

# Market deficiencies in Mumbai that inhibit the provision of IFS

## chapter 6

### 1. The context in which Mumbai must develop and evolve as an IFC

This chapter aims to provide a strategic perspective on some interrelated questions: (a) what kind of IFC should Mumbai strive to become? (b) How should its IFC capabilities relate to those of its domestic financial system; (c) What market deficiencies inhibit Mumbai in becoming an IFC? (d) Which institutional deficiencies prevent financial markets in India from functioning as they should? (e) Do these deficiencies compromise prospects for a successful IFC – rooted in the domestic financial system – to emerge?

First, therefore, this chapter looks at the obvious gaps in the market and institutional structures of Indian finance; viz. seen specifically from the viewpoint of provision and export of globally competitive IFS. If the provision and export of IFS from Mumbai were to capitalize on the inherent capability of the domestic Indian financial system – and, by the same token, be compromised by its weaknesses – where do the most important gaps lie and what has to be done to fill them? What are the main priorities?

By way of a necessary but brief digression, it must be noted that posing this question precludes an IFC in Mumbai that is either initially or eventually an artificial annex, affixed opportunistically, to the domestic financial system. In other words an IFC in Mumbai should not be an OFC. Nor should it be like the DIFC that does not relate to the wider UAE economy. Those models of de-linked IFCs are inappropriate for India.

India is not a small entrepot economy like Dubai or even Singapore; although it is a much poorer one in per capita income terms than both. It does not need an IFC to diversify from dependency on oil income. Nor does it have any other dependency that limits its diversification alternatives. The Indian economy is deep and immensely diversified in the production of goods and services. India needs an IFC because it is a growing global powerhouse. It is already one of the four largest economies in the world in ‘real’ purchasing power parity (PPP) terms. It will achieve the same rank by 2012 in nominal terms. By the middle of the 21st century India will be the world’s second or third largest *national* economy, competing only with the US and China on the world stage, having surpassed the individual economies of Europe (but not the EU as a whole) and Japan. By the end of the century, India may well be the world’s largest and most powerful economy in size though not in per capita income.

In that context, for Mumbai to become the kind of IFC that India needs (as opposed to the kind of IFC that SEZ developers might wish to promote) it must start out and develop properly. It must do so in a way that does not at any time compromise its prospects for becoming like, and competing with, newer GFCs like Singapore, or even established GFCs like London and New York, in the provision of IFS to its *extant* national, and its *latent* regional and global clientele.

These are the benchmarks that Mumbai must aim to target from the outset. It must not be seduced to emulate the easier targets of Dubai or Mauritius simply because those models are quicker to kick-start, or conform better to an SEZ-based IFC model.

To achieve its destiny, there is no option other than for Mumbai's IFC capabilities to be rooted in its domestic financial system – in the same way as New York, London (representing the EU rather than the UK) and Singapore (for the wider ASEAN bloc).

Given that reality, the only sensible choice for Indian policy-makers is to focus on deregulating, liberalizing and unleashing the domestic financial system in the rest of this decade, in the same way that India's manufacturing and trading sectors were liberalized and unleashed in the previous one. A Mumbai-based IFC that is rooted in a large and efficient domestic financial market, and that operates on global lines, is likely to be more successful and useful to India and the world, than one that is a mere artifice created to indicate movement rather than commitment. In creating an IFC the Indian authorities would make a serious mistake if they were to repeat the experiment of failed offshore banking units (OBUs).

In contemplating the emergence of Mumbai as an IFC, one has to envision movement towards the removal of capital controls, on a purely hypothetical basis at the start. But, assume for a moment that capital controls were out of the way: Would strong revenues immediately emanate from exports of financial services? Or, even with the removal of capital controls would there be structural deficiencies and institutional gaps in the financial markets that would impede the export of IFS? The purpose of this chapter is to answer the question: If India had to sell services in global IFS markets today, and capital controls were not an issue, what are the other key deficiencies of the existing financial system that would prevent this from happening?

## 2. Inadequate currency and bond markets (BCD Nexus)

The most important deficiencies that India must overcome, in developing its domestic financial market and moving towards an IFC, lies in the absence of efficient, liquid, currency and bond markets. Transactions on currency spot and derivatives markets are, by definition, the lifeblood of an IFC.

Every IFS customer generates immediate transactions on the currency spot (and possibly derivatives) markets even if he/she just buys Indian equity shares, bonds, country index funds, index futures or options. Furthermore, every successful IFC is a centre for global currency trading. In the absence of currency trading, a country cannot have a 'real' IFC. Currency trading services, sold by Indian markets to national, regional and global customers, are an essential ingredient in the creation of a functional Indian IFC in Mumbai.

Similar considerations surround the domestic bond market.<sup>1</sup> Before too long, the INR will be one of the six most traded currencies (*i.e.*, the USD, JPY, EUR, GBP, CNY and INR) in the world. International bond issues, sovereign and corporate, will be denominated in these six currencies. In many cases, global issuers will probably want to issue and trade debt securities in all of them. For an IFC in Mumbai to succeed it will be essential to attract *global* issuers and investors into the Indian bond market. An appetite will need to be created and expanded on the part of global investors for INR denominated bonds issued by domestic and foreign, public and private, entities. This will require a liquid and arbitrage-free INR yield curve, backed by interest rate and credit default protection derivatives of every kind.

The use of the INR in global markets for bond issuance, portfolio trading, and investment necessitates an active market for *all* bonds issued by every type of issuer, with an even more active market for credit derivatives tiered on top. These essentials – the yield curve and interest rate derivatives markets and the currency spot and derivatives markets – are inextricably bound together by arbitrage. The currency forward curve is but a reflection of interest rate differentials. A plethora of arbitrage and speculative trading strategies fuse the currency and debt markets.<sup>2</sup>

<sup>1</sup>For a treatment of the problems of bond markets in Asia, see Eichengreen (2004).

<sup>2</sup>Arbitrage is well understood to be the foundation and cornerstone of market efficiency. As Shleifer and Vishny (1997) have famously pointed out, quasi-infinite capital in the hands of arbitrageurs cannot be taken for

### Box 6.1: Indian Experience with Offshore Banking Units (OBUs)

In the Exim Policy of 2002–07, the Commerce Minister announced that, for the first time in India, OBU would be permitted to be set up in Special Economic Zones (SEZs). Accordingly, RBI formulated a scheme in November 2002 that was implemented with some modifications in 2003. However, the scheme implemented is not an OBU in the usual sense of the term. In RBI's scheme OBUs are 'SEZ Banks'. They are only permitted to serve customers in an SEZ or lend to SEZ developers.

The SEZ, aimed at promoting internationally competitive exports, is a duty free enclave, deemed to be foreign territory for the purpose of trade operations and duties/tariffs. The OBUs are like *foreign* branches of banks operating in India but located in India. Any bank authorized to deal in foreign exchange can set up an OBU in a SEZ. Banks with overseas branches and experience of running OBUs are given preference. This differs considerably from the notion of an OBU outside India. OBUs in countries such as Singapore and Bahrain have lighter regulatory obligations for minimum capital, taxation, and

reserve requirements. In India, OBUs are exempt from CRR requirements; but they are not ordinarily exempt from the SLR requirements (except ICICI Bank that was given special treatment for 3 years). Profits of OBUs are not taxable for the first 5 years of operations. Although no separate capital is required for OBUs, the parent bank is required to provide a minimum of US\$10 million to its OBU as start-up funds. All prudential norms applicable to overseas branches of Indian banks would apply to the OBUs. OBUs in India, as in some other countries, are intended to carry out wholesale banking operations dealing only in foreign currencies. An OBU can meet the foreign currency needs of corporates in the domestic tariff area (DTA) but only under the scheme of external commercial borrowings (ECBs); *i.e.*, only for term loans with a minimum maturity of 3 years, and up to a maximum of 25% of its total liabilities. OBUs are prohibited from undertaking cash transactions.

Their sources of funding must be entirely external, other than the initial support from the parent bank and foreign currency accounts

of units in the SEZ. OBUs can get foreign currency deposits of non-residents, including non-resident Indians, subject to KYC guidelines. However, deposits of OBUs are not covered by deposit insurance. OBUs can invest their funds overseas and they can trade in foreign currencies abroad. OBUs are not treated as foreign branches in all respects. They do not enjoy the benefits that OBUs do in other countries. For example, OBUs in India cannot lend overseas nor participate in international syndications or consortia at par with foreign offices. They cannot finance overseas acquisitions. They cannot even fund third country trade.

At present, there are about a dozen SEZs in the country and half a dozen banks have set up OBUs. At SEEPZ Mumbai, the banks that have set up OBUs are SBI, ICICI, PNB, BOB, and UBI. At NOIDA, Canara Bank has set up an OBU. While data are not available on the total size of OBU operations, the scheme has not induced export of IFS. The OBU experiment, limited to SEZs, is regarded by the banks with these licenses and by users as a damp squib.

These relationships are summarised in Figure 6.1. Speculation and arbitrage (which are essential ingredients for ensuring liquidity) in the three key markets – the INR bond market, the currency market and the derivatives (BCD) market – will integrate tightly the INR yield curve, Indian credit quality curves, and foreign yield curves such as those in the USD, EUR, GBP, and JPY.

Once these informational relationships are in place, with three liquid and efficient markets, they will set the stage for five IFS flows: *i.e.*, from two types of foreign issuers (governments and corporates), from two types of foreign fixed income investors (in government and corporate bonds), and from global customers of currency trading. For these reasons, in creating an IFC in Mumbai, the Indian authorities need to comprehend the challenge of developing the BCD nexus – *i.e.*, the bond market, the currency market, and the derivatives market (in interest rates and currencies) – as an integral package whose individual components cannot be de-linked. All three markets need to develop

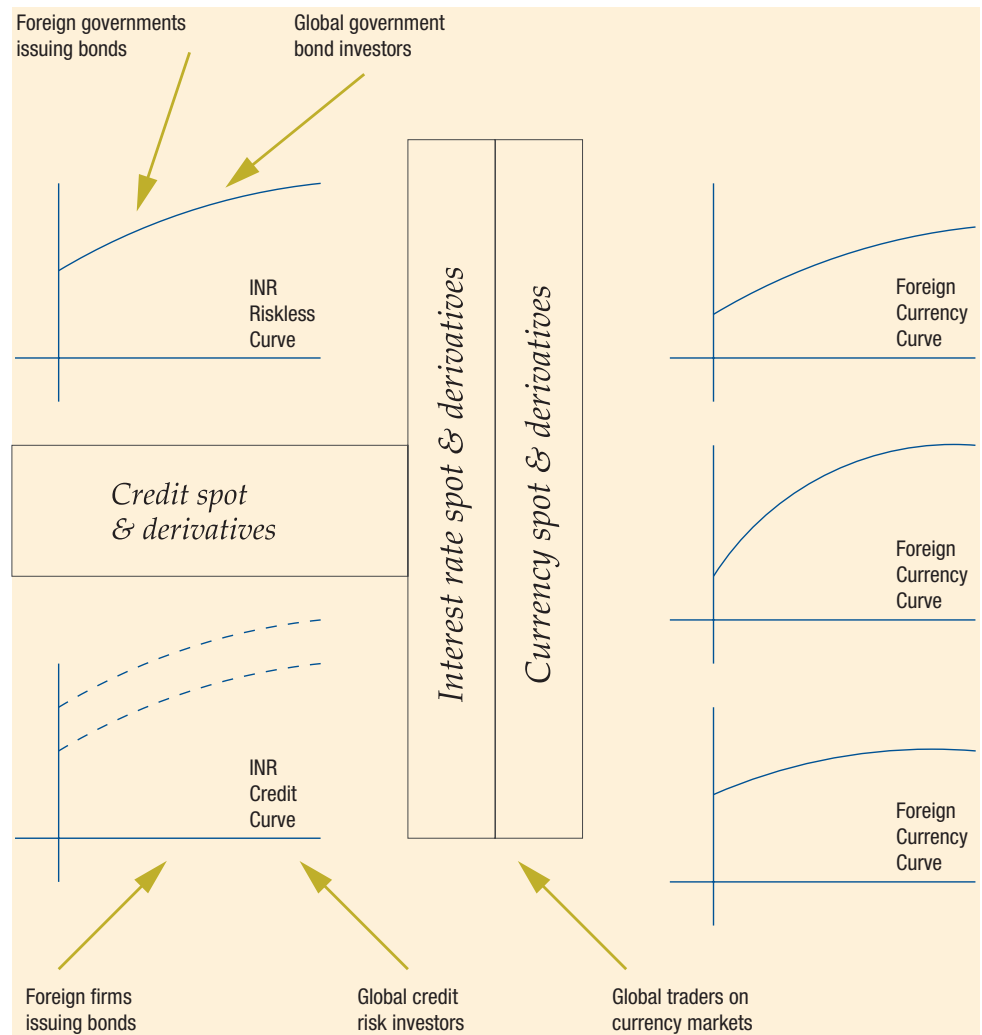
rapidly in order to: attract local and foreign participation; have vibrant trading in spot and derivatives; have vibrant speculation and arbitrage to guarantee liquidity. In the case of the yield curve, the defining issue is that of attracting foreign issuers and investors into the INR yield curve.

The absence of these three markets is a key impediment to an IFC emerging in Mumbai today and offering the basic range of IFS. At present, these markets have fundamental problems. Institutional structures are weak. Liquidity is poor. There is no width or depth. Participation is artificially constrained through a number of eligibility and origin barriers. Speculative price discovery is lacking because arbitrageurs and risk-takers – who are essential for providing liquidity, and binding these markets by ensuring informational efficiency – are lacking. Their participation is discouraged.

In that context, it is odd for Indian regulators to regard risk-hedging through selling futures as proper, safe and prudent, while seeing buying futures as speculative and harmful. How can counter-parties buy a future or option (deemed good and prudent) in a market if there is no one to sell it, because it is deemed risky

granted. This suggests a special role for public policy in identifying and removing regulatory restrictions which inhibit arbitrage transactions.

Figure 6.1: Integrated markets for interest rates, currencies and credit risk



and speculative and therefore discouraged? The implicit value judgements made about the desirability or undesirability of certain types of activities or players by regulators in this regard need to be revisited and revised.

An example of the difficulties with these markets in India at present lies in the most basic arbitrage relationship on the currency forward market: *i.e.*, *covered interest parity* (CIP). The CIP principle requires that two alternatives for borrowing should have identical returns: (a) borrowing in USD and using funds in India with a locked-in INR/USD exchange rate for repayment in USD; versus (b) borrowing in INR over the same maturity. In an efficient currency market, arbitrage by risk-

takers will ensure that these two paths will yield borrowing at the identical all-in cost after currency and interest rate risks are covered. In an inefficient market, with barriers to arbitrage they almost certainly will not; instead they will increase exposure to currency and interest rate risk (while the borrowing is outstanding) and will distort the costs of hedging.

In India, the CIP principle is persistently violated (Figure 6.2) to a point where the CIP deviation is utilised as a predictor of future currency fluctuations (Shah and Patnaik, 2007, Forthcoming). For a comparison, in mature market economies, the size of the CIP deviation seldom exceeds 10 basis points. The CIP deviation in India points to hurdles in the way of arbitrage

transactions that induce CIP in all mature financial markets.

Financial integration between the three elements of the bond-currency-derivatives (BCD) nexus – *i.e.*, the risk-free INR yield curve, the currency market and the credit risk market – is supported by other elements that go beyond them.

The market for corporate bonds is, in turn, tightly linked to the market for corporate equities. Indeed, modern financial economics sees the corporate bond and the corporate share as being two different derivatives written on the same underlying assets of the firm (Merton, 1974). The underlying assets of many firms are interlinked with commodity derivatives: *e.g.*, there is a clear relationship between steel futures and the shares/bonds issued by Tata Steel. Finally, in an age of import parity pricing, there are tight relationships between currency fluctuations and Indian commodity futures markets. The larger picture is thus one where there is full financial integration, where speculative and arbitrage strategies run across all kinds of financial instruments, inducing liquidity and market efficiency.

In India's present situation, considerable progress has been made with achieving organised financial trading for equities, equity derivatives and commodity futures.<sup>3</sup> But the development of a concomitant BCD nexus has lagged, though it is a pivotal element of the global IFS market. Hence, any attempt to create an IFC in India has to frontally attack the barriers that have held back the emergence of the BCD nexus.

### 3. Missing currency & derivatives markets: An illustration

'Missing markets' in currencies and derivatives are markets that either do not exist in India, or are so small as to be insignificant, when compared with the requirements of the global market for IFS. In order to understand gaps in the range of traded IFS products where India has (or lacks) liquidity, it is useful to make normative and compara-

Figure 6.2: Deviation from covered interest parity on the INR/USD



tive judgments – even if crude and somewhat imprecise – in order to identify areas where India is doing well and areas where it is weak.

The US provides a good benchmark comparison because it is (like India) a large domestic economy with primarily domestic-focused financial markets where the IFS component is relatively small. In London the opposite is the case with its financial markets being primarily global IFS-focused. London does not serve as large a national economy as the US although it does serve a regional economy (the EU) that is now larger than the US. The size of financial markets in London is disproportionately large in comparison with the size of the UK economy, but not against the size of the EU. For that reason it does not provide as useful a comparator for Mumbai.

**An Illustrative Comparison:** In comparing India with the US, two ratios are relevant:

- In the Indian fiscal year 2005–06, US GDP (in nominal US dollars) was \$12.66 trillion. Indian GDP at that time was \$725 billion. In other words the US economy was 17.5 times larger than India's in nominal terms.
- On 24th October 2006, the Russell 3000, a stock market index of 3,000 companies, which covers practically all US equities listed, had a market capitalisation of \$15.5 trillion. On 30th September 2006, the CMIE-Cospi index of 2,485 firms had a market capitalisation of \$696 billion. In other words total market capitalisation of US listed firms was 22.3 times the size of Indian listed firms in nominal dollar terms.

<sup>3</sup>See Thomas (2003, 2005).

**Table 6.1:** Biggest futures contracts in the us by daily trading volume, with an associated illustrative Indian calculation showing one-twentieth this turnover

Rank	US exchange	Futures contract	Turnover (USD bn. per day)	5% of US turnover (INR crores per day)
1	CME	Eurodollar	1581.75	357,317
2	CBOT	Federal Funds (30 day)	224.61	50,739
3	CBOT	Treasury notes (10 year)	95.41	21,553
4	NYBOT	Sugar #11	58.21	13,150
5	CBOT	Treasury notes (5 year)	52.53	11,867
6	CME	S&P 500 (mini contract)	50.10	11,318
7	CBOT	Treasury bonds	39.79	8,989
8	CME	Currency futures – Euro	21.52	4,861
9	CME	S&P 500 (big contract)	18.60	4,202
10	CBOT	Treasury notes (2 year)	17.57	3,969
11	NYMEX	Crude oil	13.53	3,056
12	CME	NASDAQ 100 (small contract)	9.05	2,044
13	CME	Russell 2000 (small contract)	7.42	1,676
14	NYMEX	Natural gas	6.90	1,559
15	CME	Currency (Yen)	5.70	1,288
16	CBOT	Dow Jones index	5.26	1,188
17	CME	Currency (Pound)	3.98	899
18	NYMEX	No.2 heating oil	3.62	818
19	CME	Currency (Swiss Franc)	3.14	709
20	NYMEX	Gold	2.83	639

These relationships suggest that, as a rule-of-thumb, by averaging these two broad multiples, financial stocks/flows in India should be just under one-twentieth (or 5%) of the amount of those in the US. It must be emphasised that this percentage should not be taken literally but illustratively. There will be contract-to-contract variations reflecting differences between the two countries. However, the intent is not to isolate fine-grained differences but to understand the dimensions of broad gaps.

Table 6.1 shows the twenty largest futures contracts in the US.<sup>4</sup> The turnover of each, measured in billions of US dollars, is shown. In addition, 5% of this turnover, expressed in crores of Indian rupees, is also shown. This serves as an illustrative number which illustrates in broad brush strokes where the gaps in India lie.

The two S&P 500 futures contracts on equities (a big contract and a small contract) add up to a trading volume of US\$68.7 billion per day of turnover; 5% of this amount works out to about Rs. 15,497 crores (or INR 155 billion) per day. That is in the ball-park when compared with daily trading

in Nifty futures. But, this one isolated case apart, India lags substantially in every other respect:

- The **key interest rate contracts** in US markets – Eurodollar futures, Fed funds futures, Treasury notes (10, 5 and 2 years), Treasury bond contracts – **are all missing in India.**
- India has made a beginning with commodity futures. Some of the turnover numbers in India have crossed the 5% threshold. But, as yet, these markets lack the regulatory credibility required to attract national or global IFS customers.
- India has only one successful stock index contract – the Nifty. Other contracts such as the Nifty Junior have yet to commence trading or obtain liquidity.
- The trading of currency futures is banned in India.

The India/US crude comparative ratio of 1:20 or 5% cannot, of course, be interpreted as hard and fast. The share of agriculture in Indian GDP is larger than for the US; so Indian agricultural commodity derivative contracts should have ratios of greater than 5%. In any row of the table, interesting differences can be pointed out between the

<sup>4</sup>We are grateful to Michael Gorham and Poulomi Kundu of the Illinois Institute of Technology, Chicago, who constructed this information from primary sources at the request of the Committee.

US and India where the ratio should be higher or lower than 5%. The main point of this table is to show the areas where there is a large gap when compared with the normative ratio of 5%.

Apart from Nifty futures, there are important gaps in all rows. The premier derivatives exchange in the US – the CME Group, which represents a merger of the erstwhile CME and the erstwhile CBOT – has a daily turnover (futures and options) of \$4.4 trillion a day: *i.e.*, trading every day is valued at roughly one-third of annual US GDP. The premier exchange where derivatives are traded in India – the NSE – is well below 5% of this amount (which works out to \$220 billion a day).

**If India is to export IFS a normative goal of 5% of the market size of the US is not good enough.** Indian GDP is growing at a trend rate of 7 per cent, while US GDP is growing at a trend rate of 2.5 per cent. Taking that into account, within 10 years the multiple of 20 will be replaced by a multiple of 13. Or, inversely, from 5% of US contract equivalents in nominal terms, Indian values will come up to 7.7%. From an IFS/IFC perspective, however, a market size in India that is merely 5% or 8% that of the US is not sufficient for entry into a globally competitive IFS market. If India had an USD-EUR futures market that was only 5% the size of the USD-EUR futures market at the Chicago Mercantile Exchange, the IFS business that would come to India for this contract would be zero.

Purchasing power parity (PPP) translations are made by economists because nominal exchange rates do not reflect reality. **A reasonable rule-of-thumb that India should utilise for the desired size of an Indian financial market, from an IFS export perspective, is 15% of the size of a comparable US market, and not 5%.** That would reflect economic reality more closely by removing the distortions of an exchange rate that does not reflect the ‘real’ size of the Indian economy in comparison with the US. Applying such a PPP adjustment, it would stand to reason that if the CME Group does \$4.4 trillion of derivatives turnover a day, India should have about \$660 billion (or Rs. 30 trillion) of derivatives turnover per

day at the NSE. HPEC believes that only when NSE is at a point of doing such a daily turnover of \$600 billion a day will crucial exchange-traded derivatives in India have liquidity that is competitive when compared against global exchanges.

With a number of critical missing markets in bonds, currencies and derivatives, Indian finance is operating in a setting where the equity spot and derivatives markets are the only financial markets that are liquid, efficient and market rather than fiat driven. This distorts the relative importance of the equity market for financial and non-financial firms and for signalling. The supporting bond, currency and derivative (BCD) markets either do not exist or are mutations. In a properly functioning market economy with a responsive financial system, when relevant news breaks, adjustments should take place instantaneously at myriad places: *i.e.*, in currencies, interest rates, credit spreads and stock prices. In India, the brunt of adjustment to all news is concentrated in equities. That has probably resulted in excessive volatility in that one market because the other markets needed to share the strain do not exist or function as they should.

Similarly, the differences between a modestly functioning equity market, and other dysfunctional and undeveloped financial markets (in particular the bond market), have led to a situation where equity financing (internal and external) dominates the financing of firms and distorts efficient resource allocation and use. In 2004–05, the market value of equity for all large firms in India stood at Rs. 16.7 trillion. Their total debt stood at only Rs. 6 trillion. Under normal leveraging that figure should have been closer to Rs. 33 trillion. Thus, on a market value basis, the debt-equity ratio of corporate India stood at just 0.36 (Thomas, 2006) or about a fifth of what it should have been. That represents a phenomenal degree of inefficient under-leveraging, and a distortion of returns between equity and debt, than would be expected in a more efficient market economy with more balanced debt and equity markets.

This domination of equity financing in corporate finance reflects in part the rational

choice of minimising leverage on the part of firms faced with considerable uncertainty and crowding out by government debt. But it also reflects the differential pace of progress in the development of the equity and debt markets.

#### 4. The market weakness of institutional investors

The other weak link in Indian finance lies in the relative incapacity of institutional investors in India to be more responsive to market-signals, to induce liquidity and market efficiency, and to interface between India and the world.

As far as mutual funds are concerned, the regulatory framework in India and the behaviour of such funds as institutional investors broadly reflects world standards. But, at present, mutual funds have assets under management (AUM) of about INR 3 trillion or just 9% of GDP. This is not large enough to influence overall price formation.

The universe of other institutional investors in India – *i.e.*, banks, insurance companies, and pension funds – is characterised by too large a proportion of public ownership (and therefore prone to directed, rather than market-responsive, behaviour). There are barriers to the entry of a wider range of private financial firms as institutional investors, coupled with many regulatory weaknesses. These constraints coalesce to make a considerable difference between the role that market-responsive institutional investors normally play in mature market economies and the role that (mainly publicly owned) institutional investors play in India.

The achievements of the Indian equity market in building speculative price discovery have been driven primarily by non-institutional participants, with only a supporting role played by mutual funds and FIIs. The equity market reflects a unique situation in India. Financial repression was absent in that market. The government did not have much overt involvement in influencing prices (except when UTI was the dominant mutual fund and responded to government direction) and there were no quantitative controls. Other

markets in the country lack speculative price discovery given the constraints of institutional investors and the lack of non-institutional participation.

One strategy for India would be to replicate the features of its equity market in other financial markets: *i.e.*, harnessing non-institutional participants to induce liquidity and market efficiency. Non-institutional investors are a powerful agent for driving market efficiency. Each participant is motivated, deriving the full profits or losses of his or her own actions. There are no principal-agent problems that affect decisions made by employees of financial firms. The actions of participants are oriented towards rationality and maximisation, and undistorted by regulators. So, this approach would work to some extent. But the imperatives of creating a viable IFC in Mumbai requires going beyond this and building a wider, more diversified, base of ‘normal’ institutional investors because they have unique advantages in certain respects:

- Institutional investors have the capacity to build systematic processes of investment analysis and decision-making that can be applied across millions of transactions in different market segments. Sophisticated, modern analytical methodologies based on quantitative financial economics can be embedded into these processes. Institutional participants can engage in unique market-efficiency-enhancing trades when such groundwork drives their decision making.
- Institutional investors can marshal pools of capital that individuals cannot match. India is a large economy. Institutional investors are the only channel through which the large mass of savings of the economy can be brought to bear in financial markets to induce greater efficiency and liquidity. Only a tiny fraction of the country is presently able to participate directly in markets. The assets of most households, and thus the opportunity for India to use its huge size in order for Mumbai to succeed as an IFC – will not come into play in the



Table 6.2: Comparing Mumbai against existing IFCs

Attributes, characteristics and capabilities of an IFC : (Scale of 0–10 with 0 = <i>worst</i> 10 = <i>best</i> )	London	New York	Tokyo	S'pore	F'furt	Mumbai
<b>B. Supply factors for IFS: Markets, products &amp; services</b>						
B1. Full Array of international banking services for corporates and individuals	9	9	9	10	6	5
B2. Full Array of international capital markets, products and services	10	10	7	8	5	3
B3. Full Array of risk management services	10	10	5	7	6	2
B4. Full Array of insurance and reinsurance services	10	10	7	5	8	1
B5. Full Array of commodities markets, trading and hedging services	9	9	5	5	4	1
B6. Full Array of business support services for IFS (accounting, legal, IT support)	10	10	8	10	8	5
<b>C. Institution/market endowments enabling range of IFS product/service offerings:</b>						
C1. Range, width, depth of international commercial banks represented in the IFC	10	7	5	8	6	2
C2. Range of global, regional and national investment banks represented in the IFC	10	10	8	9	7	2
C3. Range of global, regional and national insurance companies represented	10	9	8	6	8	2
C4. Existence of wide and deep reinsurance markets	10	9	8	6	9	1
C5. Existence of global, regional, national equity markets ( <i>i.e.</i> , exchanges & support)	10	10	9	8	6	4
C6. Existence of wide and deep bond markets for government, corporate, other bonds	10	10	9	5	9	1
C7. Existence of wide, deep and liquid derivatives markets for: Equities and indexes	10	10	6	7	6	5
Interest rates	10	10	8	7	7	1
Currencies	10	10	7	8	8	1
Commodities	10	8	7	5	8	3
C8. Innovative Abilities of Institutions and Markets	10	10	5	6	4	5
<b>D. Services offered</b>						
D1. Fund Raising, Wholesale and Corporate Banking	10	10	8	7	7	5
D2. Asset Management	10	10	8	9	6	4
D3. Private Banking & Wealth Management	10	7	5	7	5	2
D4. Global Tax Optimisation & Management	6	5	3	8	4	1
D5. Corporate Treasury Management	10	10	9	8	8	4
D6. Risk Management	10	10	7	7	6	2
D7. Mergers & Acquisitions: (national, regional, global)	10	10	6	5	5	3
D8. Financial Engineering for Large Complex Project and PPP Financing	10	10	8	7	6	3
D9. Leasing & Structured Financing of Mobile Capital Assets (ships, planes etc.)	10	10	9	9	10	2

financial markets without considerable strengthening of institutional investors.

- Institutional investors – both domestic and foreign – are likely to have a unique edge in intermediating between India and the world. International finance involves greater complexity and new kinds of knowledge than are reflected in the capabilities of extant non-institutional participants in India. If institutional investors are faced with enough competition, there arise the possibility of their building the needed quality of human capital and the analytical processes required to perform such roles.

The Nifty derivatives market – justly portrayed as a success with the creation of a genuine financial market characterised by speculative price discovery, and free play of hedging and arbitrage strategies – still has residual weaknesses. Mispricing persists in that market (Thomas, 2003). Significant

liquidity is limited to a maturity of one month, and at-the-money options. In the NSE derivatives market, liquidity for options lags futures liquidity by too wide a margin. While turnover in Nifty derivatives is impressive, the overall health and structure of this market leaves much to be desired. A good case could be made that many of the problems of Nifty derivatives would be resolved by having an adequate mass of institutional investors, with sufficient room for manoeuvre, so that they could perform their proper role as they do elsewhere in the world. It also indicates that banks should be more involved players in the derivatives market especially if it offered interest rate and currency derivatives for hedging their debt portfolios.

In summary, the most successful parts of Indian finance at present are those in which non-institutional participants have engaged in rational, undistorted, speculative price discovery. This large mass of retail participants in sophisticated

Table 6.3: Comparing Mumbai against emerging IFCs

Attributes, characteristics and capabilities of an IFC: (Scale of 0–10 with 0 = <i>worst</i> ; 10 = <i>best</i> )	Mumbai	Hong Kong	Labuan	Seoul	Sydney	Dubai
<b>B. Supply factors for IFS: Markets, products &amp; services</b>						
B1. Full Array of international banking services for corporates and individuals	5	7	4	6	7	6
B2. Full Array of international capital markets, products and services	3	6	2	5	7	5
B3. Full Array of risk management services	2	5	2	5	6	5
B4. Full Array of insurance and reinsurance services	1	5	0	3	5	2
B5. Full Array of commodities markets, trading and hedging services	1	6	2	5	6	2
B6. Full Array of business support services for IFS (accounting, legal, IT support)	5	8	5	5	8	6
<b>C. Institution/market endowments enabling range of IFS product/service offerings:</b>						
C1. Range, width, depth of international commercial banks represented in the IFC	2	7	5	5	7	4
C2. Range of global, regional and national investment banks represented in the IFC	2	6	1	3	6	4
C3. Range of global, regional and national insurance companies represented	2	6	1	5	6	3
C4. Existence of wide and deep reinsurance markets	1	3	0	3	4	1
C5. Existence of global, regional, national equity markets ( <i>i.e.</i> , exchanges & support)	4	5	2	4	5	2
C6. Existence of wide and deep bond markets for government, corporate, other bonds	1	1	0	4	7	0
C7. Existence of wide, deep and liquid derivatives markets for: Equities and indexes	5	5	1	5	6	2
Interest rates	1	3	0	4	7	1
Currencies	1	7	2	6	8	5
Commodities	3	5	0	4	6	3
C8. Innovative Abilities of Institutions and Markets	5	5	1	4	7	5
<b>D. Services offered</b>						
D1. Fund Raising, Wholesale and Corporate Banking	5	7	3	7	7	5
D2. Asset Management	4	9	4	6	6	8
D3. Private Banking & Wealth Management	2	9	6	4	5	9
D4. Global Tax Optimisation & Management	1	9	7	4	4	9
D5. Corporate Treasury Management	4	7	2	7	8	7
D6. Risk Management	2	6	1	4	6	3
D7. Mergers & Acquisitions: (national, regional, global)	3	5	0	5	5	4
D8. Financial Engineering for Large Complex Project and PPP Financing	3	5	1	7	6	5
D9. Leasing & Structured Financing of Mobile Capital Assets (ships, planes etc.)	2	9	5	5	5	7

financial markets is a unique edge that India has when compared with established or emerging IFCs. But, a world-class IFC cannot be built without private institutional investors. Such investors bring special qualities through their participation in financial markets by: (a) using sophisticated analytical tools in quantitative trading systems; (b) bringing enormous pools of capital into financial markets; and (c) linking Indian finance with the rest of the world. India has established a solid beachhead with institutional investors such as mutual funds and FIIs. The regulatory strategies applied in these two areas need to be deployed into reaching those parts of Indian finance that

have not yet been reached by these types of investors.

## 5. A cross-country comparison

As has been done elsewhere in this report, we have attempted an international comparison of Mumbai against established and emerging IFCs on a variety of metrics. A subjective classification has been made, where each city has been scored on a set of measures on a scale from 0 to 10.

As Tables 6.2 and 6.3 suggest, there is a large gap between Mumbai and established as well as emerging IFCs on a wide variety of *supply factors* in the provision of IFS.