Report of the Standing Council on international competitiveness of the Indian financial sector, Volume 1

International Competitiveness of
Currency, Equity and Commodity derivatives markets

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Contents

1 Executive summary

The international competitiveness of the Indian financial sector has come to the forefront because in recent years, an important subset of financial services in India started trading globally. Unlike traditional areas of finance which remain non-tradeable (such as services at bank branches that interface directly with customers), there are others where overseas production is able to increasingly compete with Indian producers. This includes the two biggest financial markets of India: derivatives trading on the rupee and on Nifty. Global and domestic customers increasingly have the choice between a provider in India versus a provider abroad.

The issue of international competitiveness of Indian finance has long been a focus of Indian policy thinking. This began with Percy Mistry Committee Report (2007) commissioned by the Ministry of Finance (henceforth, referred to as the MIFC report). This report emphasised the opportunity to provide financial services produced in India to a global audience, to make Mumbai one of the top five financial centres of the world. The report outlined the substantial rethinking that would be required of financial law and regulation, and improvements in urban governance, to enable this. The report pointed out that the additional benefit of such a focus includes the development of a more liquid domestic financial market, which in turn, would foster domestic financial development and higher GDP growth.

The MIFC report has had a substantial influence in shaping downstream policy work. One such piece of work is the draft *Indian Financial Code*, which was released by Financial Sector Legislative Reforms Commission (FSLRC) chaired by Justice Srikrishna, in March 2013. When the Indian Financial Code is enacted and fully enforced, financial law and regulation will largely be supportive for production and export of international financial services from India. Since it will take some years for the Indian Financial Code to be enacted and enforced, a parallel strategy has been devised to improve Indian export of financial services using Finance SEZs (such as GIFT). This work connects integrally to questions of international competitiveness in the short run.

At the time of the MIFC report, it was felt that the pace at which India would embark on exporting international financial services was going to be controlled by Indian policy makers. However, in recent years, there is evidence that this is not true, and that India may not have the flexibility on the pace of movement. There has been a sharp rise in overseas financial activities on Indian assets. The two most visible of these are the derivatives on the rupee and the market index, Nifty. An active market for these has developed offshore. This report estimates on these two underlyings alone, trading outside India adds up to a daily turnover of just under USD 20 billion (out of the total market size of USD 63 billion).

This means that the end-user has a choice of where to send an order to trade the rupee or Nifty. Rupee derivatives trade in onshore Over-The-Counter (OTC) markets, onshore exchange-traded markets, offshore OTC markets, and offshore exchange-traded markets. Nifty trading is prohibited on onshore OTC markets but trade in the other three. The choice of offshore markets are available for

other areas also, such as credit default swaps on Indian assets, equity and debt issuance by Indian firms, hedging of commodity risk, where global venues are becoming increasingly important.

One point of view regarding this loss of market share is that it ought not to be a cause for concern. There are two arguments behind this position. The first argument is that this loss of market share is not different from other instances of specialisation through trade. For example, India did not have a competitive advantage in computer hardware, the Indian computer hardware industry did not develop and this was the optimal outcome for India. The second argument is that, from an Indian point of view, it is prudent and sensible to ignore overseas activities and any loss of market share of financial services to offshore markets.

This Committee believes that there are five reasons for Indian policy makers to take corrective action to develop Indian finance so that it does not lose any further ground to offshore markets.

First, financial services is a labour and technology intensive business. India is well-endowed on both these factors of production, which gives it a natural advantage in being globally competitive on producing financial services. India ought to be a dominant global player in this area, with markets that are strong enough to compete with global exchanges. This should be not just on Indian assets like (say) the rupee-dollar, but also on international assets like (say) the dollar-renminbi.

Second, Indian markets have natural synergies between local information, local order flow and local liquidity for Indian underlyings. For this reason, domestic markets can develop as a natural market for Indian assets that overseas venues cannot match.

Third, global competition will drive Indian exchanges, Indian financial firms and all aspects of Indian finance towards becoming more efficient in producing and delivering services. These productivity gains will feed back to all users of Indian finance, both domestic and foreign.

Fourth, when India fails to confront this competition and the Indian financial system diminishes in size and scope, it is the smaller firms that are adversely affected. So, while capital controls prevent Indian residents from trading on overseas venues, there are many mechanisms through which Indian residents can use the overseas market when it delivers superior value. The largest Indian firms have become multinational and operate global treasuries, which allow them to increasingly run their operations without being constrained by capital controls. But this will not be true for the remaining firms that cannot access the overseas markets. For these firms, a well-functioning domestic financial system is essential. If the domestic market cannot create liquidity and efficient prices within India for the rupee, the Nifty and securities issued by the top 100 firms, this will have adverse consequences for the smaller firms in India.

Fifth, the MIFC report describes the necessity of a Bond-Currency-Derivatives nexus for a more effective monetary policy mechanism in India. If India is able to regain market share within the onshore market, and if the Bond-Currency-Derivatives Nexus evolves locally, the central bank will become more effective with a strong monetary policy transmission that is able to help counteract busi-

ness cycle fluctuations. If, on the other hand, the onshore financial system reduces, the central bank will find it more difficult to stabilise business cycle fluctuations.

For these reasons, India must be concerned about the loss of market share of the onshore market. Once there is that clarity, there is the question of how to proceed to counteract the problem. For this, policy makers have to identify and tackle the source of the problem.

This Committee has identified three broad sources of the problem: capital controls, mistakes in financial sector regulation and taxation.

From the viewpoint of a global customer, sending an order to (say) the CME in the U.S. or the Singapore exchange (SGX) is frictionless. There are no capital controls. Domestic financial regulation at these venues is technically sound while being friendly to the goals of international competitiveness in financial services. Both have residence-based taxation where the activities of an overseas customer are not taxed. Both the CME and the SGX trade currency contracts on the rupee and on the Nifty. For India to compete in the new globalised world of finance, our markets must match these competitor markets in three respects: rationalise and ultimately remove capital controls, achieve technically sound financial regulation, and shift to residence-based taxation. There are many elements under these three areas that can, and need to, be addressed.

For example, a key irritant in rules on capital controls are the content of KYC requirements faced by overseas customers and the manner of their implementation. India imposes onerous KYC rules and applies them with ambiguity, when a possible solution that makes us more internationally competitive is to match the requirements of the FATF as is done in other financial centres. Such ideas are proposed and worked out in considerable detail in this report.

An important problem faced in India by financial firms, and their global customers, is the lack of certainty on rules and regulations. Sound financial regulation involves low regulatory risk to market participants. Most jurisdictions that aim to be internationally competitive in financial services seek to provide regulatory certainty to all financial market participants, domestic and international. In India, there are concerns on these questions. For example, there is a real risk of a financial product or an activity being banned in India, or of margins being sharply raised, or of position limits being sharply cut. When faced with such a risk, cautious financial sector participants will become reluctant to invest resources to build a business. Global and Indian firms are biased in favour of investing in building a business at cities with better regulations and reduced regulatory risk, such as London or Singapore, rather than build a business in India.

If Indian finance is to become competitive on an international scale, a qualitative change is required where Indian financial sector regulators improve regulations and improve the regulation making process. SEBI has shown the way in this regard, with a track record where products are not banned and price fluctuations do not generate knee jerk responses aimed at reducing activity. This approach needs to spread all across the Indian financial system. Indian financial regulators are in the process of implementing the *Handbook on adoption of governance enhancing and non-legislative elements of the draft Indian Financial Code* (Handbook, 2013),

which was released on 26 December 2013. This would help reduce regulatory risk.

An international competitiveness perspective needs to be built into the *Handbook* process. This Committee recommends that the Ministry of Finance, and financial sector regulators, should analyse every regulatory question from the viewpoint of global competitiveness to identify the areas in which we fall short. The best possible financial system for India is one which is able to compete with the world's best financial systems. Competing with the world has worked very well for the Indian economy in numerous areas, and finance is no exception. Measurement of our market performance compared to global markets is important, and financial sector regulators ought to make this a part of their regular reporting.

This discussion has emphasised the rupee and Nifty, which are the largest markets in India today. However, there are several other areas where a greater international orientation would be beneficial. Some examples include agricultural commodity futures, an area where India has a natural advantage. Other examples include Indian companies issuing foreign currency denominated bonds; Indian companies raising capital; global fund managers choosing to operate out of India.

A useful point of comparison in this evaluation is China. China has launched a vigorous program for internationalisation of the renminbi and for easing capital controls to enable this. India should also consider such a strategy through which the Indian rupee becomes one of the important international currencies.

Given the growth and size of the Indian economy, competing on the international landscape, first for domestic financial services and then for international financial services business is a key question that the financial sector policy makers today have to face. On one hand, this is a question of reforming the domestic financial sector. But this perspective also motivates the concept of establishing specialised Finance SEZs or international financial service centers (IFSCs).

IFSCs are enclaves where the difficulties of financial economic policy are solved using separate frameworks. Budget 2015 announced that Gujarat International finance Tec-city (GIFT) regulations would be notified by March, 2015. Such IFSCs may create a market that provides internationally competitive financial services, but only to foreign clients and participants within the IFSC. The benefits of this may not spill over to the Indian mainland.

The work in this document can be useful towards understanding what reforms to financial regulation and taxation are required to make an IFSC succeed. But these reforms are even more desirable for the larger Indian system, as they will benefit all of Indian finance. Therefore, there ought to continue a parallel effort on the first best strategy for India: to build a modern financial system such as that proposed in the MIFC report, based on a sound legal framework such as that proposed in the Indian Financial Code.

2 Glossary

AD	Authorized dealer
APMC	Agricultural Produce Market Committee
ASX	Australian Securities Exchange
AUM	Asset Under Management
BEPS	Base Erosion and Profit Shifting
BIS	Bank of International Settlements
BSE	Bombay Stock Exchange
CBDT	Central Board of Direct Taxes
CDD	Customer due diligence
CMIE	Centre for Monitoring of Indian Economy
CTT	Commodities transaction tax
DCE	DaLian Commodity Exchange
DEA	Department of Economic Affairs
DGCX	Dubai Gold and Commodities Exchange
DoR	Department of Revenue
ECA	Essential Commodities Act
EUR	Euro
FATF	Financial Action Task Force
FCRA	Forward Contract Regulation Act
FEMA	Foreign Exchange Management Act
F&O	Futures and options
FI	Financial institution
FII/FPI	Foreign institutional/portfolio investor
FIPB	Foreign Investment Promotion Board
FMC	Forward Markets Commission
FRG	Finance Research Group
FSDC	Financial Stability and Development Council
FSLRC	Financial Sector Legislative Reforms Commission
FSSAI	Food Safety and Standards Authority of India
GAAR	General Anti-Avoidance Rules
GBP	British pound
GDR	Global depository receipt
GMT	Greenwich mean time
GST	Goods and Services Tax
ICE	Inter Continental Exchange
IGIDR	Indira Gandhi Institute for Development Research
INR	Indian rupee
IOSCO	International Organisation of Securities Commissions
IRDA	Insurance Regulatory and Development Authority
ISDA	International Swaps and Derivatives Association
IST	Indian standard time

JPY	Japanese yen
KYC	Know Your customer
LME	London Metal Exchange
MAT	Minimum Alternate Tax
MF	Mutual fund
MoF	Ministry of Finance
MCX	Multi Commodity Exchange
NCDEX	National Commodity Derivatives Exchange
NDF	Non-deliverable forwards
NRI	Non-resident Indian
NSCCL	National Securities Clearing Corporation Limited
NSE	National Stock Exchange
NTSD	Non-transferable specific delivery
NYMEX	New York Mercantile Exchange
ODI	Offshore derivative instrument
OECD	Organisation for Economic Cooperation and Development
OI	Open interest
OTC	Over the counter
PIO	Person of Indian Origin
PFRDA	Pension Fund Regulatory and Development Authority
PN	Participatory note
QFI	Qualified foreign investor
RBI	Reserve Bank of India
SAT	Securities Appellate Tribunal
SCRA	Securities Contract Regulation Act
SEBI	Securities and Exchange Board of India
SGX	Singapore Exchange
SHFE	Shanghai Futures Exchange
SPAN	Standardized portfolio analysis of risk
STT	Securities transaction tax
TSD	Transferable specific delivery
UBO	Ultimate beneficiary owner
UNCTAD	United Nations Conference on Trade and Development
ULIP	Unit linked insurance plan
USE	United Stock Exchange
USD	United States dollar
VIX	Volatility Index
WDRA	Warehousing Development and Regulatory Authority
ZCE	Zhengzhou Commodity Exchange

3 Background

3.1 The Standing Council

A Standing Council of Experts was constituted in June 2013 in the Department of Economic Affairs, Ministry of Finance, to assess the international competitiveness of the Indian financial sector. The Council comprises the following members:

- Secretary, Department of Economic Affairs (Chairperson),
- Chief Economic Adviser (Member and Alternate Chair),
- Additional Secretary (Capital Markets, DEA) as Member Secretary,
- Mr. Prithvi Haldea (Chairman, Prime Database),
- Mr. Madhav Dhar (Board Member, GTI Group),
- Mr. Shumeet Banerji (Ex-CEO Booz and Company),
- Mr. Ravi Narain (Former MD & present Vice Chairman, NSE),
- Mr. Vikram Gandhi (CEO, VSG Capital Advisors),
- Dr. Susan Thomas (Assistant Professor, IGIDR),
- Mr. Leo Puri (MD, UTI -MF),
- Ms. Arundhati Bhattacharya (Chairperson, SBI),
- Mr. Thomas Mathew (Former CMD, LIC), and
- A representative from CBDT, Department of Revenue.

The mandate to assess the international competitiveness of the Indian financial sector gives the Council the following objectives:

1. Analysing the performance and completeness of the Indian financial markets in fully meeting client needs as per global standards;
2. Examining the various pecuniary and non-pecuniary costs in the Indian financial markets and comparing them with a competitor market;
3. Suggesting reform measures aimed at enhancing development, governance and transparency in these markets while ensuring that risks are contained and investor interests are protected;
4. Deliberating and advising on any other matter related to the above objectives.

3.2 The sub-committee

In December, 2013, a sub-committee of the Standing Council was constituted with the following members:

- Mr Ravi Narain,
- Additional Secretary (Capital Markets),
- Mr Prithvi Haldea,
- Mr. Leo Puri,
- Dr. Susan Thomas, and
- A representative from CBDT, Department of Revenue.

The task of the sub-committee was to choose a set of areas to analyse for international competitiveness and to bring reasoned recommendations to the council. The analysis for the work areas was tasked to the Finance Research Group (FRG) at IGIDR, which has the responsibility of providing technical research-based inputs to the work of the sub-committee. The sub-committee agreed on the following seven work areas in Indian finance for the FRG to take up for assessment in 2014: markets for currency derivatives, equity derivatives, commodity derivatives, equity issuance, equity trading, debt issuance and asset management.

4 The approach adopted

The premise behind international competitiveness of the financial markets is to understand whether an individual or entity would choose domestic markets or their international competitor if they desired to take a position in Indian assets. If the onshore market is competitive in comparison to the international market, then the investment would take place in the onshore market. Assessing this premise is a problem with a wide and complex scope. To deal with this complexity, the following strategy is used to evaluate the work areas under assessment:

1. Select specific sectors of the Indian financial industry with clear evidence that global markets are setting out to compete on Indian products and services.
2. To determine competitiveness, identify a relevant set of factors across which the Indian market place can be compared with competing global markets.

   These factors are identified based on (1) a literature review and (2) consulting the market participants. These are summarised in Box 1, and described in detail in Section 4.1.
3. The following work process has been used for each work area:
   (a) Identify key participants and institutions for consultations and discussions.
   (b) Identify the set of onshore markets and a set of competing offshore markets for a relative comparison.
   (c) Analyse how the onshore and offshore competing markets compare on each factor of international competitiveness. This is done through desk-based research, data analysis and consulting market participants and experts.
   (d) Identify canonical users, from among domestic and foreign participants. Examine the ease of access experienced and participation by these users to domestic markets and their global competitors.
   (e) Identify policy changes required to either reduce or eliminate restrictions in international competitiveness of onshore markets.
   (f) Create a market report card with key performance measures that can be used to track competitiveness between the onshore and offshore markets on an ongoing basis.

   The specific measures may differ from one work area to the next. For example, for the derivatives markets, the measures used are traded volumes and open interest (to capture the size of the market) and impact cost (to capture the cost of transactions).
4. The output of the above work process is then presented to the sub-committee on international competitiveness for their views and inputs. The work area report is finalised after taking these views into account.

4.1 Factors that shape financial sector competitiveness

The factors are features of the economic system that drive the economic decision making of domestic and foreign participants while using financial services and products in India. These in turn drive the international competitiveness of the Indian financial system. Some of these factors are outcomes of national policy, some fall into the domain of regulations, and others are part of the microstructure of a specific market. We identify eight factors as critical to international competitiveness of the Indian financial system, and use these as inputs within which to compare the Indian financial system with global competing counterparts. These factors are:

Capital controls

Capital controls are rules of permission imposed by a country on use of its domestic markets. They are typically defined by law or regulation.

International financial integration relies on free movement of capital across markets. Integration with global markets can reduce cost of capital, support capital deepening through high investments, improve diversification of investment risk, and help the development of domestic financial markets. Such integration implies either low or no restrictions on participation, except for filters on undesirable/illegal transactions. However, it is also perceived as a source of macroeconomic vulnerability, causing episodes such as capital surges and reversals caused by international rather than domestic factors.

Capital controls is used to contain such risks, even though this comes at the cost of more expensive capital that adversely affects growth. This is particularly important for emerging economies, where there are also high administrative costs for implementing these controls. These types of costs come in both pecuniary and non-pecuniary forms for participants, and create problems of governance.

India has initiated the liberalisation of controls on capital. However, a detailed examination of different sectors of the financial system suggests that the legal and administrative framework involved remains intact, and ensures that the state and regulators can re-impose controls at will.

Capital controls are assessed to be the highest ranking factor inhibiting the international competitiveness of the Indian financial system. There are several and varied restrictions on the access of foreign capital into the Indian financial system in each of the work areas chosen. There are also restrictions on domestic access into competitor markets offshore. The analysis of capital controls presented in this report are typically a combination of controls on both inward access (foreign capital into India) and outward access (domestic capital outside India).

Tax policy

Imposition of taxes on transactions and taxes on participants in a market, adds to the transactions cost of participation in a financial system. The effect of this is similar to that of capital controls.

The choice of how to tax financial activity in a country is driven by the type of financial system that the country aspires to have. There are two broad approaches to taxation of foreign participants: *residence-based taxation* where the global income of residents are taxed while non-residents are exempted, or *source-based taxation* where the domestic activities of non-residents are taxed. Countries that desire to have their financial system be a source of revenue are likely to choose residence-based taxation. An analogy can be derived from revenues from manufacturing in India. The reforms of the 1990s that liberalised the manufacturing sector had a focus on earning revenue from the exports of manufacturing goods. To facilitate the global competitiveness of manufacturing, India is moving towards residence-based taxation for manufacturing with zero-rating of Value Added Tax (VAT). A similar focus needs to be applied to creating a tax regime for financial services to improve the competitiveness of the Indian financial system.

The MIFC report proposed that a tax regime for a globally competitive financial system should follow three principles: (1) a modern income tax and a low VAT throughout India – the report strongly advocated the introduction of GST as proposed in the *FRBM Task Force report*; (2) resident based taxation; and (3) removal of *bad taxes* – these were defined as those that incentivise evasion, raise costs more than yield, are discriminatory, are distortionary and cause friction while producing goods and services (for example, stamp duties on capital assets, specifically in financial transactions).

However, Indian tax policies remain a persistently inhibitory factor in international competitiveness of Indian finance, inconsistent with these principles. There is no GST in place as yet. India applies source-based taxation on financial transactions by foreign investors. There are incidences of transaction taxes and stamp duty. Each tax regime has different rates across different segments of the market. Last but not the least, complex income tax rules apply to both domestic and foreign participants, and these rules can change unpredictably. A live example of this is the issue applicability of Minimum Alternate Tax (MAT) on FPIs that arose in December 2014.

FPIs contended that since they had no permanent establishment in India and were not required to maintain books of accounts, they were exempt from MAT because MAT was only applicable on book profits. When the Authority of Advance Rulings (AAR) in 2012, ruled unfavourably for the FPIs/FIIs, the tax department issued notices to FPIs and foreign private equity (PE) funds for payment of MAT for *previous assessment years*. Now the Finance Act, 2015, provides MAT exemption of capital gains subject to STT, but only prospectively from April, 2016. Further, the specific provision of MAT exemption to just FPIs and, as a corollary, permit the tax department to impose MAT on other foreign entities, who may currently be earning exempt income (either under domestic law or due to treaty benefits). Even though an appeal in this regard is pending in the Supreme Court, and the Government has constituted a committee under Justice A. P. Shah to assess the issues pertaining to applicability of MAT for FPIs and other foreign investors, these foreign investors face uncertainty and litigation costs on how the prior period notices will be treated. Such uncertainty is a large deterrant for any long term FPI investment because the magnitude of the resultant cost can render a business model unviable.

Regulatory risk

The legal and regulatory framework of a country is an intrinsic feature of financial products and contracts (Chapter 8 of the MIFC report). The lack of certainty about the frequency and magnitude of changes in rules and regulation becomes an important factor in differentiating similar products across different jurisdictions. Regulatory risk has emerged as a critical factor diminishing the ability of the Indian financial markets and participants from competing against global alternatives.

For example, the non-deliverable forward (NDF) contract on USD-INR which is traded in offshore OTC markets, is comparable to a USD-INR forward contract in the onshore Indian market. However, the latter poses greater uncertainty risk to the global participant because of frequent changes in domestic regulations and procedures.

Regulatory risk adversely affects the ability of both foreign and domestic participants to take medium- and long-term decisions to build businesses. Regulatory uncertainty also has a pecuniary impact in the form of compliance costs. Finally, given the fragmented nature of financial sector regulation in India, there is a different form and level of regulatory uncertainty in different sectors of Indian finance.

Thus, foreign participants find offshore markets that offer products on Indian assets an attractive alternative to Indian markets because these markets offer higher regulatory certainty. This holds true even for domestic participants that are permitted access to global markets.

Frictions

Frictions arise from rules of procedure on participation. These are indirect factors that impact market access for participants, and are distinct from capital controls because they apply only to participants who are permitted access. Frictions can vary widely across sectors.

An example of frictions is documentation that is required in order to undertake transactions in currency derivatives markets in India. The nature and type of docu-

mentation to trade currency derivatives in Indian markets effectively inhibit participants who are permitted to trade these contracts. There are rules on cancellation and re-booking of transactions that inhibit their flexibility in managing currency risk in real-time.

Another example of frictions is the difference in rules of participation for foreign and domestic participations in the case of the equity derivatives markets. Restrictions on margin collateral are higher for foreign investors than for domestic investors.

Frictions also appear to arise from fragmentation of the regulatory framework in India. There is little understanding among different financial regulators about how the other segments are regulated, or how they link together. Further, there is a lack of trust and co-ordination among the regulators, which hamper the development of common rules of access across market segments. In contrast, global markets present a more coherent and unified set of rules, both within and across markets, that encourage participation.

The lack of a vibrant domestic market

The state of development of the domestic financial market and the presence of sophisticated domestic participants form an important factor in determining competitiveness. A vibrant domestic market offers diverse, independent and localised trading views, from a wide participant base that act as counterparties. Such a market offers depth and liquidity that is persistent and volatility that is understood.

Indian financial markets have a unique structure of participation. There is very limited participation by the fund management institutions, such as banks, insurance firms, mutual funds and pension funds, that are a large source of capital in global market places. The lack of participation of these institutions is partly due to regulatory restrictions and lack of regulatory coordination. In part, it is also a consequence of the incentive structure created by the ownership pattern and governance mechanisms of these institutions and the uncertainty in the regulatory regime that inhibits the development of business. Consequently, this results in a weak domestic ecosystem in Indian financial sector.

Market microstructure

Lastly, there is a gap that differentiate the domestic and global financial markets that are based on issues of market microstructure. They are:

- **Position limits**

  Position limits are limits placed on the maximum number and size of transactions that can be undertaken. All across the world, position limits are set when markets are developing and these are generally set as a fraction of the market at any given point in time. They form a part of the risk management system at exchanges and seek to control concentration risk. However, position limits, if so designed, can also have an impact similar to that of capital controls in limiting access.

- **Trading time**

  Trading time is the defined time period for which markets are open.

- **Margins**

  Margins are imposed by exchanges to eliminate counter party risk. For participants, these are transaction costs that need to be paid to use the markets.

These microstructure factors either act as barriers to access (such as position limits and trading times) or as a transaction cost (such as margins).

A summary of the eight factors that impact international competitiveness is presented in Box 1.

Box 1. Summary: Factors that shape global competition

1. **Capital controls**: These are the rules of permission to access markets and are typically defined by regulation or law. They determine the extent and variety of participation in a market.

2. **Tax policy**: These involve rules around imposition of taxes on transactions and/or participants in a market. Taxes add to the cost of transactions or the cost of participation, and their effects are similar to those of capital controls.

3. **Regulatory risk**: This arises due to lack of certainty about the rules of participation. It impacts the ability of participants to take medium- and long-term decisions regarding participation.

4. **Frictions**: These are indirect factors or rules of procedure that impact market access for participants.

5. **Vibrant domestic market**: This refers to the state of domestic financial development in a market and the presence of sophisticated participants. A liquid domestic market can attract wider participation with greater ease.

6. **Position limits**: These are limits placed on the maximum number and size of transactions permitted in a market. They are used as measures of risk containment in the exchange traded segment. They are similar to capital controls in their impact.

7. **Trading time**: This defines whether markets are open whenever there is trading interest.

8. **Margins**: These are imposed by exchanges to eliminate counter party risk. They add to transaction costs for participants.

4.2 Scope of this document

This document contains reports on the following three sectors on international competitiveness: (1) Currency derivatives, (2) Equity derivatives, and (3) Commodity derivatives. Each sector report has the following sections:

1. **The market landscape**
   - Products and services in the chosen sector
   - Key offshore competitor markets
   - Features and size of the onshore and the offshore market
2. **Analysis of the factors of competition**
   - A comparison of how the onshore and offshore markets fare on the eight-factor framework
   - The impact of the eight factors on some canonical users
   - A quantitative market report card (MRC) comparing key metrics across the onshore and offshore markets. Some examples of these metrics are the following:

- **Size of market:** typically measured as daily average traded volume in USD billion. For derivatives markets, the open interest outstanding (measured in USD billion) captures the amount of capital invested in the market and is also a measure of the market size.
- **Cost of trading in the market:** measured by impact cost for a fixed transaction size.

3. **Policy proposals**

   The policy proposals for improving international competitiveness of the Indian financial sector follow the eight-factor framework and are categorised into three sets: **(1)** Proposals on economic decisions at the level of the central government. For example, limitations on capital account convertibility or policy on source-based taxation. **(2)** Proposals with reference to administrative aspects of implementation of key economic decisions. For example, documentation and compliance requirements, lack of clarity on tax administration or uncertainty in regulation. **(3)** Proposals on market microstructure-linked issues. For example, design of position limits and margins or market trading time.

   In order to implement these proposals, a host of reforms need to be undertaken. This report identifies these reforms, along with the agencies in whose jurisdiction the implementation of the reform falls. The report also categorises the reforms in terms of the speed with which they can be implemented as:

   - Short-term measures: low hanging fruit which can be implemented within the next six months.
   - Medium-term measures: those that need to be evaluated first, and hence may get implemented within the next one to two years
   - Long-term measures: which need a significant reversal of the existing policy and may require a longer time frame for implementation.

Table 1 The size of the INR-USD derivatives market

In USD billion

	April 2013			October-December 2014		
	Exchange	OTC	Total	Exchange	OTC	Total
Onshore	10.6	20.9	31.5	2.5	17.9	20.4
Offshore	1.4	17.6	19.0	1.3	17.6	18.9
Total	12.0	38.5	**50.5**	3.8	35.5	**39.3**

Source: OTC offshore and onshore, BIS April 2013; Exchanges onshore and offshore from NSE, MCX, USE, DGCX.

5 Currency derivatives market

5.1 The market landscape

There are four possible venues where an interested counterparty can take a position on INR-linked derivatives:

1. Onshore OTC: Under FEMA, banks who are Category I Authorised dealers (AD Category I) are the only counterparties recognised by the RBI in an OTC derivatives trade.
2. Offshore OTC: Commonly known as the Non-Deliverable Forwards (NDF) market. There are several NDF centres globally, with London and Singapore estimated to be among the largest.
3. Onshore Exchange: Futures and options (F&O) on USD, GBP and JPY that pair with the INR as one leg of the product, currently trading on the BSE, MCX, NSE and USE.
4. Offshore Exchange: Exchanges that typically trade futures on the USD-INR and include CME, DGCX, ICE and SGX.

Out of the various currencies available for trade against the INR, the market for the USD-INR is the largest, with approximately 89-90% of total trading volume. In 2013, the average daily turnover of the INR-USD derivatives market, both onshore and offshore, was USD 50.5 billion.[1] The contribution of the onshore, offshore and the exchange and OTC segments is given in Table 1. The same table shows the average daily turnover of these four markets for the quarter of October to December 2014. The data are updated for all markets except for the offshore OTC market, for which the only source of data is the BIS triennial survey of April 2013. This comparison shows that the overall INR-USD derivatives market dropped by 22% in this period. The sharpest drop is seen in the size of the onshore exchange traded market which decreased by 76%.[2]

[1] The INR does trade against other currencies such as the EUR and the JPY. However, since the INR-USD trade is estimated to be around 89 to 90% of all INR trading, we focus on only this currency pair.

[2] The decrease in the traded volume on the exchange traded market happened immediately after the regulatory restrictions imposed by the RBI and SEBI on participation by banks, and the size of participation permitted in the form of position limits and initial margins imposed. Details about these interventions as well as other interventions restricting market access, along with the impact on the exchange traded currency derivatives markets are presented in Appendix E.

5.1.1 Competitors

Among global exchanges, DGCX is currently the main competitor for Indian exchanges. In February 2014, the daily traded volumes on DGCX was almost 50% of the traded volumes on all the Indian exchanges combined.

London has a large NDF market, which is a key competitor to the Indian OTC market.

Singapore competes with both its exchange and OTC market. There is active trading in the NDF, and SGX trades futures on USD-INR.

Singapore is chosen as the primary competitor for the onshore INR derivatives markets. There is a strong link between the exchange and the OTC markets in supporting order flow and liquidity of products. As a global financial centre, Singapore focuses on providing a comprehensive range of financial services to participants – SGX announced the introduction of USD-INR futures in November, 2013.[3] Thus, while both DCGX and SGX are strong competitors for the offshore order flow for INR derivatives, we expect that Singapore will likely emerge as the dominant competitor in this market.

5.2 Review of the factors of competitiveness

5.2.1 Capital controls

Capital controls in the onshore INR derivatives market are high. In the OTC segment, they are defined and administered by the RBI, whereas in the exchange segment, they are jointly administered by the RBI and SEBI via the Standing Technical Committee.

There are several constraints on participation by foreign and domestic investors in exchange traded currency derivatives. Prior to June 2014, foreign participants (including SEBI-registered FPIs and NRIs) were prohibited from trading on exchanges. Banks were prohibited by RBI from taking proprietary positions in July 2013. From June 2014 onwards, FPIs have been permitted to participate and banks have been allowed to once again take proprietary positions, but with several restrictions (RBI Circular: June, 2014a). The June 2014 guidelines have also introduced several restrictions on participation by domestic entities (details provided in Appendix D).

In the onshore OTC markets, only AD category I banks are allowed to be counterparties. The RBI exercises strict regulatory controls for permitted participants. FPIs registered with SEBI are allowed to hedge only to the extent of their exposure in Indian debt and equities. Domestic firms are allowed access to this market, but only for the purpose of hedging and subject to procedural constraints on exposure and contracts. For example, exporters can hedge exposures of up to 100% of the average export performance of the past three years. Importers, on the other hand, can do so only to the extent of 50% of their past import performance. Banks are allowed to take proprietary positions, but only for asset liability management, and to hedge capital and gold price risk.

[3] http://www.marketwatch.com/story/sgx-launches-asian-foreign-exchange-futures-2013-10-28

In contrast, in the offshore markets, there are no restrictions on participation both on exchanges and OTC. There may, however, be requirements of membership/documentation required for participation, especially on the exchange segment.

5.2.2 Position limits

Indian exchanges introduced currency F&O in August, 2008 with the following position limits:

- Client-level limits at the higher of 6% of OI or USD 10 million.
- Member-level limits for non-bank members at the higher of 15% of OI or USD 25 million.
- Member level limits for banks at the higher of 15% of OI or USD 100 million.
- These limits are combined across F&O positions.

In March 2009, member-level limits were further increased for non-bank trading members to the higher of 15 percent OI or USD 50 million (SEBI Circular: March, 2009).

But in July 2013, client-level position limits were changed to the lower of 6% of OI or USD 10 million and non-bank trading member position limits to the lower of 15% of OI or USD 50 million (SEBI Circular: July, 2013). These were effective decreases in the position limits of market participants. At the same time, banks were completely banned from taking proprietary positions (RBI Circular: July, 2013). These changes were made with no warning to the market and were justified as a measure of currency defense to control a weakening INR. These led to a considerable shrinkage in the size of these markets (from daily average turnover of USD 5.76 billion in April-June, 2013 to USD 3.36 billion in July-September, 2013).

In June 2014, SEBI allowed FPIs to trade in the exchange traded segment for the first time. FPIs were permitted to take derivatives positions of up to a limit of USD10 million, subject to constraints. Position limits for domestic investors were reversed from "lower of" to "higher of" 6% OI or USD 10 million and that for non-bank members to "higher" of 15% OI or USD 100 million. Banks have again been permitted to participate, but subject to their net overnight open position limits (NOOPL).

In the onshore OTC markets, the derivatives position taken by participants are linked to their underlying exposure to foreign currency through trade or investments, which needs to be demonstrated using documentation. There are also restrictions on the type of products that different categories of participants can use and on the modification of contracts once they are entered into.

In contrast, offshore markets have more accomodating or no position limits. On offshore exchanges, position limits are much larger than those permitted on onshore exchanges. At the DGCX, client- and member-level position limits are USD 160 million and USD 400 million, respectively. At the client level, it is USD 330 million at the SGX and USD 2 billion at the CME. There are no position limits in the offshore OTC market.

5.2.3 Tax policy

There are no transaction taxes in either the Indian or global exchange traded currency derivatives markets. However, a stamp duty of 0.002% of the turnover value is applied on Indian exchanges.

Competitor markets for currency derivatives, such as Dubai and Singapore, follow a residence-based taxation regime. While India follows a source-based direct taxation regime, we do have *de-facto* residence-based taxation treaties with Mauritius and Singapore.

In addition, there are challenges on the treatment of currency F&O transactions from an income tax perspective. In India, the levy of STT is used to determine the applicable rate of capital gains tax, with transactions charged to STT attracting a lower rate of capital gains tax. In addition, exchange transactions on which STT is paid are deemed to be non-speculative and can avail greater tax set-offs. Since STT is not levied on the entire currency F&O segment, these transactions: (1) may be liable to a higher rate of capital gains tax; and (2) may be deemed as speculative for the purpose of availing tax set-off.

5.2.4 Frictions

Participants in offshore markets trade in Indian currency derivatives as they would any financial product in their portfolio. These products are either offered through the exchange platform with a central counterparty or in the OTC segment by financial firms that evaluate and take on the counterparty credit risk. The procedures in both these markets are harmonized, giving participants the ability to seamlessly access both segments based on their requirements. In addition, rules and procedures are also harmonized across products, enabling participants to take a holistic view of the returns on their investment. For example, participants can invest in the Nifty futures and options on SGX and hedge currency exposure that arises out of this transaction using the USD-INR futures on SGX or on the NDF market.

In contrast, currency derivatives trades in Indian markets are subject to very different rules governing transactions in the OTC market. Participants trading forwards in the Indian OTC markets are required to provide supporting documentation for each transaction. This requirement for documentation is onerous. All participants – whether foreign or domestic – are required to demonstrate underlying exposure to foreign exchange risk. Additional documentation is required when contracts are modified to match changes in exposure to the currency. Thus, if a counterparty faces a need to reduce or increase the amount of currency hedging, they have to "cancel-and-rebook" their currency forwards contracts. Since these positions can change frequently either because of business flows or changes in the currency itself, the documentation at every position and for every change can be extensive. Regulatory guidelines on modifying positions have also been changed frequently in the past and are a source of uncertainty. In the June 2014 guidelines, the requirement to provide documentary evidence to support a position taken has been extended *even to the exchange segment*.

Another friction in the OTC market is the KYC and compliance requirements.

Table 2 Comparison of exchange trading times across venues

Trading Venue	Trading Hours	Duration (hours)
India	09:00 - 17:00 IST (GMT+5.5)	8.0
Dubai	07:00 - 23:30 (GMT+4)	16.5
Singapore	07:30 - 19:35 ST	12.0
CME	17:00 - 16:00(T+1) CT	23.0
ICE (US)	18:00 - 17:00(T+1) EST	23.0

KYC norms for foreign participants have been eased recently by SEBI under the new FPI regime. However, compliance requirements for entities taking derivatives exposure and intermediaries acting as counterparties continue to be onerous. Entities are required to provide regular certification that their derivatives exposure across exchange and OTC markets is not greater than their underlying currency exposure, and intermediaries need to monitor and confirm the same. In contrast, offshore exchanges and OTC markets have KYC norms that only require customer due-diligence norms. Compliance requirements in offshore markets are only with respect to ISDA guidelines and contract terms.

5.2.5 Trading time

Table 2 compares the trading times across the various trading venues. It shows that domestic markets for currency derivatives offer the shortest time span compared to trading times for Indian currency in offshore competitor jurisdictions. Indian exchanges offer the least amount of time for investors to participate. The same holds true for onshore OTC, which operates from 9 a.m. to 5 p.m. IST. In contrast, the offshore OTC market is open round the clock for trading INR derivatives.

Additionally, the overlap of trading time with other important offshore destinations for trading the Indian rupee is also small. This means that after Indian markets close, price discovery for INR shifts to locations such as Dubai and Singapore.

5.2.6 Margins

There are three types of margins imposed by exchanges in the onshore market:

- Initial margin, specified as a percentage of value of open positions. These need to be adjusted upward for the risk of T+2 settlement.
- Calendar spread margin, specified as different fixed values for different horizontal spreads.
- Extreme loss or exposure margins.

Initial margins were increased from 1% to 2% by SEBI in July 2013 (SEBI Circular: July, 2013).[4] When adjusted for overnight settlement risk and loaded with the calendar spread and extreme loss margins, the total margin requirement, for the near month contracts, on onshore exchanges is 5% of the positions taken.

[4]Margins were increased to reduce trading on INR derivatives and aimed to curb excessive volatility of the exchange rate.

In comparison, offshore exchanges have an initial margin and a maintenance margin specified as a fixed USD value for a contract. As a percentage of contract size, the total margin requirement is 3% on SGX. Margins on offshore exchanges remain stable and are changed transparently according to a rule book, with changes intimated to market participants in a timely manner.

In the OTC markets, counterparties undertake transactions taking into account counterparty credit risk. Thus, there are no explicit margins paid, and the transaction costs include the price of counterparty credit risk.

5.2.7 Regulatory risk

The previous factors refer to the frequent and significant changes in regulations and guidelines that have taken place both in the exchange and OTC currency derivatives segments onshore. This indicates that there is a high degree of regulatory risk involved in trading in the onshore markets. Some examples of regulatory interventions in the last three years are given below. The most significant of these was during the recent episode of sharp currency depreciation in July 2013, when both RBI and SEBI intervened in the currency derivatives market.

- In December 2011, RBI withdrew the freedom to cancel and re-book forwards contracts for FIIs (RBI Circular: December, 2011). They also reduced the past performance linked exposure limits available to domestic firms by 25%. In addition, ADs were prohibited from cancelling and re-booking for their clients.
- In May 2012, the intra-day open positions of the ADs were fixed at five times the NOOPL available to them (RBI Circular: May, 2012a). The NOOPL of the banks on the positions involving INR as one of the currencies would not include the positions in exchange traded products (RBI Circular: May, 2012b). Thus, F&O positions on the exchanges could not be netted against forwards positions, reducing the extent of participation by banks in the F&O markets.
- In July 2012, the RBI reversed regulations on cancellation and re-booking of forward contracts for only residents and exporters.
- In July 2013, the RBI prohibited ADs from undertaking proprietary F&O positions. Simultaneously, SEBI reduced the position limits for clients and trading members and doubled the margin requirements.

These unanticipated regulatory changes led to an adverse impact on the exchange traded currency derivatives segment. Tayal (2013) finds that in the period after the July 2013 interventions, liquidity, in the form of traded volume and open interest, dropped significantly. At the same time, volatility of the exchange rate increased and the USD-INR spot rate depreciated. Thus, the regulatory interventions of July 2013 achieved neither the stated objectives of stabilising the drop in the currency nor curbing the increase in volatility.

However, the competitive position of the onshore market for currency risk management worsened. The evidence shows that the adverse effect on the international competitiveness of the onshore exchange markets, both in terms of size and liquidity, has remained since then.

In June, 2014 there have been several changes made by RBI and SEBI in regulatory guidelines for both the exchange and the OTC markets. These new guidelines have removed most of the restrictions introduced in July 2013. However,

a stringent new set of restrictions have been introduced, in the form of additional documentation requirements, to take exposure on exchanges. This has neutralised the benefits of removing the July 2013 restrictions. A summary of these changes is given in Appendix D.

5.2.8 Vibrant domestic market

Participation on the onshore exchanges is hindered by small position limits, frictions and regulatory uncertainty. Thus, participants with large exposure requirements prefer the OTC market over exchanges. The onshore OTC market is dominated by a small number of banks as ADs which form one leg of the trade in all transactions that take place in this segment.[5] Thus, access to this market tends to depend upon the banking relationships that clients have with the ADs.

Indian residents, individual or entities, have no access to the offshore markets for INR derivatives. They have no avenues for managing currency exposure that they are not able to hedge onshore. This applies to implicit risks that arise due to trade price parity where domestic trade is exposed to international price fluctuations. It also applies to explicit risks that remain unhedged due to various constraints on participation that both the exchange and OTC markets onshore impose.

5.3 Summarising the factors: India vs. competitors

Box 2 summarises how the eight factors affect the international competitiveness of the Indian currency derivatives markets, using a comparison between trades on the NSE versus SGX. The comparison ranks the eight factors in their order of importance for the international competitiveness of this market.

[5] Section 45V(1) of the RBI Act, 1934 defines the validity of a derivative transaction as:
Notwithstanding anything contained in the Securities Contracts (Regulation) Act, 1956 (42 of 1956) or any other law for the time being in force, transactions in such derivatives, as may be specified by the Bank from time to time, shall be valid, if at least one of the parties to the transaction is the Bank, a scheduled bank, or such other agency falling under the regulatory purview of the Bank under the Act, the Banking Regulation Act, 1949 (10 of 1949), the Foreign Exchange Management Act, 1999 (42 of 1999), or any other Act or instrument having the force of law, as may be specified by the Bank from time to time.

Box 2. Analysis and prioritisation of the eight factors

Factor	SGX	NSE
1. Capital controls	None	Banned
2. Position limits	Larger, not a constraint	Small, constraint
3. Tax policy	Residence-based	Residence-based from Mauritius and Singapore, source-based otherwise
4. Regulatory risk	Absent	High
5. Frictions	Low	Worse
6. Trading time	0740–1930 (GMT+7)	0900–1700 (GMT+5.5)
	(10 hours)	(8 hours)
7. Margin	Low	High
8. Vibrant domestic market	Strong	Weak

5.4 Impact on canonical users

The risk of currency fluctuations for domestic firms goes beyond just the direct exposure that comes from engaging in exports and imports. The potential loss to Indian firms because of a depreciation in the USD-INR rate varies across firms, primarily due to the extent to which their production process is exposed to import price parity. For example, a domestic firm engaged in the manufacturing of goods that uses petroleum products as raw materials procured from a domestic firm is exposed to currency price risk due to changes in price of its raw material on account of exchange rate fluctuations. This risk can only be hedged to a limited extent onshore in the exchange segment.

Based on such a perspective, Aggarwal *et al.* (2014) analyse the exposure that listed Indian domestic firms have to face due to changes in the currency. They do this by asking how much the market capitalisation of these firms changes when the currency depreciates. Their sample comprised 1,700 of the largest listed firms in March 2013. They find that the market capitalisation could drop by more than Rs.1.6 trillion in a week due to an extreme movement in the currency.[6] This is equivalent to a 3.75% loss in the total market capitalisation of Rs. 43 trillion.

This report identifies four categories of canonical users who need to hedge risk using currency derivatives. The first three categories are domestic non-financial firms that have exposure to foreign exchange risk, either through revenue, expense or loans. The domestic non-financial firms are categorized into small, medium and large firms based on their total assets in March, 2013.[7] The fourth category comprises FII investors in Indian debt and equities.

[6]The extreme movement is a depreciation in the USD-INR rate that has a 1% probability of occurrence.

[7]Firms are defined as small, medium and large based on total assets in their 2012-13 balance sheet. Small firms have total assets less than Rs. 5 billion, medium firms between Rs. 1 billion and Rs. 5 billion and large firms greater than Rs. 5 billion. By these definitions, there are 820 small, 740 medium and 951 large firms in the Prowess database of CMIE.

How the eight factors impact the use of the currency derivatives markets by these canonical users is listed in Box 3. In each case, there are several bottlenecks faced by any user in accessing currency derivatives in order to take currency exposure.

Box 3. The eight factors mapped to four users

Factor	Small firm	Medium firm	Large firm	FPI
1. Capital controls	No access to offshore markets	No access to offshore markets	No access to offshore markets	Not permitted on onshore exchanges till June 2014. Limited access to onshore OTC. No constraints on access to offshore exchange and OTC
2. Tax policy	Source based, tax even on gains on hedges	Source based, no clarity on whether gains from exchange transactions are speculative	Source based, no clarity on whether gains from exchange transactions are speculative	Source based, constraint
3. Regulatory risk	Present	Present	High	High
4. Frictions	Low importance	Onerous documentation requirements to demonstrate forex exposure	Onerous documentation requirements to demonstrate exposure	Onerous KYC, compliance and documentation requirements
5. Vibrant domestic market	Exchange access not an issue. OTC access based in firms' relationship with banks.	Exchange access not an issue, but lack of liquidity on exchanges a constraint. OTC access limited by size of banking relationship	Lack of liquidity on exchanges, especially options, a sever constraint. Lack of products in OTC, no options	Constraints of custodian as intermediary on onshore OTC. No constraint on offshore OTC
6. Position limits	Not a constraint	Constraint	Severe constraint	Constraint on onshore OTC. Large limits on offshore exchanges and no limit on offshore OTC
7. Trading time	Low importance	Constraint	Severe constraint	Severe constraint
8. Margins	Challenge to manage liquidity for margin calls	Initial margin not a constraint. Challenge to manage liquidity for margin calls	Low importance	Low importance

Table 3 The report card for currency derivatives

	Size of Participation				Cost	
	Traded Volumes[1] (USD Billion)		Open Interest[2] (USD Billion)		Impact Cost[3] (%)	
	Q4-14	Q1-15	Q4-14	Q1-15	Q4-14	Q1-15
Exchanges						
India	2.45	2.87	4.62	4.47	0.105	0.099
Intl.	1.31	1.51	1.99	2.01	-	-
OTC						
India	17.93	16.14	-	-	-	-
Intl.	-	-	-	-	-	-

Q4-14 denotes October-December, 2014; Q1-15 denotes January-March, 2015.
[1]Traded volumes for India are summed across NSE, BSE and MCX-SX. BSE data are available only from Q1 2014. Only DGCX data are used for international traded volumes. Traded volumes in onshore OTC markets are calculated using outright forwards and swaps data from the RBI weekly statistical supplement.
[2]Open interest is calculated using daily bhavcopy data from NSE, BSE and MCX-SX. BSE data available only from Q1 2014. DGCX daily bhavcopy data have been used for international markets.
[3]Impact costs are reported for a transaction of USD 1 million, from snapshots of the NSE limit order book.

5.5 A market report card for currency derivatives

The market report card for currency derivatives for the recent period is given in Table 3. The detailed market report card for currency derivatives is presented in Appendix A.

The position of the Indian market vis-a-vis international competitors for USD-INR derivatives trading shows the following:

- The onshore exchange markets were competitive on the size of markets – both in terms of traded volumes and open interest – from April 2013 to June 2013.

  They became significantly less competitive after the July 2013 regulatory measures, with onshore size dropping and offshore size growing (Appendix A).
- The onshore OTC markets are significantly larger than the exchange. However, anecdotal evidence from conversations with market participants suggests that the offshore OTC (NDF) markets are large and liquid. The size of the offshore OTC market from the BIS (2013) triennial survey results shown in Table 1 reflects this. The size of this market cannot be tracked regularly since these are mostly bilateral deals with limited disclosures.
- Transaction costs of trading are lowest for onshore OTC trades.

  These are significantly higher on the onshore exchanges but only marginally higher on the offshore OTC (NDF) markets, suggesting that the offshore NDF markets are fairly liquid.

5.6 Policy proposals

The following are important reforms that need to be undertaken to create a globally competitive market for INR derivatives, categorised under short-term actions and medium-term and long-term goals. Against each proposed action or goal, the agencies in whose jurisdiction the implementation falls are listed in parentheses. Each of these reforms requires immediate effort so that each of the goals are met over their respective horizons.

1. **Short-term actions**
   (a) Clarifications are required on ambiguities in direct tax treatment of exchange transactions for domestic firms. (**CBDT, DEA**)
   (b) Regulatory uncertainty about the Singapore and Mauritius tax treaties should be removed. (**CBDT, DEA**)
   (c) KYC and compliance requirements should be brought in line with CDD requirements under FATF. (**SEBI**)
   (d) Documentation for demonstrating underlying foreign exchange exposure should be removed. (**RBI**)
   (e) Restrictions on cancelling and re-booking OTC contracts should be removed. (**RBI**)
   (f) Restrictions on domestic institutions participating in exchanges should be removed. (**RBI, SEBI, IRDA**)
   (g) There should be no ban on market participation. Any regulatory intervention should be carried out and implemented using Handbook (2013) procedures. (**DEA, RBI, SEBI**)
   (h) Decisions about trading times should be devolved to exchanges and ADs. (**SEBI, RBI**)
   (i) Product innovation should be left to exchanges. For example, exchanges should select what currency pairs to trade, and what products to trade on these pairs, and not regulators. (**SEBI**)
2. **Medium-term goals**
   (a) Tax treaties similar to the Mauritius and Singapore treaty should be signed with all other FATF-compliant countries. (**DEA**)
   (b) The non-legislative recommendations of the FSLRC should be implemented by all financial sector regulators, as laid out in the Handbook (2013). This will ensure greater clarity on the regulation making process to all participants and reduce regulatory risk. (**DEA, RBI, SEBI**)
   (c) An expert committee must be set up to rationalize position limits and margins, and design a framework that places the choice of the exact limits and margins with the exchanges. (**DEA, SEBI**)
3. **Long-term goals**
   (a) India must move to a residence-based taxation regime over the longer term. (**DEA, CBDT**)
   (b) The Ministry of Finance must prepare a time-bound plan for the internationalisation of the INR, just as the Chinese government has prepared a plan for the internationalisation of the Renminbi. (**DEA**)

Table 4 Equity derivatives market size, March 2013

Values in USD billion

	Exchange		OTC	
	Open interest	Average daily traded volumes	Open interest	Average daily traded volumes
Onshore	22.1	21.6	0	0
Offshore	6.9	0.6	22.8	-
Total	29.0	22.2	22.8	-

Source: SEBI; Exchanges onshore and offshore includes index derivatives on NSE, BSE and SGX
Source: OTC offshore includes PNs issued on equity and derivatives

6 Equity derivatives market

6.1 The market landscape

Indian equity derivatives trade on three venues:

1. Onshore Exchanges: In India, equity derivatives can only be traded on exchanges. OTC contracts are not permitted under the provisions of the SCRA.[8] There are two sets of products:
   - Derivatives on equity indices – F&O on the NSE-Nifty and the BSE-Sensex index. These also trade on offshore exchanges.
   - Derivatives on single stocks – these trade only on the onshore market.

   The international competitiveness of Indian equity derivatives are evaluated based only on the performance of the index derivatives markets. These account for most of the traded volume (85% of the total traded volumes in FY 2014) in the equity derivatives markets.
2. Offshore exchanges: Nifty F&O trades on SGX, Osaka exchange and CME. BSE-Sensex futures trade on DGCX.
3. Offshore OTC: Participatory Notes (PNs) and Offshore Derivative Instruments (ODIs) issued by SEBI-registered FPIs against onshore equities and equity derivatives. PNs are also issued against SGX Nifty F&O.[9]

Table 4 summarises the size of these markets as of March 2013. The size of the market in terms of daily traded volumes is readily available for the exchanges. OTC transactions are typically not centrally reported. In the case of PNs and ODIs issued by FPIs, transactions are reported to SEBI. These transactions are used to estimate the size of the notional outstanding derivative positions taken by foreign participants in Indian equity.

6.1.1 Competitors

Among global exchanges, SGX is the main competitor for Nifty index derivatives. In 2013, the open interest (OI) of Nifty futures at SGX was almost twice

[8] Section 18 of SCRA.

[9] Globally, the OTC markets for equity derivatives flourish in parallel with the exchange traded markets. For example, the notional amount outstanding in the exchange market in June 2013 was USD 7.7 trillion and that in the OTC market was USD 6.8 trillion.

that at NSE. Nifty futures also started trading on CME and Osaka from 2010 and 2014, respectively. While BSE-Sensex F&O are traded onshore at BSE and offshore at DGCX, the traded volume of these products is much lower in comparison to Nifty F&O traded at NSE and SGX (Appendix B).

OTC markets in equity derivatives are not permitted onshore. Trading in the offshore OTC markets takes place through PNs and ODI. These are issued by SEBI-registered foreign investors against their investments in onshore equities and derivatives and are subscribed to by those foreign participants who wish to take exposure to the Indian markets without going through the formal registration procedure prescribed by SEBI. Offshore, PNs and ODIs are also issued in Singapore, against Nifty F&O traded on SGX.

6.2 Review of the factors of competitiveness

6.2.1 Capital controls

Foreign participation in the Indian equity derivatives markets is hampered by two elements of capital controls, (1) limitations on access and (2) fragmented markets.

Limitations on access

Foreign investment in equity derivatives was categorized by participant type into (a) Registered foreign participants and (b) Unregistered foreign entities. The first category included FIIs, their sub-accounts, NRIs, QFIs and foreign intermediaries registered in India. Of these FIIs, sub-accounts and NRIs were permitted to participate in exchange traded equity derivatives. QFIs and foreign intermediaries were not permitted. All participants in the unregistered category did not have direct access to the market but could participate by subscribing to PNs/ODIs, which could be issued by registered FIIs as per SEBI guidelines. In June 2014, the FII/sub-account regime was replaced by the new *FPI regime*.

All existing FIIs/sub-accounts and QFIs are required to re-register as one of the three categories of FPIs defined under this regime. NRIs and PIOs are not permitted to register as FPIs and can participate in the onshore market only through the portfolio investment scheme. ODI/PN issuers and subscribers face stricter norms. Category III FPIs are not permitted to issue ODIs/PNs, while broad-based hedge funds, even those with a regulated investment advisor, cannot issue or subscribe to PNs.

The new FPI regime has re-adjusted the boundaries of capital controls, and rationalised the categories and requirements of registration.[10] It has not removed constraints on participation. In contrast, there are no limitations on access on offshore exchanges and in the offshore PN/ODI market. For example, all participants can trade in Nifty F&O on SGX through registered intermediaries. Similarly, all participants can subscribe to PNs on Nifty F&O on SGX.

[10]Finance Act, 2015 has amended Section 6 of the Foreign Exchange Management Act (FEMA), to provide that control on capital flows as equity will be exercised by the Government, in consultation with the RBI. This implies that the Central Government will be the decision making body for controls on capital account transactions in all equity securities, including equity issuance, equity trading, equity derivatives, depository receipts (DRs) on equity underlying, flows under the Liberalised Remittance Scheme. In addition, there is also a Budget, 2015 proposal to merge the Foreign Portfolio Investment (FPI) Scheme with the Foreign Direct Investment (FDI) Scheme. This, when implemented, along with the FEMA Section 6 amendment will lead to a single approval window for foreign investment in domestic equity markets.

Fragmented markets

Since the interest of foreign participants in Indian equities lies in the dollar returns they can earn on their investment, participants should be able to seamlessly and simultaneously access equity and currency markets, both for taking positions as well as to leverage and hedge. However, implementing a position on a hedged dollar return investment involves trading in separate markets in India. The costs and frictions of doing this are compounded by different rules of access and types of constraints on foreign participants in each of these markets. There are limitations on the size of positions permitted in exchange traded equity and currency derivatives as well as on the issuance and subscription of PNs. There are also both size limits and participation frictions for positions taken in OTC currency derivatives.

This fragmentation ensures that India's international competitiveness will be low in comparison with international competitors that provide a *one-stop shop* for all these requirements, with little or no procedural limitations. For example, SGX has a both a liquid Nifty F&O and a USD-INR F&O market. There is also a PN market on SGX Nifty F&O and a NDF market on INR derivatives. SGX allows trading on equity spot through GDRs. Any attempt to compete with this market would require that Indian markets develop an equity market equivalent to the *Bond-Currency-Derivatives (BCD) nexus* as described in the MIFC report.

6.2.2 Tax policy

The following tax issues affect Indian equity derivatives:

1. Lack of tax clarity for foreign participants under the proposed GAAR
2. Taxation of PNs
3. STT
4. Applicability of stamp duty

The proposed GAAR, which is targeted for implementation starting April 2016, offers insufficient guidance on availing treaty benefits even for existing categories of FIIs.[11] Even though there have been clarifications by DEA that indirect transfer rules would not be extended to tax PNs through tax-friendly jurisdictions, recent media reports to the contrary create uncertainty.[12]

Both STT and stamp duty are applicable to this segment and add to the cost of transactions. For example, STT is payable on all sell transactions on F&O. It is 0.01% of the traded price of futures and 0.017% on options premiums. A 0.125 % STT is payable on the settlement price by the buyer of an option that is exercised. Even though equity derivatives are cash settled and there is no transfer of the underlying securities, a stamp duty is imposed on them. Stamp duty at 0.002% is applicable on the notional amount of options expiring in-the-money and on selling futures.

[11] Budget 2015 announced the proposal to postpone the applicability of GAAR by two years. GAAR would apply prospectively to investments made on or after 01.04.2017. The deferment only creates a temporary relief and the issue of tax on foreign investors under the GAAR and BEPS regime needs to be dealt with comprehensively before the new implementation deadline.

[12] Participatory note holders may be taxed in the next budget: Parthasarathi Shome, The Economic Times, 7th April, 2014

6.2.3 Frictions

For equity derivatives, frictions take the form of variations in rules across different categories of participants, going against the principle of providing a "level playing field" for all market participants. The following are examples.

- Foreign participants are constrained to post only cash in INR, sovereign securities and certain AA-rated corporate securities as margin collateral, whereas domestic participants are additionally allowed to post equity securities and units of liquid mutual funds (MFs) as margin collateral.
- Foreign participants were not allowed to hedge the cash INR collateral till June 2014. In June 2014, they were permitted to trade on exchange traded currency derivatives segments and can now hedge exposures up to USD 10 million without demonstrating any underlying exposure. This limit can be used by them to hedge their collateral requirements on the equity derivatives segment.
- Foreign participants do not receive any interest on their margin collateral, whereas domestic participants receive interest.

Both FIIs and domestic MFs face constraints on taking positions. They cannot go short in excess of their stock holdings or go long in excess of their cash holdings, sovereign securities and other permitted securities.

There are onerous KYC norms for foreign participants who are registered with SEBI. FIIs permitted to issue PNs are required to disclose the ultimate beneficiary owners of PNs/ODIs issued by them to SEBI every month on a proactive basis. This requirement of proactive disclosure is in contrast to the FATF agreement, where such disclosures are sought only on demand.

In comparison, rules of procedure for offshore markets are the same for all categories of participants.

6.2.4 Vibrant domestic market

Currently, the Indian equity derivatives market suffers from both constraints on participation and product innovation. Domestic financial institutions (FIs) are either not permitted or do not participate in the equity derivatives market. The following are examples.

- IRDA has given in-principle approval to insurance companies to trade equity derivatives but has not provided operational clarity. As a consequence, insurance firms have no positions in equity derivatives, even though Unit Linked Insurance Products (ULIPs) are a significant part of their portfolio.
- Domestic and foreign banks are not permitted to participate by the RBI.
- Foreign intermediaries in India are not permitted to participate, under FIPB norms.
- Equity mutual funds show low participation in equity derivatives. For example, as of March 2014, the asset under management of equity MFs was USD 34 billion, and only 0.9% of this was in all derivatives.

The regulatory approval process for new products is slow, and only a few proposed product innovations make it to market. Nifty futures were introduced in 2000 and Nifty options in 2001. The next new product was implied volatility derivatives on VIX, which was introduced in 2014. It took four years to the

market launch of VIX derivatives from when they were proposed.[13]

6.2.5 Regulatory risk

There have been several instances of regulatory actions in the markets, some of them abrupt and stringent, which have led to high regulatory uncertainty for participants. In response, there has been a significant shift in trading focus to offshore markets. For example, a ban on PNs in 2007 resulted in a shift in volumes to offshore markets, particularly SGX. Another source of regulatory risk in India is regulatory over-lap and lack of regulatory consistency across different market regulators. One such instance was the RBI shutdown of futures on the INR-settled, USD-denominated Nifty index. These contracts were introduced in December 2008 but discontinued in July 2009. The lack of regulatory consistency does not always span multiple regulators. An example of this is the regulatory mandate on mutual funds to use equity derivatives. Both mutual funds and equity derivatives are regulated by SEBI. Yet the feedback from market participants has consistently been that there is lack of regulatory encouragement on the use of equity derivatives by the mutual funds.

6.2.6 Position limits

Low position limits constrain participation, especially that of large institutional players. Position limits in equity derivatives are the higher of USD 83 million or 15% of market OI for futures and options separately. This implies a limit of USD 300 million for index futures and index options each. In comparison, position limits on SGX are USD 345 million on the buy side and the sell side **each**. While current position limits on NSE are comparable with SGX, stronger participation from domestic institutions and greater investments by domestic financial firms would make the market more robust. For one thing, larger domestic markets would manifest in higher level of OI, which in turn, would lead to higher position limits.

6.2.7 Margins

As with all derivatives exchanges globally, both NSE and SGX have SPAN-based margins. However, effective margins on NSE include the initial margin and extreme loss margin adjusted for the T+2 settlement risk. In comparison, offshore exchanges have an initial margin and a maintenance margin that are specified as a fixed USD value for a contract. As a percentage of contract size, the total margin is 10% on the NSE, whereas it is approximately 3.3% on the SGX.

Higher margins on the NSE imply higher transaction costs that makes it less competitive than exchanges such as the SGX. Part of the reason that the margins in India are high is that they were designed to compensate for higher uncertainty on overall payment systems as well as to reduce counterparty risk. There is a need to re-assess margins required for higher levels of efficiency in the rest of

[13] Derivatives trading on NSE volatility index gets nod, Business Standard, Jan 20, 2014

Table 5 Comparison of trading time across trading venues

Trading Venue	Trading Hours	Duration (hours)
India	09:00 - 15:30 IST (GMT+5.5)	6.5
Dubai	07:00 - 23:30 (GMT+4)	16.5
Singapore	09:00 - 18:15 (T) ST 19:15 - 02:00 (T+1) ST	16.0
CME	17:00 - 16:15 CT (Trading halt 20:30 - 21:30)	22.1

the payments and settlement systems in India today compared to 1998, when the equity clearing corporations first became operational.

6.2.8 Trading time

The trading time for equity derivatives in India is shorter than that for offshore competitor jurisdictions (Table 5).

6.3 Summarising the factors: India vs. competitors

Using a comparison of the levels of trades on NSE and SGX, Box 4 summarises the eight factors of international competitiveness for equity derivatives. It highlights the challenges in achieving international competitiveness and also provides a ranking of the eight factors in their order of importance for this market.

Box 4. Analysis and prioritisation of the eight factors

Factor	NSE	SGX
1. Capital controls	High	None
2. Position limits	Constraint	Not a constraint
3. Tax policy	a. STT applicable b. Stamp Duty c. Source based	a. No STT b. None c. Residence based
4. Trading time	0900–1700 (GMT+5.5) (8 hours)	0740–1930 (GMT+7) (10 hours)
5. Margin	10%	Approximately 3.3%
6. Frictions	High	Low
7. Regulatory risk	Present	Absent
8. Vibrant domestic market	Weak	Strong

6.4 Impact on canonical users

How the eight factors affect the competitiveness of the onshore market for equity derivatives are analysed based on how they impact the participation of canonical users of these products. The two user categories identified for this market are (1) SEBI-registered foreign investors – FPIs – and (2) all other foreign investors. This

comparison is presented in Box 5.

Box 5. The eight factors mapped to two users

Factor	Registered FPIs	Other foreign investors
1. Capital controls	Onerous registration/compliance requirements. Varied rules of participation. Segmented market access.	No direct access to onshore markets. Access only through PNs.
2. Tax policy	No clarity on applicability of GAAR and Indirect Transfer Rules. STT and stamp duty applicable.	No clarity on taxation of PNs.
3. Frictions	Limitations on collateral. Onerous compliance requirements for PNs.	For PNs, FATF CDD compliance not sufficient. Proactive disclosure of beneficiary holders rather than on demand.
4. A vibrant domestic market	Limited market development. Onshore OTC not permitted.	No access to the domestic market.
5. Regulatory Risk	Uncertainty on account of inter-regulator interactions. Regulatory stance on PNs keeps changing.	Regulatory stance on PNs keeps changing.
6. Position limits	It is a constraint.	It is a constraint.
7. Margins	Higher margins on onshore exchanges.	Not applicable.
8. Trading Time	It is a constraint.	May be a constraint.

6.5 A market report card for equity derivatives

The market report card for the equity derivatives market is presented separately for equity F&O. The main findings from the report card are as follows:

- For futures:
  - Indian exchanges have much higher traded volumes. Traded volumes on the competitor exchanges are nearly half of those onshore.
  - The OI on the offshore exchanges is higher. On the SGX, it is approximately twice that on the Indian exchanges.
  - Liquidity is higher on Indian exchanges (as measured by impact cost of a Rs.1 million transaction).
- For options:
  - Indian exchanges have higher traded volumes and OI compared to competitor exchanges.

In comparison to Indian currency derivatives, the market report card for equity derivatives shows that India has a better position on being internationally competitive in equity derivatives. At the same time, it shows that competitor markets such SGX have a share of the futures market, which it has continued to retain over the last few years.

The report card for the most recent period is in Table 6. The detailed market report card is presented in Appendix B.

Table 6 The report card for equity index derivatives

	Size of Participation				Cost	
	Traded Volumes[1] (USD Billion)		Open Interest[2] (USD Billion)		Impact Cost[3] (%)	
	Q4-14	Q1-15	Q4-14	Q1-15	Q4-14	Q1-15
Futures						
India	2.61	2.08	4.40	4.92	0.004	0.005
Intl.	0.95	0.36	9.78	7.95	0.018	0.014
Options						
India	62.04	36.28	22.33	22.38	0.429	0.506
Intl.	0.002	0.006	0.25	0.27	-	-
PNs	-	-	33.57	39.11	-	-

Q4-14 denotes October-December, 2014; Q1-15 denotes January-March, 2015.
[1]Traded volumes for India are summed across Sensex on BSE and Nifty on NSE for India and only Nifty on SGX for Intl.
[2]Open interest is calculated using daily NSE bhav copy data, daily BSE bhav copy data, and Thomson Reuters trades for SGX.
[3]Impact costs are for a transaction of Rs.1 million for Nifty futures and for at-the-money Nifty options, using market-by-price data from NSE and Thomson-Reuters quotes for SGX.

6.6 Policy proposals

Indian equity derivatives markets are in a relatively better position on international competitiveness than (say) the currency derivatives markets. However, the analysis reveals several areas where policy changes can improve competitiveness of the Indian markets.

The following is a list of suggested reforms, organised according to the eight factors. The reforms are classified into short, medium and long term, based on the nature of the reforms and the time that may be required to implement them. The agency in whose jurisdiction the reforms fall are listed in parentheses.

1. **Short-term actions**
   (a) Implement FATF CDD requirements for a non-resident to trade on equity derivatives. This will reduce their registration and compliance burden. **(SEBI, DEA)**
   (b) Make exchange traded index derivatives accessible to all foreign participants that meet the FATF CDD requirements. **(SEBI, RBI)**
   (c) Eliminate the regulatory uncertainty about treaty benefits under the proposed GAAR. **(DEA, CBDT)**
   (d) STT and stamp duty add to transactions costs. STT should be removed. Stamp duty should not be applicable to cash settled products such as index derivatives, as there is no delivery of the underling taking place. **(SEBI, DEA, CBDT)**
   (e) Trading and clearing rules must be nationality-neutral and participant-neutral. **(SEBI, RBI)**
      - Expand the list of permissible securities as collateral. **(SEBI)**
      - Allow FIIs access to currency derivatives on exchange (already implemented by RBI in June 2014). **(RBI)**
   (f) Rationalise the regulatory position on PNs. **(SEBI)**
   (g) Move towards FATF-compliant CDD disclosure for Participatory Notes. **(SEBI)**

(h) Indian exchanges should time market opening to overlap with SGX. **(SEBI)**

2. **Medium-term goals**
   (a) Create a working group for common clearing among exchange traded products: equity, equity derivatives and currency derivatives. **(SEBI, RBI)**
      - Phase I: As applicable within a single exchange, across multiple segments.
      - Phase II: Across exchanges, with competing clearing corporations.

   (b) Implement Handbook (2013) processes for governance of the regulation making process at SEBI. This should be followed for product approval, margin setting, position limits etc. **(SEBI, DEA)**

   (c) Remove regulatory restrictions on domestic FIs. **(SEBI, RBI, IRDA)**

   (d) Create an expert committee to rationalise position limits and margins. **(SEBI, RBI)** This committee will:
      - Rationalise position limits across all market segments.
      - Create a single margin system across market segments in two phases.
      - Rationalise margins vis-a-vis competitor markets like SGX.

   (e) Devolve decisions about margins, position limits, trading time, and product innovation, to exchanges with suitable monitoring by SEBI. This will provide operational flexibility to the exchanges and enable them to strive for competitiveness. **(SEBI)**

3. **Long-term goals**
   (a) Move to a residence-based taxation regime over the longer term. (**DEA, CBDT**)

   (b) Set up an expert committee for creating an onshore OTC market for equity derivatives. Amend SCRA suitably for this to take place. **(DEA, SEBI)**

7 Commodity derivatives market

7.1 What makes commodity derivatives different

Unlike the financial derivatives contracts, commodity derivatives have an additional complexity because the underlying tends to be associated with a physical good. This distinction often causes any debate on commodity derivatives to be intertwined with issues related to the spot market for the underlying commodities. Though the competitiveness of the derivatives market is linked to the spot market, it is not contingent on it. A study by UNCTAD (2009) shows that a well-functioning commodity futures market not only improves price discovery and risk management but also sets the context for spot market reforms.

Therefore, when analysing commodity derivatives, it is useful to understand the issues about the underlying commodities as distinct from issues about derivatives. An instructive framework takes three categories of factors (listed with examples) into account:

1. **Derivatives market specific factors**
   Contract design and trading and settlement systems.
2. **Spot market factors that impact delivery of derivatives contracts**
   Logistics and warehousing infrastructure as well as quality and variety of grades on the underlying commodity.
3. **Factors directly effecting the spot and indirectly effecting derivatives prices** Laws and interventions that affect the quantity of a commodity available for trade.

Both **1.** and **2.** are used to analyse the international competitiveness of the Indian commodity derivatives markets.

The first step in the analysis is to identify a target set of commodities. The space of commodity derivatives covers agricultural (referred to as *agri*) derivatives, energy derivatives, base metal derivatives, precious metals derivatives, weather derivatives, and freight derivatives, among others. Some of these are settled on physical commodities (agri, energy, base and precious metals), and some are settled on indexes (weather, freight). Each presents variations in grade and quality based on location. For example, there may be variations in the grades of wheat that trade on different exchanges. These include soft red winter wheat that trades on CME, Australian premium wheat that trades on ASX, and hard white wheat and strong gluten wheat that trade on ZCE. Each of these variations in the underlying creates differences in defining derivatives products to trade, as well as in the clearing and settlement processes, and can create a bottleneck for market competitiveness.

This degree of non-standardisation across commodities raises an important question for analysis: which commodities should we focus on to compare India's competitiveness on commodity derivatives markets? One approach is to focus on commodities where India has a large presence, either through production or through trade. For example, India is one of the top three *producers* of wheat, pulses, edible oils, cotton, sugar, and spices. In some of these commodities, India is the only established exchange trading that commodity. In non-agri commodities, India is one of the largest *consumers* of bullion, petroleum and associated products form a large component of both its imports and exports.

It would be in India's interest to develop an internationally competitive market for derivatives in these commodities onshore. This would attract those participants who (1) have a trading position in Indian commodities, (2) wish to take positions in them due to a match in basis, and (3) wish to trade in a deep and liquid market. The creation of such a marketplace would (1) increase the depth and liquidity of the domestic market, (2) benefit domestic participants through better price discovery and hedging effectiveness, (3) increasingly make India the centre of financial trade in these commodities, and (4) create a context for spot market reforms in line with the findings of the UNCTAD (2009) study.

With this perspective, we choose the following sets of commodities using which we propose to assess the international competitiveness of the Indian commodity markets:

- Agri commodities – wheat, sugar, cotton, soya oil and soya bean;
- Non-agri commodities – gold, silver, crude oil, natural gas and base metals.

7.2 The market landscape

Commodity derivatives, unlike INR derivatives or Indian equity derivatives, is a global market. From the perspective of trading commodity derivatives, where India is the only market, there are three possible venues:

1. Onshore exchanges: these trade only futures since options are prohibited by law. The largest Indian exchanges by type of commodity are as follows:
   - National Commodity Derivatives Exchange (**NCDEX**) for agri, and
   - Multi Commodity Exchange (**MCX**) for base and precious metals and energy.

   There is no organised OTC market in India for commodity derivatives. This segment is constrained by FCRA, 1952, which allows only a specific type of contract to be traded outside exchanges.
2. Offshore exchanges: there are several large global commodities exchanges that are competitors. Several of these are organised as global complexes, with separate exchanges within them trading a commodity group. The largest of these by their ranking in the World Federation of Exchanges lists are as follows:
   - Chicago Mercantile Exchange group (**CME**) – agriculture, metals, energy.
   - Intercontinental Exchange (**ICE**) Futures Europe – energy.
   - London Metal Exchange (**LME**) – all metals.
   - Dalian Commodity Exchange (**DCE**) – soybean, soy oil and corn.
   - Zhengzhou Commodity Exchange (**ZCE**) – wheat, sugar and cotton.
   - Shanghai Futures Exchange (**SHFE**) – all metals.

   These exchanges accounted for 95% of global exchange traded volumes in all commodities in 2013.
3. Offshore OTC: these are markets with two distinct groups that provide derivatives: *financial institutions* that have commodity trading desks, and *commodities trading firms*. The second set can be further broken into two: private firms,[14] and state trading boards of various countries.[15]

   Financial institutions have a small presence in these markets, since they restrict themselves to providing financial settlement on contracts rather than physical settlement. The dominant participants are the grain trading firms.

[14] There are 6-8 large firms including Agrico, Archer Daniel Midland (ADM), Bunge, Cargill, Glencore, Louis Dreyfus, Nidera, and Noble Grain.

[15] These include Argentina, Australia, Canada, France, Russia, and Ukraine.

Table 7 Size of the exchange traded commodity derivatives market

	Major Exchanges	Traded Volume (Mn contracts)	Traded Value (Bn USD)
India			
	NCDEX	1.11	0.76
	MCX	1.06	7.16
Total		2.17	7.92
International			
	CME	3.17	237.66
	ICE Europe	1.32	124.49
	LME	0.69	59.55
	DCE	2.85	31.7
	SHFE	2.62	40.62
	ZCE	2.14	12.71
Total		13.31	506.82

Source for India: Forwards Market Commission
Source for international markets: World Federation of Exchanges

The size of the global exchange traded commodity derivatives market (daily average turnover) in 2013 is given in Table 7.

7.2.1 Competitors

The exchanges listed in the previous section are considered as the international competitors to the Indian commodities derivatives markets. Of these, three are exchanges in China that have gained global market share over the last two to three years.

There is a large OTC market segment in commodity derivatives that trades in Chicago, New York, London, and Singapore. In Dec 2013, the notional amount outstanding in this market was USD 2.2 trillion (BIS (2013)).

7.3 Review of the factors of competitiveness

7.3.1 Capital controls

Two elements of capital controls need to be assessed for access to the commodity derivatives market: *Inward access* – whether foreign participants can participate in onshore markets – and *Outward access* – whether domestic participants have access to offshore markets.

Inward access

Foreign participants are not permitted to participate in the commodity derivatives market. Part of this is due to the lack of regulatory coordination: foreign participants into India are registered under the FPI regime, which falls under SEBI. Commodity derivatives do not form a part of SEBI list of securities in which FPIs can invest because they fall under the regulatory purview of FMC. The other is that foreign firms are not allowed to participate in commodity

derivatives except through the route of setting up 100% subsidiaries under the FIPB guidelines. Under this mechanism, these foreign firms become incorporated domestic entities.

Outward access

Domestic firms have been permitted by RBI to participate in both exchange traded and OTC markets for commodity derivatives offshore (RBI Circular: January, 2012). However, firms are only permitted to take positions up to their explicit exposure to underlying trade. This is permitted in most commodity derivatives.[16] These firms can only take these positions through AD category-I banks, to whom the firms have to demonstrate these exposures.

The only firms permitted to take offshore derivatives positions against their domestic trade in addition to their external trade are domestic oil refining companies and domestic users of aviation turbine fuel. The ability to hedge price risk on domestic positions are special dispensations that are available only to these categories of firms.

This is an important factor in evaluating the competitiveness of the onshore markets. While foreign participants are not allowed onshore, domestic firms are allowed to use the offshore markets with constraints.

In contrast, offshore exchanges or OTC markets in commodity derivatives in the OECD countries place no constraints on market access. The only requirements for participation are KYC or CDD and the criteria for trading on exchanges.

7.3.2 Vibrant domestic market

A vibrant domestic market in commodity derivatives can be created if (a) there is wide access available to a large variety of participants, (b) there exists a robust and consistent legal and regulatory framework, and (c) the market readily provides products and services that are required by various participants.

Wider access

Only firms and individuals are permitted to take positions in commodity derivatives markets onshore. Domestic financial institutions are not permitted, either because of explicit regulation or because there is a lack of regulatory clarity on whether they can use these derivatives. For examples, banks are explicitly not permitted by Section 8 in the Banking Regulation Act. Similar regulatory restrictions hold for mutual funds, insurance firms and pension funds.

Large public sector firms that have exposure to trade, such as Food Corporation of India, State Trading Corporation of India, and MMTC Ltd, do not participate in this market. Large oil refining and marketing firms access the more liquid offshore markets for their needs. The Government of India has taken positions on global exchanges like CME due to lack of depth in the onshore exchanges (for example, during the high global food prices of 2005 and 2006).

[16] The exceptions are gold, silver and platinum.

Robust legal and regulatory framework

The FCRA, 1952 is the primary legislation for the commodity derivatives market, but there are several other laws that create uncertainty while undertaking a commodity derivatives transaction. For example, while the FCRA is under the union list, trades on the underlying commodities fall under the state list for agricultural commodities. Other examples of laws that need to be considered for a complete understanding of the applicable legal framework include the following:

- Warehousing (Development and Regulation) Act, 2007.
- Food Safety and Standards Act, 2006.
- APMC Act.
- Essential Commodities Act, 1955 – state level storage controls.
- Price- and quantity-linked interventions by central and state government.

Besides a complex legal framework, the regulatory framework also presents uncertainties. This is primarily because even though FMC has delegated powers from the central government, it is not an autonomous regulator like SEBI or RBI.[17] FMC has limited powers of surveillance, investigation and enforcement and lacks both capacity and resources for regulating a complex market such as commodity derivatives. Even at the FSDC, FMC was only allowed representation as recently as Dec 2013. This leads to concerns about inter-regulatory coordination. One reason that the Indian commodity derivatives ecosystem is weak is that the large financial firms do not trade due to a lack of regulatory certainty. This suggests a lack of comfort about commodity derivatives at the other financial sector regulators.

Lack of depth in services and products

There is limited availability of products and services that can be offered in this market onshore, driven by constraints that are both legal and regulatory in nature. The following are examples.

- The FCRA permits commodity derivatives only on *goods*.[18] This is a severe constraint. For example, since an index is not a *good*, derivatives on commodity groups are not permitted. This also implies that Indian exchanges cannot offer derivatives on freight and weather.
- The FCRA does not permit options.
- Cash-settled contracts do not exist.

[17] Budget 2015 announced the proposal to merge FMC with SEBI. The merger of FMC and SEBI, along with the consolidation of secondary trading in debt securities under SEBI, empowers SEBI as a one-stop-shop regulator for all secondary trading. This can lead to measures to provide benefits of consolidated portfolios to both domestic and foreign investors, including common clearing and consolidated portfolio level margining, single KYC etc. Till now, FMC was not an independent regulator like SEBI and had limited powers of surveillance, investigation and enforcement. SEBI, enabled through the SEBI Act, has better regulatory infrastructure and resources that will now become available to the commodity derivatives segment. In addition several legal and regulatory hurdles in the commodity derivatives market may now be considered for easing. This includes: (1) allowing foreign participants, (2) allowing products such as options of commodities and derivatives on underlying such as indexes, weather and freight. The implementation of this merger will be the key challenge. The organisation structure of FMC merged into SEBI will be critical to ensure that both the elements (1) the unique features of commodity derivatives; and (2) the advantages of a consolidated portfolio and unified regulator, are appropriately addressed in this merger.

[18] Chapter 2 of FCRA, 1952 defines goods as *every kind of movable property except actionable claims, money and securities.*

- OTC contracts are not permitted under the FCRA, except in the form of non-transferable specific delivery (NTSD) contracts[19] and transferable specific delivery (TSD) contracts.

At the exchanges, the regulatory process for product approval is a bottleneck for product innovation. Regulatory approval is required even for relaunching an existing contract on expiry. This takes away operational flexibility from exchanges with regard to product innovation. These are severe restrictions on a vibrant domestic ecosystem where foreign and domestic participants with an interest in taking commodity exposure can trade.

In contrast, access, legal and regulatory clarity and flexibility of product and service innovation is taken for granted in the older (OECD) commodity exchanges and in the global OTC markets for commodity derivatives.

7.3.3 Position limits

Position limits on commodity derivatives at the Indian exchanges are defined at both the client and trading member levels. Across commodities, trading member limits are typically three to five times the limits for clients. This sets a limit on how large a client base the trading member can create. Offshore exchanges define position limits for near-month and all-month positions, which is a way of managing the concentration limits without constraining the business development of the trading member.

Position limits on Indian exchanges are smaller than those offshore in terms of number of contracts. This is compounded by onshore contract sizes being smaller than contract sizes offshore. For example, the size of a wheat contract on CME is 136 metric tonnes, while that on NCDEX is 10 metric tonnes. Similarly, a crude oil contract on NYMEX is 1000 barrels, while that on MCX is just 100 barrels. A comparison of the onshore and offshore position limits for agri commodities is presented in Table 8 and that for non-agri commodities is presented in Table 9.

7.3.4 Regulatory risk

There are three main sources of regulatory risk in the Indian commodity derivatives market: (1) frequent bans on futures trading, (2) restrictions on trade in underlying commodities, and (3) the multiplicity of regulatory jurisdiction and protection of regulatory turf.

Bans on futures trading

Banning of commodity futures contracts is a large source of regulatory uncertainty. Examples of bans on trading of commodity derivatives are presented in Table 10. Bans on trading arise out of concerns that manipulation in futures market leads to

[19] NTSD contracts on all the 54 specified commodities have been freed up for trading from government regulation or prohibition under Section 17 of the FCRA vide Ministry of Consumer Affairs Notification S.O. 369 (E), 1st April, 2003. The Ministry vide its notification S.O. 617(E) dated 27th May, 2003 exempted all non-transferable specific delivery (NTSD) contracts in 37 commodities from the operation of Section 17 read with Section 18(3) of the Act in the whole of India. Consequently, party-to-party contracts for sale of goods involving delivery and beyond eleven days do not attract any regulatory/prohibiting provisions under the FCRA.

Table 8 Position limits for agri commodity derivatives

The values in the table show client level limits for onshore exchanges, while those for offshore indicate spot month limits. Values within parentheses indicate member-level limits on onshore exchanges, while figures within parentheses for offshore exchanges indicate cumulative limits for all contracts.

	Number of contracts ('000)						
Commodity	Onshore		Offshore				
			CME		ICE	DCE	ZCE
Wheat	0.6	(3)	0.6	(12)	*	-	*
Sugar	2.0	(10)	2.5	(5)	*	-	*
Cotton	2.0	(6)	1.0	(9)	*	-	*
Soybean	1.5	(4.5)	0.6	(15)	-	*	-
Soy Oil	0.6	(1.8)	0.5	(8)	-	*	-

* indicates that the commodity is traded but that there is no position limit defined in contract specifications

Table 9 Position limits for non-agri commodity derivatives

		Number of contracts ('000)				
Category	Commodity	Onshore	Offshore			
			CME	ICE	LME	SHFE
Bullion	Gold	2.5 (12.5)	3 (6)	3 (6)	*	*
	Silver	2 (10)	1.5 (6)	1.5 (6)	*	*
Energy	Crude Oil	4 (20)		10 (20)	-	-
	Natural Gas	4.8 (24)	5 (10)	*	-	-
Base metals	Aluminium	3 (15)	0.2 (2)	-	*	*
	Copper	5 (25)	0.2 (5)	-	*	*
	Lead	0.36 (1.8)	-	-	*	*
	Nickel	2.4 (12)	-	-	*	-
	Zinc	0.72 (3.6)	-	-	*	*

* indicates that the commodity is traded but that there is no position limit defined in contract specifications

Table 10 Bans on futures trading

Commodity	Trading suspended on	Suspension revoked
Tur, Urad	23rd Jan, 2007	Ongoing
Rice	27th Feb, 2007	Ongoing
Wheat	27th Feb, 2007	14th May, 2009
Chana, Soya Oil	7th May, 2008	30th Nov, 2008
Rubber, Sugar	26th May, 2009	30th Sept, 2010
Guar seed, guar gum	27th Mar, 2012	10th May, 2013

increases in the spot prices of commodities. However, the evidence establishing this is weak. Studies in India (Abhijit Sen Committee Report (2008)) and elsewhere (IOSCO (2010)) find that unexpected increases in prices and volatility in the spot market have their source in local demand and supply factors. There is also no evidence of whether an outright ban prevents future manipulation or helps in improving market quality. In other contexts, studies show that outright bans on financial services and products have an adverse effect on the welfare, both for direct users as well as for the overall economy Sane and Thomas (2013).

Market manipulation is often an outcome of a mismatch between the size of futures positions and the deliverable supply of the underlying, and the *threat of delivery* keeps it in check. This suggests that the policy should deliver the following:

- Active surveillance by the commodity derivatives market regulator and effective enforcement (as opposed to bans)
- A coherent legal framework and physical infrastructure to ensure effective delivery for settlement of contracts.

Conflicts of inter-regulatory jurisdiction

The regulatory jurisdiction over domestic FIs and foreign investors lies with different financial sector regulators. RBI has jurisdiction over all foreign exchange transactions through FEMA and is the regulator for banks. SEBI has jurisdiction over all foreign participation through the FPI regime and is the regulator for MFs. IRDA and PFRDA are the regulators for insurance and pension funds, respectively. Warehousing, which is a critical requirement for delivery against contracts, is regulated by a different regulator, WDRA.

For a higher domestic and foreign participation in commodity derivatives, each of these regulators will need to allow their respective constituencies greater freedom to use these derivatives. These regulators will need to issue operational clarity regarding their participation from time to time.

All this requires inter-regulatory coordination, which is currently lacking in the Indian market. Coordination between FMC and WDRA to develop the physical infrastructure for delivery and with the RBI to link bank-based finance to this system also requires regulatory coordination.

7.3.5 Frictions

Frictions in this market arise in the form of elements that hamper effective delivery for the settlement of derivatives contracts and state interventions that hamper the functioning of the market.

The following are the examples of factors that affect timely delivery of the underlying goods for settlement, which arise due to unanticipated shocks to the

quantity available for delivery:

- The government intervenes to dictate the market price of a commodity. This changes the economic viability of traders in the commodity and changes how they will store and warehouse the commodity. UNCTAD and World Bank Joint Mission Report (1996) and Guru Committee Report (2001) noted the pervasive government intervention in wheat, rice and sugar, which then adversely affected the viability of derivatives on these commodities.
- State governments exercise controls on storage and stock limits without warning and with short notice. Such actions in the middle of a delivery cycle on products can cause gluts or shortfalls for the settlement of a specific commodity.
- Regulatory changes on the grade or quality to be permitted for delivery. One such example was when FMC stipulated that all agri commodities' grades for delivery against contracts needed to be FSSAI compliant. This caused shortfalls in the available quantity for delivery due to a mismatch between the quality required by regulation and the quality available in the market.
- Large variations in the quality of warehouse and logistics infrastructure, which either impact the deliverable quantity and quality or the cost of delivery.

All these are negative factors with respect to the trade in the underlying, which also has an indirect but adverse effect on the derivatives. The extent and persistence of such frictions is much higher in the onshore markets, especially in comparison to offshore OECD competitor markets.

7.3.6 Tax policy

In addition to taxes on transactions and taxes on participants, commodity derivatives market are also impacted by a third element of taxation: indirect taxes on movement of goods.

Transaction taxes

Commodities Transactions Tax (CTT) was announced in the 2013 budget, as applicable to non-farm commodities such as gold, silver and base metals and processed farm commodities such as sugar, guar gum and mentha oil. All pure agricultural commodities are exempt from CTT.[20] CTT is calculated at 0.01% of the transaction value or Rs.10 per lakh of the business for sellers. Ray and Malik (2014) find that after imposition of CTT, OI and traded volumes fell, whereas the cost of transaction increased, for those commodities where CTT was applicable.

Stamp duty is applicable on commodity derivatives transactions, with different stamp duty rates across states. The states can change the magnitude of the stamp duties at will.[21] This not only adds to transaction costs but also creates operational problems of compliance. The Indian Stamp (Amendment) Bill, 2014, proposes a uniform stamp duty at 0.03% of transaction value to be paid by seller through exchanges and will serve to reduce the uncertainty of this element of transactions cost on Indian commodity derivatives.

Indirect taxes

There are indirect taxes that need to be paid for movement of goods, which includes mandi tax (APMC Act at the state level), sales tax (intra-state) and VAT (inter-state). These taxes add to the cost of delivery against contracts and increase the cost of

[20] There are 23 pure farm commodities defined in the FCRA.
[21] West Bengal lands a blow on commodities trading, Mint, April 28, 2014

trading. The proposed Goods and Services Tax (GST) Act will remove inter-state disparities in these taxes and facilitate free movement of goods across states.[22]

Tax on participants

From the perspective of direct taxation of participants, commodity derivatives trading on specified exchanges was declared to be non-speculative in the 2013 budget: this allowed participants to set off gains and losses on commodity derivatives transactions with gains and losses from their business. However, in the 2014 budget, the non-speculative status was permitted only for transactions for which CTT was paid.

This implies that transactions on pure farm commodities (exempt from CTT) will be deemed speculative, while those on non-farm commodities and processed farm commodities will be deemed non speculative. This guideline appears to be a unreasoned duplication of the guideline in the securities markets where transactions with STT are deemed non-speculative. It is an example of the lack of coherent policy on the commodity derivatives markets.

An additional element of tax policy reform that is currently not applicable to these markets, but will need to be addressed, is the question of source-based taxation for foreign participants when they are allowed in these markets. Reforms policy also needs to reduce the costs arising due to tax policy issues in order to improve the competitiveness of Indian commodities derivatives.

Analysis

7.3.7 Margins

Table 11 provides a comparison of the basic margins structure on Indian and competitor exchanges. The onshore margins defined in the contract specifications are comparable with offshore margins. However, special regulatory margins are imposed onshore on an ad hoc basis from time to time. These not only increase the cost of transactions for participants but also add to the uncertainty under which they have to operate.

7.3.8 Trading time

Table 12 presents a comparison of trading time across onshore and competitor offshore exchanges. In contrast to limited trading hours for exchange traded currency and equity derivatives, trading hours on Indian commodity derivatives exchanges are not a constraint for participants, even though they are shorter than trading hours on CME and LME.

7.4 Summarising the factors: India vs. competitor

Box 6 provides a summary of the eight factors for agri commodity derivatives traded on NCDEX and CME. This is ranked in the order of importance of the factors for this market.

[22] Budget 2015 announcement to implement GST by 1st April, 2016. This will lead to a simplification of the indirect tax structure and a reduction in the indirect cost burden on movement of goods.

Table 11 Margin comparisons for agri and non-agri commodity derivatives

(As% of contract value)

Agri commodities		Onshore	Offshore		
		NCDEX	CME	ZCE	DCE
	Wheat	5.0	5.0	5.0	-
	Sugar	5.0	5.6	6.0	-
	Cotton	5.0	5.7	5.0	-
	Soybean	5.0	4.4	-	5.0
	Soy Oil	5.0	5.2	-	5.0
Non-agri commodities		Onshore	Offshore		
		MCX	CME	LME	SHFE
Bullion	Gold	5.0	5.1		4.0
	Silver	5.0	9.5		4.0
Energy	Crude Oil	5.0	3.1	-	8.0
	Natural Gas	6.9	5.1	-	-
Base metals	Aluminium	5.0		6.0	5.0
	Copper	5.0		2.0	5.0
	Lead	5.0	-	8.1	5.0
	Nickel	8.6	-	8.9	-
	Zinc	5.0	-	7.5	5.0

Table 12 Comparison of trading times across exchanges

Trading Venue	Trading duration (hours)
CME (Sugar and Gold)	23
LME	18.5
CME (Grains)	16.5
NCDEX	13.5
ASX SFE	8.0
Bursa Malaysia	5.5
DCE/SHFE/ZCE	3.5

Box 6. Analysis and prioritisation of the eight factors

Factor	NCDEX	CME
1. Capital controls	High	None
2. Vibrant domestic market	Weak	Strong
3. Position limits	Constraint	Not a constraint
4. Regulatory risk	High	Low
5. Frictions	High	Low
6. Tax policy	a. CTT applicable b. Stamp Duty c. Source based	a. No CTT b. None c. Residence based
7. Margin	Ad hoc	Fixed
8. Trading time	13.5 hours	23 hours

7.5 Impact on canonical users

The two user categories identified as users of this market are the following:

1. Large domestic firms and domestic subsidiaries of foreign companies.
2. Foreign commodity trading firms.

Box 7 presents how the eight factors that shape competitiveness affect the participation of these users.

Box 7. The eight factors mapped to two users

Factor	Large domestic firm/Domestic subsidiary of foreign firm	Foreign investors
1. Capital controls	Both inward and outward access allowed.	No direct access to onshore markets even for SEBI-registered foreign participants.
2. Vibrant domestic market	No institutional participation. Lack of robust legal and regulatory framework. Lack of product availability	Not applicable.
3. Position limits	Small compared to size of trade in commodity. Small compared to offshore limits. Contract sizes small compared to offshore	Not applicable.
4. Regulatory risk	Frequent bans on futures trading. Dispersed regulatory jurisdiction	Not applicable.
5. Frictions	Constraints on delivery. Price and quantity controls on agri commodities.	Not applicable.
6. Tax policy	Source based direct tax, not speculative only for transactions on which CTT applicable. CTT applicable on non-farm and processes agri commodities. Stamp duty applicable, rates vary across states. Indirect taxes on movement of goods add to costs.	Not applicable.
7. Margins	Adhoc application of special margins onshore.	Not applicable.
8. Trading Time	13.5 hours, not a constraint.	Not applicable.

7.6 A market report card for commodity derivatives

The market report card for commodity derivatives is measured for agri and non-agri commodities futures separately. For each commodity, the volume of trade from one or two of the largest offshore exchanges is used as a comparison for the Indian exchanges. Since contract specifications across commodity derivatives exchanges vary widely across the world, the measurement of volume of trade is based on the number of traded contracts. While comparing the onshore exchanges with offshore competitor exchanges, the smaller lot size of the contracts on the Indian exchanges needs to be considered.

The following are the main findings from the report card for agri commodities futures:

- Both the lot sizes and the traded volume of contracts in India are much smaller than those in competitor offshore exchanges.
- The traded volume to open interest is smaller in Indian exchanges relative to the competitor offshore exchanges.

The following are the main findings from the report card for non-agri commodities futures:

- The traded volume of contracts in India is currently much smaller than that in international exchanges, although till April-June 2013, traded volumes on MCX were in line with the competitor exchanges.
- Lot sizes on Indian exchanges are much smaller than those on competitor exchanges.
- For non-agri commodities as well, traded volume to the open interest is smaller for the Indian exchanges compared to the competitor exchanges.

The detailed market report card is presented in Appendix C.

7.7 Policy proposals

A set of policy reforms to improve the international competitiveness of the Indian commodity derivatives is listed and classified into short, medium and long term based on the nature of the reform and the time that may be required to implement them.

1. **Short-term actions**
   (a) Reduce or eliminate regulatory constraints on banks and MFs to participate in commodity derivatives. **(RBI, SEBI, DEA, FMC)**

   (b) Implement Handbook (2013) procedures for setting position limits and margins. **(FMC)**

   (c) Create a high-level committee of **FMC, WDRA, RBI** to enable the creation of the following:
   - A robust warehousing system to strengthen delivery against contracts
   - A well-functioning market for warehouse receipt finance.

   (d) Extend the non-speculative status on direct taxes for all exchange traded commodity derivatives contracts. **(DEA, CBDT)**
2. **Medium-term goals**
   (a) Allow foreign entities that have exposure to commodities through trade or finance to participate in Indian commodity derivatives. **(DEA, FMC, SEBI, RBI)**

   This requires the following:
   - Creating a mechanism for registering commodity-specific participants with FMC.
   - Co-ordinating with FMC, RBI and SEBI to avoid multiple registration and compliance requirements.

   (b) Implement the following key proposals of the FCRA Amendment Bill, 2010:
   - Provide statutory powers to FMC to become an independent regulator.
   - Widen FMC's powers on investigation, enforcement and imposition of penalties.
   - Make SAT the appellate body for FMC orders.
   - Widen definition of commodity derivatives to include goods, services, activities and events.
   - Permit options.
   - Permit cash-settlement of index-like products.
   - Demutualisation and corporatisation of all recognised associations.
   - Set up a clearing corporation.

(DEA)

(c) Enhance regulatory capacity and resources at FMC. **(DEA)**

(d) Devolve contract design, product innovation and trading time-related decisions to exchanges to increase their operational flexibility. These should be monitored by FMC. **(FMC)**.

(e) Set up an expert committee to rationalize margins and position limits. **(DEA, FMC)**

The agenda for this committee should be to rationalize these while taking into consideration the following:

- The diverse nature of the underlying commodities
- Position limits and margins on competitor offshore exchanges.

(f) Devolve position limit and margin setting on exchanges to provide them with operational flexibility. These should be monitored by FMC. **(FMC)**

(g) All regulation making by FMC must proceed as per regulatory governance norms laid out in the Handbook (2013). **(FMC)**

(h) Remove the power to ban commodity derivatives trading.

If at all the central government chooses to retain this power, it should do so with detailed and well-defined triggers that are readily measured using public data. This is crucial to ensure regulatory clarity for participants. **(DEA)**

(i) Increase priority on implementing GST. **(Central and state governments)**

(j) Rationalise stamp duty through the India Stamp (Amendment) Bill, 2014. **(Central and state governments)**

3. **Long term goals**

(a) Rationalise and reduce legislative contradictions around the interaction of derivatives and spot market for commodities. **(Central and state governments)**

(b) Set up an expert committee to evaluate how a full-fledged OTC market for commodity derivatives can be created. This will also require an amendment to the FCRA, which currently does not permit an OTC market in commodity derivatives. **(DEA)**

(c) Move to a residence-based taxation regime over the longer term. (**DEA, CBDT**)

8 Summary of policy recommendations

The policy proposals for improving international competitiveness of the Indian financial sector fall into three categories:

1. Proposals targeting key economic decisions at the level of the central government. For example, limitations on capital account convertibility or policy of source-based taxation.
2. Proposals with regards to administrative aspects of implementation of key economic decisions. For example, documentation and compliance requirements or lack of clarity on tax administration or uncertainty in regulation.
3. Proposals on market microstructure-linked issues. For example, design of position limits and margins or market trading time.

To achieve these policy proposals, a host of reforms addressing these gaps need to be undertaken. The report identifies these reforms, along with the implementing agencies for them. It also recommends a phasing of the reform process into the following sets by the likely time taken for implementation:

- **Short-term actions:** Table 13 show measures that can be implemented within the next six months.
- **Medium-term goals:** Table 14 have measures that first need to be evaluated, but can most likely get implemented in a one- to two-year time frame.
- **Long-term goals:** Proposals in Table 15 need significant reversals of the existing policy and will likely require implementation over a longer time frame.

Table 13 Summary of policy recommendations: short-term actions

Proposals	Implementing agency
Currency derivatives market	
• Clarify ambiguities in direct tax treatment of ETCD transactions for domestic firms.	**CBDT, DEA**
• For foreign participants, eliminate the regulatory uncertainty regarding the Singapore and Mauritius tax treaties.	**CBDT, DEA**
• Rationalise KYC and compliance requirements for non-resident participants in line with CDD requirements under FATF.	**SEBI**
• Remove documentation requirements for taking positions in the ETCD market that were introduced in the RBI Circular: June (2014b).	**RBI**
• Remove restrictions on cancelling and re-booking OTC contracts.	**RBI**
• Remove restrictions on participation by domestic financial institutions.	**RBI, SEBI, IRDA**
• Devolve trading time linked decisions to exchanges and AD I Banks.	**SEBI, RBI**
• Devolve product innovation decisions from regulators to exchanges.	**SEBI**
• Avoid banning market segments, participants or products. All regulatory intervention should be as per Handbook (2013) procedures.	**DEA, RBI, SEBI**
Equity derivatives market	
• Rationalize KYC and compliance requirements for non-resident participants in line with CDD requirements under FATF.	**SEBI, DEA**
• Allow access to all foreign participants that meet the FATF CDD requirements.	**SEBI, RBI**
• Eliminate the regulatory uncertainty about availing treaty benefits under the proposed GAAR.	**DEA, CBDT**
• Remove STT but without the adverse impact of higher capital gains tax.	**SEBI, DEA, CBDT**
• Remove stamp duty as index derivatives are cash settled and no delivery of the underling takes place.	**SEBI, DEA, CBDT**
• Make trading and clearing rules nationality and participant neutral: (a) Allow FPIs and MFs the same list of permissible securities that are allowed to domestic participants as collateral; and (b) Allow FPIs access to ETCD market. Already implemented by RBI in June 2014.	**SEBI, RBI**
• Clarify the regulatory position on PNs.	**SEBI**
• Move towards FATF compliant CDD disclosures for PNs.	**SEBI**
• Devolve market timing decisions from regulator to exchanges.	**SEBI**
Commodity derivatives market	
• Remove regulatory constraints on banks and MFs to participate in commodity derivatives.	**RBI, SEBI, DEA, FMC**
• Implement Handbook (2013) procedures for setting position limits and margins.	**FMC**
• Create a high level committee to create of (a) A robust warehousing system to strengthen delivery against contracts; and (b) A well-functioning market for warehouse receipt finance.	**FMC, WDRA, RBI**
• Extend non-speculative status on direct taxes for all exchange traded commodity derivatives contracts.	**DEA, CBDT**

Table 14 Summary of policy recommendations: medium-term goals

Proposals	Implementing agency
Currency derivatives market	
• Sign tax treaties similar to the Mauritius and Singapore treaty with other FATF-compliant countries.	**DEA**
• Implement Handbook (2013) process for governance of the regulation making process at RBI and SEBI.	**DEA, RBI, SEBI**
• Set up an expert committee to rationalize position limits and margins and design a framework within which the power to set position limits and margins is devolved to exchanges.	**DEA, SEBI**
Equity derivatives market	
• Create a working group for common clearing among exchange traded products, equity, equity derivatives and currency derivatives, in phases. Phase I for multiple segments within a single exchange and in Phase II across exchanges, with multiple competing clearing corporations.	**SEBI, RBI**
• Implement Handbook (2013) processes for governance of the regulation making process at SEBI.	**SEBI, DEA**
• Remove regulatory restrictions on domestic FIs participation in equity derivatives.	**SEBI, RBI, IRDA**
• Set up an expert committee to rationalize position limits and margins. This committee should: (a) Rationalise position limits across all market segments; (b) Create single margin system across market segments in two phases; and (c) Rationalise margins vis-a-vis competitor markets like SGX.	**SEBI, RBI**
• Devolve margins, position limits, trading time, product innovation etc. linked decisions to exchanges, with suitable monitoring by SEBI.	**SEBI**
Commodity derivatives market	
• Allow foreign entities with commodity exposure to participate in Indian commodity derivatives: (a) Create a mechanism for registering commodity specific participants with FMC. (b) Ensure co-ordination between FMC, RBI and SEBI to avoid multiple registration and compliance requirements.	**DEA, FMC, SEBI, RBI**
• Implement the following key proposals of the FCRA Amendment Bill, 2010: (a) Provide statutory powers to FMC to become an independent regulator. (b) Widen FMCs powers on investigation, enforcement and imposition of penalties. (c) Make SAT the appellate body for FMC orders. (d) Widen definition of commodity derivatives to include goods, services, activities and events. (e) Permit options. (f) Permit cash-settlement of index like products. (g) Demutualisation and corporatisation of all recognised associations.	**DEA**
• Enhance regulatory capacity and resources at FMC.	**DEA**
• Devolve contract design, product innovation and trading time related decisions to exchanges with monitoring by FMC.	**FMC**
• Set up an expert committee to rationalize margins and position limits taking into account (a) the diverse nature of the underlying commodities; and (b) position limits and margins on competitor offshore exchanges.	**DEA, FMC**
• Devolve position limit and margin setting to exchanges with monitoring by FMC. **FMC**	
• Implement Handbook (2013) process for governance of regulation making at FMC.	**FMC**
• Remove Central government's power to ban commodity derivatives trading.	**DEA**
• Focus on implementing GST.	**Central and state governments**
• Rationalise stamp duty through the India Stamp (Amendment) Bill, 2014.	**Central and state governments**

Table 15 Summary of policy recommendations: long-term goals

Proposals	Implementing agency
Currency derivatives market	
• Move to a residence-based taxation regime over the longer term.	**DEA, CBDT**
• Consider a time-bound plan for the internationalisation of the INR, in line with the plans of the Chinese government for the internationalisation of the Renminbi.	**DEA**
Equity derivatives market	
• Move to a residence-based taxation regime over the longer term.	**DEA, CBDT**
• Set up an expert committee for creating an onshore OTC market for equity derivatives. Amend SCRA suitably for this to happen.	**DEA, SEBI**
Commodity derivatives market	
• Move to a residence-based taxation regime over the longer term.	**DEA, CBDT**
• Rationalise and reduce legislative contradictions around the interaction of derivatives and spot market for commodities.	**Central and state governments**
• Set up an expert committee to evaluate setting up of a full fledged OTC commodity derivatives market. Amend FCRA suitably for this to happen.	**DEA**

A A report card for the market for currency derivatives

Table 16 The report card for currency derivatives

	Size of Participation: Traded Volumes (USD Billion)						Size of Participation: Open Interest (USD Billion)						Cost: Impact Cost (%)					
	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15
Exchange																		
India	1.74	2.12	2.45	2.79	2.45	2.87	1.33	1.33	2.48	4.19	4.62	4.47	0.145	-*	0.210	0.095	0.105	0.099
Intl.	1.12	1.38	1.20	1.35	1.31	1.51	1.18	1.05	1.19	2.08	1.99	2.01	-	-	-	-	-	-
OTC																		
India	15.48	18.43	21.33	18.29	17.93	16.14	-	-	-	-	-	-	-	-	-	-	-	-
Intl.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

Q1 denotes January-March, Q2 denotes April-June, Q3 denotes July-September, and Q4 denotes October-December.
Example: Q2-13 denotes April-June, 2013; Q1-14 denotes January-March, 2014

[1] Traded volume for Indian exchanges is a sum of the volumes in USD-INR futures across NSE, MCX-SX, BSE and USE. The international exchanges traded volume is the USD-INR futures on DGCX. The traded volume for India OTC market is calculated using the outright forwards and swaps data from the RBI weekly statistical supplement. It includes all FCY-INR forwards and swaps.

[2] Open interest is calculated using daily NSE bhavcopy data.

[3] Impact cost is reported for a transaction of USD 1 million, from snapshots of the NSE limit order book costs for India, and Thomson Reuters quotes for OTC India and OTC Intl. markets.

*Blank fields indicate that data are currently not available.

B A report card for the market for equity derivatives

Table 17 The report card for equity index futures

	Size of Participation												Cost					
	Traded Volumes[1] (USD Billion)						Open Interest[2] (USD Billion)						Impact Cost[3] (%)					
	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15
Exchange																		
India	1.56	1.29	1.84	1.80	2.61	2.08	3.43	3.37	3.36	3.04	4.40	4.92	0.006	0.005	0.005	0.004	0.004	0.005
Intl.	0.52	0.60	0.82	0.85	0.95	0.36	6.22	7.54	8.27	8.76	9.78	7.95	0.043	0.022	0.021	0.019	0.018	0.014

Notes:

Q1 denotes January-March, Q2 denotes April-June, Q3 denotes July-September, and Q4 denotes October-December.
Example: Q2-13 denotes April-June, 2013; Q1-14 denotes January-March, 2014

[1] Traded volumes for India are summed across Sensex futures on BSE, Nifty futures on NSE and, for the international exchange, Nifty futures on SGX for international exchange.

[2] Open interest is calculated using daily NSE bhavcopy data, daily BSE bhavcopy data, and Thomson Reuters trades for SGX.

[3] Impact cost is reported for a transaction of Rs.1 million for Nifty futures, from market-by-price data from NSE, and Thomson Reuters quotes for SGX.

Table 18 The report card for equity index options

	Size of Participation												Cost					
	Traded Volumes[1] (USD Billion)						Open Interest[2] (USD Billion)						Impact Cost[3] (%)					
	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15	Q4-13	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15
Options																		
India	20.90	18.11	24.41	42.86	62.04	36.28	16.88	17.14	22.01	22.08	22.33	22.38	0.417	0.283	0.481	0.397	0.429	0.506
Intl.	0.003	0.003	0.003	0.003	0.002	0.006	0.18	0.25	0.27	0.33	0.25	0.27	-	-	-	-	-	-

Notes:

Q1 denotes January-March, Q2 denotes April-June, Q3 denotes July-September, and Q4 denotes October-December.
Example: Q2-13 denotes April-June, 2013; Q2-14 denotes April-June, 2014

[1] Traded volumes for India are summed across Sensex options on BSE and Nifty options on NSE. Traded volumes for the international exchanges include Nifty options from SGX.

[2] Open interest is calculated using daily NSE bhavcopy data, daily BSE bhavcopy data, and Thomson Reuters trades for SGX.

[3] Impact cost is for a transaction of Rs.1 million for at-the-money Nifty options, from market-by-price data from NSE, and Thomson Reuters quotes for SGX.

*Blank fields indicate that data are currently not available.

C A report card for the market for commodity derivatives

Table 19 The report card for agri-commodity derivatives

		Size of participation: Traded Volumes (Mn Contracts)			Size of participation: Open Interest[1] (Mn Contracts)			Cost: Impact Cost[2] (Percentage)		
		Q2-13	Q4-13	Q1-14	Q2-13	Q4-13	Q1-14	Q2-13	Q4-13	Q1-14
India										
Wheat	NCDEX	0.01	0.01	0.02	-	-	-			
Sugar	NCDEX	0.15	0.06	0.14	0.08	0.02	0.02			
Cotton	MCX/NCDEX	1.38	0.86	1.38	0.32	0.20	0.28			
Soyabean	NCDEX	0.89	1.57	1.11	0.20	0.34	0.32			
Soya Oil	NCDEX	1.07	1.01	0.76	0.23	0.27	0.29			
Intl.										
Wheat	CME/ZCE	8.13	6.76	9.27	0.60	0.96	0.93			
Sugar	ICE/ZCE	48.03	27.92	48.26	3.59	3.10	3.09			
Cotton	ICE/ZCE	4.90	2.66	4.33	0.62	0.52	0.64			
Soyabean	CME/DCE	16.44	16.17	17.16	1.52	1.16	1.44			
Soya Oil	CME/DCE	58.34	59.69	43.99	3.10	3.89	3.63			

Notes:

Q1 denotes January-March, Q2 denotes April-June, Q3 denotes July-September, and Q4 denotes October-December.
Example: Q2-13 denotes April-June, 2013; Q1-14 denotes January-March, 2014

[1]Open interest on Indian, US and UK exchanges indicates maximum open interest, while that on Chinese exchanges indicate end-of-month open interest.

[2]Data for computing impact cost are currently not available.

Table 20 The report card for non-agri commodity derivatives

		Size of participation						Cost		
		Traded Volumes (Mn Contracts)			Open Interest[1] (Mn Contracts)			Impact Cost[2] (Percentage)		
		Q2-13	Q4-13	Q1-14	Q2-13	Q4-13	Q1-14	Q2-13	Q4-13	Q1-14
India										
Gold	MCX	16.28	5.70	3.78	0.03	0.01	0.01			
Silver	MCX	23.38	9.38	10.87	0.05	0.01	0.01			
Crude Oil	MCX	14.95	4.24	4.06	0.20	0.01	0.01			
Natural Gas	MCX	8.49	3.15	6.30	0.17	0.02	0.02			
Base Metals	MCX	28.80	8.98	10.55	0.21	0.03	0.03			
Intl.										
Gold	CME/SHFE	19.71	22.18	23.12	0.77	0.88	0.96			
Silver	CME/SHFE	29.92	132.33	149.30	0.91	1.86	1.72			
Crude Oil	CME/ICE	44.22	39.70	38.65	1.67	1.65	1.65			
Natural Gas	CME/ICE	1.34	1.44	1.88	0.65	0.72	0.77			
Base Metals	LME/SHFE	64.94	31.97	48.10	4.20	3.25	3.68			

Notes:

Q1 denotes January-March, Q2 denotes April-June, Q3 denotes July-September, and Q4 denotes October-December.
Example: Q2-13 denotes April-June, 2013; Q1-14 denotes January-March, 2014

[1]Open interest on Indian, US and UK exchanges indicates maximum open interest, while that on Chinese exchanges indicate end-of-month open interest.

[2]Data for computing impact cost are currently not available.

D Regulatory guidelines for currency derivatives, Apr to Sep 2014

In 2012 and 2013, a series of regulatory actions were taken by the RBI and SEBI with regard to the currency derivatives market, both for the exchange traded and the OTC segments. These measures were meant to curb the increased volatility in the currency market. Table 21 provides the details of these actions and an update on their current status.

Table 21 Current status of regulatory actions taken in 2012, 2013

Date of Regulation	Market Segment	Area Addressed	Regulatory Action Taken	Current Position
May 2012	OTC	Position limits	NOOPL of banks to exclude positions on exchanges	Revised in June, 2014
	Exchange	Position limits	Banks' limit as trading members reduced from higher of to lower of 15% of OI or US$ 100 mn	Revised in June, 2014
	OTC-Exchange	Set-off	Position on exchanges not allowed to be set off against OTC	Revised in June, 2014
July 2013	Exchange	Access	Banks not allowed to take proprietary positions	Revised in June, 2014
	Exchange	Margins	Initial and extreme loss margins doubled	Reversed in April, 2014
	Exchange	Position limits	Client limit reduced from higher of to lower of 6% of OI or Us$ 10 mn	Reversed in April, 2014. Revised in June, 2014
			Member limit reduced from higher of to lower of 15% of OI or US$ 50 mn	

On 20th June 2014, the RBI issued two major notifications with respect to participation rules for exchange traded currency derivatives (ETCD). The first of these laid down revised guidelines for domestic participants in ETCD (RBI Circular: June, 2014b). The second allowed foreign portfolio investors (FPI) to participate in ETCD for the first time and laid down the guidelines for their participation (RBI Circular: June, 2014a) SEBI also issues its guidelines for ETCD simultaneously (SEBI Circular: June, 2014).

Table 22 provides a comparison of the changes introduced by these guidelines with what existed before they were introduced.

In September, RBI issued a circular with respect to the hedging facilities available to FPIs (RBI Circular: January, 2014). This notification allows FPIs to hedge the coupons receipts arising out of their investments in short-term debt securities (those that fall due in the following twelve months) in India. However, these hedge contracts cannot be canceled or re-booked, only rolled over on maturity if the coupon is still pending.

Table 22 June, 2014 RBI, SEBI guidelines for exchange traded segments

Type of participant	Statues before	Status after
Access		
Domestic firms	Allowed	Allowed
AD I banks	Only client positions allowed	Both client and proprietary positions allowed
FPIs	Not allowed	Allowed
Position limits		
Exporter/Importer firms	Higher of 6% of OI or USD 10 mn from April, 2014	USD 10 mn without underlying exposure. Anything above based on past performance limits. OTC plus exchange position not to exceed underlying exposure
Other domestic firms	Higher of 6% of OI or USD 10 mn from April, 2014	USD 10 mn without underlying exposure. Anything above with contracted exposure. OTC plus exchange position not to exceed underlying exposure
Non-bank members	Higher of 15% of OI or USD 50 mn from April, 2014	Higher of 15% of OI or USD 100 mn for client positions and higher of 6% of OI or USD 10 mn for proprietary positions
Bank members	Lower of 15% of OI or USD 100 mn	Higher of 15% of OI or USD 100 mn, subject to NOOPL limit. OTC-Exchange set-off allowed
FPIs	Not allowed	USD 10 mn long positions without underlying exposure. Anything above with contracted exposure. Short positions only up to USD 10 mn. Limit of higher of 15% of OI or USD 100 mn for Category I and Category II FPIs. Limit of higher of 6% of OI or USD 10 mn for Category III FPIs. OTC plus exchange position not to exceed underlying exposure
Intermediary choice		
Exporter/Importer firms	Any trading member	Any trading member
Other domestic firms	Any trading member	Any trading member till USD 10 mn positions. Only AD I bank members for positions greater than USD 10 mn
FPIs	Not allowed	Any trading member. However, Custodian banks required to monitor FPI positions; thus, FPIs likely to choose bank members
Documentation		
Exporter/Importer firms	Not required	Auditor's certificate for positions greater than 50% of the past performance limit. CFO declaration that exchange plus OTC position within underlying exposure
Other domestic firms	Not required	Exposure documentation for positions beyond USD 10 mn. CFO declaration and auditor's certificate for exchange plus OTC position within underlying exposure
Banks	Not required	AD I banks and custodian banks to respectively monitor domestic and FPI limits across OTC and exchange segments
FPIs	Not allowed	Underlying exposure documents for positions beyond USD 10 mn

E Impact of restrictions on currency derivatives on market quality

Tayal (2013) evaluates the impact of regulatory actions taken by the RBI and SEBI from 2011 to 2013 on the market quality of exchange traded currency derivatives (ETCD).

For the analysis, the regulatory actions taken by RBI and SEBI are identified. For every regulatory action thus identified, measures of average market quality are computed for a twenty-day trading period before and after the regulatory action was announced. The difference between the market quality measures in the before and after periods are indicative of the impact of the regulatory actions.

E.1 The regulatory actions under analysis

The impact of the following regulatory actions is evaluated. Each action has been identified as an event.

E1 – December 15^{th} 2011: The Reserve Bank of India (RBI) disallowed re-booking of forward contracts on the INR. Cash or spot transactions by the Authorised Dealers (AD) on behalf of their clients could not be canceled or cash-settled. FIIs were disallowed from re-booking forward contracts, once cancelled. It was announced that Net Over-night Open Positions (NOOPL) were going to be reduced substantially (RBI Circular: December, 2011).

E2 – May 21^{st} 2012: NOOPL could not be set off by taking positions in other markets. Netting-off of positions in F&O on exchanges in the OTC market, and vice versa, was prohibited. The position limit for the trading member AD Category-I bank in the exchanges for trading currency F&O was reduced to the "lower of" USD 100 million or 15% of the outstanding open interest instead of "higher of" (RBI Circular: May, 2012b).

E3 – July 8^{th} 2013: RBI prohibited proprietary trading by AD Category-I banks on the exchange traded currency derivatives (ETCD). These banks could only take positions on behalf of their clients (RBI Circular: July, 2013). SEBI reduced position limits and increased margins on ETCD. Initial and extreme loss margins were increased by 100% of the existing rates. The client level position limit was reduced to "lower of" 6% of the total OI or USD 10 million instead of "higher of". The trading member level position limit was reduced to "lower of" 15% of the total OI or USD 50 million instead of "higher of" (SEBI Circular: July, 2013).

E.2 Measures of market quality used

Three measures are used for computing market quality, size of market, volatility and liquidity. These measures are computed for the USD-INR futures contracts traded on the National Stock Exchange (NSE). In addition to these, the level of the USD-INR spot rate is also measured.

Size measured by open interest (OI): This is the number of USDINR futures

contracts that have not yet been settled. Participants have to set aside margin capital for all their open positions. (Unit: USD billion per day)

Realised volatility (RV): This is the annualised standard deviation of intra-day returns of the USD-INR futures contracts for a day. For this analysis, RV is computed using prices at five-minute intervals. (Unit: percentage)

Liquidity measured by turnover: This is value of the total near-month USD-INR futures contracts traded on a single day. (Unit: USD billion per day)

Liquidity measured by impact cost (IC): This is the extent to which a transaction of Rs. 1 million is inferior to the benchmark price of (bid+offer)/2. For this analysis, it is taken as the average of four values measured at different times during the trading day. (Unit: percentage)

E.3 Findings

The following are the findings of the analysis:

- There is a sharp drop in the open interest immediately after Event E3. (Figure 1)
- There is a pronounced surge in the realised volatility immediately after Event E3. (Figure 2)
- There is a sharp decline in turnover immediately after Event E3. (Figure 3)
- Extremely high values of impact cost, i.e., market illiquidity, are visible after Event E3. Globally, an impact cost of more than a basis point, for a transaction of Rs.1 million, would be considered as indicative of a fairly illiquid market. In India, after Event E3, values of above a basis point are generally seen, and the worst values are greater than 100 basis points. (Figure 4)
- In case of all the three Events E1, E2 and E3, a statistically significant depreciation of the rupee is observed after the event. If the objective of regulatory action was to prevent currency depreciation, this was perhaps not achieved. Figure 5

E.4 Conclusion

This analysis evaluates the facts around what happened in terms of market outcomes after the three events of regulatory restrictions on the ETCD market. It does not assert causality, as the outcome may have been driven by other developments. However, the time window of twenty days around the event enables observation of the visible impact of the events, especially of Event E3. It is observed that all measures of market quality, size, volatility and liquidity, worsen sharply after the Event E3. If the objective of these regulatory actions was to prevent further currency depreciation, it was not met.

E.5 Graphs

Figure 1 Open interest

Each point in the figure below is the daily open interest of the near-month INR-USD future contracts from June 2011 to August 2013. The vertical lines mark the dates of policy interventions as described in Section E.1.

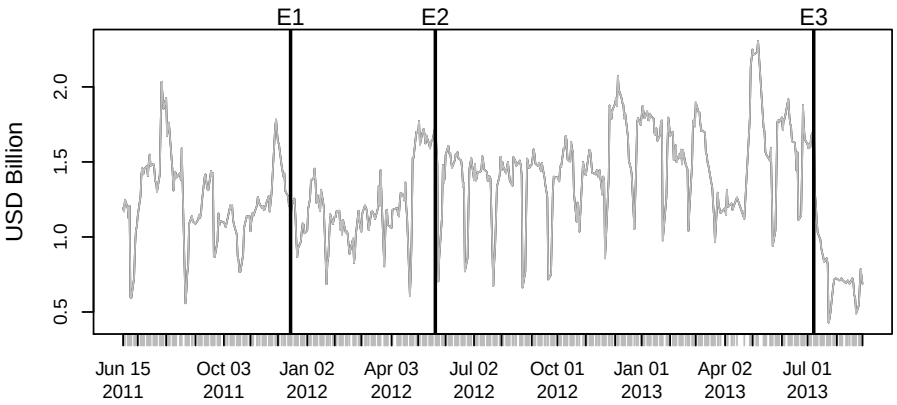


Figure 2 Realised volatility

Each point in the figure below is the daily realised volatility of the near-month INR-USD future contracts from June 2011 to August 2013. The vertical lines mark the dates of policy interventions as described in Section E.1

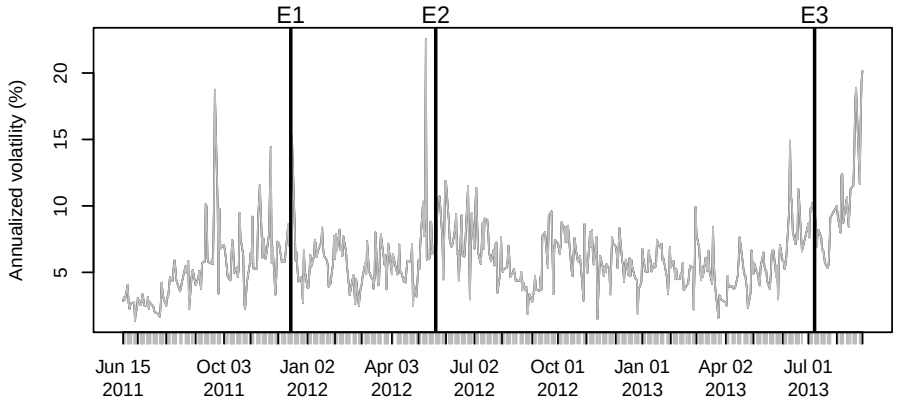


Figure 3 Turnover

Each point in the figure below is the daily turnover of the near -month INR-USD future contracts from June 2011 to August 2013. The vertical lines mark the dates of policy interventions as described in Section E.1.

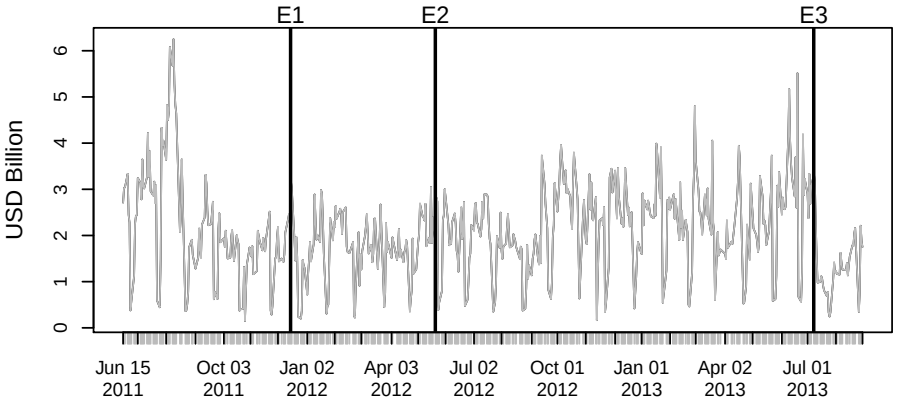


Figure 4 Impact cost

Each point in the figure below is the daily impact cost of trading Rs 1 million on the near-month INR-USD future contracts from June 2011 to August 2013. The vertical lines mark the dates of policy interventions as described in Section E.1.

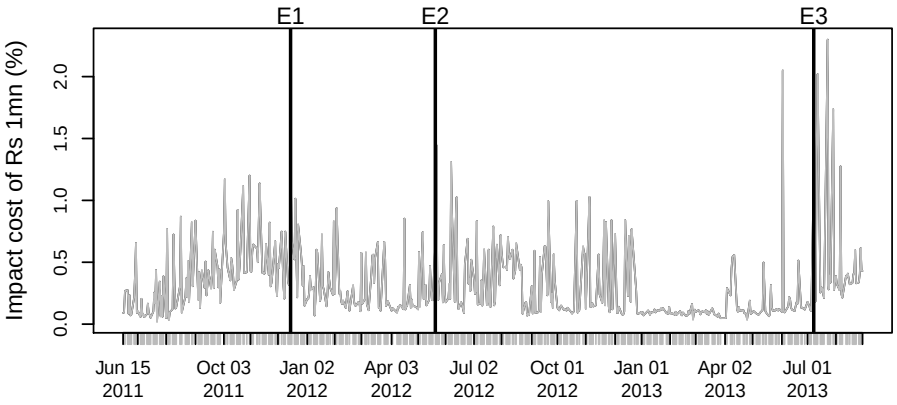
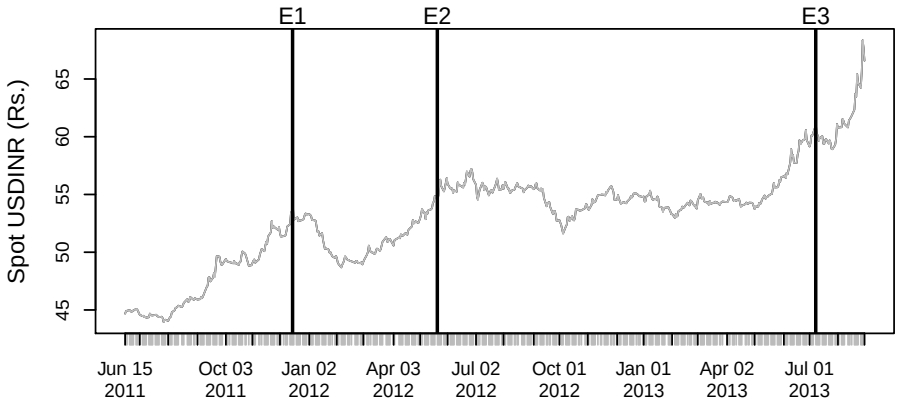


Figure 5 Spot rate

Each point in the figure below is the daily value of the reference rate for INR-USD from June 2011 to August 2013. The vertical lines mark the dates of policy interventions as described in Section E.1.



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