What are the limitations of financial regime governance?

chapter 9

1. Where do we stand? An IFS – Market × Players matrix

Apart from comparing financial regime governance in India with other global markets as done in the previous chapter, an illuminating approach to understanding impediments to IFS production in India is to look forensically into what constitutes IFS provision. That requires opening the 'black box' to describe precisely what takes place when different financial firms provide various kinds of IFS. This is done through a classification of IFS into the various activities/markets discussed at some length in Chapter 2 of this report along with a classification of financial firms into ten broad categories as follows:

BANKS

- Commercial Banks
- Private (not in the Indian vernacular sense but in the Swiss)
- Investment Banks and Universal Banks

ASSET MANAGERS

- Mutual funds
- Insurance companies
- Pension funds
- Hedge funds

FINANCIAL EXCHANGES
COMMODITIES EXCHANGES
SECURITIES FIRMS

Combining the 19 activities with the 10 financial firm classifications, a 19 × 10 matrix has been constructed as a wallchart (see Appendix 3). The rows indicate various types of IFS and the columns represent various firms. For each kind of firm, in each IFS activity, the cells in the matrix describe what takes place at an IFC. Each cell lists specific activities and accompanying restrictions. This can serve as a useful visual aide for Indian policy-makers to focus on the constraints that hold back IFS production in India at present. The wallchart can be downloaded from the MIFC website.

There is an inchoate sense of discomfort in the Indian financial community that regulation, more than any other variable, prohibits many mainstream activities from being undertaken by Indian financial firms in IFS space.[1] The wallchart translates such vague discomfort into operationally understandable specifics. In other words, for each kind of IFS, for each kind of financial firm, the wallchart shows what each financial firm does (or could do) in connection with each kind of IFS at an IFC, and the state of the play in the Indian regulatory regime.

This report attempts to describe and document, as comprehensively as possible, what IFCs do in clear detail and illustrate how much needs to be done in specific terms for Mumbai to become a credible IFC. The wallchart conveys the present situation in Mumbai by colour coding: *green* to identify permitted activities; *blue* for restricted activities; and *red* for banned activities. For India to become a player in the global IFS space, the colouring in a large number of cells will need to turn from blue/red to green, as is the case with other IFCs.

The most remarkable feature of the wall chart is the extent to which it is coloured red. Most of the activities that global financial firms undertake at IFCs as a matter of course are prohibited in India. This is only *partly* due to capital controls. Careful examination shows that many activities in India are not banned because of convertibility

[1] Bhattacharya and Patel (2005) have an insightful discussion about the difficulties of regulatory institutions in India.

constraints. There are regulatory restrictions as well, probably reflecting caution and conservatism on the part of regulatory authorities. That, unfortunately, stifles financial competition and innovation.

The detailed wallchart, colour coded line by line, indicates prohibitions, permissions, and lack of restrictions with some specificity for each activity in each cell. It shows colour variations within cells of prescribed and proscribed activities. A condensed chart colours each cell – rather than each line – in red, blue or green. The colour white denotes 'not applicable'.

This simpler rendition, dominated by red, shows the imbalance between what is allowed and disallowed when it comes to providing IFS from India. It illustrates how significant are the restrictions: (a) bans on the provision of financial products and services that are quite commonplace worldwide; and (b) excessive compartmentalisation of financial sub-markets in India by prohibiting certain financial activities from being undertaken by different kinds of financial firms.

Restrictions on financial market operations, instruments and services have not been sufficiently debated either academically or by the authorities concerned. This lack of debate is counterproductive for the kind of India that is emerging, and for the kind of financial system that a new India needs.

In summary, the wallchart serves two purposes. First, it documents the kinds of activities that are typically performed at an IFC. Second, it shows where India stands in terms of regulatory barriers impeding or obstructing the types of IFS typically provided at an IFC. The wallchart thus provides a finer-grained sense of the impediments we face in competing in the global IFS market. It provides a useful checklist for the task facing policy-makers and regulators in reforming and aligning financial regulation and policy to aim at enabling an IFC to emerge in Mumbai.

1.1. A caveat about what the term "financial firm" implies in the matrix

The columns in the wall chart attempt to classify different kinds of financial firms into ten categories or compartments that are mutually exclusive. But it is important to emphasise that in an IFC these are not watertight compartments. An IFC does not specify that there should be only ten different types of financial firms in broad terms. Financial firms self-select the categories they place themselves in. Large complex financial institutions (LCFIs in Basel parlance) that operate on a global scale, like HSBC and Citigroup, may embrace all ten categories under one brand, under a holding company structure. But different and distinct intra-group corporations may undertake different activities like commercial banking, investment banking, securities brokerage, insurance, and asset management to conform to regulatory and market requirements.

Or, alternatively, a single firm – like Goldman Sachs – might undertake any or all of these activities; sometimes with multiple activities being undertaken by one firm, or through dedicated subsidiaries for each separate activity. It may choose different routes in different IFCs depending on their particular rules. Competitive pressure is continually applied by the market contestability of each of the ten categories. But the financial authorities in any jurisdiction play no role in constructing walls between different kinds of financial firms to prevent them from competing with each other in undertaking whatever combination of these activities they wish in any way they wish.

Contrarily, in India, a 'primary dealer' or a 'mutual fund' for example is seen as a self-contained firm that is highly circumscribed in the business it is licensed to do. A 'primary dealer' in India can be a primary dealer in government bonds, and has numerous regulatory restrictions on what other activities it can perform. By contrast, in a typical IFC setting, a primary dealership is merely one activity undertaken by sophisticated financial firms. These financial firms do a myriad other things – based on business strategy and not regulatory restrictions – apart from having a primary dealership.

Matrix of Regulatory Issues Influencing the Emergence of Mumbai as an International Financial Centre (IFC)

	Banks			*Asset Managers and Funds*				*Securities markets*		
	Commercial	Private	Investment	Mutual	Insurance	Pensions	Hedge	Fin. Exch.	Comm. Exch.	Brokers/SFs
	1	2	3	4	5	6	7	8	9	10
Fund Raising										
Equity	■	■	■							■
Debt	■	■	■							■
Composite	■	■	■							■
Asset Management										
Discretionary (assets managed purely by the manager; client has no involvement other than broad views about risk exposure).	■	■	■	■	■	■	■			■
Non-discretionary (assets managed with partial or full instructions from client).	■	■	■		■	■				■
Personal Wealth Mgt.	■	■	■				■			■
Global Tax Management	■	■	■	■	■	■				■
Risk Management	■	■	■				■			■
Financial Markets										
Currency Trading	■	■	■	■	■	■	■	■		■
Equity Trading	■	■	■	■	■	■	■	■		■
Bond Trading	■	■	■	■	■	■	■	■		■
Derivatives Trading	■	■	■	■	■	■	■	■		■
Commodities Trading	■	■	■	■	■	■	■		■	■
Mergers & Acquisitions	■		■							
Leasing/Structured Finance	■		■				■	■		
Project Financing	■		■					■	■	
PPP Financing	■		■					■	■	
Insurance & Reinsurance	■	■	■		■					

2. A pragmatic view of key areas for progress

The wallchart helps to illuminate for policy-makers those key impediments that restrain IFS provision in Mumbai. Policy makers can focus on specific cells in the wallchart matrix with the aim of converting all the 'blue' and 'red' cells into 'green'. That can be done by alleviating the regulatory and legal constraints that prevent financial firms in Mumbai from providing IFS to their domestic clients and exporting them as well.

However, such an attempt on an item-by-item, rule-by-rule basis is unproductive. A more effective approach would be to look categorically (rather than individually) into the more fundamental sources of the detailed prohibitions on IFS and deal with them at their roots; instead of focusing on trimming single branches and leaves, the detail of which would divert attention from the core problems that afflict Indian finance. The case-by-case and rule-by-rule approach to problem identification and resolution is precisely what has prevented Indian finance from being transformed in the same way that the real economy was transformed in the mid-1990s; through blanket reductions in tariff and non-tariff barriers rather than product-by-product, rule-by-rule, and industry-by-industry.

A careful analysis of the wallchart, and the comparison with other IFCs, suggests three areas of policy that need to be focused upon in a fundamental way:

- ***Competition policy:*** Examine the entry barriers that hinder competition across financial firms and market segments and remove them.
- ***Segmentation of the financial services industry:*** Examine the inefficiencies that arise from subdividing financial activities artificially and unnecessarily – to make regulation easier or make certain activities fall within the purview of one regulator rather than another – into sub-industries with excessive constraints on interactions and competition.
- ***Financial Innovation:*** Examine the causes of an innovation-unfriendly environment that limits the ability of financial firms to create new IFS products/services and to export them.

All three issues are tightly related to each other and need to be seen in an integrated context. Segmentation adversely influences competition; poor competition adversely influences innovation. HPEC believes that these three issues constitute the essence in understanding the regulatory constraints that inhibit India's ability to engage in export-oriented IFS production.

3. Lessons from applying competition policy in the real economy

A generic issue that cuts across Indian finance, but remains as yet unresolved, concerns the use of competition as a tool to drive financial system development and innovation.

In a large, complex economy like India's – that is gradually but inexorably shifting away from an autarkic model of development to a more market-driven model, and globalising rapidly as a result – the most profound insight gained from post-1992 experience for modern policy-making is the importance of competition. There was a time not so long ago (until the late 1980s) when the centrality of competition in Indian economic policy was treated as unproven conjecture. However, in the last fifteen years, India has seen the impact of greater competition in the real economy with tradable goods and services. Competition is now understood as being the most powerful tool for encouraging firms to innovate, adopt new ideas, abandon counterproductive beliefs and traditions, cut costs, and increase exports.

That view was resisted powerfully by the *crème de la crème* of Indian industry during the early phases of trade and tariff reforms. The universal belief on the part of the country's public as well as its most prominent businessmen and intellectuals was that foreign goods were 'naturally' better. Goods produced domestically under sub-optimal conditions would always be worse. The Mumbai Club claimed in 1992–93 that, if exposed to global competition,

Indian manufacturing would die. But such resistance proved ill-founded as events unfolded. India proved to be more resilient, flexible, adaptable and competitive than commonly believed. Indian corporations proved to have better management teams which were able to cope with global realities. The same industrialists who opposed such reforms at the time at the time are now their most ardent advocates.

Indian firms are now growing from strength to strength, and becoming major MNCs in their own right competing around the world with companies from the US, EU, China, Japan, Korea and ASEAN.[2] Indian consumers have benefited from goods of much better quality being available immediately at much lower prices. Inflation in tradable goods has been kept down through import parity pricing.

Table 9.1 shows that Indian customs revenues dropped from 61.6% of imports in 1987–88, to 10.2% in 2005–06. Over this same period, Indian manufacturing exports rose from $12.1 billion to $86.3 billion. This data understates Indian export revenue growth since service exports are excluded.[3] The sharpest gains – a nearly three-fold growth of exports – were concentrated in the recent period, from 1999–2000 onwards, where the customs collection rate dropped from 22.5% to 10.2%. This suggests that the gains obtained when going from very high protection to high protection are smaller than the gains obtained in going from high protection to moderate or low protection. India's emergence as an export powerhouse selling goods and services into the global market began only after a **significant**, though as yet incomplete, reforms initiative.

Policy reforms undertaken from 1990 to 2000 ignited manufacturing exports growth by injecting three kinds of competition into the real sector: *i.e.*, lowering/removing:

1. Barriers to entry in the domestic market by new Indian firms
2. Barriers inhibiting entry by foreign firms into the Indian market
3. Barriers against the sale of foreign goods in the domestic market.

These developments directly influenced the ability of Indian firms to compete in selling overseas in the following three ways:

- ***Modified factor markets:*** The removal of entry barriers led to heightened competition resulting in the exit of weak firms, thus freeing up the labour and capital controlled by these firms. This influenced the price at which healthy firms could obtain labour and capital.
- ***Modified product markets:*** Ease of importing made imported raw materials cheaper. It ensured internationally competitive sourcing of local raw materials priced at import parity.
- ***Modified technology:*** The entry of foreign firms brought technical knowledge. That set the stage for export from India of goods and services of international quality. In a world where 35% of international trade is intra-firm trade within multinational corporations, the reduction of barriers to FDI into India was a key element that enabled exporting from India. Foreign firms induced competitive pressure on Indian firms. That generated incentives for Indian firms to acquire the knowledge (technology, design, quality and market research) needed to become globally competitive. Individuals who gained this knowledge working at foreign firms went on to work at Indian firms and carried knowledge with them. Export of software from India by IBM and Sun Microsystems is as much a part of the great Indian software story as export by Infosys and TCS.

Through these three channels, India came to understand the intimate linkages between the three pillars of competition policy, and the ability of firms located in India (whether local or foreign) to compete successfully in selling to global markets.

[2] For an early treatment of MNCs emerging from the third world, see Lall (1986).

[3] The measure of protectionism – customs tariffs divided by imports – is a poor one, since it masks areas where high tariffs generate zero imports. There can be situations where a reduction in protectionism is associated with a rise in this measure. For the purpose of this table, "manufacturing" exports are defined as merchandise exports while excluding agricultural and natural resource based exports.

Table 9.1: Customs duties and manufacturing exports

Year	Customs duties (% of Imports)	Manufacturing exports (Billion USD)
1987–88	61.6	12.1
1988–89	56.0	14.0
1989–90	51.0	16.6
1990–91	49.0	18.2
1991–92	46.5	13.8
1992–93	37.5	13.8
1993–94	30.3	17.3
1994–95	29.8	21.1
1995–96	29.2	24.6
1996–97	30.8	25.5
1997–98	26.1	27.4
1998–99	22.8	26.3
1999–00	22.5	30.2
2000–01	20.8	37.0
2001–02	16.4	36.8
2002–03	15.1	44.1
2003–04	13.5	54.0
2004–05	11.5	70.0
2005–06	10.2	86.3

With competition in any industry, Schumpeterian *creative destruction* steadily reshapes the landscape of firms. It ensures that labour and capital gravitate toward efficient firms. Weak firms die. Strong firms gain market share. The process of creative destruction is not neat or tidy. It involves social disruptions caused by fluctuations in market share, death of firms, and entry by new firms. However, there is a fundamental distinction between a tidy and apparently stable industry – that is usually inefficient by world standards – as opposed to a competitive and efficient one.

When public policy seeks to prevent untidy events such as firms being kept alive artificially, this gives rise to firms that are unviable in competitive markets, but still kept alive on artificial ventilation by the state. Three kinds of effects come into play when barriers to exit are erected. The first is moral hazard. Managers of such firms make decisions knowing that they might be protected in a future eventuality. The second is the competitive pressure exerted by such firms on the market. Healthy firms are unable to make profits and invest, when prices on the market are artificially driven down by artificially-subsidised firms. Finally, such firms distort factor markets. They make claims on labour and capital that they could not make in a truly competitive market economy. Thus they drive up prices paid by healthy firms for these inputs. When an intervention is made to protect a firm from bankruptcy, damage is imposed upon the economy through these three channels.

Table 9.2 below provides empirical evidence about the competitive dynamism achieved in less than 15 years by the major non-financial firms in India by comparing the biggest firms of 1991–92 against those in 2004–05. The metric of size used is value added. This overstates the relative importance of natural resource extraction firms: a firm like ONGC, which pumps crude oil out of the ground and sells it at import parity pricing, appears to generate a lot of value added.

The most interesting feature of this table is the new firms in the 2004–05 ranking: TCS (8), Infosys (9), Wipro (10), Rashtriya Ispat Nigam (12), Bharti Airtel (13), Satyam (19), Hindalco (23), and Nuclear Power Corporation (25).[4] **Eight out of the top 25 firms in 2004–05 were not on the list in 1991–92.** Many ranks have changed. The role of PSU firms has been diminished. Apart from HPCL (which gained a rank) and ONGC (which stayed on top), all PSUs experienced

[4] BSNL is a new firm in 2004–05, but it is the corporatised arm of DOT which was present and large in 1991–92 also.

Table 9.2: Changing ranks of Indian firms (non-finance) by value added (Rs. crore): 1991–92 versus 2004–05

1991–92			2004–05		
Rank	Firm	Value added	Rank	Firm	Value added
1	ONGC	3,944	1	ONGC	32,710
2	SAIL	2,781	2	BSNL	24,941
3	NTPC	2,059	3	Reliance	14,366
4	Indian Oil	2,011	4	SAIL	14,115
5	MSEB	1,605	5	Indian Oil	10,618
6	MTNL	1,136	6	NTPC	9,780
7	Tata Steel	1,107	7	Tata Steel	7,311
8	Air India	940	8	TCS	6,540
9	BHEL	874	9	Infosys	5,703
10	Reliance	705	10	Wipro	5,005
11	Tata Motors	700	11	GAIL	4,199
12	Shipping Corpn. Of India	660	12	Rashtriya Ispat Nigam	3,671
13	IPCL	594	13	Bharti Airtel	3,624
14	BPCL	522	14	I T C	3,571
15	Western Coalfields	495	15	MTNL	3,506
16	Indian Airlines	477	16	BHEL	3,433
17	L & T	466	17	Tata Motors	3,351
18	NALCO	463	18	HPCL	3,150
19	HPCL	457	19	Satyam	3,031
20	I T C	440	20	Air India	2,991
21	I T I	440	21	Western Coalfields	2,864
22	Neyveli Lignite	424	22	BPCL	2,841
23	A C C	411	23	Hindalco	2,792
24	Century Textiles	400	24	NALCO	2,717
25	GAIL	391	25	Nuclear Power Corpn.	2,661

Source: CMIE Prowess.

a decline in rank. The scale of creative destruction amongst Indian non-financial firms would show up more sharply if firms engaged in natural resource extraction were excluded and only manufacturing firms were compared.

The remarkable growth of Indian exports of goods and services in the 1990s is intimately related to improvements in competition policy. Most non-financial firms now have zero possibility of a government rescue. That removes moral hazard and focuses the minds of managers. Firms buy raw materials from competitive industries, at import parity prices. That ensures the cheapest-possible sourcing of raw materials. The steady decline in customs tariffs has brought input prices in India close to those found internationally. FDI and imports have led to a flow of new knowledge into the Indian economy. The ecosystem of the Indian real economy has been transformed by competition making the remarkable growth of Indian non-finance exports possible.

These lessons apply equally to Indian finance. Indian finance now needs to benefit from similar modifications in its factor markets, product markets and technology as were made in the Indian real economy. The analogy is obvious when it comes to: (a) Indian exports of IFS to the world market; and (b) productive restructuring of the Indian financial system through creative destruction induced by competition.

India has enormous potential as a cost-efficient, competitive producer of IFS. But there is a gap between the present capabilities of Indian *financial* firms and the requirements of the world IFS market. The same situation characterised Indian manufacturing industry prior to 1991.[5] It was overcome by the visionary

[5]There is much synergy between an export-oriented real economy and an export-oriented finance industry. The real economy consumes a large quantum of financial services. It would be more globally competitive if it was able to buy world-class financial services at lower than world prices. Conversely, financial firms require purchase of non-finance inputs such as computer hardware/software. The global competitiveness of Indian financial firms would be

policies of a succession of governments from 1992 onwards. Through creative destruction, Indian *financial* firms must reinvent themselves just as non-financial firms had to a decade earlier. They must do so in order to: (a) compete in the global market and (b) improve the quality/range of their services in the domestic market to the same level. Some may die in the process of doing so; and they should be permitted to. There is no room for inefficient Indian financial firms to exist any longer for any reason. The operating environment of the new India provides no room for tolerating that. Inefficient and uncompetitive financial firms, of any hue or ownership, do not just diminish themselves. They compromise the market and environment in which more efficient firms operate and compete for resources and customers. The market process takes care of such firms through friendly or hostile acquisitions, mergers, and takeovers or, at the extreme, through bankruptcy. That process must now be allowed to work in Indian finance. If it is not unleashed, India's ability to compete in the global IFS market will be seriously compromised and dependent entirely on foreign firms.

The key instrument for achieving the transformation of Indian financial firms – to provide world-class IFS at lower than world prices – is competition. The same forces that induced competition for non-financial firms will be just as effective for financial firms. To repeat, they are the removal of: (a) entry barriers to domestic firms and corporates; (b) barriers to the entry of foreign financial firms; and (c) restrictions against import of IFS. The creation of such a policy framework will generate incentives for financial firms operating in India to provide world quality financial services competitively.

In the Indian financial setting, domestic entry barriers relate to the license-permit controls governing entry into a given business area by existing or new local firms. Entry barriers against foreign firms include barriers to FDI, and rules that disfavour foreign participants; such as those preventing foreign banks from doing government business. The import of financial services is restricted largely, though not entirely, via capital controls.

There is widespread recognition that some segments of Indian finance has, as yet, failed to achieve the level of competition now visible in the real economy. The National Common Minimum Program (NCMP) of the UPA recognised this problem, and promised: *"Competition in the financial sector will be expanded"*. That has not happened as yet.

Table 9.3 compares the ten largest banks in the country in 2004–05 and in 1991–92. The largest banks in both columns are remarkably alike. The new names of 2004–05 are shown in boldface. Of these, ICICI was always a big bank. But it was not on the list for 1991–92 because it was not classified as a bank then but as a 'financial institution'. Apart from that, there are only two new names in 2004–05. When this table is compared against the previous table for non-financial firms it is immediately apparent that competitive dynamism in banking has lagged far behind industry and the country.[6]

There is an intimate link between the implementation of competition policy and the mechanics of exit. As argued above, sound competition policy requires that no agency be permitted to keep inefficient financial firms alive through: infusions of capital from the exchequer; distorted regulation aimed at supporting weak firms; entry barriers; or a combination of all three. *In extremis*, in India the principal owner of financial firms has on occasion pursued anti-competitive policies to help weak financial firms accumulate retained earnings, and recapitalise themselves in a non-transparent way at the expense of customers. These maladies are typical in developing countries where exit processes for financial firms are weak, competition is poor, and financial systems are anaemic.

boosted by being able to buy world-class inputs at world prices.

[6]For a treatment of the difficulties of domestic banking policy, see Hanson (2003); Mor and Chandrasekar (2005).

Table 9.3: Biggest 10 Indian banks: 1991–92 versus 2004–05 (Assets in Bln Rupees)

1991–92			2004–05		
Rank	Bank	Total assets	Rank	Bank	Total assets
1	State Bank of India	947	1	State Bank of India	4600
2	Bank of India	232	2	**ICICI Bank Ltd.**	1684
3	Bank of Baroda	213	3	Punjab National Bank	1264
4	Punjab National Bank	192	4	Canara Bank	1103
5	Canara Bank	164	5	Bank of India	950
6	Uco Bank	117	6	Bank of Baroda	946
7	Indian Bank	110	7	Union Bank of India	724
8	Indian Overseas Bank	93	8	**Central Bank of India**	688
9	Union Bank of India	87	9	Uco Bank	545
10	Syndicate Bank	84	10	**Oriental Bank of Commerce**	540

Source: Thomas (2006)

India now confronts entirely different global prospects and challenges. It may still be a poor developing country in terms of per capita averages. But it can no longer afford to think or act like one, when it is the world's fourth largest economy in real terms, and an emerging global power in geopolitical terms. It has reached an inflexion point of rapid growth through domestic consumption and export competition. That is likely to be maintained for some decades to come. There is no room for complacency, sanguinity or maintaining an unacceptable *status quo* in Indian finance. Policy mindsets, expectations and attitudes now need to change as dramatically in political, administrative, legal and regulatory circles as they have in the corporate world. The public sector needs to catch up with the private sector and the world.

India therefore needs to apply market competition policy as forcefully in finance as was done in the Indian real economy to create efficient firms capable of exporting IFS. Financial authorities need to remove the domestic entry barriers that presently exist. They need to encourage rapid entry by foreign firms, and remove barriers to the open import of financial products and services. That effectively means removing capital controls as quickly as possible and not on an ambiguous, opaque timescale that can be stretched with infinite elasticity. Correcting competition policy in finance requires abandoning a preference for a tidy, stable and complacent financial services industry still dominated by state-owned firms, many of which are uncompetitive and uninnovative. So are many small private financial firms; but those do not pervade or dominate the system.

In a tidy and stable scenario financial firms are not permitted to expire. The established players remain the same, with little incentive to compete or innovate. This needs to be replaced with a preference for a vibrant, efficient, competitive, world-beating financial services industry, where entry and exit is taking place ceaselessly through a process of Schumpeterian creative destruction. Financial sector policy should be judged for the pace of entry and exit.

4. Artificial segmentation of the financial services industry

At present, Indian finance is subdivided into sets of firms operating in tightly sealed sub-industry compartments. There are two sources of segmentation: (a) rules that prohibit emergence of LCFIs (*i.e.*, financial conglomerates), and (b) boundaries between the domains of multiple regulators. As an example of the rules that prohibit complex firms, consider a 'primary dealer'. In an international setting, the term 'primary dealer' pertains to one activity of a complex securities-oriented financial firm. However, in India, the term 'primary dealer' is interpreted to mean 'a specialised financial firm that performs only the task of primary dealership'. The regulatory framework governing a primary dealer in India prohibits the firm from doing many other highly related activities on the securities markets, such as equity index arbitrage or commodity futures market making.

As an example of the boundaries between the multiple regulators in finance, the separation between SEBI and the Forward Markets Commission (FMC) has induced a separation between financial exchanges and commodity futures exchanges. In an international setting, an exchange is a place where all manner of spot and derivative products are traded in a unified fashion. However, in India, the term 'commodity futures exchange' pertains to 'a specialised exchange that performs only the one task of trading derivatives based on commodity underlyings'. The regulatory framework prohibits ordinary exchanges from trading in commodity futures, and commodity futures exchanges from trading in non-commodity underlyings. From an IFS perspective, such segmentation damages India in three ways:

1. **It reduces competition**. The essence of competition is unpredictable entry. No software company could have anticipated the entry of Wipro, a maker of edible oil, into the software industry. However, this entry did take place. Wipro is now one of the biggest IT services firms in the country as a consequence.

   If Telco (now Tata Motors) had been prevented from producing cars, this would have been a tidy world of segmentation where truck companies made trucks and car companies made cars. But it would have been a world with inferior competition.

   In a financial setting, a policy framework that hinders mutual funds from competing with bank deposits through retail sale of money market mutual funds, or prevents NSE and BSE from trading commodity futures, reduces competition.

   As argued above, the most important ingredient of public policy to enable export of IFS from India is competition policy, comprising three elements – domestic entry barriers, barriers against foreign firms and barriers against imports. Segmentation is a key domestic entry barrier.

2. **It results in the loss of economies of scope and scale**. A great deal of IFS provision involves correlated products serving the same customers. When a firm engages in providing multiple correlated products, knowledge of one area spills over into another. Cross-selling to common customers takes place. Risk is reduced by participating in diverse areas. These economies are lost through segmentation. Much financial services provision involves increasing returns to scale. Corporate strategy overhead, core processing work using IT systems, brand building and advertising all involve increasing returns to scale.

   As an example, the 'glass house' with computer systems at an exchange can process ten times the number of trades at three times the cost. The same 'glass house' at a bank can handle both bank accounts and depository participant accounts. These economies of scale are lost through artificial segmentation.[7]

   For example, the Indian notion of a primary dealer is a firm that does low-risk trading strategies on the government bond market. However, these skills are easily redeployed into market making and arbitrage on currency derivatives, equity derivatives and commodity derivatives. It would be cost efficient for the Indian-style primary dealer to run a 25% larger organisation which does 200% more business, by harnessing economies of scope across these areas.

   In the commodity futures setting, India has taken the unique path of having separate sets of: commodity futures exchanges and financial exchanges. Member firms are also forced to be separate. Each financial firm is forced to create a separate subsidiary in order to trade on the commodity futures market. This subdivision induces inefficiency and holds back India's export competitiveness. It is analogous to a policy framework that forced Telco to have separate companies for making cars and making trucks.

3. **It leads to a corrosive political economy**

[7] For a treatment of economies of scale in the securities markets, see Shah and Thomas (2003). Claessens and Klingebiel (2001); Claessens (2002) offer a discussion of economies of scale and scope in developing country financial policy.

in which sub-industries engage in persuading governments to help to increase their profits leading to pressures operating to modify or interpret a particular rule in a particular way. Millimetric calibration of rules can influence the profitability of a primary dealer or the market share of banks in the depository participant business. As with Indian experience in the real economy, this induces a corrosive political economy. When any such agency has such powers over an industry, it is difficult for its functionaries to stay focused on the public goods of regulation while being blind to the competitive market process and the profits of alternative regulated firms.

Every large finance firm in India is forced to create multiple legal personalities for participating in separate regulatory ponds. At a *de facto* level, these are unified finance companies with all the complexities of conglomerate regulation. At the same time, forced separation into multiple firms induces higher costs, the loss of economies of scale and scope, and the consequent loss of export competitiveness.

There remains a 'legacy affinity' in India – left over from the pre-1992 era – toward maintaining the tidy arrangement of firms and sub-industries in a planned economy context. For many decades, the financial services industry was carved up into neat little pieces, each of which was tightly compartmentalised. Each piece was prohibited from competing with the other. The authorities viewed their role as that of tending to the interests of each sub-industry, in an attempt to be 'fair' to everyone. In such an environment, each segment had minimal competition. A firm with a license to operate in any segment had a safe sinecure, with sustained profits, and a low-to-zero probability of extinction through its own default. The authorities could claim that a stable financial sector had been built. But such an approach misses the essence of a market economy; which relies on the process of ceaseless, unpredictable and subversive competition. A functional market economy is the polar opposite of a planned economy circumscribed by a license-permit-control *raj*.

When a *vanaspati* firm is compelled to sell nothing but *vanaspati*, it makes the **software** industry less competitive.[8] The essence of market competition is based on open entry by unexpected firms that produce in an unexpected way thus inducing sharp changes in the profits and market shares of existing players. It is this continual churning that induces efficiency, innovation and technological change. In finance, that is what makes exporting IFS possible and profitable and enables one IFC to compete with another.

In providing IFS, the most globally competitive financial firms are engaged in all manner of activities. A firm like Goldman Sachs is involved in every element of IFS: it is therefore able to harness economies of scale and scope. In recent decades, the breakdown of rules that induced segmentation, such as the Glass-Steagall Act in the US, has unleashed extraordinary competitive energies. Global securities firms are now competing in areas that were once considered 'banking' and global banks are competing in areas that were once considered 'securities'.

5. Barriers to financial innovation

Global competitiveness in the world of IFS is dependent almost entirely on innovation and much less so on fractionally advantageous cost-efficiency. Indian firms can compete on entry in providing IFS on the basis of cost-efficiency. But that edge will disappear quickly unless they are able to innovate rapidly and continually. If they cannot do so, they will not be able to compete on a global scale over a sustained period of time.

What may happen then is innovative ability (located in US and UK financial

[8] This apparently paradoxical link between the *vanaspati* industry and the software industry alludes to Wipro – one of the top 3 software companies in India. Wipro previously produced *vanaspati*, a hydrogenated cooking oil. If the Indian State had barred firms that produced *vanaspati* from competing in the software industry, and thus blocked production of software by Wipro, it would have hurt competition and India's success in the software industry.

Box 9.1: *Case Study – The Clearing Corporation of India Ltd (CCIL)*

India embarked on an important innovation, by world standards, when the idea of *novation* at the clearing corporation was applied to trades on the OTC market. Traditionally, there was a divide around the world between exchange ecosystems – that had transparent trading coupled with risk management at the clearing corporation – as opposed to the OTC market. which had neither.

In India, it was felt that even if the problems of transparency in trading could not be addressed, it was possible to make progress by introducing risk management at the clearing corporation. The clearing corporation would interpose itself into transactions, becoming the legal counterparty to both sides of the trade, and thus eliminate counterparty credit risk.

As argued above, a key feature of a sound financial sector is having a framework supportive of exit by firms. A clearing corporation is the institutional mechanism through which the externalities of firm failure are controlled. Even if a firm fails, counterparties on the OTC market are not affected by that failure because the clearing corporation is the counterparty. The introduction of a clearing corporation into the system makes it possible to lower entry barriers, by bringing in firms into the OTC market that have weak credit. It also makes it possible to have financial sector policy framework where more firm failure and exit of weak firms takes place in a smooth manner.

These ideas led to the creation of the Clearing Corporation of India Ltd. (CCIL). CCIL has undoubtedly been a valuable institution which has given a more modern, more stable financial system. However, the policy framework in which CCIL has operated has flaws on competition policy at two levels:

1. Competitive conditions on the bond market and currency market

The raison d'etre of a clearing corporation is to lower entry barriers. Once the clearing corporation handles firm failure, there are no difficulties in opening up entry to a large number of firms that might otherwise be considered weak credits. However, even though CCIL was created, bond market participation and currency market participation has remained restricted to the small club of financial firms that existed before CCIL. The key economic benefit of building a clearing corporation – lowered entry barriers – has not been obtained.

2. Competitive conditions for critical securities industry infrastructure

CCIL has monopoly status in performing clearing services for fixed income and currency markets. It is the only clearing corporation with access to clearing in central bank funds and connectivity into RBI settlement systems. The other clearing corporation in India – the National Securities Clearing Corporation Ltd (NSSCL) – is prohibited from performing these functions. This reflects the segmentation of the Indian securities industry into three parts, regulated by RBI, FMC and SEBI. Such segmentation, and the consequent loss of competition, is suboptimal. Particularly when dealing with the OTC market, it is easy to have competition between the two clearing corporation.

In a competitive policy framework, every player on the OTC market for currencies or fixed income would be free to choose between multiple clearing corporations based on price and services. Using cross-margining arrangements between clearing corporations, it would be possible to obtain seamless functioning when the two counterparties to a trade are customers of two different clearing corporations. Such a competitive framework would drive both NSCCL and CCIL to higher levels of cost efficiency, quality of service and customer responsiveness, which would improve India's ability to export financial services.

The CCIL case is thus an ironic blend of intellectual success and opportunity lost. On one hand, India's ability to conceive of an institution like CCIL, and swiftly translate the broad idea into a smoothly functioning institution, has been the envy of the world. But at the same time, the larger policy problems of segmentation and faulty competition policy have induced a lost opportunity, whereby India has benefited less from the creation of CCIL than could have been the case.

firms) may seek marriages with cost-efficiency (located in Indian firms) through acquisitions and mergers on terms more advantageous to the innovators. Conversely, if an innovation-friendly environment is setup, then Indian financial firms (that are more than intellectually capable of innovation) are likely to flourish. They will turn into financial MNCs in their own right and may even turn into predators (rather than be predated upon) and generate substantial export-revenues.

Innovation in finance is the creation of new products, new trading mechanisms, new contracting arrangements, and new kinds of finance companies. Innovation in Indian finance can be classified into two classes of 'newness':

- ***Catching up with the world:*** As an example, cash-settled currency futures are a familiar and well-proven idea on a global scale. They do not exist in India. The launch of currency futures trading in India would constitute an innovation for India but not for the world.
- ***New world-class innovation:*** One of the hallmarks of a first-class financial system is its ability to steadily create innovative new financial contracts and instruments to satisfy different risk appetites and needs. New institutions and methods of transacting are continually generated by a dynamic financial system. The best Indian example is the deployment of an idea from financial exchanges – the clearing corporation – into the OTC markets for currencies and fixed income, in the form of the Clearing Corporation of India (CCIL). This was a genuinely new idea by world standards, and translated into a successful implementation in India.

5.1. The economics of financial innovation

Indian finance currently exhibits a very low rate of innovation when compared with the world. To explain this anomaly, superficial

explanations are often invoked. It is claimed for example that because Indians naturally defer to authority, or to elders, they are 'culturally' unable to innovate. However, as experience in industry and software services has shown, Indian firms and individuals can excel at innovation when faced with difficult global competition. What they have lacked is the incentive to do so. Hence, understanding the problems of innovation in Indian finance requires understanding the economic incentives that shape innovation, rather than invoking irrelevant superficial explanations.

Innovations usually trigger regulatory and policy concerns (Rajan and Shah, 2005):

- ***Who is the target?*** Is the target sophisticated enough to understand a new financial instrument and benefit from it? Should the new instrument be restricted only to a smaller set of sophisticated buyers?
- ***What risks does it pose to the system?*** Does the instrument/institution create uncontrollable or unmeasurable risks? Who will regulate its use (if that needs to be done)? How will the costs of regulation be paid for?
- ***What are the tax implications?*** How will the instrument be taxed? Is it an instrument merely to evade taxes?
- ***What new legislation does it entail?*** Is the act covering financial instruments broad enough to allow for the instrument? If not, does new legislation have to be brought in? How can it be framed broadly enough to allow the maximum contractual freedom?

Policy makers and regulators governing the financial regime inevitably and understandably take time to consider and resolve these issues. Firms proposing a new instrument or product have to invest considerable resources in awareness building, research, and persuasion to achieve the required policy and/or rule-changes. A firm embarking upon innovation must weigh the costs and benefits from investing in new developmental work. In a Schumpeterian world, the innovating firm secures a temporary monopoly owing to a first-mover advantage that provides the return on investment in innovation. If the policy environment places high costs upon the innovator, and slows it down to a point where first-mover advantage is lost to competitors, then firms lose the incentive to innovate.

The public advocacy and policy work required to get innovations across induces focused costs on one or a few innovators. The benefits then become public, because all firms – whether pioneers or not – derive benefits from the policy and rule changes. Under this environment, a single private firm does not have the incentive to persevere and push proposals through hurdles in its way. It requires a special public policy effort to create an innovation-friendly environment and for government to push through contractual and institutional innovations.

The process in the case of many recent attempts at financial innovation in India appears to be too convoluted and time-consuming. This is illustrated by a series of examples.

Example: stock index futures. Box 9.2 shows a chronology of how trading in the simplest possible equity derivative, cash-settled index futures, came about in India. This process took from 14th December 1995 to 9th June 2000, a delay of 4.5 years. A further three years lapsed in dealing with first order difficulties of regulation and taxation. In this case, the innovator (NSE) could have had a five-year head start. Instead, trading on BSE actually started a few days before NSE and trading on SGX started a few days later. NSE captured no temporary advantage by invested in innovation.

Box 9.2: *Case study – Stock index futures*

Table: Chronology of stock index futures

14 Dec. 1995	NSE asked SEBI for permission to trade index futures.
18 Nov. 1996	SEBI setup L. C. Gupta Committee to draft a policy framework for index futures.
11 May 1998	L. C. Gupta Committee submitted report (Gupta, 1998).
24 May 2000	SIMEX chose Nifty for trading futures and options on an Indian index.
25 May 2000	SEBI permitted NSE and BSE to trade index futures.
09 June 2000	Trading of BSE Sensex futures commenced at BSE.
12 June 2000	Trading of Nifty futures commenced at NSE.
25 Sep. 2000	Nifty futures trading commenced at SGX.

Box 9.3: *Case Study – Collateralised Debt Obligations (CDO)*

The difficulties and delays faced in financial innovation are also illustrated by the first securitisation of corporate debt; a process worth describing in some detail. As of 1997 or so, there were four impediments which made it difficult to undertake transactions involving securitisation of corporate debt:

- When an asset-backed loan is sold, the existing laws erroneously require a stamp duty to be charged on the 'transfer' of collateral from one lender to the next.
- In a securitisation transaction, it is difficult to handle the withholding of tax, since it is not possible to decompose tax deduction at source (TDS) certificates amongst multiple investors.
- The special purpose vehicle (SPV) that would be the centrepiece of securitisation is not immune to income tax.
- The SPV needs to be made bankruptcy – remote from the sponsor, in two senses. If the sponsor goes bankrupt, then the creditors of the sponsor should not have a claim on the assets of the SPV. Conversely, financial profits or losses to the SPV should not impact on the sponsor.

In 1998 or so, it was understood that the mutual fund was the only structure in India that met all but the first requirement. Elsewhere in the world, trusts are used for the purpose, but Indian law does not support this.

- In 1999, an RBI committee endorsed the use of mutual funds as the vehicle for undertaking these securitisation transactions.
- In 2000, the 'Rajasthan route' was designed, because local laws in Rajasthan do not require charging stamp duty on the transfer of collateral when an asset-backed loan is sold. Using this bypass loans are now converted into 'pass through certificates' (PTCs) which can be traded.
- In October 2000, a private bank attempted one securitisation transaction using the mutual fund vehicle and the Rajasthan route. Investors did not buy this product.
- In March 2002, this bank attempted an improved design for a product that securitised roughly Rs. 500 crores of a bond portfolio and broke it up into a three-tier seniority structure.

The launch of this product faced four impediments:

- RBI regulations did not respect the bankruptcy – remoteness of the mutual fund. This would force banks to view these securities as credit risk of the private bank. That distorted their pricing and acceptance.
- IFC intended to purchase the middle tier of the three-tier seniority structure. RBI intended to forward this foreign investment application to the FIPB for approval.
- The existing SEBI regulations limited mutual funds from investing more than 5% of their corpus in other mutual funds. This impeded purchases by mutual funds in this securitisation transaction (which was packaged as a mutual fund scheme).
- NSE's rules did not see PTCs as securities, and impeded listing of PTCs.

Example: Collateralised debt obligations (CDOs). Box 9.3 shows a case study of Collateralised Debt Obligations (CDOs). Unlike the case with SEBI and exchange-traded derivatives, where there was just one problem (obtaining approval for trading index futures) this example illustrates the difficulties of creating complex financial products that have to deal with: (a) an outdated legal/tax environment and the need for creative solutions to tax/legal impediments; and (b) multiple regulators to come up with regulations adapted to bringing new products to the market.

On an international scale, the CDO is a perfectly mainstream and ordinary

Box 9.4: *Case study – Exchange-Traded Fund (ETF) for Gold*

An important new class of 'mutual fund' instruments that has emerged globally is the Exchange Traded Fund (ETF). The ETF is like a traded depository receipt. The fund holds a pre-defined portfolio. Units issued by the fund are traded on the secondary market. For example, an ETF implementation of an index fund consists of the fund holding the market index portfolio, and issuing depository receipts on the underlying portfolio, which are traded on the secondary market.

ETFs may appear to be like closed-end funds, but they differ in two respects: (a) Closed-end funds are not depository receipts; investors cannot present their units to the fund and exchange them for the underlying assets, and (b) Closed-end funds retain discretionary power of portfolio management, while ETFs pre-specify what the underlying asset portfolio will be.

An ETF on gold is a natural and small innovation on top of the basic idea of the ETF. Under this structure, the mutual fund would purchase the gold linked paper issued by banks under the Gold Deposit Scheme, 1999, or to 'dematerialised' gold warehouse receipts. The mutual fund would issue depository receipts (units) equivalent to 1 gram of gold that would be traded on the secondary market. This would allow transparent trading of gold, in a unit size that is amenable to retail participation. These units could be a convenient avenue for investment in gold by individuals, instead of dealing with physical gold.

In India, Benchmark Mutual Fund proposed a Gold ETF in May 2002. It would have been the world's first Gold ETF, and a rare instance where financial innovation emanated from India. For gold ETFs to come about, mutual funds need to be permitted to invest in paper issued by banks under the Gold Deposit Scheme, 1999. Their approvals process involves both SEBI and RBI, and is as yet underway despite one budget announcement about this issue. In the interim, Gold ETFs were launched at NYSE and the Australian Stock Exchange, and have been modestly successful.

The delay in this approval process has turned India from being an innovator to becoming a follower. In this case, the innovator (Benchmark) lost all the resources invested in innovation. When the problems are resolved, it is likely that two or three mutual funds will launch gold ETFs on roughly the same date as the launch date of Benchmark.

Box 9.5: *The introduction of interest rate futures in the US – a case study in innovation*

In 1975, the Chicago Mercantile Exchange (CME) obtained permissions to do the first trading of interest rate futures in the world. The then CEO of CME, Leo Melamed, tells this story on page 235 of this book *Escape to the Futures.* The following text is a verbatim extract from this book. Mark Powers, mentioned in the story, was Chief Economist of CME at the time.

Unlike our listing of currency futures four years earlier, which required no federal approval, this time around, new contracts required approval by our newly established federal regulator, the CFTC. That approval wouldn't come about without some fancy footwork on our part.

It was deja vu. First, I recruited Beryl Sprinkel, now an IMM director, to set up a meeting with his former professor Arthur Burns, chairman of the Federal Reserve. That was pivotal to the approval. The meeting that followed in the boardroom of the Fed, which also included Mark Powers, is forever ingrained in my memory and could make an interesting and funny story. Both Burns and Sprinkel were heavy pipe smokers and I, of course, was still a chain smoker. Between the three of us, the smoke was so thick we could hardly see each other.

"What a clever idea," said the chairman of the Fed after we explained what we had in mind. "Such a futures contract would be used by government securities dealers, investment bankers, all sorts of commercial interests as well as speculators, isn't that right?"

"Yes," Sprinkel and I agreed. "Its participants would include every segment of the commercial and speculative world." We talked further about the value of this contract, until the Fed chairman fell into his thoughts. Suddenly, he had a bright idea.

"In such case," Dr. Burns said, "this futures contract would become a terrific predictor of the direction of interest rates, isn't that right, Beryl?"

Beryl Sprinkel hesitated and looked to me for guidance. I didn't know the answer, so I looked up at the ceiling and watched the billows of smoke that had gathered there. Mark Powers too remained silent. After an embarassing pause, Beryl thought of a noncommital response, "Well, Mr. Chairman, it will probably be as good as the Federal Reserve's own econometric model."

"That," said the chairman of the Fed with a laugh, "isn't worth a shit." It was a refreshing bit of honesty.

That meeting with Dr. Burns evolved into a friendship after I discovered that he and his wife were Yiddishistin like my parents. At their request, I found for them the works of I. L. Peretz in Yiddish which Dr. Burns took with him when he became U.S. Ambassador to Germany. Having survived this hurdle, I next sought and gained the support of Alan Greenspan, who at the time was chairman of the Council of Economic Advisors (CEA). The meeting with him was a shot in the arm. Before I could fully explain our plans for a futures contract in T-Bills, Greenspan interrupted.

"What a great idea," said Greenspan, who was destined to become one of this nation's most admired Federal Reserve Board chiefs. He then proceeded to rattle off a dozen uses for such a market, some of which we hadn't even considered. In short, this meeting made him a friend, which he has remained throughout the years. Our friendship was of particular importance at the time of the 1987 stock market crash.

As I was leaving his office, I got a bonus by bumping into Herbert Stein, Greenspan's predecessor at the CEA. Like any good evangelist, I immediately expounded on why we were there and asked his opinion. Without hesitation Stein quipped, "I don't oppose anything between two consenting adults".

I next turned to the CFTC. Commissioner Gary Seevers quickly understood the potential value of these new interest rate products and became a valuable ally. But now it was up to Bill Bagley, the CFTC chairman. I tried to impress Bagley with the fact that many federal officials were already aboard. But Bagley did not have any financial background and was afraid to take the responsibility for such a revolutionary decision.

"Leo," he implored, "I love you like my brother and want to do it, but I need someone higher up to give me an okay."

"How high up?" I inquired, thinking maybe he was looking for divine intervention.

"Well," Bagley responded, "aren't T-bills the property of the U.S. Treasury? Maybe we need approval, in writing, from someone like the Secretary of Treasury, William Simon." (Note: The US Secretary of Treasury is equivalent to the Indian Minster of Finance).

A tall order. Simon was a fairly new name in Washington D.C. And E. B. Harris' connections provided me with no go-between. To go without proper protection seemed wrong. So I began to call around to some of the senior officials of our clearing members to see if anyone knew Bill Simon. Sure enough, I hit paydirt. Sanford Weil, the chief of Shearson & Co., was a friend of the Secretary of Treasury. Weil was also a shrewd market analyst and sensed the great potential of our T-bill contract. He agreed to help. I then took one additional precaution. I called on Milton Friedman and asked him to again weave his magic. Friedman obliged by calling Simon and, by the time Sandy Weil and I appeared before him at the Treasury in the winter of 1975, it was a done deal. He quickly agreed and signed the prepared approval letter to Bagley.

product. But in this case, the innovator (a private bank) wasted resources invested in innovation, because, in the end, the CDO failed to overcome regulatory constraints. The lack of the CDO remains a critical weak link in the modernisation of the Indian credit market.

Example: Gold ETF – an Indian innovation that might have been. The Gold ETF case, described in Box 9.4, is particularly interesting from the viewpoint of examining the phenomenal bottlenecks faced by financial innovation in India. For this reason, a detailed chronology of events is offered in Appendix 3. As of the date of this Report (January 2006), the Gold ETF had not yet been launched in India. In parallel, important international developments have taken place. BAMC talked with World Gold Council (WGC) in June 2002, who agreed to market the Gold ETF for BAMC. WGC waited for the Indian product launch till the end of 2003. In 2004, WGC initiated a process which resulted in the Gold ETF being launched in Sydney at the end of 2004. WGC then took the new idea to London and NYSE in 2005. The NYSE Gold ETF now has $5 billion in assets, thus making it a successful product.

On 27th September 2006, the London Stock Exchange launched a new market segment for 'exchange traded commodities' that would trade ETFs on 19 commodities including cattle, coffee, corn, lean pigs, sugar, wheat and baskets of commodities such as livestock and energy. If India had created a more innovation-friendly environment, then by end-2002, India could have been a world leader with ETFs on commodities. Instead, events in India resulted in this idea taking root in New York, London and Sydney, while India is content to lag behind.

For an international comparison, Box 9.5 recounts the story of the first introduction of interest derivatives *in the world*. It shows a remarkable intellectual capacity in the US government and in the industry to understand innovation and to allow progress to take place.

5.2. An innovation-unfriendly environment

These experiences highlight the hostile environment faced by innovation in Indian finance. If continued, such an environment would compromise the prospects of Mumbai ever emerging as a competitive and viable IFC. The present financial regime governance hinders innovation. It sends out strong incentives to individuals and firms to avoid business plans that involve innovation. It biases the labour market to favour staff focused on routine operations as opposed to developmental and innovative work. Contrast this with the environment in which interest rate futures were developed in the US as illustrated in Box 9.5.