.4	35.4	36.5	31.6	24.0
USA	105.7	109.9	113.7	120.0	116.5	102.4	91.9
World	20.3	17.1	17.7	18.0	22.2	22.9	21.7

Source: World Development Indicators

Another important prerequisite for facilitation of the growth of domestic debt market is the efficiency of the stock markets. A comparative look at the total value traded in the stock markets to GDP, we notice that during the year 2011 (refer Table 6), India with 46.9 % is way behind China (112%), Russia (52%), South Africa (89%), and USA (205%).

Table 6: Stock market total value traded to GDP
(in percent)

Country	2005	2006	2007	2008	2009	2010	2011
India	49.1	55.7	73.4	83.2	77.0	64.3	46.9
Indonesia	11.5	12.8	18.6	21.6	20.2	18.4	16.2
China	30.3	41.4	134.8	160.1	146.6	145.7	112.4
Malaysia	39.3	36.5	56.8	53.3	38.1	34.2	38.9
Brazil	15.1	19.6	31.6	40.9	40.8	38.3	38.8
Russia	19.5	34.2	49.9	41.5	46.6	50.4	52.4
South Africa	74.6	95.8	126.4	142.8	131.3	101.9	89.0
France	69.1	89.8	118.6	123.5	85.0	54.2	54.5
Germany	57.2	73.3	91.1	93.0	64.1	39.8	45.0
USA	163.8	207.9	272.6	384.8	401.7	268.9	205.6
World	4.7	6.9	9.8	10.9	9.4	6.6	4.8

Source: World Development Indicators

Decadal growth in Indian markets has not seen satisfactory growth when compared to its peers. While India moved from 49.1% in 2005 to 46.9% in 2011, China moved from 30.3% to 112.4%, South Africa moved from 74.6% to 89% and USA from 163% to 205% during the same period. As such, our markets need to be broadened to encompass all types of investors and borrowers. Some of the stock market scams and frauds deter the retail investors from venturing in the Indian markets, which is indeed a cause of concern. A vibrant stock market aids in facilitating the evolution of domestic debt market in a significant way.

4. Structure, Size, and Reach of Domestic Debt Market in India

Since the onset of financial sector reforms, Indian debt markets have seen some evolution. As the annual market borrowing of Government of India has increased from INR 122.83 billion in 1991-92 to INR 5790 billion in 2013-14, the monthly volume in secondary market on the electronic trading platform – Negotiated Dealing System-Order Matching (NDSOM), which accounts for about 90 per cent of the trading, has increased from INR 314.30 billion in August 2005 to INR 1480.86 billion in March 2011. In case of corporate bonds, trading volumes have raised manifold from INR 1458.28 billion in 2008-09 to INR 5986.04 billion in 2010-11. However, Indian debt market needs to traverse a long way to catch up with neighbours in the Far East, let alone the advanced economies of the west.

The governments dominate Indian debt market. Prominent amongst the participants in the debt market include: central government, state governments, RBI, primary dealers, public sector units, corporate treasuries, public sector financial institutions, mutual funds, FIIs, provident funds, trusts, and societies. Figure 2 provides a diagrammatic representation of the market segment, issuers, instruments, and investors in the Indian debt market. Some of the prominent financial instruments include: (i) government bonds: issued directly by the government of India, the so called G-Sec; (ii) borrowing by state governments: made by individual states within India; (iii) tax free bonds: issued directly by quasi-sovereign companies allow market expansion for investors and, in particular, embody retail interest into the market; (iv) corporate bonds: this market must be further developed as proved by the ratio of outstanding government bonds to total outstanding bonds; (v) banks and other financial institutions bonds: they are underperforming; (vi) tax-savings bonds: issued directly by the government of India, they provide investors with tax rebates, in addition the normal rate of interest; and (vii) tax-saving infrastructure bonds: issued directly by infrastructure companies approved by the government, they offer tax rebates along with a decent rate of interest.

The legal framework for domestic debt markets in India, mostly involves the RBI Act, Government Securities Act, Securities (Contracts) Regulation Act, Indian Contract Act, Payment & Settlement Systems Act, Depositories Act, etc. RBI is both a market player as well as a regulator. The market participants as well as expert academics often criticize the multiplicity of regulators. User-friendly documentation and ease of access for these documents is needed to be addressed by the regulators for facilitating faster growth and smooth regulation of the market.

Figure 2: Structure of Indian debt market

Regulators (SEBI, RBI, DCA)			
Market Segment	**Issuers**	**Instruments**	**Investors**
The Sovereign Issuer	Central government	GOI dated securities Treasury Bills State Government Securities Index Bonds Zero coupon bonds	RBI
	State governments		DFIs
The Public Sector	Government Agencies and State Bodies	Government guaranteed bonds / debentures	Banks
	PSUs	PSU bonds, Debentures, CPs	Pension Funds
	Commercial banks and DFIs	CDs, Debentures, Bonds	FIIs
The Private Sector	Corporates	Bonds, Debentures, CPs, SPNs, FRNs, FCDs, ZCBs	Corporates, Insurance companies
	Private sector banks	Bonds, Debentures, CPs and CDs	Provident Funds and others

Source: Author

Broadly, we can classify the financial instruments in the debt market into short-term and long-term instruments. Some of the prominent financial instruments include: call/notice money (1-14 days), term money – FDs (upto 1 year), repo (1-14 days) – 1 yr, CBLO (1 day to 3 months) –(collateral borrowing &lending obligation), treasury bills (91 day, 182 and 365 day), fixed deposit, certificates of deposits (upto 1 year), commercial paper (upto 1 year), bills rediscounting schemes (upto 6 months). Long–term instruments mostly include; Government of India dated securities (GOISECs), inflation linked bonds, zero coupon bonds, state government securities (state loans), public sector undertaking bonds (PSU Bonds), corporate debentures, Bonds of public financial institutions (PFIs).

In terms of size, Indian debt market has a long ladder to climb when compared to that of western economies. However, India is ranked fourth among its peers. In the Indian debt market, the government has been the major player accounting for almost two-third of the market. The remaining one-third is participated by the corporates including banks, public sector undertakings (PSUs), state undertakings, and private corporates. In 2012, the size of the Indian bond market was approximately 27% of the Chinese bond market and 69% of the Korean bond market. By the end of 2012, the total volume of outstanding bonds was around USD 1 trillion, indicating an overall increase of 24% from the previous year that was contributed by both government securities and corporate bonds. While the government securities in India comprised 79% of the total amount of outstanding bonds, much larger than that of China (73%) and Korea (39%). In 2012 alone, the amount of outstanding government securities increased more steeply, at a growth rate of 23% reaching USD 792 billion, compared to the average rate of 18% per year over the period spanning from 2000 to 2012.

Indian debt market is dominated by the bond market. We present in Table 7 an overview of the size of the bond markets among the Asian peers. Japan with $ 9990 billion with an extensive bond market akin to that of western markets leads the Asian peers. China has the second largest bond market with $ 4724 billion next to Japan mostly with government domination. South Korea follows China in the third place with a market size of $ 1641 billion. The uniqueness of South Korean bond market is in its domination of corporate bond market, which almost accounts for 61% of its outstanding. South Korea is hailed for an extensively developed debt market for the size of the economy.

Table 7: Asian bond markets

Economies	Outstanding government bonds	Outstanding corporate bonds	Total bond market
Japan	9203	787	9990
China	3072	1652	4724
South Korea	626	1015	1641
India	569	243	812
Malaysia	183	129	312
Thailand	213	62	275
Singapore	149	93	242

Note: Figures in USD billions are as of December 2013 for all the countries except India (March 2014)
Source: Asian bonds online, SEBI and Ministry of Finance

In terms of trading volumes in the secondary market, the turnover ratio[1] that is an indicator of liquidity in the market, Japan has the highest turnover ratio of 4.56 with the government bonds having a multiple of 4.9 and the corporate bond market turnover ratio at 0.3. Interestingly, India is second to Japan with a healthy turnover ratio of 3.46 and the turnover ratio in the corporate bond market is 0.67 astonishingly superior to that of Japan. In order to provide a trend of issuances and trades in primary and secondary markets respective, we present in Table 8, the data for the period 2005-06 to 2011-12.

Table 8: Number of Issuances and trades in Indian bond market

Year	Primary Issuances*	Change in percent	Secondary Market Trades#	Change in percent
2005-06	1,527		8,648	
2006-07	1,668	9.23%	10,215	18.12%
2007-08	2,238	34.17%	16,539	61.91%
2008-09	3,911	74.75%	21,602	30.61%
2009-10	5,821	48.84%	29,139	34.89%
2010-11	5,410	-7.06%	28,710	-1.47%
2011-12	6,686	23.59%	34,882	21.50%

* Gross for Central & State Governments # Single side volume

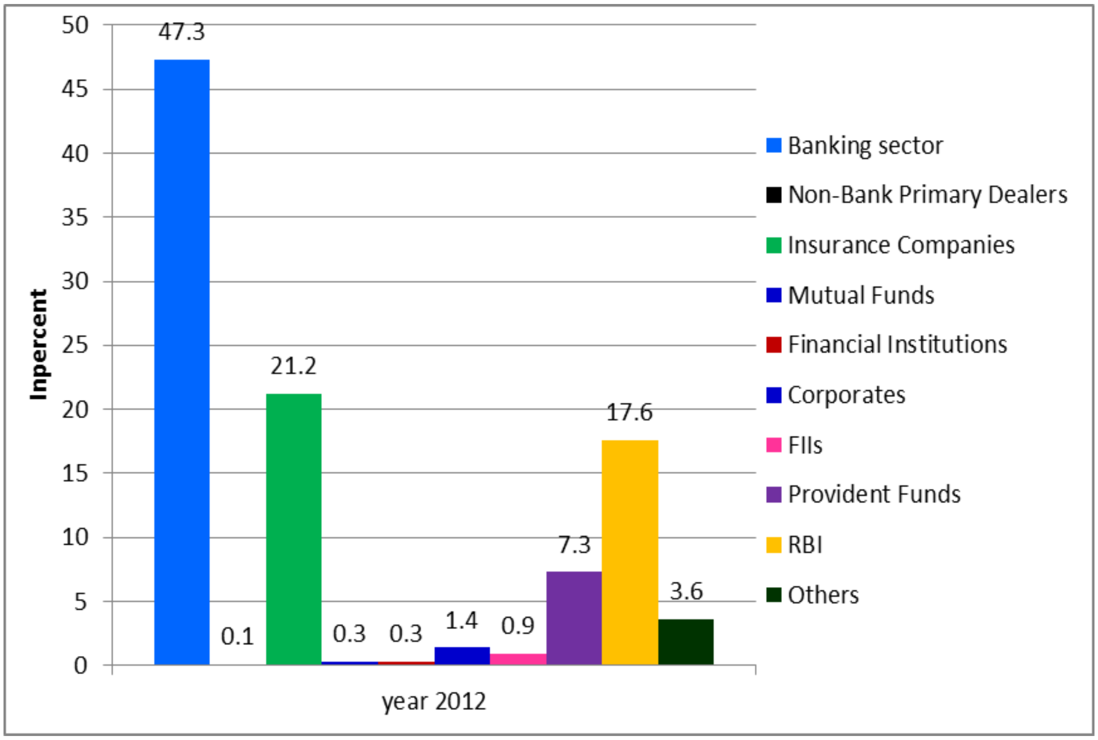
While the primary issuances experienced a significant boost during the years 2008-09 (75%) and 2009-10 (49%), the secondary market saw a heartening jump during the years 2007-08 (62%) and 2009-10 (35%). 2010-11 saw a worst ever performance of the decade with -7.06% change in primary issuances and -1.47% in the secondary trades. During the year 2011-12, there were 6686 primary issuances and 34882 secondary trades.

Investor base in India is extremely narrow. As there is not enough diversification of security products, mutual funds, and hedge funds are very small. Further, pension provident funds are also not fully developed. Share of market participants in Indian government securities in March 2012 (Figure 3) indicates that banking sector (47.3%) is the major participant followed by

[1] Turnover ratio in the bond market is the value of bonds traded in the secondary market to the total outstanding bonds. The higher the turnover ratio, the more vibrant is the bond market.

insurance companies (21.2%), RBI (17.6%), provident funds (7.3%), corporates (1.4%) and others.

Figure 3: Share of market participants in Indian government securities



Source: RBI data

Corporate bond market in India due to the impact of financial sector reforms has experienced significant progress as the corporate bond outstanding has increased from $3.8 billion in 2005 to $ 25 billion in 2010. Further, secondary market trades have grown from INR 959 billion in 2008 to INR 7386 billion in 2013. In 2011, the outstanding of corporate bonds was about $147 billion approximating 10.5% of GDP, whereas the level of bank loans to GDP was around 37% (SEBI, 2012). In US, corporate debt market has almost replaced bank finance as a funding source and hence is about 90% of GDP. In Asia, Japan with 34% follows South Korea, which has 60% of corporate debt to GDP (BIS 2012).

How do Indian corporates source their funds? Analysis of trends in the sources of funds based on company finances studies of RBI on non-Government non-financial public limited companies for the period 1990-1991 to 2010 -2011 show that companies in India tend not to follow the pecking order theory and have instead depended more on external sources rather than on internal sources (Raghavan *et al.,* 2013). Amongst the external sources, bank loans seem to dominate the borrowings of these companies. For instance, during the period 2006-2010, 67.4 per cent of the total borrowings were financed through bank loans and only 7.0 per cent were financed through debentures. This trend further increased to 71.1 per cent (bank loans) and 10.7 per cent (debentures) in 2010-11. We present in Table 9, the average sources of funds for Indian companies for the period from 1981-1985 to 2011-12. The share of debentures has decreased from 22 percent during 1981-85 to 8.8 percent in 2011-12. On the contrary the share of banks as sources of funds for corporates has grown from 32.1 percent to 59.3 percent during the same period. Similarly the foreign institutional agencies as sources has moved increased from 2.1 percent to 18.4 percent. Other sources such as public deposits, deferred payments have not experienced any change during this period. This reveals that there is a greater need to infuse market confidence among the investors as well as the borrowers in the bond market as sound source of funding the Indian corporates.

Table 9: Average sources of funds through borrowings for Indian Corporates

Sources	1981-85	1986-90	1991-95	1996-2000	2001-2005	2006-2010	2010-2011	2011-2012
Debentures	22.0	29.2	22.2	18.1	-57.5	7.0	10.7	8.8
Banks	32.1	36.0	23.3	35.5	504.0	67.4	71.1	59.3
Other Indian Financial Institutions	20.7	19.5	30.1	27.5	-174.9	-1.1	3.3	0.0
Foreign Institutional Agencies	2.1	0.9	7.6	1.1	-103.6	11.9	6.3	18.4
Government & semi-government companies	-0.2	2.9	2.9	1.8	14.0	0.6	0.9	-0.5
Companies	1.2	2.4	2.4	4.3	1.5	6.8	5.6	7.2
Deferred payments	4.0	3.1	8.4	8.5	-55.0	5.0	2.1	4.6
Public deposits	4.9	0.0	0.1	0.5	-7.3	0.9	-1.5	5.5
Others	13.2	6.0	3.0	2.7	-21.2	1.5	1.5	-3.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

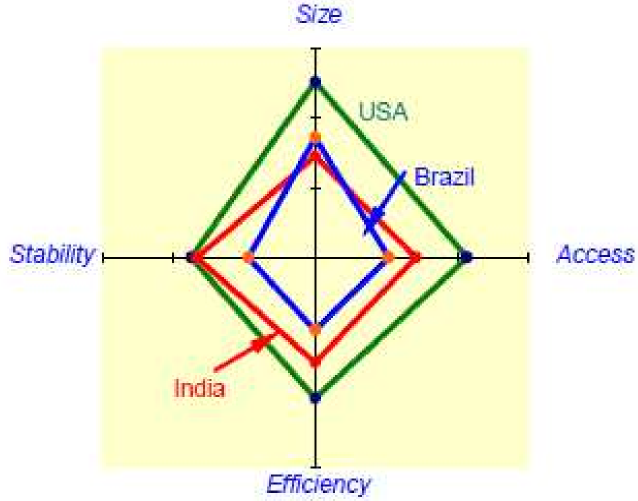
Source: Reserve Bank of India DRG study – A study of corporate bond market in India

5. Indicators of Bond Market

Bond financing has gained significance the world over and has become an integral part of countries' and firms' financing, particularly for emerging market economies. The size of the global bond market has increased from $25 trillion in 1990 to $57 trillion in 2004, while that of emerging markets has grown from $1 trillion to $4 trillion. Domestic bond markets continue to be under-developed in many economies. Some of the indicators to assess the bond markets are evolved around four broader dimensions; size, efficiency, access, and stability (SEAS). From the *size* perspective, we can look at bond markets in terms of; the ratio of private sector bonds to GDP, the ratio of public sector bonds to GDP, and, the ratio of international bonds to GDP. From the dimension of *efficiency,* we can look at the bond markets in terms of; quoted bid-ask spreads, turnover of private sector bond on securities exchange, turnover of public sector bond on securities exchange, and settlement efficiency index. From the point of *access*, one can look at the bond markets with measures such as; government bond yields (3 months and 10 years), ratio of domestic to total debt securities, ratio of private to total debt securities (domestic), ratio of new corporate bond issues to GDP, and new corporate bond issued ($ billion). Finally from the *stability* perspective, we can consider; volatility of sovereign bond index, skewness of sovereign bond index, Ratio of short-term to total bonds (domestic), ratio of short-term bond to total bonds (international), correlation with German bond returns, and correlation with US bond returns.

How can we assess the India bond market? Based on the above-mentioned indicators, FSDI provides composite indicators for the dimensions of the bond market (size, access, efficiency and stability), as well as for their overall development. These composite indicators have been constructed using the standardized methodology utilized in the FSDI framework (World Bank, 2006). According to World Bank assessment, based on benchmarking all four dimensions, a comparison of Brazil, India, and the U.S. is presented in the radar chart (Figure 3). While the U.S. has the most developed bond market among the three countries, India's bond market is more stable than Brazil's even though the latter has a larger bond market compared with the former.

Figure 3: Composite bond market indicators



Source: World Bank, 2006.

Indian bond market's overall ranking based on the composite indicators; size – 4.35, efficiency – 4.53, access – 4.26, and stability – 5.00 is found to be 4.54. Denmark with an overall ranking of 6.67 tops the world followed by Japan (6.44) and USA (6.32). Bond markets of South Africa (4.55), Chile (4.78) are found to be superior to that of India (4.54).

6. Challenges for the domestic debt market in India

For funding capital-intensive infrastructure projects, long-term debt is very crucial. As such, the challenge is to encourage investment from private sector through the domestic debt market. Data published by the Committee on the Global Financial System suggests that despite having substantial stock market capitalization, India still lags behind several emerging markets in the issuance of international and domestic debt securities, as well as private domestic credit. The lack of debt financing vehicles and a liquid domestic bond market have been major impediments to development finance in India. Domestic debt market in India is faced with several structural issues and its development is discomfited by a several factors such as; narrow investor base, high costs of issuance, lack of ease of access for SMEs, illiquidity in the secondary market, absence of a well-functioning derivatives market, regulatory excesses and weaknesses, high interest rates and dominance of private placements.

What measures are needed to make develop domestic debt markets? Extant research on cross-country regressions suggests that some of the key factors to develop superior debt markets could be (a) good macro policies, (b) corporate governance (c) good market infrastructure (Burger and Warnock, 2003; Claessens *et al.,* 2003; and Eichengreen *et al.,* 2006). India need to learn lessons from Korean domestic debt market development. Lessons from the Japanese experience suggest that (i) a healthy and vibrant Government bond market is important for the development of corporate bond market (ii) the development of the corporate bond market should be complemented by the development of the banking system (iii) the corporate bond market should be integrated with the global economy.

Lessons from the corporate bond market development in South Korea, which is one of the most robust bond markets in Asia in terms of size and growth, suggest that: (i) it is important to develop the bond market infrastructure and investor base concurrently in order to achieve a balanced and a viable bond market (ii) there is a need to improve investor confidence in the added layer of security of extra credit enhancement for asset backed securities (ABS) and mortgage backed securities (MBS) helped the market to develop. Further, government policy reform is crucial in creating the necessary infrastructure to enhance the overall liquidity and transparency of the primary and secondary bond market. Essential infrastructure and institutional arrangements such as auction system, primary dealer system, a delivery-versus payment (DVP) clearing and settlement, futures market and repurchase market for corporate bonds should be put in place for the smooth development of the corporate bond market. Market determined interest rate, large issuances, improved market infrastructure, instruments diversification, fiscal responsibility legislation, among others, have played a catalytic role. The Committee on Infrastructure Financing headed by Deepak Parekh and Patil committee have made significant recommendations towards developing domestic debt market in India. The creation of a deep and robust debt capital market is a key to making available long-term debt instruments for infrastructure.

We discuss here below some of the challenges and significant measures to strengthen the Indian domestic debt market:

a) *Transparency in the market*: Develop greater transparency in the system by providing observable and verifiable pre- and post-trade information. Strengthen the functioning of existing markets by disseminating information on debt operations. Adopt transparency in primary auctions, develop secondary markets, diversify investor base (allow pension funds, retail and foreign investors), and elongate maturity structure. Standardized and harmonized documentation, improved data compilation and reporting, improved price disclosure mechanisms, and common methodology to establish credit ratings. To publish a government bonds issue calendar and publish the outcome of the auction. Develop mechanisms to make intra-day pricing more transparent and consistent secondary market pricing.

b) *Broadening Investor Base*: To evolve measures have a larger and more diversified investor base with integrated clearing and payment systems. One of the immediate consequences of a shallow bond market is the high investment volatility in the financial markets. Investors generally do not prefer to lock their capital in direct investments that commit them for several years in shallow markets. Instead, they prefer to engage in portfolio investments in deeper liquid markets as they can easily recalibrate their exposure by pulling back their capital. A well-diversified wide investor base is vital for ensuring steady and strong demand for all bonds and stability of investments. An appropriate investor base includes both domestic and foreign investors and all type of institutions, spanning from commercial banks to insurance companies, pension funds, hedge funds, mutual funds, and more significantly individual investors.

c) *Rationalization of regulations*: There is a need to establish common regulations by (i) law harmonization, (ii) similar supervisory structures, (iii) homogenous tax treatment and market structure. Strengthen creditors' rights by improving and harmonizing corporate governance and transparency. Particularly in the case of Indian bond market, the investor's right to offset in the event of bankruptcy is not well established and hence there is a need for implementing a closeout netting system will protect investors and give them more confidence to remain in the market. There is also a need to reduce constraints to market entry by common rules on the access of non-resident to the local bond market.

   Current regulatory and jurisdictional uncertainty is a severe impediment for foreign-invested financial institutions, effectively serving as a non-tariff trade barrier. Regulatory transparency and consistency in market consultation processes, satisfactory notification of new rules and time for public comment are vital.

Further there is a need for consolidation of all regulations (issued by SEBI, Company Law Board, stock exchanges and host of other entities) pertaining to issuance of corporate debt securities under the aegis of SEBI to minimize multiplicity of regulators.

d) *Benchmark yield curve*: The establishment of a benchmark at every level of the yield curve would bestow investors and issuers a better way to gauge both long- and short-term securities as it would set a “risk free” rate across the yield curve - which could facilitate proper pricing of corporate and infrastructure bonds. In this direction, government should continue to supply liquidity. Besides, developing term floating rate benchmarks would facilitate issuers swap fixed rate issuance into floating, as it is extremely important during high interest rate environment.

e) *Derivatives and Swaps*: Interest rate and currency swaps are key essentials of a fixed-income debt market. While Interest-rate swaps give the ability to exchange or swap a fixed interest-rate payment with a floating one, currency swaps, in contrast, provide investors with the opportunity to exchange or swap the principal and interest rate of a loan taken out in one currency with the same in another currency. These derivatives are essential for investors to hedge, speculate, and offset risk, which in turn causes and augments liquidity in the market. Swap derivatives lead to forward rate expectations. Swap rate curve has turned out to be a benchmark for credit markets internationally and, more particularly in mature markets. Moreover, swap derivatives are necessary tools for corporations, as they can profit from more efficient local bond markets. Therefore, the development of an adequate swap market would be highly encouraging for corporations to participate in the bond market and raise capital, which in turn contributes to growth and stability. Swap derivatives will boost corporations’ confidence by allowing them to access the bond market and raise capital, which contributes to growth and stability.

f) *Credit Ratings*: One of the reasons why investors hesitate to participate in the bond market is the mismatch between the price of the bonds and the actual and real risk they carry. A competitive and well-established efficient credit rating industry not only makes the debt market attractive but also accessible. Credit rating offers investors the confidence by virtually a guarantee about the type of securities they are trade. The credit rating industry must adhere to global best practices to attract the investors. By doing so, investors can take advantage of an international standardized rating, which in turn makes the market more transparent and reliable, thereby attract both domestic and foreign investors.

g) *Municipal and Local Authority Bond Market*: There is an imminent need for development of a municipal and local authority bond market. In this direction, RBI should look at the issue in liberalized view and remove restrictions on infrastructure financing through bond issuance. More generally, a municipal bond is a long-term bond issued directly by the local municipality or state-owned enterprise that can be used to fund infrastructure projects like; public institutions, roads, and highways. The development of a quasi-sovereign bond market encourages (i) both local government and state-owned enterprises such as utilities, power companies and others engaged in different sectors, to approach the market for their borrowing instead of putting pressure on the government deficit, which is quite high. Having a quasi-sovereign bond market would create additional benchmarks and contribute to an overall deeper capital market. In well-developed municipal and local authority bond markets, stimulated by tax incentives, issuers are able to keep interest rates low, thereby reducing the overall cost of capital. Tax incentives attract a wide range of investors, thus increasing the pool of potential buyers, which further keeps the costs of issuance low. This will then ensure a secure, steadier, and more reliable stream of capital for financing infrastructure projects.

h) *Harmonization of stamp duty*: There is a need to reduce and bring in uniformity in stamp duty on issuance of debt instruments and on securitization transactions. The stamp duty applicable on debt instruments is not only high as compared to developed markets but also different across various states. Since stamp duty affects profoundly on the cost of issue of the debt instrument, it makes debt less attractive vis-à-vis loans. Besides, high variability in stamp duties across various states inhibits the development of a more broad based market.

i) *TDS on corporate bonds*: Trading in corporate bonds becomes cumbersome due to tax deducted at source. As such, there is a need for removal of TDS on corporate bonds in line with GOI securities.

j) *Removing regulatory asymmetry between loans and debt*: There seems to be no valid logic for having an asymmetry in regulations between instruments when the underlying risks associated with the corporate raising the resources, are the same. The existing asymmetry with a bias in favor of loans makes banks averse to investment in corporate bonds and hence keeps a potentially important class of investors out of the corporate bond market.

7. Conclusion

India is finally moving forward to promote domestic currency debt markets to facilitate infrastructure investment. Given the gap in debt funding, the ability to meet infrastructure investment target of USD 1 trillion would ill critically depend on two factors. First, the government's ability to successfully increase reliance on the bond market as an alternative source of financing to bank loans and, second, their ability to implement fiscal consolidation as a means of freeing up bank lending and reducing upward pressure on interest rates. India will need to borrow increasingly in the domestic debt market if it is to meet this target. Development of domestic debt market in India should be planned and implemented on a long-term basis with a realistic policy sequence. It needs to be in sync with the banking sector reforms in order to alleviate systematic risk. Steps towards improving the transparency, reliability, accessibility, timeliness, and market diversification would help develop the bond market. India should broaden the investor base by increasing the number and size of financial institutions that can invest in corporate bonds. It is crucial to note that market liquidity is a consequence of active participation of market players. New financial products and instruments are required to be designed to cater to funding and hedging needs of the market participants. They should be created in such a way that they do not result in risks in financial stability and do not jeopardize the interest of the ultimate end users/customers. The lack of market interest, if any, must be introspected and debated seriously to draw up remedial action plan.

To evolve a vibrant domestic debt market that is able to meet the growing financing requirements of the country’s dynamic private sector, there is a need for effective co-ordination and co-operation amongst all the market participants. Further, a sound management of public debt could result in a decline in the debt requirements of the government, which in turn can offer greater market space and create greater demand for corporate debt securities. Obviously, systematic development of a well-functioning domestic debt market in India is likely to be a gradual process as experienced in several other countries.

References:

Bank of International Settlements (2012). ‘Debt Securities Statistics’. Retrieved from http://www.bis.org/statistics/secstats.htm

Burger, John D& Warnock, Francis E. (2003).Diversification, original sin, and international bond portfolios. *International Finance Discussion Papers* 755, Board of Governors of the Federal Reserve System (U.S.).

Claessens Stijn, Klingebiel, Daniela & Schmukler, Sergio. (2003). Government bonds in domestic and foreign currency: the role of macroeconomic and institutional factors. *Policy Research Working Paper Series* 2986, The World Bank.

Eichengreen, Barry, Eduardo Borensztein, and Ugo Panizza. (2006). A Tale of Two Markets: Bond Market Development in East Asia and Latin America. Hong Kong Institute for Monetary Research, *Occasional Papers* No. 3.

Fabella, R, and S. Mathur. (2003). Bond Market Development in East Asia: Issues and Challenges. *Asian-Pacific Economic Literature* 18: 183-190.

Gulde, A., C. Pattillo and J. Christensen (2006). *Sub-Saharan Africa: Financial Sector Challenges*. International Monetary Fund

Hauner, D, (2006). *Fiscal Policy and Financial Development*. *IMF Working Paper* No. 06/26 International Monetary Fund

International Monetary Fund, (2001). *Developing Government Bond Markets: A Handbook*. Washington

Raghavan Sunder, Sahoo Ashok, Hait Angshuman, & Ghosh Saurabh. (2013). *A Study of Corporate Bond Market in India: Theoretical and Policy Implications*. Development Research Group Study No. 40. Department of Economic and Policy Research, Reserve Bank of India.

SEBI (2012). ‘Corporate Bonds’. Retrieved from http://www.sebi.gov.in/cms/sebi_data/statistics/corpbondsdb.html

World Bank (2006) Financial Sector Indicators Note: 6. *Financial Sector Development Indicators* Financial Sector Operations and Policy, World Bank