Creating More Efficient and Liquid Markets

chapter 5

THE ROLE OF FINANCIAL MARKETS IN GROWTH, STABILITY, AND INCLUSION

Financial markets have a very important role to play in a modern economy. Specifically,

1. Well functioning financial markets allow risks to be borne by investors who are best placed to bear them. For instance, instead of farmers bearing the risk of crop price fluctuation or total crop failure, diversified investors in cities or from abroad can bear that risk through commodities futures markets or through crop insurance.
2. A healthy market also provides clear signals about which companies and sectors are doing well (the price of equity in those companies and sectors goes up), which commodities are likely to be in short supply (the futures price rises), and whether the RBI is doing a good job in keeping inflation under control (the inflation premium in long-term bond prices is low).
3. Financial markets can also bring the users of capital and savers together at low cost, eliminating layers of intermediation, and thus costs. One virtue of bond market finance over bank finance, for example, is that it allows investors to bear the credit risk of the firm they are investing in directly, without going indirectly through a bank. For high quality firms, this could entail substantial cost savings.

Better risk sharing, better information signals, and lower costs combine to:

4. Reduce the cost of finance for firms, households, and the government, allowing them to finance investment and innovation and grow. Since the poorer sectors are hurt most by high costs, this effect can be a substantial force for greater inclusion.
5. Allow for better allocation of resources in the economy, including taking away resources from declining sectors and reinvesting them in sunrise sectors. This function improves both the efficiency with which scarce capital is used, as well as the overall stability of the economy.
6. Equity and bond markets also serve as a buffer, passing losses from risky ventures directly to households that would otherwise be passed on to more fragile institutions.
7. Improve macroeconomic policy setting as well as transmission. For example, the RBI has a better sense of how inflation might evolve by looking at the yields of long-term bonds, and its own actions in altering the short-term interest rate could have much stronger effects across the spectrum of government and corporate bonds if these markets worked well.

In what follows, we elaborate on some of these benefits of markets to the Indian economy. While these may be obvious to some, far too many people in positions of authority in India are unconvinced by the importance of markets, and hence the knee-jerk reaction to ban them or intervene in them whenever they send unpleasant messages.

Why are markets becoming more important in India today?

Corporations

In the last decade, Indian firms have been transformed by the forces of competition and the economy's integration with the world economy. Firms which were stagnant, eking out a respectable rate of return by doing the same thing year after year, were

confronted with global competition. In response, Indian firms have improved productive efficiency and increased their focus on research and development. Some have turned themselves into multinationals with overseas investments. As firms move towards the technological frontier, there is greater technological risk.

Also, as India becomes richer, it will increasingly experience business cycles and the attendant risks. Corporations will have to have sufficient financial cushions to deal with downturns—they will have to live through inventory build-ups, and sustained periods of low demand and low profitability. Moreover, as India becomes more open, its corporations have to deal with new risks such as the effect of exchange rate movements on their competitiveness.

Equity financing

Even after corporations have obtained the full benefits of risk reduction through operational flexibility (such as the ability to alter workforces and production locations and schedules—far more needs to be done on this front in India) and through hedging markets, there will be a secular increase in the uncertainty faced by firms in this new environment. As profits become less reliable, and as research and development and new technologies become a greater part of firm activities, as India moves away from the asset-intensive mature industries of old to the human-capital-intensive industries of the future, equity financing will become more important.

In principle, equity financing could be obtained from development finance institutions or from universal banks. Among the virtues of obtaining finance directly from equity markets are: (1) Risk is spread across more shoulders so that riskier, higher-return projects can be financed; (2) The market is not dominated by one bureaucratic view, so that many varieties of technologies are financed, with some doomed to fail and others becoming a Google or Infosys; (3) Control is not concentrated in a few financial institutions which could limit competition in the market.

This is not to say that financial institutions have no role to play in equity markets. Institutions such as venture capital provide the financial nurturing and management support needed to take entrepreneurs from the garage to the market. Mutual funds and pension funds play an important role in the governance of existing firms, while institutions such as private equity and hedge funds help restructure firms that are poorly managed, and provide the risk capital and management to rescue failing firms.

Corporate and government debt

On the debt side also, markets will become more important. The size of some infrastructure projects such as power plants are so large that no bank can take a reasonable stake without breaching concentration limits. These projects require substantial amounts of bond market financing. Some institutions such as NBFCs offering long-term finance will also need financing themselves. By borrowing from bond markets rather than from banks, they can achieve a better asset liability match, as well as reduce the risks the banking system is exposed to. Corporate bond markets can work as effective buffers here. Unfortunately, the corporate bond market is still miniscule and will need to develop to meet these needs. Effective infrastructure finance would also depend on the existence of deep and liquid derivative markets where the specific risks associated with infrastructure projects can be managed.

The government will also need a vibrant government bond market to provide it low-cost financing, as it relies less on forcing banks through statutory requirements to hold its debt. A deep government debt market across all maturities will provide the benchmarks that the private sector needs for pricing corporate debt, and various kinds of hedging instruments.

International

As Indian firms turn themselves into multinational corporations, and engage more closely with the world economy, they will require international financial services, the production of which is impeded by an inward-looking financial system, missing markets for hedging products, and vestiges of the system of capital controls. Indeed, one of the themes in this chapter is that a fuller opening to foreign capital and institutions, as well as a more outward orientation of Indian financial institutions, can help achieve domestic goals such as greater financing for infrastructure, even while making Indian firms more competitive in the world economy.

Households and diversification

For far too long, the Indian saver has got short shrift. Too many Indians do not have savings that are protected against inflation, let alone earning decent real returns. Many do not have sufficient exposure to equity because of archaic rules on where the institutions they save in, such as provident funds, can invest. Even while foreign institutions have gained annual double digit returns from the rise in the Indian equity market (and deservedly so because they were willing to take the risk), some Indian institutions, forced by regulation to invest primarily in government securities, have completely missed the rise in equity markets. Indian investors are not even as well diversified against risk as they could be. Of course, the equity market fluctuates. While those who have owned equity over time have done well, many are overexposed to the Indian market and its fluctuations, and would well benefit from a more diversified global portfolio. Here again regulations and restrictions come in the way of mitigating risk.

Financial markets and institutions need to evolve considerably in order to keep up with the requirements of Indian firms and Indian investors in coming years. India has a strong equity market already in place, but the environment needs to be made more conducive to private equity, venture capital, and hedge funds. Mutual funds and pension funds (when they emerge) should play a more active role in governance. The corporate bond market is moribund and will have to be revived, and a number of missing markets will have to be created. Indian firms and investors need better access to international financial services, and the production of international financial services by Indian financial firms needs to be enhanced.

Are markets casinos?

Despite all the legitimate benefits of markets described in the previous paragraphs, a number of serious commentators have concerns about the development of what they term 'casino capitalism'. Is the financial world engaged in trading securities that have no links to reality? Is the stock market or futures market simply legalized gambling, which diverts time and attention from the worthy task of building the real economy? Are speculators setting futures prices for grain way before prices are actually realized and thus 'manipulating' the grain market? Without convincing answers to these questions, markets will have little legitimacy.

It is true that a number of investors are risk-seekers, much like gamblers, and that there is a certain amount of luck in who makes money and who loses money in any single market transaction. But unlike gambling, which is based purely on luck, the investor in financial markets has a view of future outcomes, and it is this that allows prices to be informative because the price aggregates collective information. And informative prices affect real decisions and thus help the economy, unlike pure gambling, which only involves transfers from losers to winners.

The important point that more commentators need to understand is that price fluctuation in financial markets does not mean more economic instability, and controlling prices can create economic instability.

For example, when bad news appears about a country, well functioning financial markets such as equity, currency, government bonds, corporate bonds, etc., all adjust. Thus, bad news about fundamentals creates price fluctuation. But the price fluctuation itself creates equilibrating forces. If the bad news results in reduced prices on the securities markets and currency depreciation, while some economic agents might panic and take money out of the country, many others would see reduced prices as buying opportunities. These purchases would act as an equilibrating influence. Flexibility of financial prices induces stability in the economy.[1] By contrast, if the government prevented price movements on the securities markets and currency market by propping them up, this would give the many smart participants who thought the market was overvalued a convenient exit route. The government action would *support* capital flight from the country, leading to a bigger fall when the government ran out of money. Far too many currency crises and banking crises have been created by governments; attempting to prevent price movements through intervention.

Flexible financial prices are a shock absorber. When times are good, if the exchange rate appreciates, this reduces the profit rate of corporations producing exports or import-competing goods and slows investment. When times are bad, if the exchange rate depreciates, this enhances the profit rate of these corporations and spurs investment. Through this, a flexible exchange rate acts as a stabilising force in the economy. Equivalently, high futures grain prices give farmers an incentive to invest, and an ability to lock in gains, so that production rises and brings down prices. The stability that matters is the stability of output and employment, and not stability of financial prices and exchange rates. Indeed, when government tries to prevent movements of prices on financial markets, this yields greater instability of output and employment.

A full set of financial markets thus acts as a source of information and enhances stability. When these markets are missing, systemic stability is worsened directly and indirectly. The direct impact takes place through the lack of financial markets as shock absorbers. The indirect impact takes place through the negative impact upon public and private decision making that comes from the lack of information.

Even the short term speculator who is interested only in pure profit plays a useful role, for example by taking the other side in hedging contracts. If farmers want to hedge the price of grain by effectively selling it in advance through the futures market, someone has to take the other side. There are often a few firms such as grain mills that want to lock in their future input prices. But typically there are too few of them. The speculator plays a useful role by offering a fixed price to the farmer, and betting that he will make some money in the process. Commentators who complain some market is full of speculators do not understand that the speculator is playing a vital role. Both sides are better off—the farmer because he gets price certainty; the speculator because he makes a little profit on average. What keeps the speculator from making outsize profits is competition from other speculators. This is why we need deep and liquid markets with many players—that is precisely what prevents market manipulation.

Finally, there is still tremendous distrust of certain products such as financial options, or more generally derivatives, which seem to involve pure directional bets rather than any financing. But there is now universal agreement about the importance of the infrastructure of transportation and communications, and a recognition of the role of the private sector in (say) building and operating a highway. When a private firm embarks on such a task, it requires financing from banks, equity, and debt markets. But sophisticated derivatives markets which enable the promoter to protect against fluctuations in exchange rates, interest rates, macroeconomic risk, natural disasters, etc., are as much a technological input into a road project as are the state-of-the-art construction equipment which is now being

deployed in India. Greater sophistication in financing leads to reduced user charges and a larger pace of infrastructure investment. The sophisticated infrastructure of transportation and communications, which is desired by all, critically requires sophisticated financial markets.

In some areas, there are also opportunities for utilizing hedging markets in pursuing the goals of public policy in India. As an example, the goal of food security can be achieved at a lower cost if the government held long positions on commodity derivatives markets, through which the government could access physical grain under certain scenarios, instead of holding physical inventories of grain at all times.

More generally, financial markets are far from casinos when they function well. However, such an outcome cannot be taken for granted. The authorities have to create sound deep liquid markets by fostering transparency, competition, and enforcement against fraud. In the absence of that, financial markets can be worse than casinos in that, unlike a well-run casino, the odds will be stacked against the average investor. Similarly, derivatives offer very useful tools for laying off risk, and can thus increase the level of investment without resorting to less efficient devices like government guarantees. But derivatives are like dynamite—used properly in construction, they can move mountains; used improperly, they cause tremendous damage. The point then is to create all the conditions that will make markets work well, and participants behave properly, so that the nation can derive the maximum benefits from markets.

Financial markets and competition

When an entrepreneur has ideas but not capital, the financial sector plays a critical role in enabling firm entry and growth by infusing debt and equity capital. Competition in the economy is fostered by a financial sector which is able to perform this role effectively. Conversely, when finance is unable to nurture new firms and new projects, competitive pressure against incumbents is reduced. This has far-reaching ramifications for the meritocratic dynamism, the pace of technological change, and the rate of GDP growth of the country. This also has implications for inclusion: when finance does not support and enable entry against incumbents, the profit rates of incumbents are enhanced, and this leads to entrenched pockets of wealth and influence.

From the viewpoint of competition in the economy, *external* financing is important. A profitable incumbent generally has retained earnings, and is able to invest and grow using this. New entrants lack that internal cash flow; their entry is critically enabled by the availability of external equity and debt capital. For relatively safe projects, external debt financing is appropriate, and this requires a well functioning debt market. When risk levels are high, external financing must come in the form of equity financing. This requires a corresponding well functioning equity market. As an example, while borrowing made up 27 per cent of the liabilities of non-financial firms in India in 2006–07, the corresponding value for software companies was just 8 per cent.[2] This illustrates the unique role of equity financing in fostering high-risk, high-technology, human-capital-intensive projects.

Banks could play a role in nurturing new firms, but are typically far better at financing mature well-understood technologies than green-field projects. India has vibrant equity markets, and a significant number of sunrise industries like software or biotechnology that depend on these markets for financing. In this sense, it has already evolved away from a bank-dominated financial system characteristic of emerging markets.

The inclusion agenda

In India, over the 29 years for which data are available, a passive investment in an equity index generated average nominal returns of 19 per cent per annum.[3] Yet, equity portfolios

are held by only a small number of households in India.[4] Equity investments are not a luxury, they are an essential element of any long-term savings plan, for they offer the only true protection against inflation. In a developing country like India, they also allow everyone to participate in the growth story, not just the rich. While equity is risky, two factors help mitigate risk to acceptable levels for even the poor. First, equity portfolios have to be diversified, not just domestically but also internationally. Stock picking is not for the average investor, indexation is. Second, equity needs to be invested over the long run. High returns of diversified equity portfolios have been observed all over the world over the long run, and we need to make sure all Indians have access to these returns.

The participation of more poor (and foreign) investors in Indian markets would also improve the markets' liquidity and depth, making them even less susceptible to unwarranted fluctuation. Thus the inclusion agenda should also be seen as part of the growth agenda.

The poor are not just savers—they can also be borrowers who need financing. More attention needs to be provided on finding ways to link up the capabilities of financial markets—in supplying equity and debt capital at a low cost in high volume—with the entrepreneurial energies of individuals spread all across the country. In Chapter 7, we discussed the importance of securitization in refinancing financial firms lending to the poor. Further progress requires greater competition and innovation amongst financial firms, which would induce new technological and business models through which transactions costs are lowered and barriers to access overcome. This Committee cannot predict what models will emerge, but it is confident that given the innovative spirit of Indians, new ones will.

Finally, we have argued in Chapter 3 that the poor need products that lower risk, even more so than the rich. Financial markets provide such products, but a financial intermediary has to interact with the poor to determine their needs, aggregate their demands into economical order sizes, and then place appropriate orders. Financial firms and NGOs have to improve their own levels of financial sophistication and the efficiency of their transactions processes to intermediate effectively, but when this happens, the poor will be great beneficiaries from hedging markets also. In the Chapter on Financial Inclusion, the Committee has recommended the setting up of a nationwide electronic financial inclusion system (NEFIS). This would enable payments as 'micro' as Rs. 100 in cash and as 'nano' as Re. 1 in electronic form (as a debit or credit to an account), to be carried out at reasonable transaction costs. Once transactions costs are lowered, the poor can hope to participate in a wide variety of financial markets, such as equities and commodity derivatives, beyond just savings, credit and insurance.

However, cutting transactions costs of micro-payments is only one part of the task. Given the small size of transactions, such as say a Rs. 200 per month systematic investment plan (SIP) or a sale of five quintals paddy, would require aggregation, before willing counterparties are found. This aggregation infrastructure requires a new category of players in the market. For example, in case of the SIP, it could be a self-help group (SHG) of 10 women, saving Rs. 20 each and pooling it monthly to invest in a Rs. 200 pm SIP. This would require mutual funds to recognize SHGs as legitimate participants, just as ten years ago, banks began to permit SHGs to open bank accounts. The rule about a PAN number would have to be revisited for an SHG.

Similarly, to enable a minimum 10 ton transaction take to place on a commodity derivatives exchange, 20 small farmers with five quintals each will have to be brought together for a single options contract. This could be done by a farmers' cooperative or a warehouse keeper. The service charges of the aggregator will add to the transaction costs and to that extent make options less attractive. Thus it is important to develop simple aggregating mechanisms, with as much standardisation and electronic

transaction recording as possible so as to minimize the need for discretion and cash handling.

Another important constituency that has not been reached by financial markets in India is the small business sector. Small and medium scale businesses are vital for growth and employment creation. There is a need to find innovative ways for small businesses to raise debt and equity, and to hedge their financial risks. By definition, small businesses are too small to directly access public equity markets, but their capital needs can be met through specialized funds that provide funds to small businesses and in turn are subject to market discipline.

Markets are driven by information, and systematic information dissemination can help direct capital to credit and equity pools of various sizes and segments. For example, if there was a monthly or quarterly posting of the analysis of bank NPAs by loan size and segments, and it became widely known that loans below Rs. 10,000 to Dalit women in Bihar have only a 0.1 per cent NPA while loans above Rs. 1,000,000 to MBA students have 4.3 per cent NPA, it is likely that some market participants will overcome their aversion to working with Dalit women of Bihar. Similarly, if it became clear that a cluster of small businesses in a particular industry can generate above market returns, investors will be willing to invest in funds that however, for such micro markets to be discovered, the information infrastructure has to be created as a public good. The CGAP Mixmarket data base of 1,000 plus microfinance institutions is an example of such an effort. While it is difficult to anticipate solutions, the approach should be to encourage intermediaries who are able to provide capital to those excluded today, but are in turn subjected to market discipline.

Getting the full range of markets and its effect on policy

The Bond-Currency-Derivatives (BCD) Nexus is the interlinked set of markets on government bonds, corporate bonds and currencies. In a well functioning financial system, all these prices—exchange rates, interest rates for government bonds and interest rates for corporate bonds—are tightly linked through arbitrage. The key policy goal in this area lies in fully linking the markets, and for these markets to (in turn) be linked to other financial markets such as the equity market. When India achieves a well functioning BCD Nexus, this would have a number of implications. It would enable funding the fiscal deficit at a lower cost and with reduced distortions. It would produce sound information about interest rates at various maturities and credit qualities, which would shape investment plans of firms and give them access to debt financing. In particular, this would strengthen financing for debt-heavy infrastructure projects. Monetary policy involves changes in the short-term interest rate by the central bank; the BCD Nexus would enable the 'monetary policy transmission' through which changes in the short-term policy rate reach out and influence the economy through the market process of changes in all other interest rates for government bonds and corporate bonds. Finally, the currency spot and derivatives market would link up the Indian bond market to the world economy and reduce excessive price or interest rate differentials.

In mature market economies, the full set of financial markets produce a unique array of *information* including forecasts of volatility of all traded products, estimates of expectations of the market such as beliefs about inflation in the future and expectations about the future course of monetary policy. This information plays an important role in informing and improving decision-making processes in both the public sector and the private sector. In particular, it is particularly important for the operations of the central bank. This is one important benefit of fostering a complete set of well functioning markets.

Markets and risk-taking

As we argued earlier, while capable of creating enormous good, every financial product is

also capable of creating enormous losses for the holder. Participants have to develop a level of sophistication to use them well. Given the limited financial literacy in this country, there is a role for segmenting markets, so that only 'sophisticated' or institutional participants can participate in certain markets, while retail customers have to go through an intermediary. Even then, it sometimes turns out that the 'sophisticated' take excessive risks, or do not understand what they are doing and burn themselves.

This is normal—corporations make losses all the time making real products, and will make them in financial products also. The only way they will learn to be more circumspect is if they are forced to absorb the full consequences of their actions. Indeed, in many financial markets, for every side that loses, there is another side that gains, so unlike with real losses, the economy as a whole does not lose.

The real regulatory concerns are three. First, do participants have a reasonable level of sophistication so that they can understand the products and their consequences? Second, are products sold with adequate disclosure so that these participants understand (or can understand if they ask reasonable questions) the risks they are taking? Third, are the systemic consequences of price movements in any direction likely to be limited? In a developing economy like India's, the first two concerns are important, but slippage there can be absorbed provided the third concern is addressed. Indeed, in the process of learning, there are bound to be losses for some parties (such as recent unverified reports of large corporate losses on currency derivatives), but so long as the systemic consequences are contained, these should be viewed as the costs of market development. Indeed, such costs are borne by the economy in numerous situations when new technology enters the country for the first time.

In what follows, we will diagnose how well Indian financial markets are performing and the sources of the deficiencies, and offer proposals to rectify some of the problems.

THE NEED TO IMPROVE LIQUIDITY AND MARKET EFFICIENCY

Let us start with how one would measure the performance of markets. The two critical features of a well functioning financial market are market efficiency and high liquidity. Both these are 'outcomes' measures.

Market efficiency is the extent to which information and forecasts about the future are impounded into financial prices. Liquidity pertains to the ability to transact with low transactions costs. It has three dimensions: immediacy, depth, and resilience. Immediacy refers to the ability to execute trades of small size immediately without moving the price adversely (in the jargon, at low impact cost).[5] Depth refers to the impact cost suffered when doing large trades. Resilience refers to the speed with which prices and liquidity of the market revert back to normal conditions after a large trade has taken place.[6]

The two concepts of efficiency and liquidity are linked. In order for markets to be efficient, market participants who obtain information have to be able to trade on that basis and impound that information into prices. For economic agents to have an incentive to expend resources in information processing and forecasting, markets must be liquid, else any profits from the activity will be dissipated in the transactions costs alone. Expensive or infeasible transactions reduce the profits from successful forecasting. This (in turn) inhibits the investments made in information processing and forecasting. Market liquidity is thus a critical precondition for market efficiency. In turn, market efficiency assures uninformed participants that market prices are up-to-date and reflect fundamentals, so they can trade safely. This in turn provides volumes that ensure liquidity.

Table 1 summarizes the state of Indian financial markets on the three aspects of financial market liquidity. In the view of the Committee, resilience is found in the large stocks, their stock futures, and the index futures. All other markets in India lack resilience.

Table 1: Liquidity of Indian Financial Markets

Market	Immediacy	Depth	Resilience
Large cap stocks/futures and index futures	Y	Y	Y
Other stocks			
On the run government bonds	Y	Y	
Other government bonds			
Corporate bonds			
Commercial paper and other money market instruments			
Near money options on index and liquid stocks	Y		
Other stock options			
Currency	Y		
Interest rate swaps	Y	Y	
Metals, energies, and select agricultural commodity futures	Y		
Other commodity futures			

Depth is found, in addition, with on-the-run government bonds and interest rate swaps. Immediacy is found in a few more markets. A well functioning market is one which has all three elements. India has only one market where this has been achieved, for roughly the top 200 stocks, their derivatives and index derivatives.

When a financial market does not exist, or is inadequately liquid to meet the requirements at hand, or suffers from deviations from fair price, this constitutes market incompleteness. Economic agents are unable to enter into transactions that they require for conducting their optimal plans. Market incompleteness has many pernicious implications for resource allocation and ultimately GDP growth.

Many official documents have emphasized the efforts made by government in trying to create a policy environment that would foster liquidity and efficiency. As with all aspects of government, a greater focus needs to be placed on *outcomes*. Input measures—such as the policy efforts that have been put in—are unimportant in the final analysis. What matters is the outcome: whether a liquid and efficient market was achieved or not.

At first blush, a lot of activity is visible in almost all parts of Indian financial markets. A great deal of hardware and software has been acquired; an alphabet soup of new acronyms is in the air; many IOSCO checklists are filled out. However, it is important to not confuse the efforts being put in for the outcome. All the effort is a means to an end. That end is market liquidity and market efficiency. Inputs such as technology or trading systems are neither necessary nor sufficient. Some technologically primitive markets—such as the floor trading which once dominated the exchanges of Chicago—had achieved tremendous liquidity and market efficiency. Conversely, Indian finance is replete with advanced trading technology and trading platforms, but the end-goal of liquidity and market efficiency remains elusive on most elements of the financial markets. There is more to achieving liquidity and efficiency than setting up trading platforms using information technology, and ticking off some boxes in IOSCO checklists.

Table 1 highlights some genuine accomplishments in achieving liquid financial markets in India. At the same time, it highlights the journey ahead. Achieving a sound set of financial markets is synonymous with achieving a 'Y' in all the cells above. This requires diagnosing the reasons for the empty cells, and identifying policy paths through which those difficulties can be addressed.

A particularly important point, that would be apparent if we also saw the table for 2003, is the lack of progress. In the period 2003–08, three elements have come through: the onset of immediacy with near money options on index and liquid stocks, the onset of immediacy and depth on the interest rate

swap market, and the onset of immediacy on some commodity futures products. In other words, in a table with 36 elements, the progress over the latest five years has consisted of going from 7 cells to 10 cells. This is disappointing progress, given India's rapid growth and India's urgent requirement of sophisticated financial markets. Policymakers should view it as unacceptable.

This calls for fresh effort in diagnosing problems and making a break with the policy frameworks which have failed to deliver results. The goal of financial sector policy must be to obtain a 'Y' in all 36 cells within five years. This requires getting 26 new 'Y' values into the table over the next five years, as compared with the 3 that were obtained in the last five years.

Some developing countries have suffered from the inability to obtain liquidity and efficiency in *any* element of the financial markets. India is in a better position in having achieved some elements of success. A careful understanding of the sources of success and failure is thus possible in the Indian setting. In addition, the areas of success have thrown up an institutional capability which will be useful.

DIAGNOSING THE SOURCES OF DIFFICULTY

Why are so many markets illiquid and inefficient? Some of the main reasons are:

1. Banning of products and markets.
2. Rules that impede participation of firms and individuals in certain markets for reasons other than sophistication.
3. Inadequacies of financial firms arising out of their ownership, size, and other reasons.
4. A silo model of regulation and the structure, incentives, and staffing, of regulatory institutions that results in barriers to innovation and competition.
5. Frictions caused by taxes.

Banned products and markets

Why are numerous financial markets illiquid and inefficient? The simplest element of the policy environment that comes in the way is the banning of products and markets. As an example, products such as currency futures and commodity options are banned. A market that is banned can obviously not attain liquidity or efficiency. Equally problematic, a missing market can hamper the efficiency of other markets also. For instance, the absence of interest rate futures can hurt the Treasury market.

The recent practice of closing down commodity markets when the price reaches high levels is unfortunate to say the least. Even if these markets are being manipulated at present, an allegation there is little concrete proof of thus far, the way to make them function better is to improve their liquidity and broaden participation so that manipulation becomes difficult (the exchange could also take steps to restrict the trading of those it considers to be manipulating markets if it has evidence). Creating uncertainty about whether the markets will remain open is probably the most effective way to kill liquidity. The damage done by these short-sighted policy moves need to be reversed by distancing market regulation from the government (one more reason why all market regulation should come under SEBI—see later), and making it much harder for the government to close markets.

Restricted participation

In many cases, while an outright ban is not in place, there are restrictions on participation. There are various shades of grey in restrictions. These include outright bans (e.g., domestic individuals cannot participate in currency markets) or regulatory restrictions on some kinds of activities (for example, banks are prohibited from adopting long positions on interest rate futures) or quantitative restrictions (for example, all FIIs put together are required to keep their aggregate ownership of corporate bonds below US$ 1.5 billion).

There are a variety of rationales for restriction, including the belief that some

participants (and regulators) are new and therefore should proceed cautiously at the outset, and the desire to limit capital inflows and outflows so as to make exchange rate management easier. An often unvoiced, but important, rationale is the need to finance the government, and thus the need to pre-empt funds collected by various institutions through restrictions on investments other than in government securities. Table 2 from the BIS is enlightening: Among the countries in the table, India has one of the largest government shares in the public debt market—a staggering 91 per cent. Even China, which has a reputation for weak financial markets, has much larger public debt issuance by financial and non-financial corporations than India. The need for the government to finance itself, coupled with investment restrictions on the main domestic institutions collecting long-term public savings and a ban on foreign participation, results in a domestic bond market that is dominated by government securities.

Table 3 looks at the elements of Indian financial markets from this perspective. The equity market—the only element of Indian finance which has achieved immediacy, depth and resilience—has few restrictions on participation in both spot and derivatives markets (it does restrict foreign individual investors, and some institutional investors such as hedge funds). As a consequence, the equity market, especially for large stocks, has developed a distribution capability which reaches millions of market participants around the world. All kinds of economic agents come together into a unified market to make the price. Competitive conditions are upheld; for the most part, no one player is large enough to distort the price. The diverse views and needs of the diverse array of participants impart resilience, depth, and market efficiency. Competition between NSE and BSE has helped improve technology and reduce costs. The most important feature of the equity market has been free entry and exit for financial firms that become members

Table 2: Domestic Debt Securities—Amount Outstanding as on September 2007 (in US$ Billions)

	World	US	UK	Japan	India	China	Indonesia	Malaysia	Singapore
A) Domestic Debt Securities	**55,389**	**23,899**	**1,354**	**8,706**	**435**	**1,528**	**89**	**155**	**90**
B) Government	26,200	6,480	901	7,034	396	1,042	80	66	64
C) Govt securities as a % of total Domestic Debt securities (B/A)	**47%**	**27%**	**67%**	**81%**	**91%**	**68%**	**90%**	**43%**	**71%**
D) Financial Institutions	23,053	14,499	429	969	29	400	4	31	19
E) Corporate Issuers	6,135	2,918	23	703	8	86	5	57	6

Source: *BIS Quarterly Review,* March 2008.

Table 3: What Kinds of Participants are Permitted into what Kinds of Markets?

Market	Domestic institutions	Domestic retail	Domestic corporate	Foreign institutions	Foreign retail
Equities & Equity Derivatives	Y	Y	Y	Y	N
Government Bonds	Y	–	Y	–	N
Interest Rate Swaps	Y	–	Y	–	N
Other Interest Rate Derivatives	–	–	–	–	-
Corporate Bonds	Y	Y	Y	–	N
Credit Derivatives	N	N	N	N	N
Currencies & Currency Derivatives	Y	–	Y	Y	N
Commodity Futures	N	Y	Y	N	N
Commodity Options	N	N	N	N	N

Note: 'Y' = Yes. 'N' = No. '–' = Limited/Negligible.

of NSE and BSE, and the free entry and exit for the economic agents who trade on these markets through exchange members.

The Committee feels that such an open environment is of critical importance for achieving liquidity and efficiency in all the other elements of Indian financial markets. The trading rules of a market, such as placing collateral associated with a position, or position limits, must be neutral to the nature of the market participant. There should not be one rule for a bank and another rule for an FII. In principle, most financial firms would have adequate levels of sophistication, so rules should not prevent access to any market, especially if the firm can demonstrate competence to the regulator (see the discussion on professional markets below). Further, end-users of markets should have a full range of choices of the financial firms through which they access the market. In a healthy financial market, all players come together in a transparent market to make a price, while a regulatory framework ensures that competitive conditions are upheld so that no player has market power and distorts price discovery. While these conditions may not pertain initially, and may therefore require extra regulatory vigilance, the only way they will emerge is if an open environment is created. This approach needs to be applied across all financial markets in India.

Inadequacy of financial institutions

If the first difficulty lies in rules that impede participation of certain kinds of financial firms in certain markets, the next difficulty lies in the inadequacies of the financial firms themselves.

Table 4 summarizes the state of play with financial firms. As shown in the table, in numerous areas, financial firms have infirmities in India or are non-existent.

The institutional structure of market participants is shaped by the forces of competition and regulation. When firms face

Table 4: Capabilities of Financial Firms

Institution	Current status
Securities Brokers/Dealers	There are enough large, well capitalized, professionally managed brokers/dealers to support a vibrant market. However many poorly capitalized entities continue to exist.
Mutual Funds	There are enough large, professionally managed mutual funds. However, their success in channelizing retail savings into the debt/equity markets have been limited. They have been more successful in providing a tax sheltered investment vehicle for corporate cash surpluses.
Hedge Funds	Non-existent.
Other activist investors	Non-existent. Private equity players are the most hands-on investors today, but they rarely confront corporate management with a view to improving governance.
Pension Funds	Practically non-existent. Investment restrictions prevent provident funds from playing an important role in the financial markets.
Rating Agencies	The big international rating agencies have affiliates in India. However, the current debate over global rating practices offers an opportunity for Indian rating affiliates to leapfrog over global counterparts and adopt state-of-the-art technological and organizational practices.
Investment Banks	Compared with global peers, Indian investment banks are poorly capitalized.
Exchanges, clearing corporations, and depositories	Some of the exchanges are close to being world class as is the clearing, settlement, and depository infrastructure. New entry by professional exchanges catering to institutional/sophisticated customers could help, as could greater competition between elements of the infrastructure.
Insurance Companies	Much of the investable funds are with the state-owned behemoths. Private sector players are growing fast. Together, they could contribute to the development of a corporate bond market if investment restrictions were moderated.
Banks	State owned banks dominate the banking system. They have a tremendous branch network, as well as a strong image of trustworthiness among poorer sections, which could be used to provide more access for households to the markets. Some of the PSBs suffer from an inability to attract adequate human capital for skilled tasks and an inability to incentivize performance, which limits their ability to develop strong risk management. In turn, this hampers their ability to create new and appropriate products for households, or to invest effectively in the riskier part of the spectrum of assets.

competition for market share, they are forced to find new ways of serving their customers. It is this pressure that, over time, creates highly competitive companies that are able to bring down costs through technological innovation and better management of resources. The inadequacies of Indian financial institutions can be traced at least partly to the forces that restrict competition.

We do not have room for a full analysis of all factors that inhibit competition and innovation. However, two points are worth making. First, state ownership of financial institutions is a major factor that inhibits competition. This is compounded by the need for regulators to take into account the incentive structures and special circumstances that come from being government owned. A second factor is restrictions on ownership and shareholding. This applies especially to institutions like banks and exchanges, clearing corporations, and depositories. Limits on how much shares an individual shareholder can hold (5 per cent in exchanges, 10 per cent cap on voting rights in banks), and limits on ownership by foreigners makes it difficult for new institutions to be started, and for shareholders to exercise influence on management. This reduces competitive pressures on incumbents, and slows down the pace of development of market institutions.

Most such restrictions have been introduced with the good intention that such institutions should remain in the hands of that is 'fit and proper' persons. These restrictions are a recognition of the perception that the regulatory system is too weak to prevent misuse of management authority, and the only way to prevent institutions from falling into 'wrong hands' is to have rules on concentration of ownership. However, it is important to recognize the costs imposed by these rules.

In short, the deficiencies in Indian financial markets stem from missing markets and missing actors. The way to address the first is in opening markets, equalizing market rules for all kinds of participants, and in removing rules that ban specific players only from certain activities. It is relatively easy to resolve this problem. However, the second problem is deeper and requires more long-term efforts, that of improving the capabilities of financial firms. The way to do this is to increase competitive pressures in the market ecosystem by removing constraints in the way of entry of new players.

Infirmities in regulation

Two factors that have deleterious consequences for both markets and actors are:

1. India uses a 'silo model' where the financial markets are broken up across three agencies: SEBI, RBI, and FMC. There are hard constraints that separate firms and players in one silo from operating in other silos. These constraints reduce competition, hamper economies of scale and scope, and impede the flow of successful institutional arrangements and ideas from one part of the financial markets to others.
2. Steep barriers to innovation are in place. New ideas are banned unless explicitly permitted. A great deal of what would be considered ordinary activities in the world of global finance is incompatible with existing laws and subordinate legislation. In a well functioning market economy, firms are constantly on the lookout for new ideas in designing products and processes so as to reduce cost and better serve customers. A firm that comes up with an innovation obtains a temporary advantage and enhanced profitability for the time period that is taken by competitors to catch up. In Indian finance, the glacial pace of change has given out signals to financial firms that the rate of return on innovation is tiny. Approvals take years, so there is no question of obtaining a temporary elevation of profitability by innovation.

Frictions caused by taxes

We have earlier discussed the importance of having all types of markets, cash and derivatives, exchange traded and OTC, exist side by side, in order to allow customers to achieve

their portfolio objectives at the minimum possible cost. One factor that makes this outcome difficult to achieve is the different tax treatment that is applied to different types of investments and transactions. Taxation plays an important role in determining returns generated by trading. The existence of a transaction tax reduces the incentive for day traders and speculators to provide valuable liquidity to the market. This difference may not be felt when the markets are doing well, and when the returns from trading are significantly higher than the friction imposed by transaction costs. However, liquidity tends to disappear when it is most desirable, that is, when markets go down. Investment behaviour is also affected by taxes. One of the side effects of having a low tax on Mutual Funds is that a significant portion of debt fund investments are made only to make use of the tax advantage. The same applies to small savings scheme, which attract a significant amount of savings.

PROPOSALS

To achieve the true economic benefits of markets, we need:

1. The availability of complete markets where agents are able to trade and hedge all the risks that they need to manage, and the existence of adequate liquidity (depth, resilience, and immediacy) in all these markets.
2. A regulatory structure that protects customers from fraud, but without imposing undue costs and without creating barriers to entry, innovation, and competition.

The reforms that would achieve the above objectives comprise of three broad elements:

1. Reforms within existing legal and institutional framework;
2. Capital account liberalization;
3. Merger of regulatory and supervisory functions for all organized financial trading into SEBI and strengthening the legal foundations of market regulation.
4. Implement Debt Management Office.

The first element consists of addressing the problems of missing markets and missing actors within the existing legal and institutional framework. This is low-hanging fruit that the government can implement relatively easily.

But the next two elements are essential to obtaining genuine progress. Capital account liberalization is important from the viewpoint of bringing in new kinds of players and new kinds of competition. Elsewhere in this report, we have commented on the fact that capital account restrictions do not work in practice. But they do drive liquidity away from organized financial markets. By placing restrictions on investment by foreigners in domestic securities, we force them away from the market and into other channels, thereby depriving the Indian financial markets from the opportunity to benefit from the participation of foreign firms.

Given the infirmities of financial firms in India, even if all problems of regulation were solved, there is likely to be a gap in liquidity and market efficiency. Foreign financial firms would play a valuable role in filling this gap. In addition, the entry of foreign financial firms into all markets would increase competitive pressure on Indian financial firms and markets. Indian households and Indian financial firms would be better served under convertibility, because they would have greater choice on the financial firms and financial markets that they choose to utilize. This competitive pressure would induce significant improvements on the part of Indian market institutions and Indian financial firms. The role of convertibility in increasing competitive pressure and fostering greater technological dynamism in finance is the same as the role played by trade reforms in the case of non-financial firms.

A key defect of financial markets lies in the separation between RBI, SEBI, and FMC. The Committee deliberated on this issue at length and emerged with two main conclusions: (*a*) there is a lot to be gained by unification of these functions; and (*b*) the right agency into which these functions

The Corporate Bond Market

The state of India's corporate bond market has been the subject of much discussion and analysis but little progress over the last 10 years. This is in contrast to the strong growth witnessed in the equity markets as well as the government secur-ities market. Starting in the late 1990s, RBI carried out a series of reforms in the government securities market. This included the following main elements:

1. creation of market makers in the form of specialized Primary Dealers of government securities, who were allowed to borrow in the inter-bank market to fund their government securities portfolios;
2. reforms intended to remove frictions in trading, such as removal of stamp duties and withholding taxes;
3. better trading, clearing and settlement infrastructure in the form of an online primary auction mechanism, a trade reporting system (NDS), an electronic order matching system (NDS–OM), the Clearing Corporation of India, and innovations like Collateralized Borrowing and Lending Obligations (CBLO).

These reforms occurred in the context of a secular decline in inflation and interest rates in the years following the 1997 Asian crisis, allowing traders in government debt to make significant trading profits, and encouraging the development of an active secondary market. Banks, insurance companies, and pension funds were large captive buyers of government debt, and the government's debt manager, RBI made use of this opportunity to reduce cost of borrowing, increase duration, and consolidate government debt into fewer but larger issues. Though significant challenges still remain, the government securities market is generally considered a success story.

In stark contrast, the corporate bond market remains practically non-existent. Most of the large issuers are quasi-government, including banks, public sector oil companies, or government sponsored financial institutions. Of the rest, a few known names dominate. There is very little high yield issuance, and spreads between sovereign debt, AAA debt and high yield debt are high in comparison to other markets. Very few papers trade on a regular basis. Trading in most papers dries up after the first few days of issuance, during which the larger players 'retail' the bonds they have picked up to smaller pension funds and cooperative banks. Most trading is between financial institutions.

5 Years Rates						
Yields	**US**	**India**	**China**	**Singapore**	**Korea**	**Japan**
Gsec	4.92	7.62	1.89	2.52	5.23	1.52
AAA Bond	5.60	10.00	4.42	2.58	5.59	2.01
Spread	0.68	2.38	2.53	0.06	0.36	0.49

Source: 2007 CRISIL.

The reasons for the near-absence of a corporate bond market can be divided into constraints that limit the demand for the bonds, and constraints that limit the issuance of the bonds.

On the demand side, pension funds, who could be large buyers of corporate debt, are constrained by their prudential norms and conservative investment policies. Mutual Funds, and to a lesser extent insurance companies, are buyers of higher yield debt, but do not create enough demand for the market to grow.

Banks tend to prefer loans to bonds, because loans can be carried on the books without being marked to market, thus reducing the possibility of unexpected demands on bank capital. The internal organization of the bank also inhibits demand—corporate bond portfolios are managed by the treasury, while loans are managed by credit departments, creating barriers between the two forms of lending.

Foreign investors, who do not suffer from the same sources of risk aversion as Indian institutions, are allowed only to a very limited extent into the market (a total of US$ 3 billion). Given the very limited liquidity, they are not always eager to even take up the available quota.

Finally, the absence of a reliable system of resolving financial distress (see Chapter 7) must be a part of the explanation for why investors are reluctant to buy unsecured bonds (in contrast to lending secured debt), especially those of high risk firms.

Issuers do not have much reason to issue corporate bonds either. The high interest rates demanded by buyers, because bonds are illiquid and because bond holders are poorly protected in bankruptcy, means that bank debt is available at much more attractive terms. A syndicated loan often works out cheaper than issuing a bond. Add to this the issuance and compliance costs, and issuers do not find significant reasons to run a regular issuance programme.

Also, until the recent credit crisis, larger corporate issuers had access to much cheaper funds in the offshore debt capital markets. Even after hedging their currency risks, the total cost of borrowing offshore is much lower than the cost of borrowing in the domestic market. This is reflected in the strong growth of External Commercial Borrowings (ECB) in recent years. While excessively easy credit conditions abroad must be part of the story, higher tolerance for risk on the part of foreign participants whose presence is limited in domestic corporate bond markets must also be part of the explanation.

The state of affairs in the corporate bond market is symptomatic of these deeper problems, and the attitude of regulators towards financial markets. Risk aversion of state-owned financial institutions, conflicts in policy objectives, unwillingness to let financial institutions manage their risks, all conspire together to keep the market in a stillborn state.

Among the recommendations that would help revive the corporate bond market are: (*i*) allow domestic financial institutions greater leeway to invest in corporate bonds; (*ii*) steadily raise the limit on foreign investment in corporate bonds; (*iii*) amend the bankruptcy code (Chapter 7) so that the rights of unsecured creditors are protected; (*iv*) reduce the transactions costs in issuing and trading corporate bonds, including repeated onerous disclosures (move instead to a shelf-registration scheme), as well as high stamp duties; (*v*) reduce the artificial preference of banks for loans by subjecting loans and bonds to similar mark-to-market requirements, especially for aspects such as interest rate exposure that are easily measured.

should be unified is SEBI. These changes will have their full impact on innovation only if we also rethink the legal foundations of financial market trading in India and move towards a more 'principles-based' approach. These issues are more fully discussed in Chapter 6.

Reforms within existing legal and institutional framework

We have to identify all situations where new products, new kinds of financial firms and new activities of financial firms are feasible under the existing legal and institutional

framework. Permissions need to be given to enable such new activities to commence immediately. In addition, many other areas of incremental progress are feasible immediately. The 12 key areas for work, in the view of the Committee, are:

1. **Improvements in market design:** Many improvements in the market design are feasible within the existing legal and institutional framework. These include: (*i*) True auctions for primary market sale of securities, (*ii*) Reduction of the delay between the date of auction of a security and the date of trading, (*iii*) Unification of disclosure requirements for firms having multiple listed securities, (*iv*) Improved risk management at clearing corporations so as to do full cross-margining and portfolio margining, (*v*) The use of call auctions for the opening price and closing price on exchanges, and (*vi*) Removal of regulatory restrictions against algorithmic trading.
2. **Rapid and simplified product approval:** SEBI needs to establish a new approval process for new products as well as new methods of price discovery, clearing, and settlement. This approval process needs to be rapid, supportive of innovation, and keep the government out of issues of product design. The role of the regulator should be restricted to questions of systemic risk, fraud, contract enforcement, transparency and inappropriate sales practices. The task of designing products, markets and processes legitimately resides with the private sector. The uniquely Indian newspaper headline 'SEBI introduces long-dated options' needs to be replaced by 'Firm X introduces long-dated options', since a product launch is the task of a financial firm and not a government agency.[7]
3. **Professional markets with light regulation:** There is much merit in thinking of a three-tier world of financial markets, comprising 'public exchanges', 'professional exchanges', and the OTC market. Public exchanges would be exchanges such as NSE and BSE, where the full burden of regulation is applied because the general public participates in the market. Access to professional exchanges can be restricted on the basis of suitable criteria. For instance, a minimum transaction size of Rs. 10 million can be prescribed for professional exchanges so that the market is restricted only to professional investors doing large transactions. The criteria will have to be determined on the basis of the needs of the market being approved. Once this is done, the burden of regulation can ease considerably. Professional exchanges can thus be lightly regulated. They can be a hotbed of technological and product innovation.[8] Finally, there is the OTC market, which would involve bilateral transactions between economic agents. The presence of all three elements of the overall market would induce greater competitive pressure for all three elements.
4. **Domestic hedge funds:** Domestic hedge funds should be recognized and registered as a valuable addition to the landscape of financial firms. They would require a large minimum investment (e.g., Rs. 10 million) by any one customer; such customers have the wherewithal to judge the merits of the fund management activity by themselves. The role for SEBI would then be to ensure that hedge funds satisfy the trading and regulatory rules of the markets that they operate in, exactly as is required of all other market participants. The presence of hedge funds would induce greater competitive pressure for other regulated fund management channels such as mutual funds.
5. **Staffing of regulatory institutions:** The staffing and management of regulatory institutions needs to be considerably strengthened. Specifically, regulators should: (*i*) Acquire greater knowledge of modern financial products and markets; (*ii*) Offer greater clarity on what constitutes malpractice; (*iii*) Possess high quality investigation capabilities leading up to high quality drafting of legal orders. The regulator could also encourage a similar upgradation of skills and knowledge among market participants, including senior management.
6. **Uniform accounting treatment:** Regulations that give banks a bias to lend through loans as opposed to investing in corporate bonds need to be modified to have a level playing field. Similarly, regulations that give banks and insurance companies a bias to use OTC derivatives instead of exchange-traded derivatives need to be modified to have a level playing field.
7. **Securities transaction tax:** The incidence of the securities transactions tax falls upon trading strategies that require

more trading. While the quest of financial sector policy is to have low transactions costs, this tax directly increases transactions costs. To the extent that Indian financial markets face global competition (e.g., Infosys ADRs trading in the US) or aspire to achieving global customers (e.g., currency futures trading in Mumbai), the securities transaction tax puts India at a competitive disadvantage. There is a need to phase out this tax, or reduce it to token levels.

8. **Remove segmentation within exchanges:** NSE and BSE suffer from increased costs and operational overheads owing to 'segmentation'. As an example, the equity spot market is one 'segment' and the equity derivatives market is another 'segment'. Financial firms have to obtain separate memberships in each segment and suffer from a duplication of compliance costs. This separation reduces the ability of a clearing corporation to know the full position of a financial firm or its customer, and do correct portfolio risk calculations. This segmentation constitutes yet another silo system, *within* exchanges. There are no benefits from such segmentation, and there are many negative implications. The Committee feels there is much merit in ending this silo system within exchanges, so as to have only one concept of a member of an exchange, who then obtains a trading screen and is able to trade in all products. To the extent that some participants are not deemed sophisticated enough for certain activities (unlikely for an exchange member), their access rights can be restricted, but this should be by exception rather than as a default.
9. **Restrictions on participation:** The architecture of trading with SEBI-regulated exchanges is conducive to free entry for financial firms and free entry for participants. As an example, currency and interest rate derivatives could become immediately accessible to all financial firms and all market participants (e.g., FIIs) by bringing them into the existing policy framework of SEBI-regulated exchanges. In addition, the same strategy can be used with corporate bonds and credit derivatives for the same effect.
10. **Fiduciary responsibility based on investment objectives:** Institutional investors in India are often forced to buy government bonds. This 'financial repression' needs to be eased, thus making space for such institutional investors to play a more effective role in other financial markets. Prudential norms should be based on the basis of fiduciary responsibility to meet the investment objectives of the fund being managed. The regulator should be silent on what investments are allowed, and instead focus on how the fiduciary responsibility is being applied. Regulators have the right to question when things go wrong, not on the basis of outcomes, but on the basis of whether those investments were consistent with ones a prudent investor would have bought.

    Effectively, such a principle would move the test of reasonable investment strategy from whether the investments performed or not, to whether it was reasonable to think they would perform. Such a move need not occur overnight. Investment restrictions could be progressively lightened, while 'safe harbours' that meet the fiduciary principles could be developed so that risk-averse investment managers would be sure what investments would definitely meet regulatory approval.
11. **Currency derivatives:** Exchange-traded currency derivatives including futures, options and swaps, on all currencies, should be permitted. While capital controls inhibit settlement in foreign currency, rupee cash-settled derivatives are feasible immediately. These can trade alongside equity derivatives on NSE and BSE. In doing this, it is important to avoid special rules which inhibit participation of banks, NRIs, FIIs, and to avoid forced segmentation of the market where large positions on the exchange-traded market are prohibited in order to avoid competitive pressure against the OTC market.
12. **Interest rate derivatives:** Exchange-traded interest rate derivatives using both cash settlement and physical settlement should be permitted. These can trade alongside equity derivatives on NSE and BSE. Exchanges should have the freedom to structure products according to market needs. The issue of removal of 'segments' of exchanges becomes particularly important with interest rate derivatives. The BCD Nexus requires full integration between interest rate derivatives and currency derivatives on one hand, and between interest rate derivatives and corporate bonds and credit

derivatives on the other hand. If efforts are made on setting up a 'silo' structure that limits arbitrage, then the fully integrated BCD Nexus cannot come about.

Use capital account liberalization to deepen markets

In this subsection, we address specific areas of capital account liberalization that would directly impact on liquidity and market efficiency of Indian financial markets. Larger issues of capital account liberalization, their consequences for Indian finance as a whole, and the inter-linkages for macroeconomic policy, are addressed in the chapter on macroeconomics.

Capital account restrictions interfere with markets in two broad ways. When foreign players are not allowed to participate in the local markets, the expertise, risk bearing capacity, and capital they could bring to the market is lost. The volumes they contribute are also lost. Both factors reduce liquidity and efficiency. Indeed, this liquidity can be critical for kick starting a market. For instance, Indian investors have little experience with long-term corporate bonds, while foreign investors have this. The broader participation for foreign investors in that market could allow more attractive debt structures to emerge, greater liquidity, and eventually, more domestic participation also.

Quantitative restrictions presently inhibit FII participation in rupee-denominated government bonds, corporate bonds, debt-oriented mutual funds, and securities issued by asset reconstruction companies. These restrictions need to be eliminated, to place FII activities on these products and their derivatives on parity with FII transactions on equities and equity derivatives. For instance, as investment restrictions on domestic funds are reduced, freeing them from investing in government securities, foreign investors can take up the slack. This will allow domestic institutions like insurance companies and provident funds to benefit from higher returns (such as on equities) that they have been prohibited from accessing thus far.

Quantitative restrictions on domestic institutional investors currently limit their global diversification. As an example, all mutual funds (taken together) are permitted to invest no more than US$ 5 billion overseas. These quantitative restrictions need to be removed. Mutual fund schemes need to be designed to give customers the best risk/reward trade-off, which inevitably involves global diversification. As an example, an Indian institutional investor should have the full flexibility to buy an Infosys ADR in the US or to buy shares of Infosys in India, or IBM in the United States. Similarly, an Indian institutional investor should have the full flexibility to buy government bonds issued by governments all over the world, or to buy government bonds in India. These changes, which are analogous to removing barriers to imports, will improve the risk/reward characteristics obtained by their Indian customers, expose institutional investors and their customers to international practices and ideas, and increase competition faced by Indian financial markets. It will also set the stage for Indian institutional investors to *sell* financial products overseas. The removal of barriers to imports is an essential preamble to exporting.

While each individual in India is able to take US$ 200,000 out of the country per year, in practice, this is operationally cumbersome owing to restrictions that inhibit domestic and foreign financial firms from selling international financial products. These restrictions need to be eliminated. A customer of an Indian securities firm should be able to access unified screens where he is able to trade all financial products, all over the world. Conversely, an Indian individual should be able to become a customer of an international securities firm and obtain this same trading screen, with access to all global financial products (subject to this limit of a net outflow of US$ 200,000 per person per year). Foreign exchanges should be able to recruit members in India and place trading

screens and Internet-based trading software in India, as long as the limit of US$ 200,000 per person per year of net outflow is adhered to. This would increase exposure for Indian customers and financial firms with global practices and ideas, and increase competitive pressure on Indian financial firms and markets. Foreign mutual funds should be able to raise money directly in India, and Indian mutual funds should be able to raise money overseas for investment in India, obtaining the same tax treatment as FIIs, without setting up a parallel apparatus or having to become FIIs.

As Chapter 2 suggests, these relaxations could also help India macroeconomically at the current juncture, by allowing outflows that keep the exchange rate from appreciating, and reduce the fiscal burden of reserve accumulation. These outflows will also create more room for foreign participation in Indian financial markets.

Modifications to legal framework and financial regulatory architecture

As discussed in Chapter 6 of this report, fragmentation of market supervision between multiple regulatory authorities increases transaction costs, creates frictions, and reduces liquidity in all markets. Market supervision is a specialized function, and it is not easy to get professionals who can detect insider trading, manipulation, and other abuses. Having multiple regulators makes it more difficult to staff these functions. Another argument for consolidation of regulators arises from the blurring of boundaries between different types of products. A futures contract on a commodity Exchange Traded Fund can become a proxy for commodity futures product. Financial engineering could create products that do not fall into any category and therefore escape regulation. A final reason for consolidation of market supervision under a single regulator is that there could be conflicts between market regulation and prudential supervision, and the structural bias of the regulator can potentially result in rules that favour one type of participant over another.

In view of the above reasons, the Committee believes that the merger of all market regulation into SEBI will reduce transaction costs and improve liquidity in financial markets. At present, regulation of different markets is covered under a large body of legislation. The Committee proposes the enactment of legislation that would bring all market regulations under a single roof, and ease the transition from a rule based approach to a principles-based approach to regulation. These issues are more carefully explored in Chapter 6.

While considering SEBI as a single market regulator, it is important to recognize that SEBI presently lacks the skill and sophistication to regulate new markets. It is beyond the scope of this chapter to present a detailed plan for institutional reform and strengthening of regulatory institutions including SEBI. However, we need to recognize the need for such reform, and start the process and recognize it as a prerequisite for moving all market regulation to SEBI.

Implement debt management office

At present, the 'investment banking' function for the government is performed by the RBI. In the past decade, a series of expert committees have commented on the undesirability of burdening RBI with the task of selling bonds for the government. This involves a conflict of interest, since the government would benefit from lower interest rates, which the RBI has some control over. Investors in the bond market may also perceive the sale of bonds by RBI to be informed by a sense of how interest rates will evolve in the future. Finally, the RBI is the regulator of banks. Banking supervision could be distorted by the desire to sell bonds at an attractive price.

Internationally, there has been a strong movement towards establishing independent debt management offices (DMOs) which

sell bonds for the government. This is now considered best practice. Moreover, as rules that force financial firms to buy government bonds are relaxed, greater demands will be placed on the DMO, hence the need to move in an expedited fashion. The February 2007 Budget Speech had announced the creation of a DMO, and this now needs to be implemented.

CONCLUSION

We started this chapter by focusing on the role that markets for stocks, interest rates, currency, credit risk, and commodities play in driving economic growth. We discussed the need to take actions that improve the ability of markets to achieve better risk sharing and information signalling, to lower the cost of finance to households and companies, and to improve returns from savings. We then examined the current state of markets, the institutions that participate in these markets, and the quality of the regulatory framework in which they operate. We discussed the perception that markets behave like casinos, the distinction between price fluctuations and economic instability, and the dangers of government intervention in price formation. All these arguments were used to make the case for creating deep and well functioning markets in all financial asset classes and derivatives.

We also discussed the importance of lowering the cost of access to markets as a key objective of financial market reforms. Many of the long standing obstacles can be removed through the use of innovative technology. If the regulatory system is supportive of this effort, we will be able to handle very small ticket transactions, allowing people with very small savings, credit and insurance needs to participate in the market.

The second part of our analysis examined the sources of our difficulties, and traced these to a few key important elements, including banning of products and markets, rules impeding participation, inadequacies of financial firms because of constraints imposed on them, a silo model of regulation, and frictions caused by taxes. Each of these factors have to be analyzed in detail, and ways found to fix them. In this report, we have not gone into the minute details of recommendations. Instead, we have pointed out the large number of needed reforms that can easily be effected without requiring any significant changes in the legal and institutional framework. Of course, market reforms will have a significantly greater effects when we are also—prepared to take a fresh look at our macroeconomic and regulatory policies. These issues are considered elsewhere in this report.

NOTES

1. One well-known example which illustrates the issues at stake is the administered prices of petroleum products. The real economy would fare better in continually adjusting to small changes of prices which would result from a market process. The strategy adopted in India—of having constant prices for a period of time followed by a sudden large adjustment—actually induces greater instability in the economy.
2. The universe of large non-financial firms had total liabilities of Rs. 29 trillion in 2006–07. Of this, Rs. 8.1 trillion was borrowings. In the same year, large software companies had total liabilities of Rs. 944 billion. Of this, just Rs. 75 billion was borrowings.
3. This calculation uses the BSE Sensex from 1979 till 1990. Over this period, data for dividends is not available, thus understating the returns to an equity index. From 1990 onwards, the CMIE Cospi index is used, which includes dividends.
4. There are roughly 10 million depository accounts in the country. Assuming one account per family and assuming five individuals per family, direct ownership of equities does not exceed 50 million people.
5. Suppose a financial market offers bid/offer quotes of Rs. 99 and Rs. 101. In other words, a small buy transaction can be done at Rs. 101 and a small sell transaction can be done at Rs. 99. The 'ideal price' or the 'benchmark price' is defined as half-way between the bid and the offer. In this case, it is Rs. 100. Impact cost is defined as the extent to which a trade price diverged from the benchmark price. As an example, suppose a large buy order gets executed at Rs. 102. In this case, the impact cost is said to be 2 per cent, for this execution price was 2 per cent worse

than the benchmark price. In the electronic limit order book market, it is possible to have full transparency of the order book, and market participants can compute impact cost before an order is placed. In other methods of organizing markets, impact cost is generally known after the event but not before.

6. Susan Thomas. 2006. 'Resilience of liquidity in Indian securities markets,' *Economic and Political Weekly*, XLI(32): 3452–3454.
7. In one recent example of these lines not being drawn properly, a recent RBI report on interest rate futures specifies the time at which trading should start and stop each day.
8. Such a distinction was introduced by the Commodity Futures Modernisation Act of 2000 in the US, and made possible a proliferation of Internet-based trading platforms, particularly in the area of debt and currencies.