Working Paper Series
Paper No.

Developing The Indian Debt Capital Markets: Small Investor Perspectives

Pronab Sen
Nikhil Bahel
Shikhar Ranjan

PERSPECTIVE PLANNING DIVISION
PLANNING COMMISSION
GOVERNMENT OF INDIA
JULY 2003

Developing The Indian Debt Capital Markets: Small Investor Perspectives

Pronab Sen
Nikhil Bahel
Shikhar Ranjan*

ABSTRACT

The secondary debt market in India is practically non-existent. This paper argues that with the recent economic reforms, an efficient and active debt market, particularly in long-term private debt instruments, is essential for the country to realize the full benefits of the reform process and to achieve its potential. It is further argued that the presence of small investors is critical to this process, given the limitations of the institutional investors. The essential conditions for a well-functioning debt market are identified from a study of the U.S. and European markets, and an assessment made of their presence in India. Specific concerns of small investors in the Indian context are described, and suggestions made as to how these can be addressed.

---

* An earlier version of this paper was prepared as an input into the *Tenth Five Year Plan 2002-2007* of the Government of India. The authors are respectively Adviser, Perspective Planning Division, Planning Commission, Government of India; Associate, Investment Banking Division, Salomon Smith Barney Inc./Citigroup Global Markets Inc; and Associate, Fixed Income Division, Morgan Stanley & Co. The views expressed in this paper are the personal views of the authors and do not necessarily reflect the views of the organisations to which they belong. The authors gratefully acknowledge the valuable comments received from Mr. Rohit Sarkar, Special Consultant, Planning Commission. The usual disclaimer of course applies.

TABLE OF CONTENTS

I. Capital Market Reforms: The Need for More

Much has been said and written about reforming capital markets in India. There is a huge body of literature that documents the motivations, the measures and the impacts of the reforms of the 1990s. Much of this body of work, however, is concerned primarily with the operation of different segments of the financial sector from the perspective of the major market participants, especially the intermediaries. While this is no doubt useful, it misses out on the perspective of the possibly most important and vulnerable market participant, namely the small investor.[1] In the Indian context, where over 70 per cent of national savings originates in the household sector, this is a serious lacuna. This paper tries to fill this void in a small way.

We begin by summarizing some of the existing work, raising the issues and then provide a small investor perspective on the whole issue of capital market reform – especially debt capital markets. We contrast small investor mindsets in developed economies like the United States and those in a developing country like India, especially the behavior of small investors holding debt, and their attitude towards investment vehicles such as mutual funds.

We believe that this "bottom up" approach to the problem should be valuable for policy makers at all levels within the government and outside to formulate policy that will ultimately benefit the grass root investor in India, and lead to a more healthy development of the financial sector as a whole.

I.a. Debt capital markets in India – a historical perspective

Debt markets in India have suffered from chronic neglect on the part of policy makers, despite the fact that there is clear evidence of fairly strong debt preference among households for their financial investment portfolio. Very little has been done to create the infrastructure required for an efficient and developed debt capital market. In fact, the debt markets in India are currently at a similar stage of their evolution as the equity markets were prior the reform process in the early 1990s. In other words, the market, especially the secondary market, is really limited to a few brokers and institutional investors, with very inadequate provisions for active participation by the small investors.

[1] Since this paper is primarily about the "small investor", it may be useful to define what we mean by this term right at the outset, although its meaning in common usage is clear enough. In India, there is in fact a legal definition of the small investor, which used to be a holder of 1000 units of the concerned stock, but is now changed to an investment level of Rs. 50,000. But this is not what we mean. Our definition of the "small investor" is an entity for whom the cost of recovery is prohibitively high with respect to her investment.

Even less progress has been made in creating the infrastructure and in implementing the policy regime that is needed to facilitate the evolution of the Indian debt capital market into a global participant. Thus, the Indian debt market is more or less restricted to a fairly small set of domestic institutional investors, all of whom are probably driven by roughly the same needs and by similar expectations.[2]

The little progress that has been made, we outline in Appendix A.

I.b. The successful development of the Indian equity capital markets

A precedent for successful implementation of policies and infrastructure for financial sector development in India has been set during the 1990's in the process of creating a viable and competitive equity capital market. Prior to these reforms, the equity markets suffered from many of the ills that the debt markets suffer from today.

This targeted and focused prioritization on the part of policy makers led to a welcome and rapid turnaround in the equity capital markets.[3] We must take heart from this success and apply the same level of commitment so that the success can be replicated in the context of the debt markets.

We outline in Appendix B, for reference, the various policies that have been successfully implemented *vis-à-vis* the equity markets over the past decade.

I.c. Why the debt market?

It is of course legitimate to ask why the Indian government should focus on the debt market at this stage, especially when there is a substantial unfinished agenda in other segments of the financial sector. The reasons lie in the structural changes that have taken place since the initiation of economic reforms in India, and which are expected to continue in the foreseeable future.

In a very stylized sense, the requirement of investment funds for productive investment can be divided into three broad categories – equity, long-term debt, and medium to short-term debt. The proportion in which different forms of funds are required depends on the nature of the activity, the sector in which the investment is proposed to be made, and on the perceptions regarding the future

[2] An active secondary market can exist only when there are a range of investors with different needs, motivations, time horizons and, most importantly, expectations.

[3] At the moment the Indian equity markets are witnessing a withdrawal of small investors, primarily due to a series of scams that have taken place in the recent past. This is, however, likely to be a temporary phenomenon.

developments in the financial sector. Although there is some flexibility in these proportions, by and large not too much variation in either the debt:equity ratio or the term structure of debt appropriate for the particular industry is either possible or desirable from the point of view of both the lenders and the borrower.

If the financial sector is unable to provide funds in the three broad categories in more or less the same proportion as required by the demand, the possibility is that there could simultaneously exist excess demand and excess supply in different segments of the financial market. In such a situation, one of two outcomes is possible. The investing entities could meet their funds need in whatever form they are available; and thereby expose themselves to needless risk. As a consequence, the over-all risk profile of the economy would tend to go up.[4] Alternatively, if they adhered to norms of prudence, the segment of the financial sector facing the highest level of excess demand would prove to be the binding constraint to investment activity and effectively determine the actual level of investment in the economy. It is, therefore, entirely possible that *ex-post* investment may fall short of *ex-ante* savings, not because of a lack of investment demand, but because of a mismatch between the structures of the demand for and supply of investment funds.[5] In addition, the excess supply of funds in one segment of the financial sector carries the danger that such funds may be used for speculative purposes in foreign exchange, real estate or commodities, which create their own problems in economic management. The net result can be an economy which is performing well below its potential and with high levels of systemic risk.

In earlier years, such a potential mismatch was not of much consequence in India since there was a situation of pervasive excess demand in all segments of the financial market, arising primarily out of the high level of pre-emption of financial savings by the government and a substantial incidence of directed lending.[6] In addition, the public sector was the major investor in almost all infrastructure and heavy industries, which are most sensitive to the financing structure due to their heavy investment requirements, long gestation lags and long pay-back periods.[7] Since sovereign entities are not as susceptible to funding risks as private, the asset-liability mismatch did not matter very much.

With economic reforms, however, the situation has changed dramatically. The public sector no longer dominates the economic scene in the country as it used

---

[4] If the entire availability of investible resources was absorbed, it would imply that a particular proportion of the total investment in the economy, given by the minimum of the ratios of the actual to the normative for each form of capital, would be exposed to systemic risk.

[5] This possibility was pointed out in Planning Commission, *Ninth Five Year Plan 1997-2002.* [9]

[6] There was a time when the Indian government pre-empted more than 80 per cent of the financial savings of the country. Moreover, since 1971, much of the financial sector in India, comprising of banks and insurance companies, was owned by the government.

[7] This was as much an outcome of policy as of strategy. The *Industrial Policy Resolution 1956* explicitly reserved most such activities for investment by the public sector.

to. The share of public investment in total investment has dropped to around 30 per cent in the late 1990s as compared to over 50 per cent even a decade and a half ago. More importantly, the current development strategy envisages a progressively higher degree of involvement of the private sector in infrastructure and heavy industries, which require long-term funds, whether equity or debt. Thus, it appears very likely that the need for risk capital, especially long-term debt, by the private sector in India will rise rapidly in the coming years.

As has already been mentioned, the reforms in the equity market should create conditions for increased availability of equity funds in the future. On the other hand, there is little possibility of any increase in long-term debt funds without the emergence of a relatively active secondary market in debt instruments. Therefore, the possibility exists that the Indian economy may be constrained in the coming years by the availability of long-term debt unless measures are taken to develop the market.[8] This is particularly worrying since the problem will be most acute in those sectors from which the government is trying to exit as a part of its privatisation strategy.

I.d. Why the small investor?

It could be pointed out, however, that the presence of small investors may not be essential for generating the necessary volumes of long-term debt. The traditional institutional sources of such debt, namely the insurance companies and pension/provident funds, could possibly meet the demand, at least in the immediate future. In the Indian context, there are at least two important reasons why every effort needs to be made to woo the small investor into the debt market.

First, while there is no doubt that the institutional sources of long-term debt do account for a substantial quantum of funds in India, practically all of it is monopolized by the government. There is logic to this. It needs to be remembered that such institutions carry a fiduciary responsibility, and it is therefore essential that limitations be placed on their deployment of funds for prudential reasons. The problem is compounded by the fact that the responsibility for management of most of these funds is either that of the government or of the employer. As a result, there is an excessive focus on issues of safety and security, with inadequate emphasis on returns. This, coupled with the regulatory framework, has led to a situation where such funds have been deployed only in government securities or in “trustee bonds”, which are generally also public debt instruments.

[8] The problem has become even more acute in recent years with almost all the Development Finance Institutions (DFIs), which historically have played an important role in maturity transformation of debt funds, becoming practically moribund.

Correcting this situation will not be easy. In the first place, the public sector will continue to play the major role in infrastructure development in the foreseeable future, and it can be nobody's case that it should be denied access to long-term debt funds. More importantly, until the regulatory limitations on and management preferences of institutional funds change, most of these resources will continue to be directed towards investment in public debt instruments.[9] Given the hyper-sensitivity of the social and political system in India to safety issues, it does not appear very likely that these limitations will change very soon. Thus, expanding the availability of long-term debt to the private sector will be contingent upon attracting investments through alternative routes. Certainly corporate savings can contribute to some extent through an inter-corporate debt market, but this will only lead to a *pari passu* reduction in equity funds, which are just as critical as debt. Participation by small investors, whether directly or through mutual funds, in the debt market, therefore, appears to be the only way out.

Second, in the past, a fair proportion of long-term debt funds for the private sector, especially for small and medium cap companies, came from the development finance institutions (DFIs).[10] These agencies, whose principal function was maturity transformation, borrowed medium term funds to lend long. The intermediation margin was derived principally from tax and other concessions that were granted to these institutions. With fiscal and financial sector reforms, however, all the DFIs are under serious stress, and their lending activities have been curtailed drastically. As a result, the flow of long-term debt to small and medium companies has reduced sharply. In the absence of an active debt market, these companies cannot raise such funds, since the large institutional investors have simply no appetite for debt instruments issued by them, preferring to invest in bulk in the bonds of large corporates. Meeting this demand will require investors whose approach is more retail and who are less constrained by the prudential regulations governing the larger funds.

[9] *The Ninth Five Year Plan* of the Government of India had recognized this problem and had suggested that the management of pension/provident funds should be shifted from the employers to the trade unions with appropriate regulatory oversight.

[10] Until recently, there were 4 major DFIs in India. One of these (ICICI) has recently converted itself to a universal bank, while the others have wound down their activities significantly.

II. Next Steps: Where do we go from here?

Before turning to small investor perspectives, it would be desirable to outline the conditions which contribute to a well-functioning debt market, and the extent to which these are met in India. It should be quite obvious that the most vulnerable segment of investors would be least likely to participate in a market which does not inspire the confidence of even more robust entities. Thus, the minimum conditions will have to exist before the specific measures to attract the small investor can be discussed meaningfully.

Upon studying developed debt capital markets in the United States and Europe, we feel that there are some common features that contribute significantly to their highly evolved and efficient characteristics.

1. Transparency - The market's functionality needs to be transparent both to the entity issuing the debt security, as also to the intermediary investing his money into it. Transparency also needs to exist for the regulatory bodies that oversee the capital markets. Only transactions made under a system of "full-disclosure" will increase the overall liquidity of the markets and provide all concerned parties with the level of confidence required for them to actively participate. Transparency also needs to exist at the corporations and other entities issuing the debt instruments. This involves a further level of legal, institutional and infrastructural change in the Indian system. The minimum requirement of course is that companies' financial statements should be required by law to be audited and filed for public perusal regularly, and it must be enforced rigorously. This is, however, not enough. Access to such information must be made easy and user-friendly. At present, the balance sheet libraries in India are still governed by laws and procedures which lay more emphasis on preserving the confidentiality of companies than on meeting the information needs of the investors. Regular publication of company data by independent third-party agencies is not allowed.[11] The net result is a degree of opacity which is not conducive for investor confidence.

2. Market unification and communication - The current market fragmentation has to be reduced. Setting up more nodes for securities exchange seems like a well meaning but misplaced idea. This has led to the steady demise of regional bourses, which on the face of it may appear to be a process of consolidation. This, however, would be a misplaced view, since the listing requirements of the two major exchanges – Bombay

[11] Thus, Indian credit rating agencies cannot publish company data in the manner in which Moody's or Standard & Poor do in the U.S.A. As a result, the average investor only has access to the data which some companies voluntarily publish in newspapers. This is not only incomplete, it is usually viewed with suspicion, and for good reason.

Stock Exchange (BSE) and the National Stock Exchange (NSE) – are such that they would exclude a large number of smaller companies. Consequently, extent of coverage is likely to reduce significantly as the process moves forward. Rather we should focus on setting up a communication network that can replicate the NASD type negotiated market in the US, so that everyone interested in buying a security gets a "firm" quote of the "inner market" regardless of location and information channel. The National Stock Exchange (NSE) has the potential for moving in this direction, but its present approach would have to change.

3. Regulatory Autonomy and Effectiveness – The regulatory mechanism is key to fair pricing of securities, as it prevents colluding and intermediary pricing bias and inefficiencies. Without effective regulation, transparency will remain a pipe dream. In the Indian context, the regulatory functions are divided between two entities – the Securities and Exchanges Board of India (SEBI) and the Department of Company Affairs of the Government of India.[12] The primary functions of the SEBI are to over-see the public issue of new securities, including specifying the listing conditions and disclosure norms, and to supervise the operation of the stock markets in order to prevent anti-market behaviour. Thus, as far as the secondary market is concerned, the SEBI's role is limited to market-related developments, and not to the companies themselves.

   This function comes in the domain of the Department of Company Affairs, and especially the Registrar of Companies. Unfortunately, the operation of these entities leaves much to be desired. Mention has already been made of the excessive confidentiality regarding company information, but the situation is even worse than that. Indian companies routinely get away with non-compliance with the reporting requirements, and quite often companies close without the regulator even being aware of the fact. As a consequence, secondary market participation is fraught with enormous informational risk arising out of poor regulatory practices.

4. Trustworthy and transparent benchmarks - For a debt capital market to function efficiently, the existence of a credible benchmark is critical. In most markets, Government Treasury Notes play this role. It is common practice in most developing markets to use the US Treasuries as a global benchmark. Another criterion for a good benchmark is that it should be liquid and the market for it should be transparent. In the United States, monthly auctions are held to appropriately price new Government securities. Another important aspect of the US Treasuries Market is its low margin/high volume nature. The bid/ask spread is never greater than

[12] The SEBI is of relatively recent origin, having been set up only in the early 1990s. Its creation has unquestionably been a major step in improving the regulatory framework in the country.

0.25 basis points.[13] This provides the market the ability to predict trading levels with a high degree of confidence.

Historically, The US Treasury rate was fixed by the Federal Reserve till the early 1970's. This resulted in low liquidity. Ever since it moved to a floating rate regime, liquidity has been very high. Currently, only the Federal Interest Rate ("Fed Rate") is fixed. While US Treasuries trade freely on a floating basis, they tend to trade within a very tight range to this Fed Rate. The question that arises in the Indian context is whether Indian Government Bonds can perform the function of such a benchmark.

Although, in India, Government Bonds have been auctioned for many years, the price discovery mechanism is inefficient and heavily influenced by Government monetary policy. The minimum transactions size, even in secondary trade, is too large to permit widely dispersed participation, and therefore the prices may not reflect 'true' valuations. The main feature required of a market benchmark is that it should be a close proxy for the unrestricted "Risk Free Rate". Bonds issued by the GOI are backed by a Government guarantee, and since India's default rating is very favorable, this should not pose a problem, except that holdings are concentrated in a few hands and therefore reflect only a part of the larger market.

5. Competing and autonomous credit rating agencies - Credible professional credit rating agencies that are autonomous are required to rate corporations and their securities.[14] The condition of autonomy is important for credibility purposes. Ideally, credit rating agencies should have their interest aligned with that of the investors, and not with the issuing companies, which has implications regarding their revenue sources. Further, it is advisable to have competing agencies in order to keep the pressure on any one to do a thorough and effective risk analysis.

   In India, there are at present three reasonably competent credit rating agencies, each of which has a tie-up with a major international agency. Thus, on the numbers and technical competence fronts, there is sufficiency. The major issues relate to the accessibility of the credit rating information and to the perceived autonomy of the agencies.

   For the most part, credit rating information in India becomes readily available to the public at large only when a company is about to come out with a fresh issue, and that too mainly from the company prospectuses. This is driven by the regulatory guidelines, which make credit rating

[13] A basis point is defined as one-hundredth of one percent.
[14] Non-sovereign public debt, say by State governments or municipalities, also need to be rated.

mandatory for all public issues. While this is fine for fresh issues,[15] it is of little help for secondary market transactions, which require a more or less continuous flow of information on the financial health of companies with listed securities.[16] Such rating information simply does not exist, and its absence is perhaps linked to the excessive confidentiality accorded to balance sheet information.[17] The net result is that rating information becomes available only when the companies' desire it, and not when the investors' need it.

Although all the Indian credit rating agencies have been promoted as independent and autonomous entities by DFIs in collaboration with international agencies, their revenue streams are derived primarily from the companies that are being rated. This may raise problems of perception regarding their autonomy, although as yet no doubts have been raised.[18]

6. Liquidity - Liquidity is perhaps one of the most important requirements for an efficient, developed capital market. This in turn requires an efficient settlement system; and the existence of multiple market makers. To some extent, the issue of an efficient settlement system has been addressed by the move to rolling settlements in the equity markets, and only needs to be duplicated in the context of the debt markets (See Appendix B).

   The issue of market makers, however, needs greater attention. Since the price of debt instruments, unlike that of equity, is linked closely to movements of interest rates, with a relatively small speculative element, the bid/ask spreads cannot be very large if any transaction is to result. As a result, the viability of market makers is determined largely by the volume of trade. This creates a chicken-and-egg problem, whereby market makers need high volumes to survive and high volumes require the presence of sufficient market makers. The emergence of market makers in India has historically been constrained by two factors.[19]

   First, public debt instruments, which have driven the creation of active debt markets in developed countries, have been characterized by

[15] Even for fresh issues, there are concerns about the nature of the ratings. It is common practice in India for companies coming out with new issues to commission all the three agencies to carry out a rating, and to report only those which are more favourable. Since the omitted rating(s) are not readily available to the public, it raises doubts in the public mind.

[16] The ratings provided in India are of the specific instruments only, and not of the issuing companies.

[17] See paragraph on *Transparency*.

[18] The situation is, therefore, roughly similar to that of auditors, which has become a burning issue in recent years.

[19] Lack of access to institutional finance by primary dealers has also added to the paucity of market makers in India.

extremely high denominations in India.[20] As a result, only large institutions have been able to participate in what has been effectively a wholesale debt market. Thus no market makers at the retail level have been able to come into existence on the strength of trading in government securities. Recently, the Indian government has reduced the denominations significantly, and it now seems possible that smaller institutions and relatively high net worth individuals can participate in this market. However, further reduction in the denominations will have to be made before a viable retail debt market can come into existence.[21]

Second, the bid/ask spread in India has to accommodate not only the intermediary's margin but also an element of taxation through what is known as the 'stamp duty', which is levied by state governments on all sale and transfer deeds. The stamp duty rates vary from state to state, but 200 basis points would not be uncommon. With these sorts of spreads, most debt transactions become unviable for market makers.[22] In recent years, the government has removed the levy of stamp duty on dematerialized transactions, but this again mainly benefits institutional investors. Small investors in India still prefer to hold securities in physical form for a variety of reasons, and these continue to be subject to this duty. Thus it is unlikely that there will be sufficient market making in retail debt until the stamp duty is removed completely from all secondary transactions.

We further feel that there exists the need to increase public awareness and user-friendliness of the offering mechanism by: allowing awareness advertisements to be issued prior to, and during, the offer period; and opening up new channels of application for securities including the Internet, ATM and telephone. In our view, these steps will lead to increased participation by small investors, which in turn will increase the availability to smaller transactions. These smaller, more affordable transactions, do not currently exist, and once they do, will instantly increase liquidity.

7. Natural investor base - Demand for debt is, needless to say, critical for a debt capital market to exist. For this purpose, it is necessary to develop a natural investor base that has liquid cash to invest; and, more importantly, a stated investment objective biasing them towards the debt market.

[20] High denomination securities no doubt reduce the issue and servicing costs of the issuer, but governments are expected to also take into account the externalities arising from their decisions. In this case, the Indian government clearly did not perceive its role in creating an active debt market.

[21] Ideally, the existence of "over the counter" (OTC) sale of government securities will be required to create a retail market.

[22] Furthermore, since the stamp duty is levied on every secondary transaction, it falls disproportionately hard on long-term debt instruments. In fact, the cumulative impact of the stamp duty can reduce the effective interest rate on debt instruments very sharply and make them unattractive for investors.

Traditionally, in the United States and Europe, the largest buyers of fixed rate debt have been insurance companies and money managers i.e. mutual funds and pension funds. It would hence be prudent to develop the institutional infrastructure in India that would facilitate the creation and growth of legitimate funds and professional money managers.

As has already been mentioned, insurance companies in India have been entirely public sector entities until recently, and their investment pattern has been driven by prudential guidelines which effectively limit them to public debt instruments. The case with provident/pension funds is similar. It is hoped that with the entry of private sector players in the insurance sector, and possibly in fund management as well, the natural investor base for private debt instruments will increase. Mutual funds, unfortunately, have not really been able to make their mark in India primarily due to poor timing of their launch.[23] Hopefully this problem will get resolved with time. We will have more to say on this matter.

8. Macroeconomic stability - Investor confidence is guided by many factors, one of the most important of which is macroeconomic stability. This is for the Government policy makers and implementers to do. In particular, interest rate management is perhaps the most important macroeconomic factor that the Government needs to monitor. Historical and empirical evidence shows that debt markets flourish in low interest rate environments. The interest rate regime in India has been traditionally kept very high, but recently the Government has taken steps to bring it down. This should encourage increased debt issuance if coupled with stable interest rate dynamics.[24] It is pertinent to note that while low interest rates in themselves tend to push investment rupees towards the debt markets, it is important to stabilize interest rates. Excessive interest rate fluctuations would be counter-productive as they give rise to arbitrage opportunities, and intermediaries looking for short-term gains exploit the system, and this deters from the original goal of overall development and market efficiency.[25]

9. Legal system - A functioning legal system that all parties have faith in is another critical component. Without a viable legal infrastructure in place, it is very difficult to create investor confidence *vis-à-vis* the risk attributes of debt securities. Another necessary component for the debt markets to

[23] Most mutual funds were launched in India at the time when the stock markets were at an all time high. As a result, almost all of them have suffered significant erosion of their net asset values (NAVs) and thereby have lost the confidence of the investors.

[24] Tax concessions on equity instruments, and their periodic revisions, have complicated this relationship in the Indian context.

[25] This is not to give the impression that speculative activities are undesirable *per se.* Quite the contrary, in fact.

develop and flourish is the existence and development of a viable bankruptcy court that specializes in bankruptcy procedures and claims recovery for creditors.

Although India does have an independent and effective judicial system, the average disposal time for cases is excessively long, which erodes investment values quite significantly. As far as bankruptcy laws and procedures are concerned, these are still in their infancy. It is only very recently that the government has passed an act for attachment of defaulter assets, but even this is really of relevance to primary institutional lenders, and offers little comfort to the secondary market players. It is, therefore, essential that the ambit of bankruptcy laws be expanded to cover the interest of relatively small debtors.

10. Efficient equity markets to compete with the debt markets - In the Indian context, this is something that has already been achieved by the thrust to develop the equity markets prior to developing the debt markets. The existence of these two markets competing for investment rupees is critical to the survival and efficient functioning of both. If both markets are well established, capital resource allocation becomes a natural phenomenon that does not need any control or active involvement by government or regulatory agencies.

11. Developing a high yield market - The development of a high yield market should be a secondary goal for Indian policy makers. It is commonplace to find debt markets in developing countries to tilt towards high yield securities owing to the existence of greater default risk. This tends to attract more capital, both domestic and foreign, on account of the incentive of higher return. During the late 1980s, High Yield debt securities, known at the time as “Junk Bonds”, became the major financing vehicle for corporate America. The lack of regulation and the reckless use of these instruments, given their highly risky nature, eventually led to a crisis in the U.S. markets in the early 1990s. However, with the benefit of hindsight, Indian policy makers can institute strict measures and tap the high yield market that continues to play an important role in providing financing alternatives to sub-investment grade companies throughout the world.

While these characteristics help provide a broad outline and goal-set to achieve, we believe that, in the short to medium term, the salvation of the secondary debt markets, especially for private long-term debt, lies in removing the informational asymmetries, reducing transaction and intermediary costs, and liberalization of the insurance sector and pension funds. Making these concerns a priority and subsequently tackling them would yield the most efficient results. It is accepted that these are daunting challenges, but none of the measures discussed should give rise to any substantive political resistance.

III. Small Investor Perspectives

The mere existence of the essential conditions for an active and efficient debt market to exist, as described in the previous section, may not be sufficient to attract small investors, especially into long-term private debt instruments. The reason for this is that the average small investor is heavily conditioned by the past, with investment patterns being determined by known opportunities, and it takes considerable time for them to alter these patterns. Information flows, especially about structural changes, are slow in percolating down to them, and their ability to appreciate the implications is limited. In our opinion, there are three major questions that need to be addressed adequately in order to persuade the small investor in India to enter and participate in the secondary debt market.

III.a. "Why bonds? Well, they supplement income…."

There is enough anecdotal evidence to suggest that the graph plotting trading volumes versus time to maturity is U-shaped for debt securities in India.[26] When a debt security appears in the primary market, trading is high until the price discovery process is complete and the investors have achieved asset-liability matching. Once these two effects subside, investors tend to trade debt very close to maturity. This holding of debt to maturity by the handful of players in the primary markets preempts secondary trading almost entirely, thereby pre-empting price formation in the secondary markets. Since this is true for large institutional investors or primary dealers (PDs), it effectively precludes the participation of small investors as well. We believe that the reason for this behaviour is twofold:

1. The major problem in India is that money markets are almost wholly held by public sector banks, which typically have very high spreads between deposit and lending rates.[27] They are also quick to reduce interest on deposits when the bank rate is reduced, but sticky in bringing down interest rates on advances.[28] This inefficiency in the banking sector creates a large window of opportunity for corporates to issue cheaper bonds that are more attractive to income-seeking investors than deposits in a bank.[29] Since the alternative use of such funds (i.e. bank deposits)

[26] See Bose, Coondoo and Bhaumik [1]

[27] The intermediation margin for most Indian public sector banks (i.e. the difference between the average lending and deposit rates) is more than 550 basis points, as compared to less than 300 in U.S. and Europe. This is largely the result of relatively high levels of non-performing assets in the India.

[28] This behaviour arises partly from the fact that the interest on the intra-marginal deposit portfolio does not get reduced except with a time lag.

[29] Corporate bond coupon rates are usually intermediate to the bank's deposit and lending rates.

are unattractive, there is little incentive for bond holders to trade before maturity.

2. Financial markets in India, especially debt markets are not deep enough to allow "market pricing". This leaves the value of debt instruments entirely at the mercy of governmental monetary policy. While the period of 1995-2000 witnessed enormous stabilization of monetary policy, the high degree of non-market effects on the valuation of bonds take away from their trade-worthiness and thus Indian investors, institutional and individual, stick to using them as income or asset-liability matching instruments.

This is not the situation in the US or Europe. With a very stable government securities market, there exists enough data for the market to form expectations about forward interest rates in the economy. This allows reliable pricing of debt instruments. In presence of interest rate volatility, capital gains from price movements become the predominant reason to engage in debt securities transactions for investors in the US. It is not the exception, rather the rule, that investors offload debt instruments well before maturity. In fact it is rather rare that investors actually hold debt to maturity.

This is not so in India. Even the large institutional investor in India does not invest in debt instruments like bonds to capitalize on interest rate or price movements in these instruments.[30] The rationale behind buying bonds is very simple for the most parts – bonds provide a steady inflow of coupon payments which is higher than what they could get otherwise.[31] The problem is compounded in the case of small investors by the fact that the government has a slew of small savings instruments with maturities ranging from 3 to 15 years, which have much higher risk-adjusted interest rates than would be affordable on corporate debt instruments.[32] Thus, as far as the small investor is concerned, the secondary debt market neither offers her high enough interest returns, nor the prospects of reasonably predictable capital gains. It is little wonder, therefore, that practically the entire financial savings of Indian households is either in bank deposits or in small savings instruments.

However, from the point of view of the small savers, especially those who are not covered by organized social safety nets such as pension/provident funds, considerable uncertainties have been introduced by the deregulation of interest

[30] The absence of put and call options on government securities contributes to this behaviour.

[31] Given the uncertainties involved in a thin market, most corporate debt paper tends to be of relatively short maturities, which makes this behaviour more feasible.

[32] These small savings instruments are fully guaranteed by the government, and are thus completely risk-free. They also often have tax benefits associated with them. However, there are limits to the amounts that can be invested in them and restrictions on their tradability, which makes them unsuitable for institutional investors.

rates as a part of the reforms process. Earlier, in a regime of administered interest rates, the almost complete predictability of future income streams from debt instruments meant that the small saver needed to focus only on the stock of savings for meeting her future requirements of both income and precautionary funds. Flexible interest rates, however, demand that portfolios be switched around to ensure the desired balance between income streams and capital gains. This can only be done if the small investor becomes an active participant in the debt markets.

This message has already come across to some extent with the recent reduction in interest rates that has taken place in the Indian economy, including those on small savings instruments. The loss of assurance that this has entailed, especially as past investments begin to mature, has led to a scramble for alternative investment avenues. However, in the absence of a functioning debt market, there are few such options. This is, therefore, an opportune time to create the conditions for an active debt market since the small investor at large is in a receptive frame of mind to consider augmenting her income flows even if it involves a relatively higher degree of risk through market-based instruments.

III.b. "But, mutual funds are stock portfolios…"

Perhaps the biggest vehicles of debt investments by small investors in the United States, mutual funds in India suffer a fate suitable only for their distant but much more unreliable cousins – stocks. There is an enormous lack of awareness amongst small investors when it comes to mutual funds and other such pooled investment vehicles. For example, the common investor in India thinks that mutual funds are simply stock portfolios and are thus equally risky.[33] This preempts small investor investment in non-government mutual funds.

In the United States, the situation is significantly different. Individuals are actively advised by their financial advisors to diversify their portfolio evenly between stock and bond instruments. In order to achieve bond investment allocation, more often than not, they recommend investing in mutual funds that invest heavily in debt securities. The benefits of this are twofold. Firstly, mutual funds provide an effective securitization of debt securities that make them accessible to investors with low capital base. If an individual were to go out and buy bonds, the investment required would be high owing to the high denominations that these instruments trade in. A pooled investment vehicle on the other hand can make these investments and indirectly offer small investors stakes therein. Secondly, due to their massive investment volumes, mutual funds act as catalysts in secondary market trading for debt. In as far as the risk

[33] Another major contributor to small investor uncertainties has been the problems encountered by the Unit Trust of India – a public sector mutual fund – which persisted with assured returns even when it was not justified by market conditions.

profile of mutual funds, they cover the entire spectrum from highly speculative small cap stock funds to capital guaranteed funds that guarantee capital preservation with possible upside from favorable stock market movements.

We believe that mutual funds hold a lot of promise for the Indian small investor. Policy makers should increase awareness and regulation (if needed) about these investment vehicles. The small investor needs to be convinced that mutual funds do not necessarily mean equity derivatives; rather they can be very stable fixed income investments.[34] For example, the abovementioned capital guaranteed funds seem very suitable investments in India. The idea behind these funds is very simple. For the most parts, these funds invest most of their capital (say 95%) in fixed income instruments with low or no credit risk and take highly levered equity call option positions with the remaining money to capitalize on possible favorable equity market swings.

However, for such instruments to be attractive, their expected returns should be at least as high as the returns on small savings schemes. Since, as has already been mentioned, the latter continue to have tax- and risk-adjusted returns which are significantly higher than those either on government securities or on corporate debt instruments, this is a condition which is difficult to meet unless the mutual funds expose themselves to much higher degrees of risk by placing significant proportions of the funds in the equity market. Thus, the perception of the small investor becomes a self-fulfilling prophecy.[35] Solutions to this problem will have to be found in correcting the yield structures both over maturities and between instruments.

III.c. "I don't trust corporations – can I buy insurance?"

Even if the small investor were to decide to invest in bond markets, what would she buy? Despite its enormous potential, both primary and secondary corporate debt markets are still in stages of infancy in India. While in the United States, the field is split evenly between corporate debt issuers and government and government-sponsored agency issuers, Indian debt markets are dominated by "G-Secs".[36] It is true that a well functioning government debt market is a pre-requisite to develop corporate debt markets. However, we feel that this is already on the government's radar. As pointed out earlier, we have progressed somewhat in increasing the depth and width of the primary and secondary G-Sec

[34] It should be mentioned that regulatory guidelines in India now prohibit mutual funds from guaranteeing returns beyond one year.

[35] The plethora of "balanced funds" which have come up in India is one indication of this imperative. A few pure debt funds have been set up recently in India, but they all offer considerably lower returns than the small savings schemes. As a result, investor participation in these funds is restricted to very high net worth individuals who have exhausted their small savings options.

[36] See Reddy [6]

markets, although they are still small investor unfriendly. This leaves the corporate bond markets as a clear area within debt capital markets in India where some policy intervention would go a long way towards market expansion.[37]

There is no doubt that corporations in India are unduly biased towards raising capital through debt rather than equity issuance. This has been attributed to the fact that a majority of the large private sector players are family-held businesses where stock issuance threatens the ownership stake.[38] The low risk and steady return appetite of the average investor also takes a toll on equity valuation; thus making debt issuance a clear favorite. Most of this demand for debt is presently met from the banking system, with some, and declining, contribution from the DFIs, with corporate paper being issued by only a few.[39] This often creates a fairly serious asset-liability mismatch for the corporates, which can be corrected only through greater infusion of longer term debt funds. Therefore, conceptually there should be no dearth of supply of corporate bonds, and their absence due largely to the demand side.

We believe that in the current regulatory environment, there would be a lot of resistance in investing in primary or secondary market for corporate bonds. To some extent this should not come as a surprise. Indian investors, typically more risk averse than their average counterparts in the United States,[40] often find themselves victims of corporate fraud or malfeasance.[41] In view of the inefficiencies due to intermediaries and lack of transparency in capital markets, there needs to be a mechanism in place to protect the investor. This is where we make a bold suggestion of introducing derivatives contracts that are somewhat similar to "credit derivatives" in the US, that can alleviate counter-party risk for small investors and channel capital flow into the much starved secondary corporate debt markets. We will elaborate on this subsequently in this paper.

---

[37] The majority of individual investment in debt markets in the US goes to a third category of debt instruments, "Municipal Securities" which are obligations of state governments and their municipalities. These bonds receive a preferential tax treatment and end up being very attractive to individuals for that reason. For example, income from municipal securities or "munis" is typically exempt from Federal taxation. These, therefore, play a role similar to the small saver schemes in India, except that "munis" are fully tradable, on the one hand, and not risk-free, on the other. We ignore these securities in the Indian context for now, although there is certainly a need for them.

[38] See Majumdar [5]

[39] Most of this has been in the form of commercial paper, which did not prove to be a great success.

[40] The risk aversion of the average small investor in India arises largely from the fact that there is virtually no social security cover and, therefore, personal savings have to provide for both income and precautionary needs.

[41] Periodic stock market scams and apocryphal stories about non-servicing of even bank loans by corporates do not inspire confidence in the ethics of the corporate sector.

IV. Addressing The Concerns

From the previous two sections, it should be clear that developing an active and efficient debt market in India will involve action across a number of fronts. The basic *desiderata*, which have been discussed in Section II, require substantial legislative, policy and institutional changes, including improvements in governance standards. However, it is felt that much of these changes will eventually come about simply because of the need to develop a market for private debt instruments in the context of the on-going economic reforms. The interests of the government and the private corporate sector are convergent on this set of issues, and there should be sufficient pressures to ensure that they be addressed. The perceptions of the small investors, as outlined in Section III, and the measures that may be needed to attract them into the market, however, are likely to be lost sight of in the larger scheme of things. It is, therefore, desirable that these be specifically addressed at this stage itself.

There are two broad categories of issues which have been raised and which need to be addressed. First, what measures need to be taken to persuade small investors to diversify their investments from the fixed term non-tradable small savings instruments to tradable market-based debt instruments, including mutual funds. Second, what can be done to mitigate the inherent risks associated with private corporate debt.

IV.a. Redefining Yields and Returns

Weaning away the small investors from their historical attachment to the small savings schemes lies at the heart of attracting them into the debt market. In a trivial sense, this could be done quite easily by dropping the interest rates on these schemes to below those which either government bonds carry or corporates are willing to offer. This, however, would be both ethically wrong and politically difficult. While devising any proposal to bring about rationality in the yield and pricing structure of alternative savings avenues, it is necessary to bear in mind not only the needs and vulnerabilities of the small savers in India, but also the interests of the State governments, which are the principal recipients of the small savings' funds.[42]

The first point to note about the small savings instruments is that at present their yields are inversely related to the risk bearing capacity of the investors. This

[42] As has been mentioned before, in the absence of a comprehensive universal social security system in India, the average household is completely dependant upon its savings, both for future income flows and precautionary needs. Thus, it is not desirable to either lower their returns excessively or to expose them to high levels of risk. In so far as State governments are concerned, they are charged by the Indian Constitution to bear the primary responsibility for creation and operation of most forms of social and physical infrastructure, for which they need recourse to relatively low cost funds.

happens in two ways. First, the tax concessions applicable to these instruments cause the effective (tax adjusted) interest rates to increase with the marginal income tax bracket of the investor. Thus, for a person whose income is below the tax exemption limit, the yield is the nominal or coupon interest rate; while for the person in the highest tax bracket, it is nearly 43 per cent higher.[43] This is not only iniquitous, it creates a perverse situation where high income individuals, who should have relatively higher risk-taking capabilities, have the least incentive to consider risk-return trade-offs. Second, the yield curve for small savings instruments is fairly steep, and more or less mimics the structure of coupon rates on government bonds.[44] This appears completely unnecessary for non-tradable, risk-free administered rate instruments.[45] In other words, individuals who have lesser liquidity or precautionary needs are excessively compensated as compared to those who are more vulnerable.

Second, since small savings schemes are usually fixed-term, non-tradable instruments, they have to be held to maturity. In particular, it is not possible to change the maturity structure of a small savings portfolio, except on an incremental basis. As a result, movements in the market rates of interest and yield curves have no effect on these holdings. Any periodic adjustment to the administered interest rates on these schemes to bring them in line with market realities is therefore never compensated through capital gains or losses, which creates considerable problems at the time of maturity. The biggest losers in this process are those who can least afford it.

Clearly, the process of inducing savers to move to market-based debt instruments should begin with those who have higher risk-taking capacities. It is, therefore, suggested that two steps should be taken quite quickly:

(a) Removal of tax concessions from all small savings schemes.
(b) Flattening of the yield curve for small savings schemes of different maturities.

In order to minimize disruptions and make the package more palatable, the interest rates across the shorter end of the maturity spectrum could be increased quite significantly, say by about 100 basis points, without changing those at the longer end. In addition, it should be possible to make some adjustment in the tax slabs so that tax-paying individuals do not experience a sudden reduction in their real incomes. The combined effect of these two measures should be to make both the risk-return and the liquidity-return trade-offs meaningful for the category of individuals who can afford it.

---

[43] A 6.5 per cent tax free small savings instrument gives an effective interest rate of 9.3 per cent to a person in the highest tax bracket – a spread of 280 basis points.

[44] The spread between 3 and 15 year maturity small savings instruments is around 250 basis points in nominal terms.

[45] The market-based yields on tradable G-Secs have a much flatter yield curve with a spread of only about 70 basis points at present.

A few other collateral measures can also be taken for bringing about consistency and for strengthening small investor participation in debt markets:

(a) The small savings interest rates should be indexed to the market-determined rate on short-term government securities, while maintaining the yield curve unchanged.
(b) The space vacated by removal of tax concessions on small savings can be used to provide tax concessions on a limited quantum of State government and municipal bonds on the condition that these must be listed in the stock markets.[46]
(c) In order to provide an instrument which is intermediate to government securities and private bonds, the debt of public sector enterprises (PSEs) and other parastatals may be securitised and floated in the stock markets in reasonably small denominations.[47]

Even with these steps, the apprehensions and suspicions regarding private debt instruments are likely to persist for some time. We believe that this problem will be ameliorated as transparency increases in the financial markets and the informational asymmetry between the handful of "market making players" and small investors reduces. With real time information available via the internet and TV, small investors will begin to get more reliable pricing information. This may take some time, but the process must be started as soon as possible. As government debt markets become deeper and wider, allowing "market pricing" of debt instruments, investors will see real price volatility, and price-driven secondary trading increases will follow. For the transition period, however, the legitimate fears will need to be handled, and for that we propose an insurance mechanism in the next sub-sections.

IV.b.i. Credit Default Swap (CDS)

Having convinced ourselves that corporate debt instruments are necessary for the healthy development of the Indian economy and, if properly structured, should appeal for all agents in the Indian financial economy, issuers and buyers, we now return to the abovementioned suggestion of derivative contract that can act as insurance against counterparty risk and default risk in buying corporate debt in India. A credit default swap (CDS) can be considered an analogue of the "Rupee Swap" for protection against corporate defaults. A simple CDS contract involved two counterparties: the protection buyer and a protection seller.

---

[46] This *proviso* is important since most such debt instruments in India tend to be privately placed with institutional investors, and thereby contribute nothing to creating an active debt market. However, there are credit-worthiness issues involved with many of these agencies, and therefore the rating systems will have to be geared up to address this requirement.

[47] A number of central government PSEs have a fairly decent track record of servicing their debt liabilities. This, taken with the implicit government guarantee of their debt, could make these instruments reasonably attractive. Non-performing PSEs would, however, have to be excluded from any such scheme.

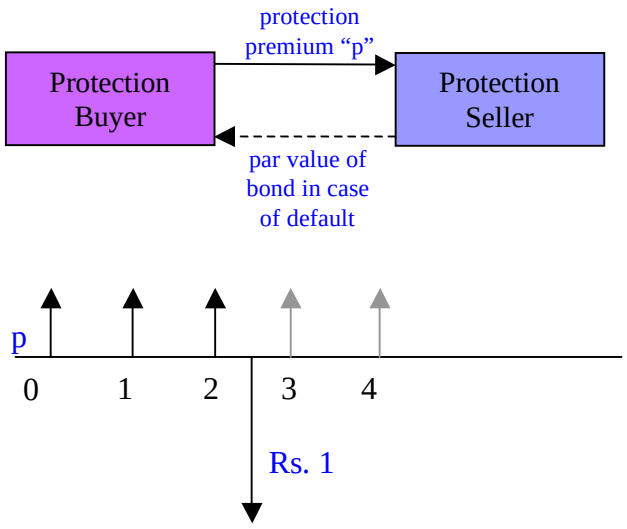

Figure 1

The protection buyer (typically the small investor holding corporate debt), will pay a fixed periodic (say quarterly) coupon until either the underlying corporation (bond issuer) defaults or the CDS expires. The cash flow stream may look like Figure 1, where we consider a 4 period contract and the protection buyer pays a premium "p" for the first three cash flow dates. Default occurs between time epochs 2 and 3, and the contract terminates with the protection seller giving to the protection buyer the par value of the underlying issuer's bond (Rupee 1 in this case). Thus the credit default swap acts as "insurance" against the risks associated with corporate bond investments. This makes them appealing in Indian markets where investors are highly risk averse.

There are many flavors of credit default swaps and we refer the reader to the International Swaps and Derivatives Association, Inc.'s website www.isda.org for comprehensive documentation on these contracts. The ISDA acts as an autonomous body that governs and standardizes the contracts for sale in the financial marketplaces. The cost of buying protection on investments grade corporate bonds turns out to account for about 30% of the yield spread over treasuries[48] (See also reference 4). The absolute spreads themselves could be anywhere from 10 basis points to 400 basis points for distressed companies depending on the market perceived default risk. This spread can roughly be thought of as the coupon premium that a corporate issuer must include in its

[48] The other components of the yield spread are illiquidity premia, tax treatment as opposed to treasuries etc.

debt offering in order to make the issue more attractive than a simple treasury bond which maybe consider default risk free. While vanilla credit default swap instruments are commonplace in the US[49] and the markets very liquid[50], we do not expect this product to be suitable for the Indian markets for reasons of counterparty risk. As pointed out earlier, we need a concerted effort to increase investor faith in corporate debt investments. For this we suggest introducing credit default swaps (to alleviate corporate default[51] risk) with another contract that we will refer to as the Counterparty Risk Protection Security (CRIPS) to alleviate corporate malfeasance/fraud risk.

IV.b.ii. Counterparty Risk Protection Security (CRIPS)

The idea is very simple. We believe that the government with all its regulatory authority in the Indian financial markets or one of its agencies (say a self regulated organization like the SEBI) can act as an intermediary to remove malfeasance and fraud risk for investors engaging in corporate debt transactions.

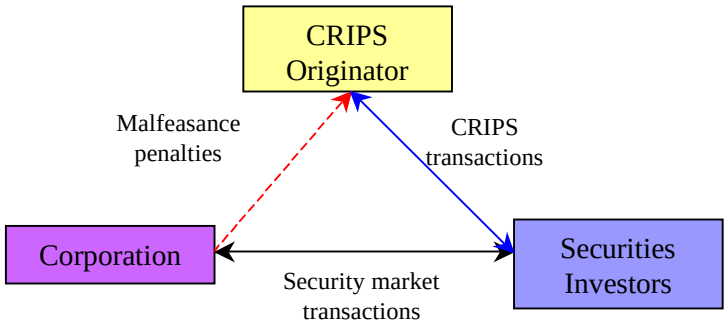

Figure 2

Figure 2 is a schematic diagram that explains the CRIPS contract. In exchange for a premium (periodic or upfront), the CRIPS originator assures the security market counterparty a notional payoff in case the underlying corporation commits fraud. Thus CRIPS combined with CDS contracts can take away all default risk associated with corporate bond issues for small investors.

In case the reader is wondering – yes, we are suggesting that the government or their agency take on the fraud risk that CRIPS origination involves for the following reason. We believe that with all its regulatory might, the government is

[49] The market size has grown from US$180 billion in 1997 to over US$1,952 billion in 2002.
[50] The major underwriters of such protection in the US and Europe are investment banks such as Deutsche Bank, J.P. Morgan Chase, Salomon Smith Barney and Morgan Stanley. These banks are in turn regulated by local securities laws of the particular market that they serve.
[51] Default not including fraud and malfeasance.

better positioned than any other agent in the economy to penalize wrong-doings by imposing malfeasance penalties and act as a deterrent for all the mom and pop corporations from engaging in fraudulent transactions that harm small investors. While we recognize that this is a bold assumption given the horrendously slow criminal justice system in India, we feel it is a solution intertwined with the reforms required in our legal system. Once financial markets have matured to a point that market pricing is reliable, such a security can cease to exist and counterparty risk can be priced simply as part of the credit default swap, as is the case in the international markets.

V. Conclusion

Taking heart from the successes in the case of the equity markets, we believe that a concerted, focused thrust by policy makers towards achieving a turnaround in the debt markets is the need of the hour. The institutionalization of the key ingredients, as outlined above, is the first critical step in this process. In addition to the usual suggestions about improving market micro-structure to bring in best practices from international markets, we point out a few concrete steps that can be taken specifically to facilitate debt investments by small investors in India.

We believe that small investor attitude towards debt instruments needs change, and that this will not be possible without a radical overhaul of the small savings schemes in India. The lack of depth and width in government bond markets needs to increase so that small investors can invest in debt securities for capital gains rather than simply hold them to maturity as income instruments. There seems to be widespread misconception about pooled investment vehicles that needs to be removed as investments such as mutual funds can really fulfill the entire range of risk appetite for small investors while increasing the depth and width of primary and secondary debt capital markets. Finally we suggest some market innovations in terms of a derivative product that we call *Counterparty Risk Protection Security (CRIPS)* that may help allay small investors' concerns while transacting in corporate debt and help fuel growth in these markets.

References

1. Bose, S. and Coondoo, D. and Bhaumik, S.K., “The Emerging Indian Bond Market: A First Glimpse”, http://papers.ssrn.com/paper.taf?abstract_id=239289
2. Bose, S. and Mukherjee, P., “Constant maturity yield curve estimation for India”, *Presented at the 4th Annual Conference on Money and Finance - IGIDR, Mumbai*
3. Echeverri-Gent, J. and Shah, A. and Thomas, S., “Globalization and the reform of India’s equity markets”, *Presented at the 97th Annual meeting of the American Political Science Association, San Francisco*, September 2001.
4. Huang, J. and Huang, M., "How Much of the Corporate-Treasury Yield Spread is Due to Credit Risk?", *Working paper*, Oct, 2002 http://www.stanford.edu/~mhuang
5. Majumdar, S., “Indian Money and Fixed Income Securities Market – A study of evolution”, www.debtonnetindia.com
6. Reddy, Y.V., “Developing Bond Markets in Emerging Economies: Issues and Indian Experience”, *Keynote address at the Asian Bond Conference at Bangkok*, March 2002.
7. Shah, A. and Thomas, S., “Policy issues in the Indian securities market”, July 2001, http://www.igidr.ac.in/lib/library.htm
8. Shah, A. and Thomas, S., “The evolution of the securities markets in India in the 1990s”. August 2001, http://www.igidr.ac.in/lib/library.htm
9. Planning Commission, *Ninth Five Year Plan 1997-2002,* New Delhi, April 1999. www.planningcommission.nic.in

Appendix A

(See references 7 and 8)

Development of the debt markets in India during the 1990's

In 1992, when market reforms began, the debt securities did not trade on an exchange. Instead, the debt capital market comprised of direct bilateral negotiations between dealers. This lack of anonymity encourages market manipulation by the dealers in the form of price shading and the formation and enforcement of cartels. Further, such a system leads to a lack of transparency in terms of pricing and valuation. Bilateral transactions also impose counterparty credit risk on all parties. This results in a narrowing down of market participants into a group of dealers with similar credit risk exposure and profiles. This acts as a significant barrier to entry. The lack of communication infrastructure led the dealers to conduct all trades over the telephone and restricted the market access to within the Bombay area. The trading of Government of India ("GOI") bonds is settled through a database called "SGL", and is maintained by the Reserve Bank of India ("RBI").

The early 1990's saw three major reforms take place:

- The SGL database was computerized and a "delivery versus payment" system was implemented
- The RBI successfully set up a regulatory system which required every trade to be settled with funds and bonds. This erased the use of I Owe Yous ("IOU") and also all forms of netting were prohibited
- The Wholesale Debt Market ("WDM") was established on the NSE. All trades were reported to the WDM and were conducted through it. This resulted in a limited degree of transparency in the debt markets. The WDM does not possess liquidity, but reveals useful data about prices and trading volumes

In addition to these, in the last two years, bilateral netting and negotiating has been replaced by a trade-for-trade regime with settlement that now takes place at more efficient depository. Also, the large fiscal deficits have led to a greater market for Government debt. Clearly, very little progress has been made in creating the infrastructure and implementing the policy regime that is needed to facilitate the evolution of the Indian debt capital market into a global participant.

Appendix B

(See references 7 and 8)

Evolution of the Indian equity capital markets – a successful precedent

Market-oriented economic reforms in India began at the beginning of the 1990s. The removal of many administrative controls on bank credit and the primary market for securities (mostly equities) since then have resulted in the equity capital markets playing a much more significant role in shaping resource allocation in India.

Till 1994, equity trading in India was dominated by floor-trading on the Bombay Stock Exchange ("BSE"). The ills of floor-trading were abundant and included zero transparency and extremely limited liquidity. These resulted in artificial pricing of securities, leaving investors with high exposure to risk. Membership to the BSE was closed and corporate entities and foreign brokerage firms were barred entry, resulting in high brokerage fees for investors. Further, the primitive state of telecommunications, coupled with the floor-trading system, resulted in a limited investor base, all concentrated in the Bombay area. This lack of market access exacerbated the illiquidity.

In 1994, a consortium of government-owned financial institutions started the National Stock Exchange ("NSE"). The NSE built a state-of-the-art electronic order-matching system that was fully automatic. The system used satellite communications and made nationwide access a reality. The NSE formed itself as a limited liability corporation that franchised out to brokerage firms. This is a standard international organizational structure that discourages restricted membership. The NSE also admitted corporate entities and foreign brokerage firms. The NSE became India's largest exchange and displaced the entrenched BSE. This competition between the two exchanges rivals the competition between the New York Stock Exchange ("NYSE") and the National Association of Securities Dealers Quotation Systems ("NASDAQ") where companies vie not only for listings, but also for order flow.

Electronic trading has many benefits, one of the main ones being reduced counterparty credit risk. The extent of counterparty credit risk is determined by the leverage of the positions, and the extent of time over which the position can be impacted by price volatility. Both these factors are influenced by the type of settlement followed on an exchange. India had inherited the account period settlement from the British and stuck with this methodology till 2001. Under account period settlement, positions are netted until their expiration date and only open positions on the expiration date get settled. In such a scenario,

positions are considered to be leveraged because the capital required to adopt a given position is a part of the position size. In June 2001, all major stocks traded on the NSE and the BSE moved to a rolling settlement. Under rolling settlement, trades are netted through the day and all open positions at the end of the day are settled *n* days later, where *n* is a predetermined constant. International standards are for settlement date to be T+3, i.e. *n*=3, though most exchanges are working towards a T+1 settlement period. The less the time interval between a trade and the settlement date, the less the systemic risk involved with the transaction.

The setting up of the National Securities Clearing Corporation ("NSCC") in 1996 to perform the function of a futures clearing corporation was another key development for the Indian capital markets. NSCC performs novation, i.e. NSCC acts as the legal counterparty to the net settlement obligations of brokerage firms. This erases any externalities relating to the possibility of defaults, as the two parties in the transaction, the seller and the buyer, are not affected by the default risk related to the other. Overall, the NSCC has provided a much-needed measure of reliability to the operations of the market process, thus giving potential investors, domestic and foreign, a greater sense of confidence.

Also in 1996, the National Securities Depository ("NSDL") was set up to organize the electronic settlement system. The depository led to an immediate reduction in back-office costs and in the incidence of failed trades. Also, extraneous issues such as theft and counterfeiting were almost completely eradicated.

A number of other policy and institutional changes have led the creation of a fairly efficient and robust equity capital market in India, though clearly, there is a long way to go before it transforms and evolves into a market that is not only global in reach and access, but also in standardization and efficiency. Some of these other key developments in the recent past have been:

- The start of equity index futures trading in 2000
- The start of equity index options trading in 2001
- The start of the stock options market in 2001